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Rethinking our Defense in the Face of 21st Century Crises

REPORT FEBRUARY 2021

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Rethinking our **Defense** in the Face of 21st Century Crises

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*There is no desire more natural
than the desire for knowledge*

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INTRODUCTION

Since the late 2000s, France and Europe have been confronted with a series of shocks and crises inherent to the history of the 21st century: the financial crash of 2008, turmoil surrounding the euro, Islamist terror attacks, waves of migration, Russian expansionism in Ukraine and the Middle East, and Turkish expansionism in Syria and the Mediterranean. The upsurge in global threats and the vulnerability of our country and of the European Union have been thrust into the limelight with the Covid-19 pandemic – which is testing the resilience of nations and reshaping the hierarchy of powers. This pandemic has also propelled the issue of security to the forefront of our citizens' concerns, not solely in terms of health, but also economically, technologically and strategically.

While attention is currently focused on public health, it is essential not to lose sight of other potential threats looming over French and European security. Both are being hit hard by escalating violence and the disintegration of the very principles and institutions put in place to contain it. As a matter of fact, one need only consider the profound deterioration of the international environment occurring alongside this pandemic: global confrontation between the United States and China; Russian imperialism backed by the restoration of its military power; Turkey's increased involvement in the Mediterranean, Syria and the Caucasus; the spread of jihadism from Nigeria to the Philippines, and its reconfiguration through terrorist social networks in developed societies.

The universal and persistent nature of the pandemic, the economic crisis unprecedented since the Second World War, and the upsurge in violence and strategic threats, are destabilizing forces for democracies. This is particularly true for Europe and France. This is why recovery in our country and the redefinition of the European project both require the development and implementation of a global security strategy. Without focusing solely on the defense sector, this effort must give it full consideration, because the Armed Forces – as they have shown in recent crises – play a critical role in the action of the State and in the resilience of nations.

This is why Institut Montaigne wishes to shed light on the new emerging strategic situation, reflecting on the role the Armed Forces play in the response that France must give, alongside its European partners and allies. In keeping with the principles laid down by the Institute's founder, Claude Bébéar, the aim is: to bring the viewpoint of civil society to bear on public policy; to contribute facts and knowledge; to multiply points of view through international comparisons; to develop concrete proposals for action. Hence, the conclusions and convictions which follow:

1. France and Europe are facing a long-term rapid deterioration of their strategic environment. Jihadism remains a predominant threat. Moreover, a number of States are openly displaying their ambition, pursuing expansionist strategies and comfortable with the use of armed force: China which intends to spread its brand of total-capitalism across the world; Russia making moves in Ukraine or in the Middle East; Iran in the Shiite empire it has built from Lebanon to Afghanistan; and Turkey in Syria, in the Caucasus and, above all, in the Mediterranean. This has led to the militarization of the sea, outer space, the polar regions and cyberspace, as well as a revival of the arms race, leveraging \$1,920 billion in 2019. Thus none can rule out the possibility that the next major crisis will not be financial or health-related, but military and strategic.

2. France and Europe are on the front line. France's values, its history, its involvement in the Levant or the Sahel, make it a priority target for the likes of jihadists or the Turkish Islamic "democratorship". France has been weakened by its economic decline, by the sharp increase in public debt, by the tensions across the nation, and by the growing mistrust of institutions. The vast European market is one focal point in the technological race and trade war between the United States and China. The European Union is surrounded by crises, designated as an enemy by jihadists, pressured and threatened by Russia and Turkey. Founded on the rule of law and on the market, it has no other choice but to redefine itself in terms of sovereignty and security while the United States reverts to protectionism and is increasingly focused on Asia. Europe has no alternative but to assert its autonomy. However, the EU finds itself torn by Brexit as well as by a North/South division over the management of the euro, and an East/West division over illiberal democracy and the understanding of the rule of law.

3. France's especial responsibility is fortified by Brexit. It is now the only country in the EU to have the status of permanent member on the UN Security Council, to possess nuclear weapons, and to maintain a fully fledged Armed Forces and the ability to independently enter complex theaters of operations. However, the gap has widened between the missions assigned to the Armed Forces and the resources at their disposal to meet the challenges of the new strategic environment. Moreover, awareness of the need for Europe to strengthen its autonomy – particularly when it comes to defense – has been heightened by the Trump administration's attacks on NATO. There is a risk that Joe Biden's election could slow down European efforts, despite his intention to couple the renewal of NATO with a European re-commitment to the continent's security.

4. Four principles must therefore guide our defense policy. Faced with shocks and crises, the Armed Forces must be repositioned as the nation's ultimate reinsurance – without turning them into auxiliary services of civilian administrations – capable of effectively and rapidly mobilizing their specific operational resources and skills to prevail. They need to strengthen the Nation's resilience, its ability to preserve the continuity of the State as well as its economic and social life in all circumstances. The resilience of the Armed Forces rests in the preservation of their autonomy in terms of intelligence-gathering, decision-making and the conduct of support operations, as well as strengthening their dexterity, which is essential in responding to hybrid threats. Finally, autonomy can only be understood as being for the benefit of, and organized with, our European partners, for whom France must hold a federating role.

5. Strategic thinking and the French Armed Forces model must include the hypothesis of a high-intensity armed conflict, which has devolved to a notional concept since the collapse of the Soviet Union. Faced with a highly volatile environment and hybrid threats, the flexibility and readiness of these forces are of crucial importance. There is an urgent need to fill the capability gaps that directly compromise the resilience and autonomy of our Armed Forces in areas like strategic transport, heavy-lift helicopters, UAVs, and space. It is equally important to preserve human capital in our defense sector by improving the attractiveness of a military career.

6. In the age of universal history, in the face of increasingly complex crises and hybrid threats, any strategy must be all-encompassing. The political, military, diplomatic and economic spheres must be consistent and interconnected in order to achieve results. There can be no sustainable security without development, stable institutions and public support. The State must therefore not only be able to define and apply a clear directive, thanks to inter-ministerial coordination, but also know how to work with elected representatives and economic and social actors, both on national soil and beyond our borders.

7. The remodeling of defense policy raises the key question of resources. At a time when France's GDP will be reduced by more than 10%, public debt will exceed 120% of GDP. It is essential that the Military Programming law for the years 2018 to 2025 be fully implemented. In view of the financial consequences of the Covid-19 epidemic, this means that defense must be included among the priorities of French and European recovery plans, particularly regarding innovation.

8. The depth of the recession and its convergence on certain sectors warrants special focus on companies in the aeronautic and astronautic sectors. In a context where foreign powers could acquire struggling innovative companies at very attractive prices, it is essential to preserve the skills and technologies that determine the future of our defense industrial base. This requires measures to build up their equity and ensure the continuity of access to bank funding, particularly for SMEs.

9. Resilience and autonomy are not sustainable without cooperation, including with the UK post-Brexit. The European Security Union, despite its issues, remains an essential element that France must continue to promote and around which it must rally other countries. It is the only possible response to the shifting of the world order around regional blocs, the upsurge in threats, and the priority focus of the US on the Asia-Pacific region. The revival of NATO with the election of Joe Biden is complementary to the gradual affirmation of European strategic autonomy. Just as the financial crisis forced the ECB to become a last resort lender, and the recession caused by the Covid-19 epidemic gave rise to an

economic union with a recovery plan, thus the upsurge in strategic threats will sooner or later lead Europeans to take control of their security. France should make this choice possible by continuing to embody and implement a comprehensive strategy. Concurrently, the principle of European preference for military procurement must be promoted in order to preserve the industrial base without which the EU cannot aspire to strategic autonomy. Security is more than ever the key to a political Europe.

INCREASED SECURITY RISKS FOR FRANCE AND EUROPE

1. Risks have escalated over the past decade

The past decade was afflicted by a series of crises affecting the security of French citizens. Strictly speaking, the novelty of this situation does not lie in the nature or violence of these shocks. In recent times – since the beginning of the Fifth Republic – France has experienced conflicts, violent social movements, waves of terrorist attacks and large-scale economic crises. The notion that France has been abruptly confronted with a spectacular resurgence of threats to its security since the 2010s must therefore be carefully nuanced.

However, since the US financial bubble burst in 2007, France has experienced an accelerated series of crises affecting its security compared to the previous decade: consequences of the subprime crisis followed by the euro zone crisis between 2010 and 2012, the Arab Spring, the migration crisis, a wave of terror attacks on French soil and, more recently, the Covid-19 crisis, the consequences of which are still difficult to assess. The shocks have been extremely varied: financial, economic, security, migration and health. They have no common explanation or causal link, yet to a greater or lesser extent they all had international origins and repercussions.

This succession of crises over a short period of time has consequently reinforced their systemic potential. Taken individually, despite their severity, these shocks will not likely threaten the continuity of everyday life. However, when such events occur in rapid succession, there is a greater risk of their effects combining, thus potentially increasing their impact. Regardless of its

scale, a health crisis is all the more daunting when it takes hold of a country with deteriorated public finances, a fragile industrial sector and a fractured social fabric. The past decade has thus confronted France with a series of threats, which it has been able to handle without jeopardizing national security. However, it should not be taken for granted that the country would be able to withstand such shocks indefinitely, without it ultimately deteriorating security. In such a context, the resilience of the State, local authorities and private actors is more necessary than ever. Each component of the nation, starting with the individual, must be able to better anticipate crises, whatever their nature, and respond to them effectively and promptly. As the risk of systemic crisis increases, the ability of French institutions and individuals to absorb shocks and bounce back quickly has become a national imperative.

The major world powers – and increasingly, regional powers such as Turkey – are taking advantage of the succession of crises and this instability to achieve their goals. They apply pressure using a very broad spectrum of actions and influence perceptions. They no longer hesitate to openly threaten military escalation and unbridled use of force. They carry out dissuasive, swift and overwhelming military actions in order to force their adversaries into a done deal. Moreover, aside from open conflict, these actors take aggressive non-military actions, cultivating ambiguity and exploiting weaknesses in international law. European democracies remain mostly indifferent to these initiatives.

References to hybrid warfare in this context are increasing, despite it being a debated concept without a clear definition. This refers to State or non-State players seeking to create and take advantage of a specific ambiguity to achieve their goals. To this end, they combine often subversive direct or indirect military and non-military action, usually just shy of open conflict.

It is important to note that the situation in France is tied to a deteriorating global context, which also applies to other countries, especially in Europe.

2. Threats are escalating and more clearly defined

2.1. Confirmed military threats against France

Because of its ability to strike on French soil, Islamist terrorism continues to be of major concern for security in France. Military interventions against terrorist groups abroad are faced with the asymmetrical nature of this threat. While the territories they control are shrinking, these groups retain their capacity for action, and the ideology they support has by no means been defeated. Moreover, in addition to the territorial issue, there is concern about the handling of these citizens upon their return to France. The recent assassination of a teacher, Samuel Paty, and the attack on the Nice cathedral show that the terrorist threat is still present.

The long-anticipated military build-up in States challenging the international status quo has recently accelerated. In the Mediterranean, long-standing tensions between Greece and Turkey over their territorial waters have been revived by the discovery of large natural gas deposits in recent years¹. Thus, on 10th August, Turkey sent a seismic research vessel escorted by military ships into the seas claimed by Athens, prompting France to deploy two Rafale fighters and two warships at Greece's behest. Uncertainty over the political future of Libya, Lebanon and Algeria and the scaling up of claims from China, Russia and Turkey in the Mediterranean are contributing to create a major zone of tension. In the Sahel region, following the coup d'état carried out on 18th August by the Malian military that overthrew President Ibrahim Boubacar Keita – who had been in power since 2013 – it remains difficult to measure the full extent of the consequences for regional stability. This event may require redefining the scope of Operation Barkhane. Launched in 2014 in partnership with the G5 Sahel countries (Burkina Faso, Mauritania, Niger, Chad, Mali), the operation aims to combat armed jihadist groups in the region. A protracted political crisis in Mali could have significant repercussions in the

¹ La découverte par la Turquie d'un nouveau gisement de gaz en mer Noire et ses implications potentielles; 1st octobre 2020; Éditoriaux de l'Ifr; Hasan Selim Özerterem.

region, especially since other countries in the area are currently experiencing protests, starting with Ivory Coast. Faced with these security challenges in geographical proximity to its Member States, the European Union is showing relative indifference. Despite regular ambitious rhetoric pertaining to the stability of these regions, the initiatives it takes often seem inadequate.

The risk of expanding nuclear multi-polarity – referred to in France's 2017 Strategic Review – is increasing. International initiatives aimed at curbing proliferating powers have been unsuccessful: the Vienna agreement on Iran's nuclear program, signed on July 14, 2015, from which the United States withdrew on May 8, 2018; or the failure of negotiations between North Korea and the United States. Therefore, it is possible that as a result of this serious weakening of the non-proliferation regime, the States neighboring the nuclear-weapon States, or those wishing to acquire nuclear weapons, may anticipate a collapse of the non-proliferation regime and develop their own program in response.

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On the military side, there is competition over common or shared spaces, namely air, sea, digital and exo-atmospheric space. Rivalry between States in this matter is nothing new but has been reinforced by the weakening and dismantlement of international legal instruments regulating these domains. This is happening in maritime areas, exo-atmospheric, and cyberspace, where the actions of new players – emerging powers or non-State players – is adding a new dimension to power struggles. Acts of aggression in these theaters of operation are now frequent if not systematic. For instance, in the space sector, the amount allocated to space in the European Union's 2021-2027 budget is 17.5% less than the European Commission's initial proposal (€13.2 billion vs. €16 billion). In the US, the civil and military budget allocated to space is nearly \$60 billion for the year 2020 alone.

Finally, with regard to its digital sovereignty, France is facing five major challenges². The first is a permanent risk of cyber coercion, which stems from

2 *Cybercoercition : un nouveau défi stratégique*; Le Monde, 28th January 2020; Bernard Barbier, Jean-Louis Gergorin, Édouard Guillaud

France's dependence on foreign powers for components present in strategic infrastructure. The second is the exponential growth of major cybercrime, organized by mafia groups operating almost openly in countries that have rejected the Budapest Convention on Cybercrime³. For example, the number of ransomware attacks processed by ANSSI in the first half of 2020 is very close to the total number processed in 2019 (i.e., a twofold increase in one year, following a fourfold increase between 2017 and 2019). Information manipulation is France's third biggest digital challenge. This is especially true of social networks, and the problem is growing steadily in the absence of any regulatory authority other than the social networks themselves. The fourth is the weakness of the industrial and technological base of French digital security, which means that 80% of the protective measures used by our companies and institutions are of US and Israeli origin. The final challenge is administrative and political, given the risk of poor strategic organization at the highest level of the State in the absence of a coordinating authority for this public policy, such as the national intelligence coordinator.

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A significant increase in weapons spending

International military expenditure is an important indicator for defense policy. It indicates intentions, reflects the emerging balance of power, and makes it possible to assess the national effort on a comparative basis.

The sensitivity of the subject makes it difficult to access comprehensive data. In addition, definitions are not standardized, which explains differences between the figures given by national authorities (when they exist) and the reference publications of NATO or the Stockholm International Peace Research Institute.^{4/5} .../...

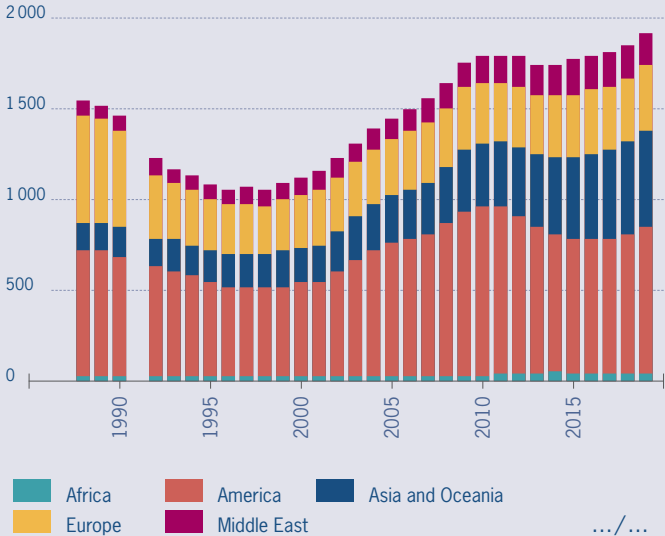
3 This Council of Europe convention, adopted in Budapest on 23rd November 2001 and signed by more than 30 countries, is the first universally applicable penal convention aimed at fighting cybercrime.

4 Defense expenditure of NATO countries (2013-2019).

5 SIPRI Yearbook 2019.

Nevertheless, comparative analysis of these documents allows us to highlight the underlying trend that became markedly visible in 2019: weapons procurement worldwide has increased considerably since the 2000s. The United States has made many efforts, allocating the largest amounts by far. A persistent push has come from Asia. Europe has been relegated to third place, with a late upturn driven by Central Europe. France has picked up the pace since 2015, placing it in the group between 6th and 8th position.

Trends in world military expenditure⁶
(billions of current \$)



6 Source: SIPRI, 2019.

According to SIPRI, 2019 is a record year with total spending at \$1,917 billion (+3.7% compared to 2018). This means an increase for the fifth consecutive year, driven by the US, China and Russia. Notably at the global level, two countries from the Indo-Pacific area are now present in the top five, and Japan and South Korea are in the top 10.

In Europe, the UK, traditionally in the lead, is stabilizing spending. France has continued its efforts (+1.6%) at a steady pace since 2015⁷. Germany spent less but made the strongest increase (10%). With admittedly smaller budgets, the countries of Central and Eastern Europe (+14% and +4.9%, respectively) are making a greater effort than Western Europe (+3.6%).

Other noteworthy trends include Turkey (+5.8% in 2019 and +86% compared to 2010).

It is possible that the Covid-19 crisis may have an impact on the trend, if only by slowing down industrial production capacity. Nevertheless, the geopolitical perspectives do not point in this direction. For example, in October Sweden announced a 40% increase in its defense budget over the next five years. In the UK, Boris Johnson has just announced a record 15% increase in the defense budget for the next four years.

.../...

7 There are significant differences between the definitions used by SIPRI and those used by NATO and national institutions. For example, in France, SIPRI includes expenditure for the gendarmerie, which complicates international comparisons. NATO, meanwhile, includes pensions and calculates an increase of 3.8%. The most widely used indicator in the French media is the amount devoted to defense within the State budget (not including pensions) since this represents a tangible effort. By this definition, the increase was €1.7 billion in 2019, or 5%.

Countries ranked by military expenditure in 2019

	SIPRI report (\$ billion)	NATO report (\$ billion)
1	USA (732)	USA (730.149)
2	China (261)	
3	Russia (71.1)	
4	India (65.1)	
5	Saudi Arabia (61.9)	
6	France (50.1)	UK (60,76)
7	Germany (49.3)	Germany (54,75)
8	UK (48.7)	France (50,73)
9	Japan (47.6)	
10	South Korea (43.9)	

Beyond the digital and new technology sectors, France also suffers from major vulnerabilities in other vitally important activities. In 2016, these activities involved around 250 public and private operators in 14 sectors⁸. The largest in terms of the number of operators concerned are transport, military activities, health and energy. These sectors have always been vulnerable to physical attacks or to takeover bids by other States for private equity operators, and the government has gradually acquired new legal instruments of protection. Beyond the indispensable legal tools, this vulnerability also stems from more fundamental causes such as the weakening of the industrial fabric or the lack of financial support for these activities. In addition to these risks, the risk of a cyber attack is now increasingly prevalent, as shown for example by the attack on the Paris region's AP-HP hospital system on March 22, 2020, in the middle of a lockdown. The resources of the French National Agency for Information Systems Security (ANSSI), around €100 million per year, remain limited. They cannot, and indeed are not intended to, compensate for the investments that all operators of vital importance must make in cyber security.

Finally, the current health crisis has again underscored the need for national industrial skills which can be mobilized quickly and which avoid over-reliance on imports, even in low value-added sectors such as textile manufacturing. The process of de-industrialization, which has been underway in France since the mid-1970s, has resulted in a reduction in industry's share of national wealth and employment. According to France's National Institute of Statistics and Economic Studies (INSEE), the number of people employed in industry declined from 23.7% to 12% of the working population between 1970 and 2014. As for the contribution of the manufacturing industry to the national goods GDP, it was of only 10% in 2016, compared with 26.3% in 1978. This trend now has direct consequences on France's ability to face crises independently. The 1990s dream of a France without factories, like that of a UK without agriculture, has been shattered by reality.

8 <http://www.sgdsn.gouv.fr/communication/la-securite-des-activites-dimportance-vitale/>

2.2. Additional threats to French sovereignty

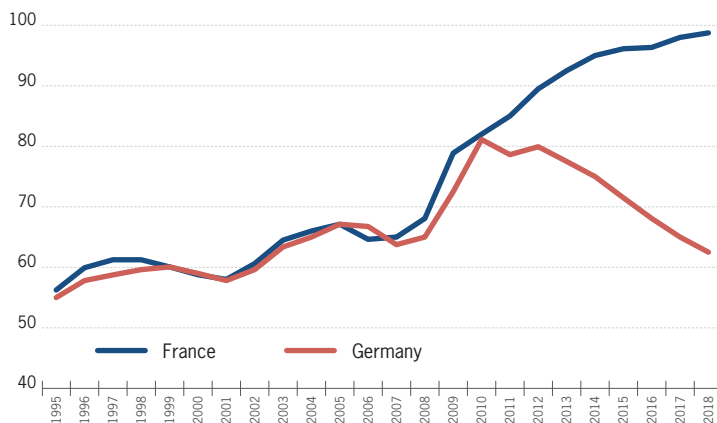
Today France is dependent on foreign powers in a number of key economic sectors. While Russia and China have encouraged the development of national players in the digital field, from a digital standpoint France and the European Union remain technological vassals of American and even Israeli suppliers. In this respect, the General Data Protection Regulation (GDPR) adopted on 27th April 2016, while it constitutes a necessary affirmation of the sovereignty of EU Member States over their digital resources, it cannot compensate for the inferiority of their private sector players compared to the American or even Chinese giants. In terms of economic policy, in the absence of competitive domestic production infrastructure, regulations cannot replace industrial strategy. To cite but one example, the recent Franco-German project for a European "cloud", Gaia X, is merely an agreement between 22 companies, with no infrastructure of its own and it relies on US service providers. Furthermore, Turkey's call for a boycott of French products in October is a good illustration of the diverse types of pressure that need to be taken into account.

3. Insufficient response capabilities

France has not fully rebuilt its emergency preparedness capabilities after each crisis

On the fiscal side, the past decade has seen an increase in public debt from nearly 65% of GDP in 2008 to more than 100% in the last quarter of 2019. Unlike Germany, France has not taken advantage of the post-crisis period to rebuild back up for future maneuvers.

Public debt in France and Germany⁹
(as a % of GDP)



Note: at the end of 2020 France's public debt is expected to reach 120% of GDP, versus 75% for Germany.

9 Source: Eurostat up to 2016; OECD forecast for 2017 and 2018; FIPECO.

France's fiscal position was much weaker than that of its German neighbor in the face of the coronavirus crisis. This limited its ability to recover, as of 21st April 2020 France's economic and employment stimulus plan represented 2.4% of GDP compared with 4.9% in Germany.¹⁰

Thus, the Armed Forces suffer double the consequences. They are being asked to reduce resources – as are all public administrations in a constrained budgetary framework. The recent upturn has not yet compensated for time lost due to several decades of defense cutbacks. Moreover, the Armed Forces are increasingly being called upon to take on new missions in response to crises, whether on a one-off or long-term basis. Given their availability and readiness, strong is the temptation to use the Armed Forces for other public services, such as health or transportation, to compensate for the lack of resources or for structural shortcomings. Thus, in times of crisis, the Armed Forces are not only asked to continue to fulfill their missions with strictly limited resources, but they can also be asked to perform the jobs of others. If this becomes perpetual, it will take its toll on both equipment and personnel.

It is worth noting that the maximum mobilization of available capacities in response to crises is not restricted to the Armed Forces. Internal security forces are now faced with the consequences of a chronic lack of investment in equipment. While spending on equipment increased significantly between 2012 and 2017 (+180%), this increase has been declining since 2018 and comes after a period of very sharp budget cuts. In a context where the terrorist threat remains high and social unrest is on the rise, law enforcement resources remain inadequate for their missions.¹¹

Beyond the issue of resource allocation to public sector players on the front lines of crisis management, the coronavirus pandemic has revealed the fragility of French society. In France, as in many other affected

10 Rapport n° 406, Commission des finances du Sénat sur le projet de loi de finances rectificative pour 2020, M. Albéric de Montgolfier.

11 Rapport n° 2111 dated 3rd July 2019 by the Commission d'enquête sur la situation, les missions et les moyens des forces de sécurité, chaired by M. Jean-Michel Fauvergue.

countries, the government showed a lack of anticipation in the management of its strategic stocks. Inter-ministerial coordination proved insufficient in the face of the new demands of decentralization and the diversity of French stakeholders. In a period of crisis that was nonetheless conducive to strengthening national cohesion, France revealed a striking paradox: the resilience of the executive branch ensured by the institutions of the Fifth Republic came with a singular distrust of its leaders. The analytical site Europe Elects, based on aggregated polls covering February and March 2020, revealed that the level of support among French people for the President's policies stood at 40%, compared with 79% for the German Chancellor, 77% for the Austrian Chancellor and 71% for the Italian President. While these results should be interpreted with caution – as there are many explanations for them – the fact remains that public discourse in France is now struggling to bring society together in a time of crisis. This issue is all the more worrying as it does not seem to be limited to the current context.

When faced with security threats, France can rely less and less on the multilateral system, or even on its alliances.

The multilateral framework, weakened by the revisionist behavior of many countries and by exacerbated Sino-American rivalry, no longer plays its stabilizing and moderating role. The common disciplines once accepted out of mutual interest — e.g., controlling the arms race — are gradually disappearing. Donald Trump's unilateralism blocked the Vienna agreement on the Iranian nuclear program and led to the termination of the Intermediate Nuclear Forces Treaty. Thus, the capacity of the multilateral system to generate cooperative behavior has been greatly weakened, as we have recently seen in the health sector. France's alliances cannot replace its national efforts: the role of the European Union has been decisive in preserving the euro and will undoubtedly be decisive in responding to the economic consequences of the Coronavirus crisis in the future. However, at the heart of this crisis the EU has shown itself incapable of providing support to its Member States, which have defined their response strategies within almost exclusively national frameworks. In terms of security, the strategic awareness of EU members has seen little change with the crisis and is still limited to a few States. The difficulties of Operation Irini, carried out by the EU within the framework of UN Resolution 2292 to monitor the arms embargo

imposed on Libya, shows that military credibility is still inadequate. Thus 2020 has highlighted major weaknesses within the European Union, not to mention the ongoing Brexit crisis. Concerning military alliances, the difficulties currently faced by NATO could portend possible disagreements between its members in the event of a deteriorated security situation.

Despite Joe Biden's election, certain trends in the transatlantic relationship are expected to continue.¹² Given the effects of globalization on the American middle classes, the movement to refocus US foreign policy on bolstering domestic policy needs is expected to continue. While the Biden-Harris administration will certainly be committed to restoring traditional US alliances, there is now a bipartisan consensus in the American political class that the focus should be first and foremost on containing the rise of China. The election of Joe Biden is unlikely to quell all the political divergences between Europe and the US, particularly with regard to trade, taxation of the digital giants, extraterritoriality of US laws, or defense burden sharing. In any case, the relationship with the US is coming to the end of a cycle and it is still difficult to predict its future evolution. In this context, France and Europe cannot rely exclusively on their alliance with the US to ensure their security.

4. Anticipating upcoming crises (notably of a military nature)

While it is necessary to learn from the recent health crisis, it should not lead us to overlook the fact that France is facing a variety of threats for which the French must be prepared. A rigorous analysis of French management of the recent pandemic is necessary and already underway¹³. It will at the very least enable us to better organize the response to a comparable future

12 Note à l'Institut Montaigne, October 2020, « Trump ou Biden : comment reconstruire la relation transatlantique ? », Michel Duclos.

13 A French parliamentary commission of inquiry into the management of the health crisis began its work on 16th June 2020.

health event. More broadly, there is an urgent need to highlight the successes and shortcomings of France's crisis management strategy in order to prepare the State, local authorities, businesses and citizens for the crises of tomorrow.

The next crisis' causes and symptoms will likely be different from the previous one. In order to avoid being one step behind in crisis planning, France cannot simply build up stocks of masks or hand sanitizer for the future without questioning all the systemic vulnerabilities to which it is exposed. For example, in its annual risk review for 2020, the World Economic Forum considers that environmental risks and threats to State cyber security are potential dangers for which most countries are as of yet inadequately prepared¹⁴. Predicting the nature of the next crisis is a difficult exercise and in any case it cannot serve as the basis for national strategy. France studies a combination of worst-case scenarios by observing what is happening around the world while weighing the probabilities of occurrence. It could, for example, be the target of destabilization by a foreign power, the scene of uncontrollable social or even inter-community confrontations, or fall prey to economic phenomena unprecedented in its recent history (crisis of confidence, default on public debt or hyperinflation).

In this context, marked by great uncertainty and challenges to the relative geopolitical stability of the 2000s, preserving the role of our defense system is of the utmost importance. It is the foundation for French resilience and weakening it would be particularly dangerous in a rapidly deteriorating context. While no one can predict the nature of the next crisis, there is a good chance that the Armed Forces, in one way or another, will be able or even required to play a decisive role. It is not impossible that France will soon face a direct military threat, either on its own territory or on that of its allies, or through its involvement in a conflict marked by military escalation. The possibility alone of such a conflict is sufficient to justify investment in the military, just as epidemics justify maintaining a resilient healthcare system. Moreover, as the health crisis has shown, the Armed Forces are required to provide temporary and decisive support in managing

crises of all kinds. This mission is particularly essential overseas. Since they could be the main actor in future crises, but above all because they will certainly provide support in resolving them, the Armed Forces deserve special attention in the period ahead. At a time when the lessons of the Covid-19 crisis must be learned, the role that the Armed Forces have played and will play in the future in responding to threats to the security of the French people cannot be overlooked.

14 The Global Risks Report 2020, World Economic Forum.



FORTIFIED ARMED FORCES COMMITTED TO DEFENSE AND NATIONAL SECURITY

The terrorist attacks on national soil followed by the health crisis has highlighted the contribution that the Armed Forces were able to make to national resilience. However, the mobilization of the Armed Forces should be assessed through a broader frame of analysis, covering everything from the development of strategies avoiding open warfare to the instigation of a major conflict.

This context requires us to continue efforts ensuring our Armed Forces are capable of dealing with more demanding scenarios. It should also be pointed out that the added value of the national system lies essentially in its ability to operate in the most difficult situations, including civilian crises. It is therefore in the State's interest to distinguish between the assets at its disposal and its military apparatus in particular. The aim is not to isolate the Armed Forces from the nation, but to enable them to bring specific added value to counter the most serious threats.

The "strategic vision" presented in June 2020 by the French Army Chief of Staff, General Thierry Burkhard, underlined the need for a strengthened army to cope with the harshest shocks. According to the general, a major conflict between States can no longer be ruled out and leadership must take this into account. A stronger army means raising operational training requirements to ensure that troops are ready for combat and for the most difficult forms of conflict.

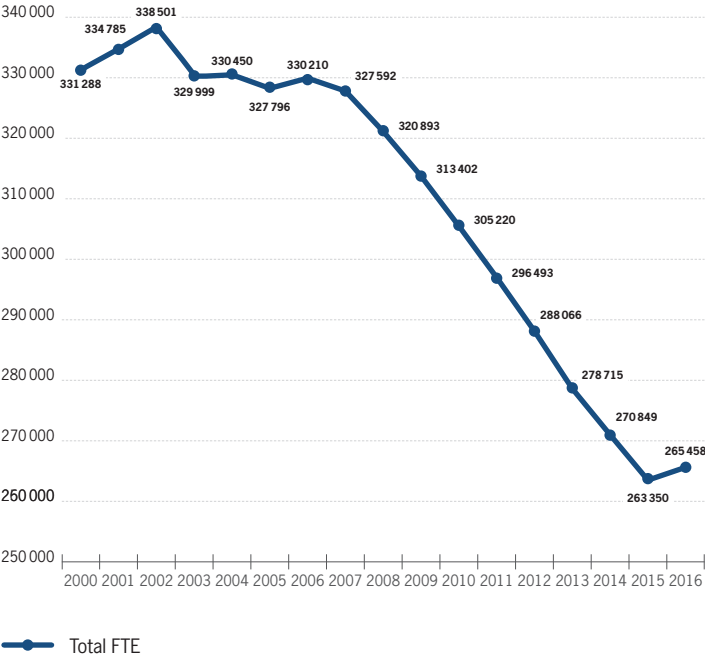
The reinforcement of the Armed Forces also requires internal resilience and increased readiness, as well as adjustments in capabilities and format to boost both adaptability and power. There are several possible means of action to achieve this: funding, human resources, innovation and operations.

1. Growing awareness of the challenges

1.1. A new Military Programming Law confirms and exacerbates the new trend

The collapse of the USSR, the expansion of NATO to include former Warsaw Pact countries, as well as China's entry into the WTO in 2001, opened up a period of so-called "peace dividends" in Europe. This led many European countries to scale back their defense efforts in the 1990s and 2000s. In France, this movement was exacerbated by the suspension of the National Service, the subsequent downsizing of the Armed Forces, and the pooling of support services, as advocated by the general review of public policies in 2008. As the graph below shows, the decline in defense manpower since 2000 has been rapid and substantial, reducing the "mass" of the Armed Forces, with no reduction in the pace of external operations.

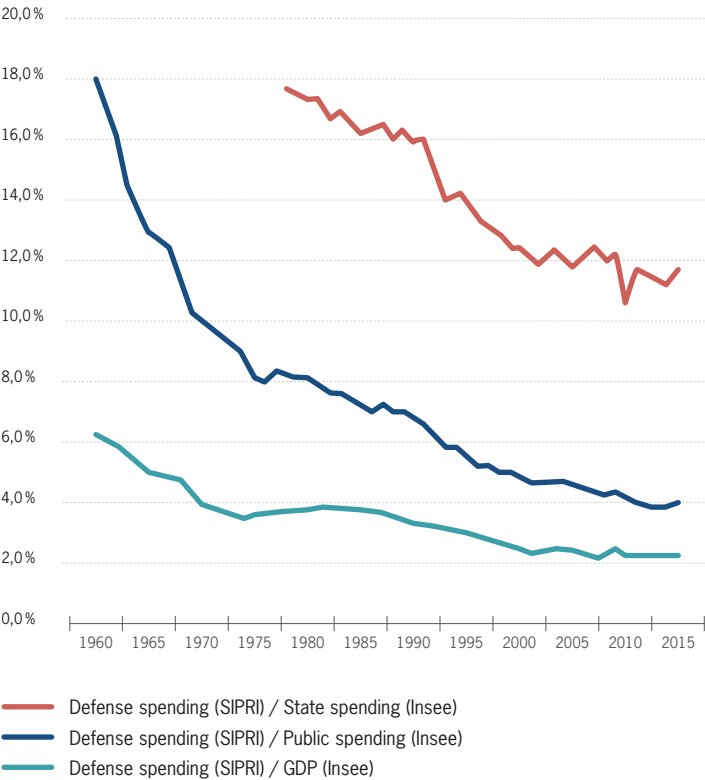
Ministry of the Armed Forces manpower trend (FTE) since 2000¹⁵



Military spending follows the same downward trend, which can also be seen from a longer-term perspective (more relevant than the long-term trend in manpower numbers, given the decision to end conscription). The decline in defense efforts is significant when compared to GDP – which measures the economy's capacity to pay. It can also be seen in relation to total public spending: since the early 1960s, the share of military spending in public expenditure has dropped from 18% to less than 4%.

15 Source: Economy and Finance Ministry.

Defense spending trends in France¹⁶
(as % of GDP, % of public spending, % of State spending)



16 Based on SIPRI data, including gendarmerie. Source: Economy and Finance Ministry.

Since 2015, and especially since 2018, France has been engaged in a gradual process of refurbishing and rebuilding its military apparatus.

A first turning point came in 2015, a year marked by the major terrorist attacks of November 2015. President François Hollande launched the domestic security operation Sentinelle, he then interrupted the downsizing process initially laid out by the Military Programming Law (MPL) before adapting it in July 2015. This made it possible to maintain the defense budget at €31.4 billion in 2015 (i.e., the same level as in 2014 in current euros) while ring-fencing these funds. Until then, the budget had been dependent on unpredictable exceptional resources such as the auctioning of frequency bands. In addition, the 2015 update of the MPL provided €3.8 billion in additional defense appropriations until the end of the period covered by the MPL. Following the attacks of November 2015, an additional €2.2 billion was allocated until the end of the MPL.

**Defense spending compared with amounts planned
in the initial 2014-2019 MPL¹⁷**
(before terrorist attacks, in billions of euros)

	2015	2016	2017	2018
Planned under the initial 2014-2019 MPL	31.4 (including exceptional resources)	31.4	31.4	31.6
Planned after adjustments in 2015 and 2016 (source: les chiffres clés de la défense)	31.4	32	32.7	34.2

17 Source: French Ministry of the Armed Forces.

A second turning point came in 2018 with a new Military Programming law. This law brought about a sustainable increase in defense expenditure over the period 2019-2024. It represented a very substantial amount of additional public appropriations but its effects will only materialize gradually given the accumulated setbacks.

1.2. Priorities of the Military Programming Law

Published after the start of the new five-year presidential term, the 2017 Defense and National Security Strategic Review sets out the strategic framework structuring the development of the 2019-2025 MPL and of *Ambitions 2030*. The assessment made in the 2013 White Paper analyzed the evolution of previously identified risks, emphasizing the increasingly unpredictable nature of perceived threats in the international environment in recent years. French interests were examined in the light of this new framework. This overview served to determine the State's priorities and the capabilities needed to achieve them. The Strategic Review identified four priorities: strengthening European defense, consolidating France's strategic autonomy, preserving a full-spectrum balanced Armed Forces model, and redefining industrial and technological goals based on innovation.

The MPL focuses on three of the issues raised by the 2017 Strategic Review and the 2013 White Paper.

The first objective of the MPL essentially focuses on improving the living conditions of soldiers, their training and their equipment. The "Family Plan", created in 2017 by Florence Parly, initially took into account absences for operational reasons and sought to provide better support for soldiers' mobility by giving them visibility on upcoming secondments. The MPL includes a financial package of €530m to fund new measures to address the "soldier issue". It aims to improve the integration of families within units and garrisons, their accommodation and available childcare facilities. Accommodation and training facilities will be modernized (simulation or operational areas, firing areas, ammunition storage areas). In addition, the new Military Compensation Policy will simplify the system of military allowances.

There is also an emphasis on Armed Forces equipment maintenance: the maintenance budget will be increased by an annual average of €1 billion compared with the 2014-2018 MPL. Aeronautical, naval and land-based equipment will be improved with the renewed support of the Service Industriel de l'Aéronautique (SIAé) and the Structure intégrée du maintien en condition opérationnelle des matériels terrestres (SIMMT) – the maintenance organizations for the French Air and Space Force and the French Army, respectively.

A second major objective of the 2019-2025 MPL is to strengthen national strategic autonomy while supporting emerging autonomy at the European level. This objective is reflected in an accelerated modernization of equipment for the oceanic and airborne components of nuclear deterrence, and a complementary renewal of equipment in conventional forces. A second weapons program will have a budget of €58.6 billion euros over the period 2019-2025 (i.e., 30% more than the 2014-2019 MPL).

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The Review also highlighted the perennial cyber threat. In response, the Ministry of the Armed Forces intends to create a permanent “cyber” branch, together with a personnel increase of 1,000 and enhanced capabilities for the Centre d'analyse et de lutte informatique défensive (CALID) – the defensive cyber security and analysis centre. Intelligence systems will be renewed and a permanent strategic intelligence posture will be established. It will include all of the Ministry of the Armed Forces' intelligence-gathering and analysis resources, will make possible the anticipation of crises and set up a global strategic intelligence system. These new arrangements will guarantee France's strategic autonomy and make it a “driving if not federating” force in strengthening the European Defense Union.

In line with the European Intervention Initiative (EI2), launched by the President of the Republic on September 26, 2017, the MPL aims to encourage “the emergence of a strategic European culture”. Strategic partnerships with European allies will be set up around four concrete elements: strategic anticipation, employment scenarios, feedback and doctrine-sharing, and operational support. It aims to strengthen Permanent Structured Cooperation (PESCO), established

on November 13, 2017, in order to harmonize the military assets and defense capabilities of participating States.

Finally, the fourth objective tackles technological innovation, which is now necessary to prepare the Armed Forces' operational superiority in the long term and to achieve the ambitions of national strategic autonomy. “A country that innovates is a country that tirelessly builds its strategic autonomy. Expertise in the new emerging capabilities guarantees national sovereignty. In 2020, innovation must continue if we are to develop our strategic autonomy”, declared Florence Parly at the innovation strategy presentation of the Ministry of the Armed Forces' in Lorient, in September 2020. The innovation and modernization of the Armed Forces will ensure access to equipment adapted to future challenges. Support for innovation from the Ministry of the Armed Forces will amount to an average of one billion euros per year. An innovation platform called “Defense Lab” will be created and development efforts in favor of strategic defense-related SMEs will continue thanks to the Definvest investment fund.

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2. Strengthening the Armed Forces model

2.1. Avoid succumbing to the “Swiss Army knife” approach

The military apparatus is built to deal with last resort situations and potentially operate beyond the framework of self-defense. This requires the use, or threatened use, of legitimate force on national soil or beyond our borders. This *raison d'être* gives the Armed Forces the ability to “strike” and operate in the most demanding situations. This *ultima ratio* function¹⁸, somewhat overshadowed during the peace dividend period, must once again become a priority in a world

¹⁸ The Latin phrase *ultima ratio regum*, translated literally, means “(force is) the last argument of kings” (from the Latin *ultima*: last; *ratio*: reason, argument; and *regum*: of kings). This expression means that, when all peaceful and diplomatic means have been exhausted and there is no other solution, the use of force is justified to resolve the situation. The formula “*ultima ratio regum*” was Cardinal de Richelieu's favorite expression. King Louis XIV adopted it and had it engraved on his canons.

marked by a series of systemic crises, unbridled use of force and increased global military spending.

Armed Forces consistently employed in their specific field of expertise

It might be useful to recall that even today the Armed Forces are still employed on a permanent basis to respond to a level of violence and insecurity requiring specific expertise. Indeed, in France recent generations have been less confronted with military issues than their predecessors, even when taking into account the high profile nature of Operation Sentinelle. This observation is not incompatible with high popularity. Nevertheless, the lack of familiarity with defense issues can limit public debate, as pointed out by sociologist Bénédicte Chéron¹⁹.

Firstly, the Armed Forces are required to adopt increasingly demanding permanent postures. They carry out the following missions: surveillance of maritime and air approaches, spaces which are regularly probed by Russia; military intelligence and observation for strategic monitoring and anticipation; passive and active cyber defense; contribution to Space Situation Awareness (SSA); presence and training for the benefit of allied countries, particularly NATO; sovereignty in overseas territories.

Furthermore, the Armed Forces are regularly called upon to intervene in the face of threats to French citizens, our interests, or respect for international law. It is for this reason that the French Armed Forces are not only required to carry out occasional emergency interventions, but also to conduct real military campaigns, alone or as part of coalitions – what are known as internal or external operations that have covered a variety of situations in the past to meet a wide variety of objectives. For example:

- the intervention to stop the massacres in former Yugoslavia in the early 1990s;
- the evacuation of French citizens from Ivory Coast in 2003;
- the intervention in Afghanistan against the Taliban as part of the International Security Assistance Force (ISAF);

- Operation Chammal in the Levant against ISIL;
- Operation Harmattan in Libya;
- the protection of maritime traffic in the Persian Gulf (Operation AGENOR) and counter-piracy operations in the Horn of Africa within the framework of Operation Atalanta from 2008 onwards;
- blocking the build up of a terrorist caliphate in Mali in 2013;
- the deployment of Operation Sentinelle on national soil after major terrorist attacks;
- the deployment of French Forces on the eastern flank of Europe as part of NATO's reassurance posture at a time of strong tensions with Russia;
- the raid on Syrian infrastructure in 2018 in response to the use of chemical weapons;
- the rescue of French hostages in the Sahel;
- the monopoly of the Ministry of the Armed Forces in offensive cyber actions;
- the capability to counter unfriendly actions in space through space command and the development of dedicated resources.

Since the 1990s, the Armed Forces have been regularly deployed in operations in distant regions, sometimes without the Nation perceiving any direct threat. Recently, the brutal arrival of militarized terrorism on national soil has raised public awareness, particularly with Operation Sentinelle. The Sino-American rivalry, the conflict in Ukraine, and the civil wars in Syria and Libya involving a large number of regional and global powers, also contribute to heightening awareness. Indeed, the hypothesis of “uncontrolled military escalation” is becoming increasingly credible. Finally, in the context of hybrid warfare, indirect non-military and intangible actions are seen as integral to military force, which is often the last recourse. In Ukraine, political destabilization in the wake of Euromaidan, as well as the economic pressures on fossil fuels and electricity could only materialize with Russian military occupation on the ground in 2014.

Added value extending beyond strictly military purviews

The Armed Forces are also regularly called upon in non-military crises, as the events of 2020 have once again illustrated with Covid-19.

19 « Le soldat méconnu », 2018.

The pandemic has shown that French society can be seriously disrupted even in the absence of extreme cases such as war: saturation of hospital services, difficulties of the health crisis center in ensuring mask logistics, threats of strikes in the police and in critical sectors such as transport, disruption of public services (only 1,600 post offices out of 8,000 were open on March 31),²⁰ security problems in Mayotte, early release of prisoners, a wave of cybercrime, etc. In this particular context, the Armed Forces made a legitimate contribution to the State's overall response. They deployed Operation Résilience in the health, logistics and security sectors. It is important to note that this type of non-military engagement is nothing new. Many countries mobilized their Armed Forces in the fight against Covid-19, such as Italy, the US and the UK. The French Navy has also been mobilized to counter illegal immigration, for example as part of the European Operation Sophia starting in 2015. Moreover, other recent crises such as Hurricane Katrina in Louisiana in 2005, have mobilized military resources to a far greater extent. In 2011, no less than 100,000 Japanese troops were engaged in dealing with the tsunami and the Fukushima nuclear disaster.

The risk of the "Swiss Army knife" approach

The deployment of the Armed Forces in support of civilian crisis management raises at least two questions:

- Should it be considered the exception or the norm?
- Should the Armed Forces become more multi-functional to deal with this?

The Armed Forces have limited resources that generate heavy costs in training and maintenance and can only be used when required by the situation. Engaging military assets must be systematically weighed against three concerns.

- What is the added value of using military assets designed to wage war?
- What is the cost of non-engagement? Mobilizing military personnel for one crisis necessarily means reducing their capacity for another. In Operation Résilience, the amphibious assault ships were heavily involved; strategic medical

evacuation capacity was devoted to Morphée patient transfers before the TGV trains took over. Such a mobilization would not have been possible or even relevant if France had had to face a major risk in another part of the world.

- Do the likely security complications of the crisis require reserves?

Of course military operations do not stop during a crisis. While it may be possible to aim for reduced engagement during a sensitive phase, it is uncertain whether this is what the enemy wants. On the contrary, the enemy could try to exploit this weakness, this was the objective stated by ISIL. This vulnerability pertains to both national and external operations. The rare capabilities engaged for Covid-19 were not missed because the crisis did not present any security complications. This is how the conditions for deployment of the Armed Forces on the national front are laid out. The conditions were clarified by the Secretariat-General for Defense and National Security (SGDSN) in IIM 10100 in 2017, following the launch of Operation Sentinelle and the attacks of 2015²¹. IIM 10100 specifies the following: "Whenever the resources available to the civil authority are deemed non-existent, insufficient, unsuitable or unavailable, the Armed Forces may be called upon to reinforce the security measures implemented under the responsibility of the Minister of the Interior. The Forces are then engaged, outside the scope of military defense, which is their primary mission, by virtue of a requisition, in accordance with the terms of Article L.1321-1 of the Defense Code." It is important to respect this framework, though exceptional political decisions cannot be excluded to respond to exceptional situations.

Deployments of this type must be taken into account in developing the Armed Forces model. This could seemingly constitute an argument in favor of greater multi-functionality, of capabilities dedicated to civil crises, a sort of "Swiss Army knife" inspired by the Italian model. This would be a mistake. On the one hand, this argument goes against the changing strategic context. France would have multi-purpose Armed Forces, playing the role of public service as a last resort, but insufficiently prepared to deal with a high level of violence and outclassed

20 <https://www.lopinion.fr/edition/economie/coronavirus-pourquoi-poste-a-choisi-passer-service-minimum-215368>

21 Replacing IIM n°10100 of 3rd May 2010 relating to engagement of the Armed Forces on national territory in the event of a major crisis.

in military terms. On the other hand, the added value of the Armed Forces to the State's overall response has essentially resided in their specifically military capacity.

- The Armed Forces contributed added value at the peak of the crisis through their availability and internal resilience (i.e., their ability to continue to operate). The added value also stems from their readiness. The deployment of the Military Intensive Care Unit to Mulhouse is an excellent example. The equipment destined to the care of injured troops during operations was urgently reconfigured as part of a contingency plan to reinforce the worst hit region. Thanks to this deployment, Mulhouse Hospital avoided having to resort to triage procedures (i.e., turning away certain patients due to a lack of intensive care beds). Other capacities existed elsewhere in the country but could only be mobilized at a later stage.
- The Armed Forces made valuable contributions tied to their specificity: overseas pre-positioning, logistics, medical evacuation, chemical, biological, radiological, nuclear, etc.
- They helped boost morale through very symbolic, rapid and high-profile actions. They contributed to the spirit of defense and national cohesion, mitigating shock. They deployed a field hospital in Mulhouse, transferred patients on military aircrafts from one hospital to another, provided logistical supplies to several overseas departments and territories.

This mobilization also highlighted limitations, which are just as significant in view of a "real" military operation:

- Constraints are linked to the Armed Forces' own vulnerability to the risk of a pandemic. For example: the infection of the crew aboard the Charles de Gaulle aircraft carrier, a dependence on civilian subcontractors facing difficulties during the crisis (food, maintenance, infrastructure work), difficulties for production and maintenance contractors to carry out their missions, strike threats by civilian personnel at Creil air base, insufficiently decentralized resources at unit level.
- There are also quantitative limits since the contribution of the Armed Forces to the management of a pandemic is marginal given the limited capacities available following the end of conscription.

In conclusion, it is clear that France has everything to gain from having a "team" with diverse and complementary skills. This is all the more apparent in the current context, with the resurgence of power and the succession of systemic crises.

2.2. Nurture resilience through military specificity

The military apparatus must be built to respond to last resort situations arising from the use or threatened use of force. Defense policy is thus defined as having *"the purpose of ensuring the integrity of the territory and the protection of the population against armed aggression. It contributes to countering other threats that could jeopardize national security"*.²² This exclusive framework requires certain specificities of the military apparatus: legal framework based on self-defense, sufficient autonomy in resources and support, no right to strike, working hours, etc. The added value of the Armed Forces and their complementarity within the State's sovereign powers are directly linked to this specificity.

The foundations of military specificity

Military specificity is first and foremost governed by law:

- Constitutional law, which notably establishes the link between the Armed Forces and the executive branch;²³
- International law, which includes the law of armed conflict (*jus ad bellum*, *jus in bello*). France is a signatory to the Treaty of Rome establishing the International Criminal Court;
- Law deriving from legislative and regulatory sources. The French Defense Code describes the status of military personnel's rights and constraints as they arise in common law: on the one hand, the soldier's right to kill in situations other than self-defense, and therefore outside the scope of common law – which is not the case for police officers; on the other, specific constraints in terms of availability, mobility and discipline. The status of military personnel

22 Code la défense, art. L1111-1.

23 Articles 5, 13, 16, 20, 21, 34, 36, 52, 53, 73.

has a specific definition, distinct from that of civil service. The General Status of Military Personnel stipulates: *“the military profession requires in all circumstances a spirit of sacrifice, including the supreme sacrifice, discipline, availability, loyalty and neutrality. The duties it entails and the constraints it implies deserve the respect of citizens and the gratitude of the Nation”*. It also details the rights and obligations of military personnel: *“the restraint required by the military profession”, prohibition of the right to strike, “military personnel may be called up to serve at any time and in any place”*. It defines the *“military profession”* or military exceptionalism as the acceptance of life-threatening situations and exposure to potential injury, capture or death in fulfillment of the mission.

Legislation is regularly updated to adapt to new situations. For example, Article L4123-12 on criminal law protection for military personnel was updated in 2013 to specifically include hostage rescue operations, evacuation of French nationals and policing of the high seas.

Furthermore, the specific ability of the Armed Forces for wartime deployment is also based on the highly integrated nature of the military organization. This allows them to operate autonomously in degraded environments, either when civilian infrastructures or public services are partially defective or when the areas of operation are dangerous. The army can still deploy and fulfill its mission because it has its own intelligence, command and control, communications, mobility and bridging capabilities, protection against threats, including CBRN threats, support (in particular logistical and medical), etc.

On this last point, it should be noted that the General Review of Public Policies, undertaken under President Sarkozy, led to a controversial reform of support services, primarily based on overlap between different services. The desire to combine and further professionalize support services is a legitimate objective. However, two negative effects have emerged: on the one hand, resources have tended to be geographically and functionally further removed from the units they are supposed to support, thus depriving unit leaders (regiments in particular) of the tools for daily action and readiness they feel they need; on

the other hand, following a well known trend within any organization, support has shifted from a service mindset to a requirement mindset in the allocation of resources. The Ministry of the Armed Forces has recently tackled this problem with the *“forward support reform”*. Without challenging the principle of pooled support, it seems necessary to implement a reform aimed at re-establishing a decentralized chain of command and giving commanders more authority over their support. At the local level, the defense base support group should be subordinated to the defense base commander. Hence, we need to return to the spirit of the Bouchard parliamentary report which, after analyzing the causes of the 1870 defeat, recommended restoring the full authority of military leaders over support and logistics.

It can also be noted that this ability to protect French citizens is based on the strategic distribution of the Armed Forces across the country. This stems from the Cold War (airborne forces in the south-west, heavy forces on the eastern flank), though other regional planning considerations may have come into play. The distribution of sovereign forces in the overseas territories and forces providing a French presence worldwide also fits into a strategic perspective.

Last but not least, this *ultima ratio* function is based on specific systems of deterrence and coercion, including:

- nuclear deterrence, which is in essence *“the last argument of kings”* when our vital interests are seriously threatened. In the face of a sharp increase in military spending worldwide and the assertion of power politics, nuclear deterrence continues to embody the nation's ultimate life insurance;^{24/25}
- the ability to provide assistance to French citizens (e.g., evacuation, hostage rescue) or our allies with whom we are bound by reciprocal commitments, etc.

24 SIPRI Report for 2020: 2019 marks the largest annual increase in spending since 2010.
25 2017 Strategic Review.

The contribution of military specificity to defense principles

The ability of the Armed Forces to respond to major crises, and in some cases compensate for the limitations of other public services, reinforces the trust and expectations of the population. Opinion polls regularly confirm the French citizens' trust in the Armed Forces. In June 2020, 85% of respondents said they trusted the Armed Forces. Moreover, according to a 2018 Ipsos poll, the Armed Forces are perceived as effective (79%), responsive (79%), and reassuring (77%) by a very large majority of French people²⁶. Many citizens are proud of the French Armed Forces, and the sacrifices of our soldiers for the protection of the population are always greeted with respect and emotion. In our country, the Armed Forces remain a central component of national cohesion. Every year, the July 14 parade provides the nation with an opportunity to show its pride and gratitude to the Armed Forces. Thus, the military institution maintains its place in the hearts of French citizens, whereas many other institutions or organizations are prone to growing mistrust, as we are reminded every year by the survey by the Centre de recherches politiques de Sciences Po (Cevipof), which measures French people's trust in their institutions.

This observation calls for action on two fronts:

- to define and build up Armed Forces capable of confronting the upsurge in dangers, including extreme threats to the security and freedom of French citizens. We cannot continue to be satisfied with a stabilization force. To protect ourselves, we need an army that is equipped and trained for high-intensity conflict, thus capable of responding to acts of aggression by global or regional powers and of handling escalations and provocations.
- the decisive factor is ensuring that the specificity of the Armed Forces meets the challenges of tomorrow and ensures that this specificity spreads throughout the entire ecosystem of the Ministry of the Armed Forces. The ability of the Armed Forces to take on an ultima ratio role depends on the commitment of the military, but also on the commitment of all civilian support and industrial

suppliers working for the Armed Forces. The ability of a helicopter to intervene under fire in a theater of operation depends on the skill and courage of its crew, but also on the entire military, administrative and industrial chain that supports the crew and guarantees the availability of the aircraft.

Preserving military distinctiveness does not mean cutting the Armed Forces off from society. Quite the opposite. It is essential that this uniqueness be understood, recognized and accepted by society. Universal National Service provides an excellent opportunity for this. It is equally essential that recruitment for the Armed Forces be open to society as a whole, that the loyalty of recruits be secured, and that they enjoy an effective internal promotion system that breaks down any "glass ceilings".

Recommendation 1: Aim for a more integrated specialized military organization

1/ Consolidate military distinctiveness to forge resilience.

- Ensure that the specific features needed for the Armed Forces to accomplish their mission (availability, spirit of sacrifice, license to use lethal force outside the scope of common law and legal protection, youth, etc.) are not jeopardized.
- Prioritize the enrollment of new specialized skills recruits under military status (intelligence, cyber, UAV pilot, space, support, etc.):
 - by creating technical sections in military schools, or by building on existing civilian sections by inserting them into the career paths of military personnel;
 - by making the status of commissioned officers more attractive and making greater use of this status for high-level candidates.
- Open up career prospects for specialized recruits by ensuring general access to the *École de Guerre* exam.

.../...

26 <https://www.defense.gouv.fr/actualites/articles/sondage-les-chiffres-cles-de-la-defense-juillet-2018>

2/ Pursue the reform of support services by simplifying and decentralizing the chain of command. Revert support to the commanders.

- At the local level, subordinate defense base support groups to defense base commanders. At the central level, subordinate all support to the Armed Forces General Staff.
- Recreate a strong military culture among support contractors by posting in the forces during the first years of employment.
- Give resources back to decentralized actors. In the Army in particular, regiments would benefit from having more of their equipment permanently available, allowing for maximum readiness in all circumstances. This point applies to the support chain (commercial vehicles, ammunition, bullet-proof vests, etc.) and the operational chain (tactical vehicles).

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2.3. Enhance readiness

In the ongoing management of military escalation in the Levant, as with the Covid-19 crisis, readiness stands out as a fundamental quality of the Armed Forces. This refers in particular to the ability to confront crises whose timing, by definition cannot be anticipated.

Readiness has several dimensions.

- **A political dimension:** the time required to become aware of the reality of the crisis and then to decide whether to engage military resources.
- **A strategic anticipation and planning dimension:** the time required to plan an operation because soldiers cannot be blindly deployed – they intervene on the basis of the most accurate possible intelligence, clear rules of engagement (particularly the use of force), a complex logistical maneuver, in coordination with other assets and other forces.
- **An operational dimension:** maintaining the ability to rapidly deploy units that are already trained and prepared, available and equipped.

- A support and industrial dimension: ensuring that the forces involved have sufficient autonomy (ammunition, energy, food) and that the DTIB is capable of ramping up to a higher production pace and maintenance.

To enhance readiness, we need Armed Forces that are:

- capable of fulfilling operational contracts within a shorter timeframe;
- better trained;
- able to access assets and support in a more operational manner.

Operational contract

The operational contract defines the nature and volume of the operational commitments that the Armed Forces must be able to face. It is a reference for the development of the military apparatus. It also specifies time constraints to a certain extent, as illustrated by the excerpt from the MPL (see box). Four types of engagement stand out in particular: engagement of the national emergency force (the highest level of readiness, provided by troops standing by), engagement on home soil (such as Operation Sentinelle), engagement in a crisis theater (Mali), and major engagement. While response times are precisely specified for the national emergency force, they are less precise for reinforcements on home soil and crisis management²⁷. More importantly, planning a major deployment in a context of high-intensity combat requires six months' notice. This objective was defined in the 2013 White Paper on Defense and National Security. The current environment calls for a more precise indication of the degree of readiness. Moreover, services and industrial contractors need to take the time constraints of these contracts into account urgently.

Indeed, high-readiness scenarios appear increasingly likely in the analysis of the strategic context. First, the diversification of conflicts makes it necessary to be able to enact rapid changes in posture. The threat of employing the Joint

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²⁷ The 2015 update of the MPL specifies that the land-based protection posture becomes permanent with the capacity to permanently deploy 7,000 soldiers on home soil. It also specifies that a reinforcement of 3,000 soldiers can be activated for a period of one month.

Immediate Reaction Force without the capability to sustain this action in the long term or to support it with reinforcements does not seem enough to deter powers such as Turkey from interfering in our country's neighborhood. Second, major crises such as Hurricane Irma or Covid-19 have always hit without warning.

Furthermore, readiness does not seem to have improved since 2013:

- land-based protection posture has reduced unit training. Operation Sentinelle has just been reinforced in the face of the terrorist threat and Operation Résilience made its mark on 2020;
- anticipation is a critical capability in the absence of strategic transport aircraft and with the delayed deliveries of the A400M.

Finally, it is important to broaden reflections on readiness beyond operational considerations. The limiting factor may well be found at the level of support, supplies and industry. For example, the Rafales required by Greece cannot be produced in such a short timeframe (less than two years). It will be necessary to impinge on deliveries intended for the French Air Force in order to satisfy this order. In the event of a higher-intensity shock, it would be necessary to absorb more damage and anticipate attrition of some heavy equipment. For example, the Israeli Army lost 22 tanks during the conflict with Hezbollah in southern Lebanon in 2006. Russia lost 36 helicopters in Chechnya between 1994 and 2002. These are tough but asymmetrical conflicts. This observation requires a capacity to ramp up industrial production lines, an ability to accelerate maintenance, especially when it is sub-contracted. The same question arises with regard to munitions and support in general.

It is therefore important to specify the time constraints of the capability contract in the next update of the MPL so that related measures can be defined, including in areas beyond operational circles.

The operational contract in the MPL for 2019-2025

"The Armed Forces must thus be capable of ensuring permanent positions of deterrence, security and protection of the national territory, strategic intelligence, cyber defense, as well as conducting stabilization, counter-terrorism or counter-insurgency operations and engaging, even at very short notice, in high-intensity operations on land, at sea or in the air, and operating in the exo-atmospheric and digital domains.

In terms of crisis management and intervention, the Armed Forces must be capable of simultaneous, long-term engagement in three theaters of operation, with the capacity to assume the role of lead Nation in one theater and to be a major contributor within a coalition.

The Armed Forces must have the ability to engage in a major coercive operation, while maintaining an appropriate level of engagement in ongoing crisis management theaters. In this respect, the Armed Forces must have the capability to conduct, as part of a coalition, in a single theatre of engagement, a predominantly coercive operation in a context of high-intensity combat. They will be able to partly or totally assume command of the operation and will have the capability, in all three domains, to take part in a forcible entry operation in a theater of war. This hypothetical intervention would require a major engagement alongside our allies.

The forces involved will receive appropriate support in the areas of weapons, information and communication systems, fuel, health, field services and infrastructure.

.../...

To guarantee their autonomous response capability, the Armed Forces will maintain a national emergency force of 5,000 men on permanent alert. This will be the immediate response reserve, possessing the full spectrum of Armed Forces capabilities, with the ability to seize a point of entry, urgently supply reinforcements or evacuate nationals, among other things. This alert force makes it possible to set up a 2,300-strong Joint Immediate Reaction Force (JIRF). This force will be deployable 3,000km from national territory or from a location outside France within seven days. Within a shorter timeframe (less than 48 hours), France will remain capable of conducting immediate and autonomous deep strikes by airborne and naval assets.

Furthermore, the Armed Forces must have an autonomous long-term capability in the fields of: intelligence (autonomous assessment), command of operations, Special Operations, protection against asymmetric threats, show of power in support of political objectives, and actions of influence. In these areas, the contributions of partners may be sought to enhance the effectiveness of our forces, without constituting a pre-requisite for operational engagement.”

Training

Readiness also depends on the ability of the forces to undertake their mission immediately. The pre-projection preparation system is no longer adapted to the reality of contemporary threats. It needs to be updated.

In France, training is largely determined by the external operations (OPEX) cycle, since the various units that make up the Armed Forces – particularly land forces – are intended to be deployed in OPEX rotations. The operational preparedness of the units is largely based on the methods put in place for the deployment of conventional forces to Afghanistan from 2008 onwards. Confronted with tougher combat conditions than in previous decades, the Armed

Forces set up preparation cycles aimed at bringing the projected units up to the highest level possible. This system was proven to be positive in that it has ensured overall upskilling. However, it has the disadvantage of maintaining very heterogeneous levels of preparation. In the Army, the preparation cycle is spread over two years. Today it means that the most highly trained units can be deployed to the Sahel. Conversely, the other units are less ready, especially for a tough engagement. This phenomenon is aggravated by the increasing level of technical skills required, contract duration and equipment availability.

All in all, we have well-prepared soldiers on the ground but general training remains inadequate. Available training statistics show that we are below NATO standards. This means that we are capable of deploying men and women to the field who have undergone prolonged operational preparation, which certainly contributes to tactical success, but reduces our ability to deal with strategic surprises.

Pre-positioning of assets and support

Readiness also depends on the geographical distribution of the Armed Forces. The fact that they are spread across the country, including in overseas territories, gives them a definite advantage, as does the network of forces based abroad. Nevertheless, this advantage is limited by the autonomy of their assets and support.

On home soil, the Covid-19 crisis was essentially managed in a decentralized manner at all levels of the Joint Territorial Defense Organization (OTIAD). The medical, logistical and protection support provided by the regiments based outside the region was directly coordinated between the prefecture and the nearest regiment, which had good local knowledge. Outside France, the 2013 action to block the jihadists in Mali before they captured the capital was mainly carried out by Special Forces, reinforcements from Ivory Coast and French elements in Senegal. They later received reinforcements from France. However, this capability is limited by the availability of equipment and support for these decentralized elements. On home soil, regiments do not have their own stock of

vehicles, ammunition and heavy equipment. They are received directly in-theater or from a stock specifically dedicated to training. Consequently, it is important to increase the amount of equipment held in regimental stocks in order to enhance readiness. Pooling has undoubtedly gone too far. Similarly, support service reforms and the creation of support groups for defense bases are still subpar. Stakeholders in the decentralized action of the Armed Forces need to have better control over the service chain of the Armed Forces Commissariat. The same argument applies to overseas territories and pre-positioned forces. They would benefit from having heavier equipment on hand, particularly armored vehicles. Strategic transport from metropolitan France is always a challenge, given the reliance on private companies. Finally, it is important to note that the presence of French Navy vessels in Asia or the Gulf enables participation in regional information exchange arrangements.

Recommendation 2: Enhance the readiness of the Armed Forces in a volatile strategic context

1/ Operational contract

In the update of the Military Programming Law in 2021, specify objectives for the time required to open a theater of crisis and, above all, a major engagement. It is important to reduce this period, currently estimated at six months. It also seems urgent to strengthen the credibility of this timeframe by extending its application to supplies, by anticipating the increased involvement of industrial players and support services.

2/ Training

Training should enable all military units, whether or not they are scheduled for engagement in external operations, to be combat-ready and prepared to respond on short notice to a major threat. This requires:

.../...

- longer training periods to reach NATO standards;
- introducing a joint training cycle, corresponding to a major engagement scenario (land force at division or corps level, carrier battle group reinforced with amphibious capability), in order to re-learn how to engage at a higher level than in the crisis theaters experienced since the 1990s.

3/ Regional presence and pre-positioning of equipment and support

- Position certain heavier equipment overseas (e.g., Jaguar and Griffon vehicles in New Caledonia, light frigates) which is so far concentrated in metropolitan France; and for which France is dependent on third party players.
- Reassess the deployment of Overseas Sovereignty and Presence Abroad Forces in order to report on evolving zones of tension. Assess the benefits of pre-positioning in Asia.

2.4. Focus on capabilities and format to increase impact and endurance

This report has already made the observation that the Armed Forces face a twofold challenge: to confront the circumvention of power at the low end of the spectrum of violence (cyber, information manipulation, indirect actions, etc.); and to oppose unbridled aggression at the top end of the spectrum. The Strategic Review and the MPL follow the same reasoning. It is also important to identify the adjustments that might be introduced, given the changing strategic context, with a view to updating the MPL in 2021.

Faced with the growing number and intensity of theaters of operation, the Armed Forces Chief of Staff declared during hearings on the 2020 Draft Finance Bill, that the current Armed Forces model is no longer adequate. Equipment numbers are shrinking and replacement by smaller numbers of higher-performance

equipment (frigates, armored vehicles, combat aircraft, etc.) is posing difficulties in the face of growing needs.

- As far as destroyers are concerned, the Navy has “reached the limit” of its capabilities, with an increasing need for permanent presence and an insufficient number of ships (only 15 destroyers).
- As far as the Army’s medium-class armored vehicles are concerned, the target for 2030 is set at 300 Jaguars, whereas in 2008 we had 452 medium-class armored vehicles and there are more theaters of operation today.
- For the French Air Force, the target for 2030 is 185 multi-role aircraft, whereas in 2008 the Air Force had 420 fighter aircraft.

Certain equipment is still insufficiently available, despite increased spending on scheduled maintenance. The need to improve maintenance is a recurring concern, particularly for aircrafts and, to a lesser extent, for armored infantry fighting vehicles. Maintenance is a crucial issue. For several decades, the contraction of equipment volumes reduced maintenance costs, as the equipment suffering from the heaviest wear could be withdrawn to reduce the fleet in service. This is no longer the case in the current situation.

In terms of strategic autonomy, transport is a major concern. All recent crises have clearly shown how difficult it is to protect our forces without leased equipment. This can be problematic since we are not the only ones who require this type of equipment at any given time. Moreover, the countries of origin of the leased equipment are sometimes problematic. For heavy-lift helicopters (like the Chinook or CH53), France systematically calls on our European allies to use theirs. This type of helicopter is lacking in the French Air Force inventory. Moreover, for the cargo aircraft that are essential in the event of a major crisis, Russian-made Antonovs remain the only solution. Without them, the intervention in Mali would not have been possible.

Finally, the use of UAVs is increasingly systematic (e.g., by the Turkish Army in Libya, which deployed around 20 aircrafts simultaneously during Operation Source of Peace in Syria in 2019). However, the French Armed Forces in particular have a limited number of UAVs. Operation Barkhane does not generally

ensure permanent presence in the air. It therefore seems essential to significantly increase the number of UAVs. This shortcoming was also noted in the latest report from the French Court of Auditors. It is even more glaring with respect to armed UAVs. This negative observation does not apply to smaller aerial surveillance UAVs (see box).

There is a great risk that this error could be repeated with our naval and land forces if efforts cannot be boosted substantially. The main consequence could be a tactical downgrading of the French Armed Forces. It would be highly prejudicial if, by the end of the MPL, an army pilot unit did not have this capability in operational use. Failing this, it might at least be useful to equip a Special Forces unit under an emergency program. This option would make it possible on a reduced scale to learn lessons from operational use, to anticipate policy and above all to be able to engage this capability in a critical situation against an enemy. It must be realized that this technology is already a reality. South Korea has deployed Samsung robots to protect its northern border, Russia used combat robots with its Special Forces at the beginning of its deployment in Syria, Estonia has tested a new logistics platform in Barkhane.

Learning lessons from the difficulties in keeping up with UAVs

Unmanned systems are mobile land-based, airborne or naval vehicles, remotely piloted or programmed, and equipped with one or more payloads: observation, intelligence or weapons.

The use of unmanned aerial vehicles (UAVs), particularly armed ones, is increasingly widespread at all levels of military power. ISIL operates rudimentary devices and the Houthis in Yemen claimed responsibility for attacks on Saudi oil installations in 2019. China and Israel are among the world’s leading exporters and the US plays a pioneering role.

.../...

Recent events highlight the advantages that Turkey has gained in this sector. It operates a fleet of more than 100 armed UAVs, spearheaded by the Anka-S and TB2, developed by the Turkish industry under a program launched in the 2000s. They belong to the same category as the US Reaper (MALE: medium altitude long endurance), but their characteristics are inferior in terms of in-flight performance and payload. This has not prevented them from being highly effective in Libya, Syria, Karabakh and on Turkish territory, giving Turkey a decisive edge. The choice is therefore paying off for a country which does not have the technological and financial clout to develop combat aviation. However, they need to be put into perspective insofar as these vehicles would be unable to operate in the presence of enemy fighters providing air cover.

The problem is different for France, with its unmatched assets in the field of air superiority. Nevertheless, the difficulties in making up lost ground on the battlefield accelerates. This observation was made as early as 2013 during Operation Serval in Mali. The solution adopted as a matter of urgency was to create an up-to-date ancillary fleet based on off-the-shelf procurement. The Americans met this requirement with many constraints²⁸, by supplying the MQ9 Reaper. The decision to weaponize these drones was made in 2017. However, this shortcoming has only been corrected on a short-term basis. Today, only the contact UAV segment (light machines used for intelligence purposes) appears to be properly equipped. In the upper segment, the delivery of the first Safran Patroller tactical UAV for the French Army, planned for 2019, has been postponed to 2022. In the theater segment (MALE: Medium Altitude Long Endurance), which includes the Reaper, a contract is expected to be signed between Europeans by the end of 2020, with first delivery .../...

28 Report of the French Court of Audit 2020.

targeted for 2028. The Neuron, a stealth combat UAV demonstrator, is another matter. It reflects Dassault's desire to get back into the UAV business in preparation for a future combat air system and is showing promising results.

Learning from the difficulties of catching up in aerial drone materials²⁹

Category	France	Turkey
Strategic	0	
Theater (MALE)	Armed: 11 MQ9 Reapers	Armed: 84 TB2s + 31 Anka-S vehicles
Tactical	Patroller: 28 to be delivered 2022-2030	Unarmed: 8 TB2s

The French Court of Auditors 2020 report provides detailed explanations of these difficulties. There are at least two additional decisive factors:




- the lack of experience of French industry in this specific sector. Even for a system manufacturer like Safran, it is not easy to design and build UAVs in a short space of time;
- the impact of the ethical issue. It was only in 2017 that the position of the Ministry of the Armed Forces on ethics made it possible to avoid falling further behind in technology and tactics while at the same time providing a framework for the development of automatic systems. It made it possible to weaponize UAVs to provide extended airborne fire support for ground troops. Nevertheless, France remains committed to regulating these technological developments in international law. It .../...

29 Source: defense key figures for 2020. Military Balance (International Institute for security studies).

rejects the concept of the “killer robot” or lethal autonomous weapon (LAW).

The difficulties to get back in the game of unmanned aerial vehicles must be used to make urgent responses in land-based and naval systems. In the current state of technology, French soldiers engaged on the front line can already find themselves up against machines. It is important to acquire technological and tactical expertise in this area.





International comparisons: key capabilities 2019-2025³⁰

				
		2019/2025	2019/2025	2019/2025
Land	Combined arms brigades, including air-land	7 + Franco-German Brigade / 7 + Franco-German Brigade	11 / 13	7 + Franco-German Brigade / 7 + Franco-German Brigade
	Main battle tanks	241 / 200	227 / 227	236 / 328
	Maneuver and attack helicopters	267 / 262	237 / 21 squadrons	266 * / 296 *
Sea	Aircraft carriers	1 / 1	1 / 2	0 / 0
	Attack submarines	6 / 6	6 / 7	6 / 8
	SSBNs	4 / 4	4 / 4	0 / 0
	Destroyers	17 / 17	19 / 19	10 / 14
Air	Combat aircraft (fleet)	254 / 253	157 / 188	222 / 225
	Tankers	15 / 15	14 / 14	5 / 5
	Tactical transport	48 / 43	42 / 44	43 / 59

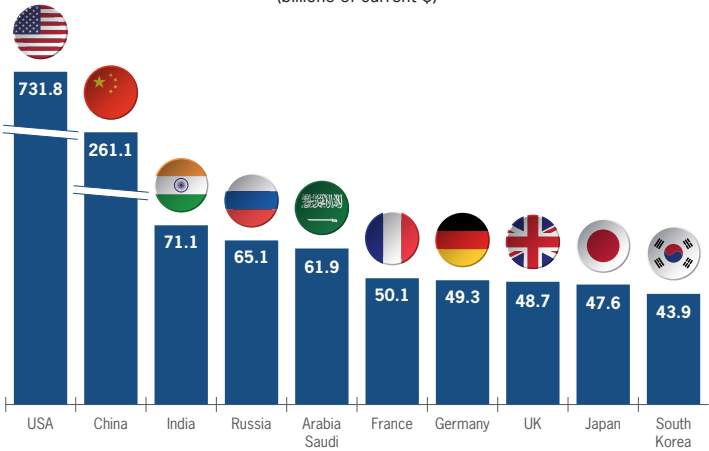
* including 51 Tigers

30 Source: report in appendix to 19-25 MPL (France).

International comparisons: expenditure per soldier³¹

				
Annual expenditure per soldier (€)	€461,698 per soldier; 1,338,000 soldiers	€407,482 per soldier; 145,000 soldiers	€242,076 per soldier; 183,000 soldiers	€206,798 per soldier; 208,000 soldiers

Top 10 countries ranked by military spending in 2019 according to SIPRI³²
(billions of current \$)



31 Source: report in appendix to 19-25 MPL (France).

32 The data used come from the Swedish think tank SIPRI, which uses its own system of reference (different from other reference sources such as IHS Markit or NATO publications) and includes pensions (and for France, gendarmerie expenditure). Nevertheless, the SIPRI annual report is widely recognized by experts and receives extensive media coverage. It can be used to measure the major masses and the main trends worldwide.
<https://www.sipri.org/databases/milex>

In 2019, global military spending amounted to \$1,917 billion, according to the Stockholm International Peace Research Institute (SIPRI). This is a 3.6% increase compared to 2018, the largest annual increase since 2010. The five largest spenders (62% of global spending) are the United States, China, India, Russia and Saudi Arabia.

Recommendation 3: Adjust capabilities and format to increase impact and endurance

Alongside the cyclical renewal of the nuclear deterrent, which seems to be a subject of consensus, there are five priorities.

1/ Urgently fill the gaps that limit the availability of existing equipment, particularly strategic stocks

- Munitions figures are confidential. It is important to rapidly build up the necessary stockpile to face a high-intensity scenario and to remain credible.
- Operational availability of equipment is difficult to keep up when there is a surge in demand, even on a one-off basis. The lack of spare parts stocks in particular is a weakness that needs to be addressed.

2/ Adapt to new domains and modes of conflict

- Accelerate efforts in support of action in dematerialized space. This involves training personnel to fulfill the “influence” component of military action rather than recruitment per se. It also involves maintaining efforts in the cyber domain.
- Recover lost ground in air, land, and sea unmanned armed vehicles. For land-based combat robots, urgently equip at least one pilot unit by 2025.

.../...

- Increase the capacity for indirect action: develop the concept of joint military operational partnerships, increase special funds for Special Forces, build a network of trusted French private military companies (ESSD).
- Improve space-based combat capability: space surveillance (upgrade the GRAVE radar), develop a “combat-capable” unmanned maneuvering space vehicle. More ambitious projects such as a mega-constellation for “real-time” intelligence should be planned through international cooperation.

3/ Repair and modernize the heavier segments

- In the air, the priority is tanker aircrafts. A French option for strategic airlifters and heavy-lift helicopters is lacking.
- At sea, the priority is destroyers and nuclear attack submarines.
- On land, the priority is low-level air defense and a rapid transition to Scorpion.

4/ Change the format of reserves

- The 2030 objective for reserves could be to autonomously reach the national territory protection contract of 10,000 men (currently about one-third are currently). They would be able to take over for units deployed on external operations and could possibly man some of the capacities that are least used (e.g., heavy artillery).
- Such an objective requires a significant increase in the volume of reservists, along the lines of Anglo-Saxon models. This objective can only be achieved gradually because it involves acquiring the resources to train and equip these reservists without weakening active military manpower. By way of comparison, the United States spends about 10% of its budget on reinforcing manpower by at least one-third.
- Nevertheless, Universal National Service opens up interesting prospects for gathering the necessary human resources for such a project.

3. Seeking levers and leeway

3.1. Budget challenge: safeguarding commitments

Levers for improving performance

Even in the event of a major post-Covid-19 budget boost, the resources deployed will remain inadequate and our Armed Forces will be unable to deal effectively with the growing threats while maintaining the current policy of intervention. The efficiency of the Armed Forces must therefore be improved if France is to maintain its ambitions on the international scene.

There is still room for performance improvements on different levels: professionalization of support functions, optimization of equipment acquisition and maintenance costs, modernization of organization and tools, particularly through digital technology, etc.

A number of projects have already been carried out in the past, often with mixed results.

- Ministerial Defense Strategies program (SMR), followed by the General Review of Public Policies (RGPP): significant FTE transfers, particularly in civilian personnel, which were inefficiently implemented.
- FTE transfer schemes show inconclusive results (e.g., MALDE scheme).
- Simultaneous creation of defense bases and the Armed Forces Commissariat (SCA) with the aim of creating a joint support structure, offered disappointing results, particularly from the point of view of the end user.
- Considerable efforts have been made to control workforce trends as a whole, particularly in terms of civilian staff and support functions.

In the end, the Armed Forces came out of these reforms with a sharp reduction in military and civilian personnel, but few attempts were made to modernize the organization's performance.

Performance-oriented reforms are currently under way, particularly in system maintenance activities (MCO). Following the 2016 reform of ground MCO, on December 11, 2017, Florence Parly announced a broad plan to transform aeronautical maintenance involving two major changes:

- a governance change, with the creation of the Directorate of Aeronautical Maintenance (DMAé), directly tied to the Armed Forces General Staff, aimed at achieving a more executive management method;
- an industrial strategy change, with the objective of limiting interfaces, introducing vertical contracts and redefining the scope of action of the different parties involved: DMAé, industrial partners, Armed Forces.

Cette réforme fait suite à un constat d'insatisfaction sur le MCO aéronautique. D'une part, le taux de disponibilité des flottes stagne à un niveau insuffisant pour les Forces alors que les moyens aéronautiques continuent d'être fortement sollicités, notamment sur les théâtres d'opération. D'autre part, les moyens mis en œuvre pour la maintenance croissent à un niveau non acceptable pour le Ministère. Et ce d'autant qu'il n'existe pas de marge significative d'économie sur la dissuasion et les OPEX, compte-tenu de la spécificité de l'approche française en la matière.

This reform comes in response to the unsatisfactory state of aeronautical maintenance. On the one hand, fleet availability has failed to increase above an adequate level for the forces, at a time when aeronautical assets are continually in high demand, particularly in theaters of operation. On the other hand, the resources devoted to maintenance are growing at an unacceptable rate for the Ministry. This is all the more problematic since there is no significant margin for savings on deterrence and external operations, given the specific nature of the French approach in this respect.

France has developed an independent deterrent, unlike the UK for example. In a context where strategic autonomy is once again becoming a priority, it would be a pity not to exploit the capital generated by decades of investment. Therefore, it is important to provide the necessary funding to maintain credibility in a very demanding technological environment. Several considerations must be

added to this initial observation. First, in the absence of nuclear weapons, the acquisition of sufficient conventional forces to be considered a credible player in the confrontations between the great powers would be prohibitively expensive. Second, the technology developed for deterrence trickles down to other sectors. In this context, the improvement of the deterrents – delivery platforms, missiles, transmissions, etc. – is a legitimate requirement in the absence of any means to evaluate the pace and processes of this modernization, due to military confidentiality.

Crucial budget choices in 2021

At the beginning of the 21st century, the Armed Forces were faced with an objective dilemma due to declining financial resources and manpower (and the resulting capability gaps) in the face of an ever-increasing operational pace. The update of the MPL planned for 2021 is taking place in a different but equally complicated context. Defense spending is indeed increasing but the strategic environment has deteriorated further.

Despite the effort begun in 2015, in 2017 the Court of Auditors warned that *“the implementation of the 2014-2019 MPL was marked by a context of intense activity for the Armed Forces (external operations, Sentinelle, etc.) which widened the gap between aspirations, needs and resources.”* The Court therefore called for the future MPL to be built on *“honest and realistic foundations.”*

During various discussions on the defense budget, successive Armed Forces Chiefs of Staff have underlined their concerns about the changing nature of conflict and France’s ability to respond. The challenge is to guarantee France’s decision-making autonomy in the 21st century and this will require a full-range Armed Forces model by 2030. The 2019-2025 MPL, based on the 2017 Defense and National Security Strategic Review, is part of this effort to preserve our strategic autonomy.

However, since 2017 we have witnessed an increasingly difficult geopolitical context and an escalation of threats. Indeed, the trends in the 2017 Strategic Review are being confirmed and in some cases gaining momentum – the world is rearming, multilateralism is under attack and the subjects of tension are multiplying. The budget targets are therefore legitimate given the current and potential threats. The general goal to *“reduce the capability gaps that emerged under the previous MPL and accelerate the modernization of the Armed Forces’ equipment”* is more topical than ever. The MPL stipulates the renewal of our operational capabilities, increased appropriations for intelligence and cyber warfare and more funding for research and innovation.

A satisfactory first three years of the MPL, with implementation being monitored.³³

In accordance with the MPL, the 2021 finance bill asked for a €1.7 billion increase in the defense budget, to €39.2 billion. The 2019 and 2020 budgets had also been increased by €1.7 billion, to €35.8 billion in 2019, and €37.5 billion in 2020. The resources of the 2019-2025 Military Programming Law are based entirely on budget appropriations and never on hypothetical exceptional revenue. This helps to secure the funding trajectory and make the budget more reliable.

Defense mission³⁴
(billions of euros)

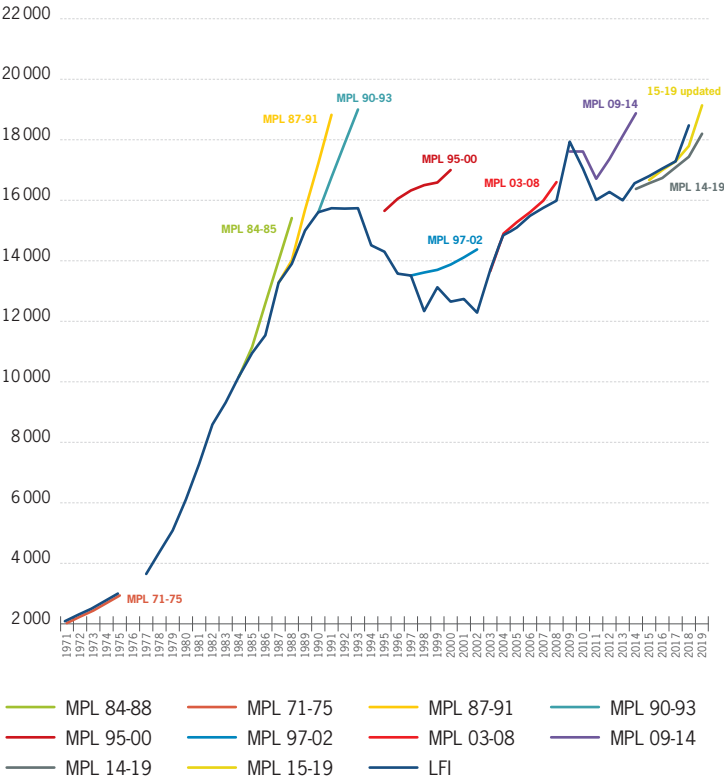
2018	2019	2020	2021	2022	2023	2024	2025
34.2	35.9	37.6	39.3	41	44	47	50

33 http://www.assemblee-nationale.fr/dyn/15/rapports/cion_fin/115b2301-tiii-a14_rapport-fond#_Toc256000005
<http://www.senat.fr/rap/119-140-39/119-140-39.html>
<https://www.ccomptes.fr/system/files/2020-04/NEB-2019-Defense.pdf>
34 Source: PLF 2021.

The MPL allocates €198 billion over the period 2019-2023, according to the above table. This is followed by an increase in resources in 2024 and 2025 once the MPL has been updated in 2021. In order to meet the requirements scheduled under the MPL to the tune of €295 billion over the period 2019-2025, this represents a further increase of €3 billion in 2023, 2024 and 2025.

These €1.7 billion increases per year since 2019 constitute a significant effort to repair and modernize our defense system. Nevertheless, the experience of the previous MPLs teach us that while the first MPL budget annuities generally comply with the planning law, difficulties only appear later. It is important to note here that commitments have been met three years in a row. This is unprecedented, as illustrated in the graph below.

Comparing planned amounts (MPL) with amounts from initial finance bill since 1970³⁵
(millions of current euros)



35 Source: Budget Directorate.

Table 1: Breakdown of the increase in defense payment appropriations between the 2018 and 2019 Initial Finance Bills³⁶

Strategic operation, all programs	Increase, IFB 2018 vs. IFB 2019 (payment appropriations, € million)
Nuclear deterrent	410
Scheduled equipment maintenance	320
Major programs	286
Other programs, including intelligence and infrastructure	260
Provision for external operations and domestic missions	200
Personnel expenditure	160
Administrative	60
Total	1,696

At the time of writing, in 2020, only the first year of the MPL had been fully applied. In its first year, 2019, the execution of the MPL defense budget was “broadly in line with the forecast” according to F. Cornut-Gentile (Special Rapporteur on the defense budget in the National Assembly’s Finance Committee) with a slight under-spend of €172.4 million in a budget of €44.8 billion (special pensions account included). The Court of Auditors stressed that *“both in planning and implementation, the political objectives and funding trajectories set out in the MPL have been respected [in 2019]”*. The defense budget therefore appears to have been built on more honest foundations than in the past.

36 Source: French Court of Auditors, based on Ministry of the Armed Forces data.

Nevertheless, there are still budgetary concerns regarding implementation.

The implementation of the 2019 budget raises two main points. The appropriations for program 144 *Environment and Forward Planning of Defense Policy* have not been fully implemented (already observed in previous years). This has a detrimental impact on upstream studies, yet the MPL calls for an increase in appropriations for the latter. Furthermore, the deferral of expenses increased sharply in 2019 (3.88 billion for the Defense mission compared with 3.4 billion in 2018).

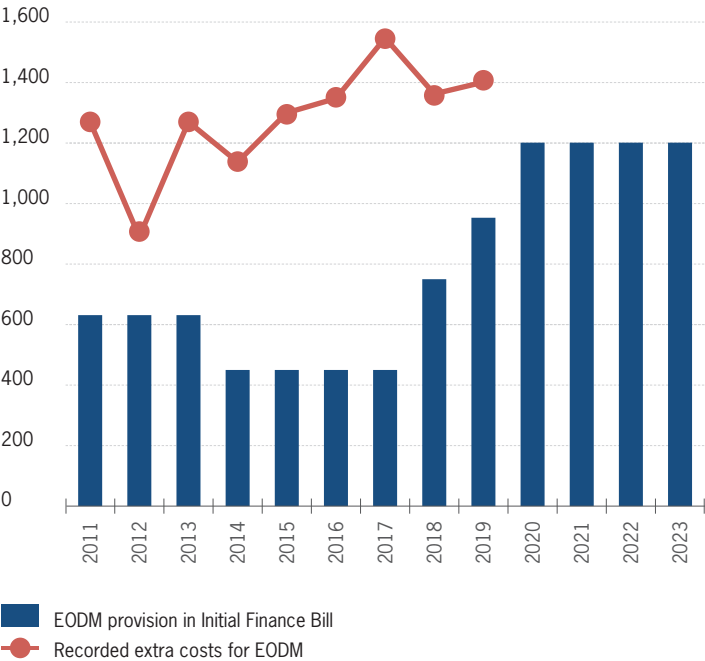
In addition, the extra cost of external operations needs to be monitored because there has been a strong reliance on inter-ministerial solidarity in recent years, particularly in 2015, 2016 and 2017. The contribution of the Defense mission to this extra cost was significant in those years (in proportion to the Defense share of the State budget) and generally led to a deferral of equipment orders. The funding provisions in the 2019-2025 MPL are intended to eliminate the need for inter-ministerial solidarity.

Provisions for external operations amounted to €850 million in 2019 and €1.1 billion in 2020 and in the 2021 MPL (yearly amount planned until 2023), while extra costs for external operations and domestic missions in 2019 came to €406 million. These residual extra costs for external operations and domestic missions were at their lowest level since 2012. These provisions are therefore gradually converging with actual costs, and the planned budget (with a provision of €1.1 billion from 2020 onwards) is more likely to meet expenditure generated by France’s commitments, while based on the defense budget alone.

As in 2018, the additional funding for the extra costs of external operations and domestic missions did not require inter-ministerial solidarity and was fully covered by the Defense mission. The under-utilization of personnel expenditure and the precautionary reserve contributed to funding the extra expenses. Cancellations in the reserves resulted in the transfer of commitments to upstream studies and had no direct capability impact for the Armed Forces. While we

welcome greater budgetary honesty, we can also reflect on the absence of inter-ministerial solidarity to cover the extra costs of external operations and domestic missions. This implies that the entire Nation was participating in the defense of its vital interests.

Recorded extra costs for external operations and domestic missions (EODM) compared with EODM provision in the Initial Finance Bill³⁷
(in €m of payment appropriations)



37 Source: Court of Auditors, based on Ministry of the Armed Forces data.
The Initial Finance Bill provision includes the €100m for domestic missions.

Appropriations for the “Defense” mission in 2020 and the 2021 MPL do not include any mechanism to fund Universal National Service (UNS). Yet the Ministry of the Armed Forces is expected to play an important role in this respect. The current experimental phase of UNS, in which the Ministry of the Armed Forces takes on new responsibilities relating to UNS without an increase in resources, does not appear to be sustainable, particularly as UNS gains momentum in the years ahead. The MPL indicates that alternative funding arrangements will be used for this acceleration. The President had set a target of 150,000 young people in 2021, and at least 400,000 by 2022. This target now appears to have been cut to 25,000 young volunteers in 2021.

Finally, we must highlight political focus points tied to our ability to sustain defense allocations until 2025.

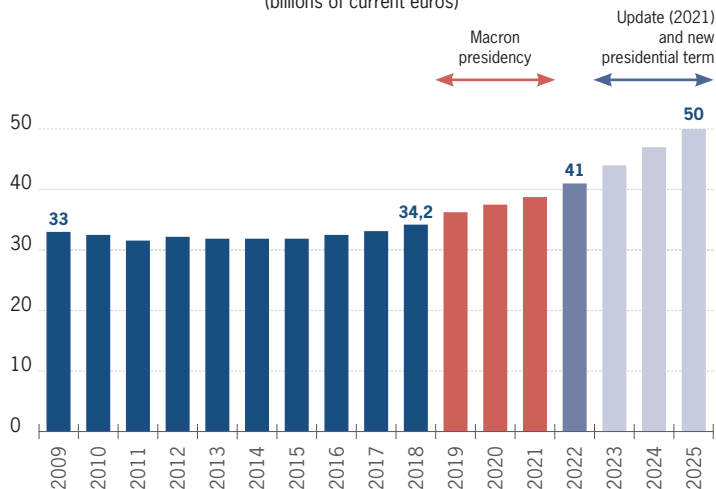
Each year, the government’s annual finance bills may withhold appropriations of amounts lower than those provided for in the MPL. However, we should remember that in a speech at the Ecole de Guerre on February 7, 2020, the President stressed that the budget commitments made in the MPL will be “closely respected in the long term”.³⁸

Therefore, the 2019-2025 MPL provides for a significant increase in appropriations for the “Defense” mission between 2019 and 2023, amounting to a total of €9.8 billion. This major effort is unevenly distributed, with the largest annual increase only expected in 2023 (+€3 billion, compared with +€1.7 billion per year between 2019 and 2022). Thus, the budget trajectory of this MPL places the bulk of the additional financial effort (+€3 billion per year starting only in 2023) on the next five-year presidential term.

38 <https://www.elysee.fr/emmanuel-macron/2020/02/07/discours-du-president-emmanuel-macron-sur-la-strategie-de-defense-et-de-dissuasion-devant-les-stagiaires-de-la-27eme-promotion-de-lecole-de-guerre>

Defense budget as planned under the new MPL³⁹

(billions of current euros)



The 2019-2025 MPL plans for €295 billion to be spent on defense over the entire period (including €198 billion for in budget planning up to 2023). This is a very substantial national effort: the second largest item in the State budget after education. Nevertheless, the state of France's public finances will deteriorate sharply in the coming months and years due to the health and economic crisis. Public debt is expected to rise sharply and the budgets of the various ministries will probably be subject to review.

Budget planning will be updated in 2021, deciding whether or not to consolidate the funding trajectory up to 2025, whether to pursue or revise this goal.

However, in this tense geostrategic context and with the proliferation of threats, the repair and modernization of our defense system undertaken by the MPL

39 Source: <https://www.sia-partners.com/fr/actualites-et-publications/de-nos-experts/la-lpm-virage-ou-mirage>

cannot be sacrificed or postponed. Key investments in the nuclear deterrent are underway for the renewal of both airborne and oceanic components (about €5 billion in the 2021 finance bill), including the start of construction of the third-generation nuclear-powered ballistic missile submarine (SNLE). The modernization effort is also taking shape in the cyber sphere (€201 million planned for 2021) and in the space sector (€624 million in the 2021), both of which are becoming critically important. These are just a few selected examples that underline the strategic dimension of the defense budget in preserving France's autonomy.

Recommendation 4: Secure the Military Programming Law

Securing the current MPL until 2025, amounts to around €1.7 billion in 2021 and 2022, and €3 billion from 2023 onwards.

- The MPL remains relevant and adapted to current challenges: the threats anticipated by the Strategic Review have been confirmed and even, in certain cases, accelerated.
- Its overall ambition to "reduce the capability gaps that have appeared under the previous MPL and accelerate the modernization of the Armed Forces' equipment" is more topical than ever.
- In a context of post-crisis recovery and desire to strengthen our strategic autonomy, the Defense Technological and Industrial Base (DTIB) must be supported in the coming years. Unlike Germany, the stimulus plans announced so far on the French side would offer little benefit for the defense sector.
- Industry's ability to ramp up and invest in production capacities depends on the visibility afforded to future defense expenditure, but also on the credibility of the MPL.

We must rely as much as possible on the European recovery plan and European cooperation with our partners to generate additional resources.

3.2. Mobilize HR, technological and industrial levers to ready our Armed Forces for the upcoming challenges

Mobilize human resources to enhance the attractiveness of the military profession while preserving its uniqueness

Since the end of the 20th century, our Armed Forces have undergone major changes in terms of human resources (e.g., professionalization and downsizing). French Army manpower is now one-third of what it was in 1990. This deflation continued after professionalization, particularly from 2009 onwards, as part of the General Review of Public Policies. This trend changed in 2015, due to the terrorist threat, and we are now seeing gradual recovery with an upswing in recruitment.

After years of shrinking manpower until 2015, personnel numbers have started to climb again. The MPL forecasted 1,500 new jobs over the period 2019-2022 (including 450 in 2019 and a further 300 in 2020 and 2021), and provides for a 3,000 increase in manpower within seven years. Plans include a particular focus on intelligence, cyber and space.

Forecasted manpower changes at the Ministry of the Armed Forces, 2018-2025⁴⁰ (FTE)

	2018	2019	2020	2021	2022	2023	2024	2025
2018 finance bill	+ 500							
2019-2025 MPL (Law of July 13, 2018)		+ 450	+ 300	+ 300	+ 450	+ 1 500	+ 1 500	+ 1 500

40 2018 finance bill, Defense, Chapter 4, 2019-2025 MPL.

Henceforth, the aim is to maintain a certain critical mass to have sufficient numbers of qualified soldiers. According to the 13th annual report of the Haut comité d'évaluation de la condition militaire (HCEM) released in December 2019, military manpower remained stable in 2018 compared to 2017, despite the increase in authorized employment quotas. In 2018, the Armed Forces and associated groups had 305,114 military personnel in FTEs.

The military is encountering major difficulties in recruiting and maintaining numbers in the face of very strong competition from the civilian sector and the high demands of the military profession. This is a major issue for the future of our Armed Forces. Faced with the cyber threat and digitization, it is essential to increase the number of IT engineers and data scientists. Thus, the number of specialized schools or the amount of enrollment in existing schools should be increased to ensure sufficient numbers to meet the needs of the Armed Forces.

Recruitment in 2018 were in decline compared with 2017 and 2016. Military recruitment totaled 28,737 in 2018 (–11% compared with 2017). Decrease was significant in the Army (–11%) and Gendarmerie (–24%), while the Navy and Air Force saw increases. The number of applicants showed the same downward trend as recruitments.⁴¹

To remedy this situation, it is essential to enhance the attractiveness of the military profession, which requires dedicated resources: New Military Remuneration Policy (NMRP) and the conditions and requirements of the military profession. The NMRP has been launched with €38 million in the 2021 budget. It features an enhanced system of compensation for geographic mobility. This consists in redefining the compensation “blocks” along with specific index changes to enhance the attractiveness of certain specialized fields.

“Troop morale” is measured by the Morale Measurement Indicator (MMI). According to the HCEM’s 13th annual report, as in previous years, aspects related to “working conditions”, geographical assignment and grading received the highest

41 13th annual report of the Haut Comité d'évaluation de la condition militaire.

ratings in 2018. Human relations, commitment to values and pride in belonging to the Armed Forces, responsibilities, importance and usefulness of missions received very positive ratings. However, there was continued dissatisfaction with housing and accommodation. Lack of human resources, social support and career path issues had a negative impact on military morale in 2018, particularly among officers and NCOs.

In a period of rapid social change, we must ensure that society will be able to produce the soldier of tomorrow. HR problems remain a crucial issue. The aspirations of soldiers and their families in terms of family life are particularly affected by certain requirements of the military profession, such as geographical mobility or the unpredictability of absences.

This is why the improvement of living conditions (employment of spouses, early childhood, accommodation) is an increasingly important issue and the Minister of the Armed Forces wishes to make it a priority. The aim is to provide better support in view of the constraints that the military profession imposes on the daily lives of military personnel and their families. The Military Programming Law has resources dedicated to this effort. The family plan allocates €530 million over the duration of the 2019-2025 MPL, with emblematic measures to support military families (childcare, free Wi-Fi, family mobility, etc.). More pragmatically, the 2020 initial finance bill provided approximately €80 million for the family plan and €120 million for accommodation for military personnel. Meanwhile, the 2021 finance bill provides €237 million for the improvement of accommodation conditions of military personnel in military facilities.

Finally, after costly setbacks, the problems with the Louvois payroll software now seem to be resolved. The gradual deployment of the new *Source Solde* software is generating a lot of expectations and concerns. It has already been successfully deployed in the Army and Navy, and full deployment is expected to be completed by early 2021.

Recommendation 5: Enhance the attractiveness of the military profession

1/ Responding to recruitment difficulties

- Broaden the recruitment pool through active and reserve recruitment paths, and to the UNS, particularly in the second phase (with general interest missions that can be performed within military units).
- Foster critical skills (atomic scientists, aeronautical mechanics, etc.) but also emerging skills (cyber, automation, AI, etc.) through partnerships with the National Education system, higher education (universities and engineering schools) as well as with industry and through the development of the reserves.

2/ Responding to the issue of keeping troop

- Accelerate the improvement of military life by significantly increasing the budget earmarked for the family support plan, and improve living conditions for military personnel (currently around €530 million planned over the duration of the MPL).
- Establish gateways to civilian civil service and create dedicated recruitment channels (with exams) for certain administrative positions that are particularly suited to former military personnel.

Mobilize innovation to meet the technological challenges.

The scope of current technological developments offers an extremely broad range of potential applications. These are all opportunities to help resolve a crisis or gain the edge over an adversary in the fields of security and defense. The race for technological and strategic breakthroughs is currently visible in many areas. It is therefore more important than ever to be prepared to innovate (i.e., achieve visible effects in the field, new ideas for equipment or applications

will emerge from this brimming competitive context in both the military and civilian worlds). This is a major factor for strategic autonomy.

Budgets are not the only challenge. Industry must also have the resources to meet military needs. The Armed Forces must be able to rely on an innovative and responsive DTIB in France, but also at a European level (see Part III).

Technology will change the way wars are fought. Not all of these innovations come from the military-industrial complex and a large number of them come from the civilian world. Applications are evolving rapidly and a technology race is underway between the major military powers.

- UAVs and autonomous systems: the increasing use of autonomous and automated equipment is a major development. Whether in the air, on land or at sea, unmanned systems are now essential assets. For example, the French Army is currently deploying three American-designed Reaper UAV systems, used for reconnaissance or surveillance missions. Since December 2019, French UAVs have been capable of performing air strikes. European manufacturers are currently lagging behind American and Israeli manufacturers in these technologies, hence the need to import this type of equipment.
- Connectivity, the Internet of Things (IoT): connectivity links up people and systems in real time. This allows for the deployment of systems, the exchange of information between different platforms (position of allies/enemies, communication, images, videos, targets, etc.)
- Artificial Intelligence (AI) / big data: all these systems will generate huge amounts of tactical or mechanical data. Analysis of this data is made possible by big data or AI technology in support of decision-making or predictive maintenance for example.
- Cyber security: these new technologies are increasingly exposed to cyber threats. Expertise in technologies related to cyber security and electronic warfare is becoming essential to ensure the integrity of networked systems.
- Software Defined Networks: systems are becoming increasingly flexible. A modular approach is needed to shorten deployment cycles for new applications.
- 3D printing: the ability to produce parts directly at maintenance sites simplifies workshop supply and reduces fleet downtime due to a lack of spare parts.

- Hypervelocity: hypersonic missiles being developed by Russia and China are challenging the missile defense systems and air superiority that are NATO's strength. Expertise in these technologies and the development of appropriate protection systems are major challenges in the technology race.

The Ministry of the Armed Forces and in particular the defense procurement agency (DGA) must adapt.

- Diversification of suppliers: it is important to identify suppliers from the civilian sector who have expertise in these technologies in order to properly integrate them into military programs.
- Shorter development cycles: today traditional V-shaped cycles take too much time between identifying the need and its resolution. The process can be accelerated and some methods are already being used for Special Forces equipment. The Russian approach in this field is interesting. They have shown an ability to reduce cycles to the timeframe of a conflict (e.g., Syria or Ukraine) by launching upgrade programs for certain equipment on the basis of operational feedback. They also deploy prototypes in-theater to test them in real conditions (e.g., prototypes of the Su-57, the Russian equivalent of the F-35, in Syria).

This technological revolution will require major investments to develop new-generation systems and maintain the technological edge over our opponents — and in particular to make up for certain technological shortcomings when compared with private-sector US players. Efforts will have to be made in France at the national level, but this will not be enough. It is only at the European level that we would have sufficient capacity to launch real shared innovation and R&T investment programs in key technologies.

Nevertheless, advanced technology and related equipment come at a price. European forces will not be able to obtain latest-generation equipment exclusively, lest they run the risk of neglecting the amount of available platforms and seeing rental costs soar. Moreover, Europe must be able to defend itself against a saturation strategy carried out by an opponent that could gain the upper hand by using large amounts of lower-performance equipment.

A proactive response from the Ministry of the Armed Forces: creating the Defense Innovation Agency (DIA)

Certain actions have been taken with some success, for instance thanks to the MPL. €926 million was allocated to upstream studies under the 2020 finance bill. This sum should reach €1 billion by 2022. The DIA, created on September 1, 2018, is intended to coordinate the Ministry's innovation initiatives. The agency has achieved initial significant advances in the fields of cyber defense, space and AI. However, at this stage the US model based on DARPA has no equivalent in terms of its links to innovation ecosystems.

The Defense Innovation Agency (DIA)

The Ministry of the Armed Forces has made the innovation challenge one of its priorities, particularly since 2018 with the creation of the DIA. The agency is part of the DGA, but within its scope of activity it has a certain autonomy in the development cycles of innovative projects. It plays the role of innovation coordinator by organizing and facilitating cooperation between all the stakeholders. It is essentially positioned at the strategic – i.e., central – level.

The operation of the agency in project mode brings significant added value. It operates using integrated teams comprising end-user representatives (innovation exchange officers, belonging to the Armed Forces), project management specialists (engineers, innovation managers and systems architects, in liaison with DGA support functions), and people authorized to sign contracts (procurement managers). The agency adapts the process to each project and can work according to a “flexible” method or with a “V cycle”. The average duration of a project varies between 12 and 18 months, though a standard schedule is not applicable to the wide range of initiatives.

.../...

The agency acts as a federating hub in several ways. On the one hand, it focuses on civilian companies and technologies in order to invest in them through dedicated programs and thus better exploit the trend towards dual civil/military innovation, notably for technologies such as AI. On the other hand, it focuses on the Ministry as a whole, thus on the Armed Forces, but also on the administration supporting digital transformation and simplification, by way of example.

Persistent structural and cultural difficulties

Taking operations to a new level within a reasonable timeframe is a first challenge. The process is often slowed down by:

- over-specification on the part of the user;
- constraints linked to the French public procurement code, even though European directives provide for exemptions in defense;
- length of approval, certification and qualification processes, especially because of the agency's criminal liability. Furthermore, it is can also be incompatible with the patterns of all digital equipment updates.

The agency should make it possible to limit these effects by taking these factors into account from the start.

The second obstacle is in finding a contact person with innovative skills already working in the forces. The innovation process is still undefined and is too often limited to familiarity with the Participatory Innovation Cell. This difficulty acts as a brake on the bottom-up component of innovation, even though “innovation” chains are being set up within each force, directorate and service. An “Innovation” General Officer was appointed to the General Staff of the Armed Forces in the summer of 2020.

The third obstacle pertains to the private sector, especially small innovators. They represent the maximum risk for the State, but also the maximum potential

gain. They can thus be encouraged to link up with a larger partner or to develop an autonomous production capacity before obtaining “defense innovation” certification and receiving support. This difficulty is particularly common when it comes to funding. The DGA's specialized ASTRID and RAPID schemes make it possible to provide funding for projects of innovative companies on their own or together with research laboratories at higher level. Nevertheless, many concrete projects do not find support, this is especially true for start-ups. The Definvest fund managed by Bpifrance is a good option for early-stage companies with an investment range of €0.5-5 million. Nevertheless, the overall envelope of €100 million is still small compared to the scale of requirements. In addition, other problems arise downstream when tens or hundreds of millions of euros need to be mobilized. The Definnov project being set up this year should partially compensate for this weakness in the field of development capital⁴². Nevertheless, the order of magnitude remains limited compared to what private investors could offer. Moreover, it should be noted that the banks' compliance criteria make it more difficult for players in the defense sector to contract debt. This is all-the-more surprising at a time when French businesses in this sector are facing major concerns in the fields of strategic and industrial autonomy.

The final challenge is to spread the innovative spirit beyond the agency, particularly among designers (DGA, industry and research) and users (Armed Forces Staff). While the cultural heritage of the last few decades can still culminate in great successes such as the latest M51 intercontinental nuclear ballistic missile, it also continues to result in the same difficulties: cutting-edge equipment that is fragile and maintenance-heavy, such as the NH90 helicopter; delivery of equipment that is not fit for purpose, when the appropriate product is available off the shelf in France, such as PLFS/VLFS; failure to meet deadlines, as with the new EPC parachutes; late involvement of the end user. Increasing capability requires expertise in complex processes to resolve difficulties and, above all, a very strong shared culture among all team members. The recent overhaul of the ministerial directive on the weapons programs mechanism reduces formalities

and allows for greater flexibility – at least in theory. Its use is still limited by a certain amount of risk aversion. In particular, the liability of the contracting authority sometimes leads to excessive caution. The innovation mind-set could thus be boosted by transferring liability to the ordering party (i.e., the user).

Recommendation 6: Spread the innovation culture beyond the Defense Innovation Agency

1/ Train defense innovation coordinators

Defense innovation coordinators are expected to feed the Armed Forces chain. They can only fulfill their function if they are sufficiently trained. An innovation academy should be created to help overcome this deficiency. It is important that the DGA, Armed Forces, directorates and services get involved in this project. In addition, this would give an opportunity to strengthen links with basic training schools.

2/ Provide funding for start-ups in the defense sector

Create a venture capital fund partnered with business angels to raise the funds that are lagging in the defense sector. Potential investors could rely on a college of officers offering their military expertise during training at the *École de Guerre* or at the Army's scientific and technical training centre.

3/ Improve the shared culture of the various stakeholders

Maintain and encourage training of engineers in operational units. Then, in the case of engineers recruited for the DGA, target the initial implementation training in the Armed Forces best suited to each recruit; recruit more armaments engineers at the *École de Guerre*. Conversely, assign more officers of the Armed Forces to the DGA and the DIA before they attend the *École de Guerre*.

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⁴² *L'industrie de défense dans l'œil du cyclone*, Information report by Pascal ALLIZARD and Michel BOUTANT, compiled on behalf of the Committee on Foreign Affairs, Defense and the Armed Forces, 8th July 2020.

For all these initiatives, it is important that these periods be valued in the career pat (i.e., as stepping stones to future responsibilities).

4/ Taking up the challenge of fledgling innovation with the Special Forces

The Special Forces are described by the Minister as the “*vanguard of innovation*”. They are permanently face a high level of operational commitment, are engaged at short notice in new theaters, and are often sent in ahead of the main force and thus privy to most of the innovations in the security/defense sector. They also have a highly developed bottom-up innovation culture. Since 2014 this has been illustrated by a world-renowned exhibition dedicated to the Special Forces (SOFINS). Moreover, they operate in small units, which means that risks are limited. Like the American Special Forces, whose R&D function is part of their mission, the French Special Forces could see their role strengthened in this regard. This would require us to:

- open a dedicated “special projects” channel for the Special Forces at the DIA;
- facilitate access to smaller sources of funding than Definvest and Definnov;
- speed up approval, certification and qualification procedures by delegating, especially when the equipment is already being used by the Special Forces of foreign partners.

5/ Develop the ability to transfer part of the responsibilities of a weapons operation from the contractor to the user, upon the user's request

3.3. Challenges for external operations and domestic missions

The end of the so-called “Westphalian order” has led to an increase in internal threats and reduced the importance of border defense. When compared with other European countries, France stands out by the extensive number of places in which our Armed Forces are deployed throughout the world. Troops and equipment are therefore in high demand and our limited defense resources are stretched. Our Armed Forces have to ensure a sustained level of engagement with more than 30,000 soldiers involved daily in operations to defend France.⁴³

- 8,000 troops are engaged in external operations. The most high-profile of these, Operation Barkhane, mobilizes more than 5,000 French soldiers in the Sahel region with the aim of neutralizing terrorist groups.
- 20,000 soldiers are deployed on national soil (permanent postures, Operation Sentinelle, overseas presence). Operation Sentinelle is highly visible to the French public, who regularly see soldiers patrolling in public places. The aim is to deter, protect and reassure against terrorist threats. This large-scale operation includes 7,000 troops deployed permanently and 3,000 others that can be mobilized at any time on national soil.
- 3,700 soldiers are pre-positioned as forces present abroad. They are covered by bilateral defense agreements, act in cooperation, and exert influence as part of the “preventive” strategic function. They liaise with external operations and ensure maximum readiness. Our main forces are based in Senegal, Gabon, Djibouti, Ivory Coast and the United Arab Emirates.
- It should be noted that we also intervene within multilateral frameworks with the UN, the EU and NATO.

The ratio of French troops deployed “outside their garrison” to the total manpower of the Armed Forces (206,317 military personnel in 2019) is quite exceptional compared to other military powers. One consequence of this ratio is that each year French troops pay the ultimate price in order to ensure the safety of their country. Furthermore, without claiming to draw up a cost-benefit analysis for external operations, the following should be considered.

⁴³ https://www.defense.gouv.fr/operations/rubriques_complementaires/carte-des-operations-et-missions-militaires

External operations mobilize relatively limited human and budgetary resources: in the most high-profile operation in the Sahel, the French Army only deploys around 5,000 men out of a total of 206,000 Armed Forces personnel. Moreover, the annual extra cost of these operations fluctuates around one billion euros. These operations involve few fixed costs since the resources in terms of men and equipment are already “generated” by the Armed Forces. However, the bulk of the costs are variable, including logistical costs and accelerated wear and tear on equipment for the most part – since material losses in operations remain very limited.

These operations are characterized by a light footprint, whose cost effectiveness is often underlined by our allies: in the Sahel, France essentially deploys 5,000 men from infantry and cavalry units with mid-sized equipment, a few UAVs and aircraft along with light and medium helicopters. These operations, although repeated and long-term, are not at all comparable with the most recent engagements of Russia and Turkey in Syria. The latter mobilized nearly 80,000 men along its border during Operation Source of Peace in 2019. Another benchmark could be the British deployment in Iraq in 2003, which reached 46,000 troops. In a world without external operations, a large part of the sums devoted to the operational preparation of units would have to be redeployed for training to maintain the same level of readiness and competence in our Armed Forces. It would therefore be inaccurate to consider that the end of external operations would represent a budget gain equal to the additional costs currently incurred, unless we accept a decline in operational performance.

The annual cost is around one billion euros. Analysis of the benefits leads us to underline three points:

- On the tactical level, French forces succeed in accomplishing their missions, often in very large theaters. In the Sahel, a contingent of 5000 soldiers are fighting against the resurgence of a jihadist caliphate while efficiently tracking terrorist networks across an area nine times the size of France. Progress has been made in the accuracy of intelligence, in the coordination of land and air assets, and in the coordination of Special Forces and conventional resources.

- These commitments generate important collateral political benefits: they bolster France's political and military credibility, vis-à-vis its adversaries of course, but also among its European partners in NATO, its partners in Africa, in the Indo-Pacific, etc; they strengthen its ability to rally others in the slow construction of a European Defense Union. They give credibility to France's status as a permanent member of the UN Security Council.
- Assessing results at the strategic level is complex, as we have seen in Afghanistan, Libya and Mali successively. Military action saves time, but experience shows that political action is slow to take over. These three countries remain prey to chaotic and violent dynamics – with no prospect of a political solution “from the top”. This is due to the complexity of local situations, local authorities which struggle to garner sufficient legitimacy, the weight of corruption, the interplay between the major powers and the political difficulty for France to organize the political transition. No one knows whether the situation would have been more favorable for France if it had refrained from intervening. What can be said is that the immediate price of non-intervention would have been heavy for the civilians in Mali and the CAR.

These observations underscore the need for caution before taking on new commitments, assuming consideration is an option. Above all, they show the need to focus on a crisis exit strategy. First, do not believe the myth of short-term operations. History has shown that the duration of a theater of war is at least a decade. Second, transforming tactical successes into political successes, as part of an all-encompassing crisis exit strategy needs to be a priority. Given the current power constellations and informational confrontations, any end to a crisis could be marred by subversive influence tactics spearheaded by factions opposing France.

Looking ahead, we can also ask ourselves what tomorrow's external operations will look like. We need to prepare for a wider variety of intervention modes in response to three types of situations:

- contested areas, directly or indirectly involving several powers, where France will be unable to deploy a large-scale external operation. French commitments, when they are deemed important for the defense of national interests, will

undoubtedly be more discreet, with a lighter footprint and heavy reliance on local partnerships and indirect actions;

- a more direct confrontation in our immediate environment, on a separate theater, or in the Mediterranean, with an aggressive regional power ready to escalate;
- possibly a military involvement in connection with the US/China rivalry.

To complete this overview, we must make note of a growing trend towards deploying our forces on national soil (permanent postures, Sentinelle, Résilience, etc.) and the hypothetical return to peacekeeping operations. This is one of the solutions that was considered in the case of Ukraine.



COMPREHENSIVE STRATEGY AND OPERATIONAL FLEXIBILITY

In a particularly tense and unstable strategic context, France's security does not solely rely on the robustness of its defense. It depends on a comprehensive approach that includes diplomatic, military, economic and intelligence. While the concept of an overarching strategy is nothing new, France would clearly benefit from adopting a more operational approach.

This determines both our ability to deal with the hybrid threats that seek to destabilize us, and the success of our external engagements – as demonstrated by the fragility of the political results in the Sahel, despite the succession of tactical military successes. This is also true in the face of a crisis, as illustrated by Covid-19. A global crisis requires the French State – like every State – to provide a comprehensive domestic response combining health, economic and social aspects. The quality of this global response will also determine France's ranking on the international scene, its power and its vulnerability. Is France weakened economically by this global crisis, more than other rival or hostile countries? Or, has it demonstrated the know-how that establishes its crisis management method as an example for others? Has it demonstrated its ability to curb the epidemic while respecting its values, including fundamental freedoms?

To contribute to this comprehensive strategy, our defense and security policies would benefit from being clarified on at least two points. First, it must respond to the hybrid nature of conflict. Second, it must contribute the resilience and power needed in the face of successive crises. However, these principles cannot be truly operational without taking a fresh look at the main condition on which they are based (i.e., strategic autonomy). Finally, the combined goals of resilience,

power and strategic autonomy remain unrealistic if they do not include cooperation with allies, particularly our Europe neighbors.

1. Showing initiative in response to hybrid strategies

1.1. The resurgence of hybrid forms of power

Constantly changing forms of hybrid warfare

In terms of power relations, France is now facing two simultaneous challenges.

- Stakeholders are using a wide range of levers designed to circumvent the superiority of Western countries through indirect strategies. This has gradually given rise to the era of hybridity, with the Georgian crisis of 2008 providing a first example.
- Stakeholders are asserting themselves more aggressively than in the early 2000s, thanks to a recent effort to bolster their conventional military systems. French interests are now directly challenged by regional powers.

These two trends combine to create the hybrid forms of current power relations: non-military maneuvers, regular and irregular military maneuvers. Some stakeholders are capable of: coordinating actions without resorting to open conflict (informational, diplomatic, economic, cyber, spying, sabotage actions); cultivating ambiguity (denial is plausible at least temporarily); but also of posing an acknowledged and almost permanent threat of escalation, based on the unbridled use of Armed Forces and the imposition of a *fait accompli* through rapid and overwhelming action designed to intimidate. This maneuverability and speed of execution is based less on medium-term planning than on risk-taking, seizing opportunities and coordinating several levers of power.

On the high end of the spectrum of violence, these players have gradually become aware of the benefits they can derive directly from military levers. They do not immediately threaten populations, territories or interests protected by

nuclear deterrence and NATO's collective defense mechanisms. Nevertheless, they do not hesitate to devote significant resources to third-party theaters, as can be seen in Syria, Libya and Yemen. Therefore, military power – or at least the hypothetical threat of military power – is complementary to hybrid operations.

On the lower end of the spectrum, these stakeholders carry out non-military actions and regular and irregular military actions, again without resorting to open conflict. The erosion of multilateralism, and the ensuing undermining of international law, open up new opportunities for maneuver, based on temporary ambiguity. These are often actions that are difficult to attribute initially (information manipulation by media such as Sputnik and Russia Today, cyber attacks, economic pressure, espionage, sabotage, physical intimidation). In Ukraine in 2015, Russia provoked a large-scale blackout by sabotaging the electricity network with a cyber attack. The retaliatory measures implemented by Ukraine included the control of part of the Russian fossil fuel exports transiting by pipeline on its territory. These actions, which can often be traced, can nevertheless be plausibly denied for the necessary amount of time. The deployment of Russian forces in Crimea in 2014 – Russian uniforms and equipment but without insignias – provides an excellent example of this. Moreover, these actions can be carried out indirectly, by using intermediaries (local partners, private military companies, organized crime, terrorist networks, etc.). Wagner Group, which is in theory privately owned, is thus present in most of the territories where Russia exerts pressure. Turkey, meanwhile, accompanies its actions in Libya or Karabakh by projecting Syrian rebel groups that have already fought by its side against the Kurds on the border. From a historical point of view, this adaptability is nothing new since it lies at the core of revolutionary warfare doctrines. Hence, it is not surprising to note certain Chinese, Russian, Iranian or Turkish predispositions; while on the Western side, the culture of indirect strategies is also a strong British tradition.⁴⁴

⁴⁴ The UK has many well-known theoretical and practical proponents, from Mackinder to Lord Mountbatten and Lidell Hart.

Moreover, the domestic components of hybrid strategies should not be neglected since their points of application are not limited to external zones of tension. A number of levers target public opinion and weak points in the adversary's national cohesion. For example, the manipulation of information has become a crucial battle ground. In response, resilience has been identified as the first defensive quality to be developed. This represents a long-term effort involving a very large number of stakeholders, which the report addresses in the following areas: Interior, National Education and Justice ministries, etc.

It is worth noting that technology contributes extensively to creating new vulnerabilities, and thus opportunities exploited by hybrid warfare. For example, new information and communication technologies create vulnerabilities in the cyber domain. 5G also provides an example of this. These technologies are also skillfully exploited to conduct subversion operations.

Finally, the issue of hybrid warfare must be addressed and weighed against the risk of losing sovereignty and facing interference from allies. Clearly a country's resilience can be strengthened through international cooperation. Nevertheless, this kind of approach – on such crucial issues as resilience, domestic politics and political opposition, and the economy – forces a State to reveal itself. For example within NATO, the deployment of hybrid crisis management teams' support goes beyond strictly military matters. Furthermore, the Americans are campaigning to put more authority in the hands of the Alliance – in terms of decisions on engagement – in order to increase readiness. This means abandoning decisions of a political nature and sacrificing some sovereignty. Therefore, it is important to develop a true “French school” of hybrid warfare so as not to directly import a model theorized by our allies. Such an approach will also enable us to work according to our own interests. In addition, it is clearly a necessary step to avoid adopting certain practices of our adversaries – incompatible with the French democratic system.

A challenge for France

In this context, a State with decisive powers, that is also a member of a strong military alliance such as NATO, can lose a large part of its freedom of decision and action if it is not able to:

- Identify all the elements of a threat that has not been declared as an open conflict (e.g., financial channels, information manipulation, use of a third-party player to exploit international law) and attribute hostile actions to a certain entity, especially when they cross red lines in negotiations.
- Act at the earliest possible stage of confrontation through graduated actions, reinforcing the posture of deterrence. This does not necessarily mean copying the actions of the opponent. A manipulation of information operation can trigger a response in the cyber domain, for example.
- Force the opponent to end ambiguity while remaining ready to credibly accept rapid military escalation and penetrate the opponent's defenses (forcible entry capability). For example, France contributes to NATO's reassurance measures on the eastern flank in several ways. Operation Lynx, with some 400 soldiers, is not intended to stop a hypothetical large-scale Russian offensive. However, an act of aggression against the French contingent would likely escalate into open warfare, ending any ambiguity. It is a similar principle which comes into play when the US chooses to strike the head of Iran's Revolutionary Guards.
- Implement a truly comprehensive approach (i.e., combine all sources of strategic leverage in a coordinated manner, whether military or not). It should be noted here that the comprehensive approach concept developed by NATO and the EU predates the concept of hybrid warfare. The former even inspired the latter, according to General Gerasimov, a theorist of the doctrine currently being implemented by Russia. This conceptual lead does not seem to have prevented Russia, China, Iran or Turkey from becoming experts in its implementation. It should also be noted that the Chinese version, described as “warfare without bounds” by General Qiao, insists on the economic and informational spheres.
- Make a rapid political decision in an uncertain context and take responsibility for this decision in the court of public opinion. This is the final leg of the knowledge-power-resolve triad.

For such a State, there is a high risk of losing the confrontation before even deploying the first tank, aircraft or frigate. Despite its undeniable advantages, in hybrid warfare France is lagging behind the leading powers such as the US, China and Russia, but perhaps also regional powers such as Iran and Turkey. The latter are no longer content to circumvent power at the bottom of the spectrum. They also challenge it directly at the top of the spectrum. In June 2020, several Turkish naval vessels forced the French frigate Courbet to abandon its inspection of a Turkish cargo ship suspected of transporting arms to Libya, in violation of the embargo. Ultimately, it is the entire French posture in Syria and Libya that is being challenged. At least three factors can be identified to explain this situation.

First, the discrepancy results from recent events that have diverted French attention away from this field. Thus, the intervention in Mali in 2013 had no connection with this resurgence of threats of force. Moreover, the terrorist attacks of 2015 helped focus attention on the terrorist threat.

Second, France cannot leverage the same resources in the private security sector as the US, the UK or Russia. For at least two decades France has defended the principle of State action in the field of security. In theory, the Armed Forces model should be sufficiently robust that it does not need to resort to private actors, as the Americans did during the Iraq war (at times the number of private personnel exceeded the number of regular troops). Moreover, whereas Russia has private players closely controlled by the Kremlin, such as Wagner Group, France has alternative assets more compatible with its warfare culture and values, such as the Secret Services and Special Forces. There is an increasing imbalance in the thriving ecosystem of private solutions that has established itself in all areas of tension: consultancies in security, in cyber security, in negotiations; companies specializing in surveillance, in open source intelligence, in logistics, in paramilitary training courses and in-depth training on all types of equipment. Without investing in these residual areas, which play a decisive role in any influence maneuver, it is important to organize the existing system. This involves identifying trusted French players and ensuring a connection at the strategic level and in the field.

Finally, the coordination of the levers of power is not sufficiently advanced to implement a truly comprehensive strategy. It is a real challenge, involving preparations at the inter-ministerial level and possibly including private stakeholders. In the Sahel, several “Sahel reviews” have been made to achieve greater synergy between the actions of the military, diplomats and the French Development Agency. However, it was only in January 2020, during the Pau Summit, that a permanent secretariat for the coalition was finally created. The recent parliamentary report on the continuum between security and development also recommends that this effort be pursued in favor of a more inter-ministerial approach: *“the creation of inter-ministerial task forces is a first step in dismantling barriers between stakeholders”*⁴⁵. In addition to the Ministry of Europe and Foreign Affairs (MEAE), it should also be said that the function of coordinator is sometimes held by directorates, such as the General Directorate for Internal Security (DGSI), which ensures the operational management in the fight against terrorism⁴⁶. In terms of method, the report suggests a more integrated organization according to themes. This recommendation is interesting, but it is important not to forget that it requires staff that must be seconded to these structures.

The UK provides an interesting point of comparison both in terms of its strengths and its failings. The 2015 Strategic Defense and Security Review includes the projection of influence among its three major objectives. This is achieved using all the levers of power as part of a national strategy of influence. The 2018 National Capability Review takes the method further by presenting the “fusion doctrine”, a veritable comprehensive approach doctrine. It is based on a more integrated organization through collaboration between the different contributors at all levels, from London to the crisis zone if possible. The lead department is chosen depending on the issue at hand and reports directly to the National Security Council through the Senior Responsible Owner, with a review at least once a year. From a British perspective, the system is viewed as a mixed success. On the one hand, it does allow for a more coordinated approach.

45 M. Jean-Michel JACQUES and M^{me} Manuela Kéclard-Mondésir, members of parliament, February 2020.

46 Government anti-terrorism action plan, 2018.

For example, the UK's response to the Skripal affair is considered a success: firm and consistent discourse, mass deportation of Russian nationals from the UK, winning the support of many allies through effective diplomatic action. On the other, the priority given to influence also undermined the confidence of some partners who suspected that they were being used. Moreover, these partners observe the UK's increasing difficulties in achieving influence through force. The British contribution to Operation Hamilton in 2018, which could be described as symbolic, illustrates the imbalance in the system. In this US/French/British attack on Syrian chemical weapons production sites, France took command of the air operation, deployed 17 aircraft and fired naval cruise missiles. The UK deployed only 9 aircraft.

Better coordination of French actions

To show initiative in this type of confrontation across a varied spectrum of power, it is important to adopt a very flexible comprehensive approach. Coordination between ministries and the private sector should build on the following principles:

- Take note of the British model. Create a strategic integrated team at the strategic level according to priority themes (e.g., terrorism, Turkey), and ensure collaboration between the various stakeholders. Designate a clearly identified lead ministry to direct the team, ensure that roadmaps are followed and request a decision from the highest level.
- If necessary, these integrated teams must be able to report directly to the Defense and Security Council, and provide an overall view of the situation on short notice.
- These integrated teams must be able to provide the structure for an inter-ministerial crisis unit. They should enable the transition from planning to implementation with the same flexibility as general staff.
- The location of these integrated teams is a secondary issue. The most logical location would be the lead ministry. Some stakeholders are capable of providing secure infrastructures, such as the Ministry of Europe and Foreign Affairs (MEAE), the General Directorate for Internal Security (DGSI), and the Armed Forces. For the others, the Secretariat-General for National Defense

and Security (SGDSN) is an interesting option. Faced with a situation requiring highly vertical management that cannot be delegated to a lead stakeholder, the Secretariat-General also offers the advantage of being a "neutral ground".

- These teams must be disbanded as soon as the situation permits, since they require a significant amount of human resources.
- At decentralized levels, and potentially down to the local level, the lead ministry must allow actions to be integrated by providing a "fusion cell".

This comprehensive approach makes it possible to address the issue of influence. A military action such as the deployment of the aircraft carrier Charles de Gaulle represents both a physical constraint and an action in the conscious and unconscious fields of perception. It is therefore important that this reality be taken into account prior to any strategy development (i.e., as soon as the objectives have been defined). Several conclusions can then be drawn about organization. The first is that the fields of perception, whether they be called spheres of influence or not, must be integrated at the highest level of national strategy. This is the precondition for each stakeholder to be part of a coherent operation. The second is that investment in autonomous structures dedicated to influence can only be temporary. Though it can compensate for a cultural gap, it can also lead to artificial compartmentalization, which is counterproductive and contrary to the desired overall effect. It would be more advantageous if all decision-makers and stakeholders were trained or advised. However, the power of information today warrants investment in communication structures, which need to be integrated into strategic thinking from the outset.

France has major assets to make this adaptation a success: the constitution of the Fifth Republic enables rapid political decision-making, the French diplomatic network is the third largest in the world, French defense has a reputation for readiness, new areas of confrontation have not been overlooked, and Europe is beginning to impose economic sanctions. The aim is to reduce the comparative advantage enjoyed by certain authoritarian regimes in taking risks and leveraging public and private resources. In no way does this mean copying the mechanisms they use.

At a time when French citizens are relatively more concerned with terrorism, the need to make up lost ground in the field of power can be considered a matter of urgency. A large portion of the strategic community, particularly the English-speaking portion, believes that hybrid warfare will intensify in the shape of peer-to-peer competition in various hot spots around the globe, reminiscent of certain episodes of the Cold War.

1.2. The role of the Armed Forces in hybrid warfare

Hybrid warfare is becoming increasingly militarized

Among the many disputed areas, there are several cases where military involvement in hybrid strategy is increasing. In recent months and years, French interests have thus been embroiled in Ukraine and, more broadly, on the eastern flank of Europe, in the Balkans, in the Mediterranean, in Yemen, in the Levant and in Libya. The strategic implications are serious: terrorist threats from these areas, illegal migration, economic and oil interests, erosion of democracy, etc.

These theaters can be characterized as places where hybrid strategies are in application and where stakeholders deploy the most militarized levers. These situations are misleading because they often seem like irregular wars, as witnessed in counter-insurgency operations in Afghanistan, Iraq or Mali. This perception results from the widespread use of intermediaries, consisting of armed groups, terrorist networks or private companies. However, the rules of the game are very different. These “shell” players benefit from disproportionate strategic resources: satellite intelligence, air support, cyber attacks, air defense systems, ballistic missiles, latest-generation weapons (e.g., UAVs and unmanned vehicle systems in Syria), etc. Intermediaries can be replaced very quickly by more heavily armed conventional forces, and vice versa. This is how the stakeholders using these hybrid strategies – such as Turkey, Iran or Russia – occupy the ground and greatly stretch their advantage.

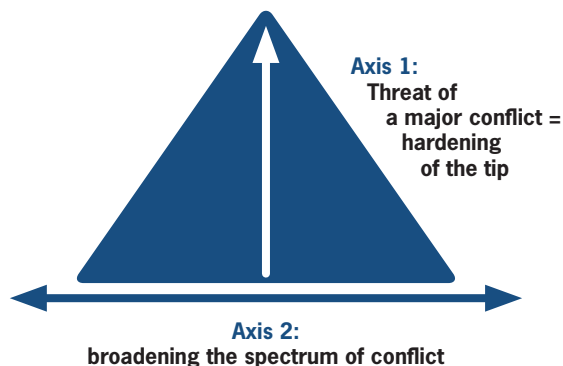
The growing militarization of hybrid warfare in certain specific theaters poses several difficulties, over and above those previously mentioned in connection with political strategy. The following are essential:

- An operational chain of command that enables the political authorities to make sensitive decisions rapidly. Decisions need to be implemented without delay and closely controlled. The risk of escalation is permanent.
- Consistency in the actions of many stakeholders: the military, diplomats, public and private development players, the intelligence community, allies, civilian missions, the media, companies seeking contracts on the ground in security or other fields, etc.
- Deployment from Paris to the crisis zone. Strategically speaking, many of the aforementioned stakeholders have a highly centralized organization. Moreover, certain scarce resources (e.g., intelligence, cyber, space) can only be controlled from the central echelon. In tactical terms, it is necessary to have boots on the ground. Otherwise, there is a high risk of being misled or exploited. On certain issues, the information gathered from intermediaries or even allies is not sufficient. This is a recurring problem in the attribution of adverse actions.
- The ability to survive in a militarily heightened environment, with the risk of executions, attacks, hostage-taking, zero or limited freedom of movement, occasional bombings, jamming of communications, degraded health support, sporadic high-intensity clashes.
- The ability to maintain ambiguity as the situation evolves, change posture and modify the narrative in the information battle: deploy with a small footprint to circumvent a political barrier, anticipate degradation through counter-measures, use a firm tone, potentially deploy heavy forces at short notice to remain credible. This is the option finally chosen by President Trump to counter the Turkish offensive in northern Syria. He deployed second tier armored elements to limit any moves by the other players after his withdrawal announcement. All this while retaining maximum involvement of non-military stakeholders.

Libya combines many of the characteristics described above. It is a priority theater for developing the flexibility of France's comprehensive approach.

Increased risks to the security of the French

Axis 1 × Axis 2 =
escalation management / control



The Armed Forces: a means of coordinating actions in militarized hybrid zones

Integrating the levers of power remains a crucial challenge. The Armed Forces have a role to play in several ways. The first pertains to the event of a major engagement in which the coordination of actions relies on military resources on the ground. The generic organization proposed above enables the Armed Forces to play a leading role in the comprehensive approach from the defense council to the field. The recommendations in this report on strengthening the Armed Forces model are aimed at consolidating this capability. However, we need to consider how to deploy even more broadly across the strategic spectrum in other configurations.

A second example are militarized theaters where a major engagement is impossible, even if French interests are threatened. Libya at this stage is a case in point. Frictions between powers tend to expand this type of non-permissive zone with degraded security conditions. This leads to various issues: trafficking, migration, terrorism, piracy, raw materials, etc.

Special Forces of many nationalities are present there as part of real military operations, under a cooperation agreement with the host country, or simply because a failed State no longer has administrative control over its territory and offers safe haven for an enemy that has to be neutralized in self-defense. Discreet, with a small footprint and under close politico-military control, these forces make it possible to circumvent certain political barriers. Moreover, they offer the option for autonomous national assessment in the face of the extreme confusion created by hybrid warfare. Their presence in the crisis zone makes it possible to develop expertise in the field and to build a network with local public and private stakeholders. They also provide a useful intermediary for applying military power, since they interact with conventional forces (e.g., guiding air strikes, targeting for cyber or informational actions, preparing for a forcible entry). On the one hand, these forces carry out acknowledged actions that measure a country's determination. These may be hostage rescue operations or raids aimed to intimidate as part of an overall deterrent posture. On the other hand, they carry out discreet unclaimed operations, with plausible deniability, at least temporarily, for example to seize evidence prior to negotiations. This aspect has become crucially important in recent years. Our allies and adversaries are all focusing on it, but each in their own way. In France, Special Operations are commanded by a strategic-level joint staff, Special Operations Command, which reports directly to the Armed Forces Chief of Staff. It is important to point out that these forces operate with discretion but are not "clandestine" (i.e., without links to France in an action for which France cannot claim responsibility). Clandestine operations are performed by the Directorate-General for External Security (DGSE).

In this context, the British DSF (Director Special Forces) model is an interesting source of inspiration. Special Operations Command can enable the Armed

Forces to provide a connecting hub for all public strategy stakeholders, from the crisis theater to Paris. This would improve coordination and synchronization of effects. At the politico-military level, Special Operations Command has a short-loop chain of command with the Chief of Defense Staff (CEMA) and is thus connected with the Defense and Security Council and a possible integrated team based on the generic model proposed above. Furthermore, it already works closely with the intelligence community as a stakeholder in the fight against terrorism. At the operational level – in theater – Special Forces Group Headquarters can host and lead an integrated team that mirrors the strategic level (“operational fusion cell”). It draws on command resources, local public and private expertise and contacts, intelligence, action and protection resources. Finally, its secure short-loop chain of command between the strategic, operational and tactical levels provides substantial added value in response to the volatility of hybrid crises.

The third case has to do with hybrid strategies using limited military involvement, in which the Armed Forces can make a marginal but non-negligible contribution – since it is often exclusive, as is the case with COMCYBER, for example. The Special Forces also have an excellent capability for integration into a public strategy, even if the Armed Forces are not in charge. In the Sahel, for example, they are responsible for tracking and capturing terrorists preparing attacks against France, even though it is the Directorate General for Internal Security (DGSI) that has operational control over the fight against terrorism. Another example would be the “NARCOPS” operations to board vessels carrying drugs before they reach French distribution channels. The Special Forces have the capacity to conceive and command operations for the benefit of inter-ministerial strategies. The added value is greatest when the application points for these strategies are inaccessible to others. This broadens the strategic offer of the Armed Forces in grey areas on the margins of military control. It is therefore important that the Armed Forces be heavily involved in the implementation of a more flexible comprehensive approach.

Recommendation 7: Enhance the flexibility of France's comprehensive approach to hybrid warfare by increasing coordination

1/ Organize a better coordination of the strategic levers at all levels of decision-making

- Create an integrated team at the strategic level according to priority issues, bringing together the various stakeholders on a collaborative platform. Designate a clearly identified lead ministry to direct the team and ensure that roadmaps are followed.
- If necessary, these integrated teams must be able to report directly to the Defense and Security Council, providing an overall view of the situation on short notice.
- These integrated teams must be able to provide the basic structure of an inter-ministerial crisis cell.
- At decentralized levels and potentially down to the local level, the lead ministry should make it possible to integrate actions by providing a fusion cell to coordinate and synchronize effects.

2/ Rely on the Armed Forces in a more flexible manner

In the case of a major engagement, the generic organization proposed above should enable the Armed Forces to take on a leading role in a comprehensive strategy.

In hybrid configurations where conventional engagement is not possible, draw inspiration from the UK's Director Special Forces (DSF). Exploit and strengthen the capacity of Special Operations Command (COS) to provide a coordination/synchronization platform for all stakeholders and at different levels. At the strategic level, short-loop subordination to the Armed Forces Chief of Staff can link it to the National Defense

.../...

and Security Council and an integrated team. At the operational level (in theater), it is often the only entity able to operate, given the security and political situation. It is the right actor to lead a decentralized integrated team.

In a configuration with little military involvement, take into account the capacity of the Armed Forces to offer a limited but exclusive and appropriate strategic contribution. For example:

- COMCYBER;
- Special Forces, particularly in the fight against networks (terrorists, criminals, cyber, hackers).

2. Building up resilience and asserting power

A comprehensive defense and security strategy relies on two complementary components: predominantly defensive and offensive.

- Resilience: the ability to anticipate, prepare for and manage crises, and ensure that the life of the Nation carries on in a degraded environment.
- Power: the ability to assume leadership on the international stage, to assert one's place in the ongoing geopolitical reconfigurations and avoid being downgraded due to poor crisis management or insufficient coordination with allies.

2.1. Improving foresight

Today's shocks and crises have two characteristics:

- Risks, when they materialize, have political, security, economic, social, health and environmental components.
- The initial signs of complex crises are difficult to identify. In confrontations between political entities, hybrid strategies typically combine ambiguous unclaimed actions across a broad spectrum with powerful and overwhelming fait accompli actions.

It is therefore a prerequisite for any defense and security strategy to develop an overall awareness of risks and threats, even though the State does not have as strong a risk culture as the business world. A business that is ill-prepared for risks goes bankrupt and disappears. The State also lacks an unlimited ability to absorb shocks, and the pandemic has reminded us that it can be exposed to severe operational constraints.

Of course, it is impossible to predict everything, to spot all the minute signals embedded in the information flow. Some unpredictable, rare events with extreme consequences may occur – the so-called black swans. But strategic anticipation is useful in identifying two types of risk:

- Certain risks can be identified and quantified because we have knowledge of their probability of occurrence and their potential impact (e.g., the risk of flooding, industrial accidents, financial crisis), even without being able to predict a date of occurrence.
- Other risks or threats may be identifiable even if it is more difficult to assign a probability of occurrence or to anticipate the full range and diversity of their consequences (e.g., attacks, pandemics).

The anticipation of risks and threats must be based on concerted action between public and private sectors and must be thought of in the long-term: the State as strategist, but also research centers and think tanks, insurers and NGOs.

Recommendation 8: Anticipate tougher multi-dimensional scenarios with a greater role for the Secretariat-General for National Defense and Security (SGDSN)

1/ Essentially

- Create scenarios worst than those to which France was accustomed during the “peace dividend” era of the 1990s and 2000s (like worst case scenarios in the private sector): climate or technological disaster of the “Fukushima” type, total digital paralysis, pandemic with a high mortality rate, internal security crisis, involvement in a major armed conflict somewhere in the world with security and economic consequences for Europe.
- Reach outside the compartmentalized ministerial worldview, create scenarios showing the interpenetration of the economic, social, political, environmental, technological and security domains. Consider the possible resulting complications and the ways in which the situation could be exploited by a hostile power.

2/ Scenario development process

- Clarify responsibilities at the level of the Prime Minister: strengthen the Secretariat-General for National Defense and Security (SGDSN) in their inter-ministerial role of coordinating and monitoring anticipation in the security sector in its broadest sense.
- Open up expertise beyond the ministries: think tanks, the economic and social expertise provided by France Stratégie, but also concrete experience of risk management in the business world.
- Produce an annual assessment of risks and threats, as well as the measures taken to mitigate them.

2.2. Improving readiness

Better anticipation is a prerequisite, but the essential thing is for the State, local and regional authorities and civil society to develop their capacity to react. The most tragic episodes in our history also demonstrate that the risk of paralysis must be considered. Thus the recent example of the pandemic revealed irrational reactions in building up food stocks or great difficulties in mobilizing key public services such as the Ministry of Justice or the Post Office.

Develop a surge capacity to cope with a crisis

In many areas, the State builds up storage capacity to cope with exceptional circumstances: transportation, calibrated to cope with peaks; security, to manage mass demonstrations or natural disasters. Energy, which is critical for the nation's continuity of life, is a textbook case, with two measures:

- The creation of strategic stocks to avoid interruptions in supply.
- The provision for excess electricity production capacity to avoid blackouts. It is considered acceptable to finance power generation plants which operate at a very low level and are only used to meet peak demand.

In other sectors, particularly non-commercial public services subject to budgetary constraints, such as the health sector, the ability to maintain a reserve capacity and provide surge potential is much lower. However, it is too late to develop this response capacity once the crisis has started.

There could be a response with two complementary levels:

- First, for each identified crisis, define a reserve capacity based on a cost-benefit analysis. Building up resilience may conflict with optimizing the steady-state regime. Nonetheless, a cost-benefit approach is still useful. This is not about aiming for zero risk, technically impossible to achieve or financially too costly. Cost-benefit analysis is precisely there to provide the decision-makers with the tools to calibrate this reserve capacity by comparing the financial cost of this reserve with the benefits it provides. This applies, for example, to assessing the relevant number of intensive care beds.

- Second, improve capacity to direct a general mobilization, with stronger ties to the private sector. Crisis management is necessarily multidimensional; it should not be limited to the mobilization of dedicated public resources and on-the-spot requisitioning of private stocks. Crisis management planning must early on include related sectors and the private sector (businesses, liberal professions and associations), which have substantial capacities. The private sector is traditionally seen as a recruiting ground for reservists (defense, interior, health).

Practice and training

In order to test readiness and avoid incapacity, it is important to practice and train, to put inter-ministerial cooperation processes to the test, to have men and women who are experienced in crisis management and mentally prepared to deal with shocks.

Recommendation 9: Involve the private sector in reserves and general mobilization, and practice

1/ Improve private sector involvement

Crisis management planning must involve at an early stage related sectors, particularly the private sector (businesses, liberal professions and associations). Each ministry, in conjunction with the Secretariat-General for National Defense and Security (SGDSN) and the Ministry of the Economy (Directorate General for Business), should have its designated platform:

- Providing a shared vision of the risks and threats to be anticipated, the continuity plans to be established (businesses, liberal professions and associations) and the necessary reserves (based on a cost-benefit analysis);

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- Mobilizing private capacity required by the public. Conversely, identify where public action is needed to ensure the continuity of essential private activities.

2/ Upgrade crisis management exercises under the aegis of the Secretariat-General for National Defense and Security (SGDSN)

- Ensure greater involvement of the political establishment in crisis management exercises.
- Use these exercises to heighten the awareness of society, the private sector and the general population.
- Train the stakeholders concerned (civil service schools run by the State and local authorities, mayors, further training schools such as the *École de Guerre* and the IHEDN – Institute for Advanced Studies in National Defense).

2.3. Improving crisis management and ensuring societal continuity under degraded conditions

A crisis brings out tensions in extreme conditions. It is important to be prepared and equipped so as not to be overcome by events. On the contrary, to be able to effectively direct the overall response using a very wide range of levers. However, this is not enough. It is also necessary to save everything that can be saved and, failing that, the essentials (i.e., the foundations of our society). Democratic institutions and government activities must therefore be given greater protection. In troubled times, the end may justify a wide variety of means, but these must always be assessed in light of our fundamental principles and values. Otherwise, the desired objective would lose its meaning. The controversy surrounding the “StopCovid” app provides an excellent example of this.

Improve management

So far, the crises we have experienced have been wrongly considered as one-dimensional, leading to the designation of a specific ministry to lead the response: Interior for attacks or disasters; Economy and Finance for financial crises; Health for SARS and avian flu. Conversely, the current health crisis is a multidimensional crisis, from the outset its management has involved not only Health, but also Economy, Budget, Foreign Affairs and a large number of sectoral ministries (Transport, Tourism, Digital, etc.). When a crisis calls for inter-ministerial coordination:

- the decision-making sequencing remains (Defense and National Security Council, Council of Ministers, Inter-ministerial Crisis Cell);
- it difficult for a single ministry to measure the full extent of the crisis;
- the inter-ministerial crisis cell (hosted in the Interior Ministry) acts both as an interior operations centre (coordinating the action of interior security forces – Directorate General of the National Gendarmerie, Directorate General of the National Police, Préfecture de Police - and civil defense forces) and as the inter-ministerial headquarters for the Prime Minister.

There are three possible ways to achieve more effective crisis management:

- The crisis management system must be reactive and triggered at a sufficiently early stage, which is a challenge both in terms of process and culture in French decision-making structures.
- From the outset, it must be inter-ministerial, given the multidimensional, or even systemic nature of the risks, while maintaining the principle of a single command and the advantages of a single chain of command. During the Covid-19 crisis, the dual Interior/Health chain led to major difficulties in coordination between the central level (Inter-ministerial Crisis Cell in the Interior Ministry / Health Ministry Crisis Cell) and the decentralized levels (Prefectoral Chain / regional health agencies).
- The centralization required for crisis management, in particular for the proper allocation of critical resources, should facilitate all useful coordination actions as locally as possible.

Ensure proper functioning of society in a degraded situation

Periods of crisis put the political life of the Nation to the test. In the UK, Boris Johnson's convalescence prevented him from playing his full role for a time. In France, parliament was involved in political decisions, but parliamentarians had difficulty exercising their duties in the absence of secure means of communication.

In addition, information manipulation has reinforced the mistrust towards public discourse. On this last point, the multiple information channels and statements add confusion and create an environment that is conducive to the dissemination of fake news, destabilization and subversive maneuvers. The State's weakness can be explained by the variety of statements from different officials (government spokesperson, Minister of Health, Director General of Health, etc.).

2.4. Maintaining global standing

In the modern strategic era, crisis management can lead to downgrading or, on the contrary, to confirming a nation's power and values on an international scale. As a result, a regional or global crisis puts competing models to the test and increases competition. Some old balances fade away, leaving room for confusion and/or the emergence of new balances.

Some countries have a very strong and explicit vision, such as China, the United States, Russia or the UK. After defining itself as an influential power, France now sees itself as a stabilizing power; and can be found in various speeches by ambassadors or speeches on defense and deterrence. Nevertheless, the White Paper does not provide a "desired end state", to use a military expression. If the desired end state has not been clearly articulated, a comprehensive strategy is more difficult to share, define and implement.

Recommendation 10: Coordinate ministerial action at the central level, facilitate subsidiarity, ensure the survival of the nation's essential functions

1/ Improve integration of the action of various ministries at the central level

- Review the positioning of the inter-ministerial crisis cell, to enable it to focus on inter-ministerial, political and strategic decision-making at prime ministerial level.
- The inter-ministerial crisis management center needs to offer a technical platform dedicated to coordinating between ministries and aimed at inter-ministerial decision making on behalf of the Prime Minister.
- Focus the inter-ministerial crisis cell on its role as a technical hub dedicated to coordination between the relevant ministries and inter-ministerial decision-making at prime ministerial level.

2/ Ensure a better distinction between the responsibilities of the central State and its decentralized levels

- Concentrate the management of scarce critical resources and the definition of crisis management rules at the central State level. Decentralize further the implementation of rules to adapt to different local situations.
- Harmonize the decentralized organization of the State's prefectural chain, particularly in defense and security zones – in the same way the military chain does (Joint Force Regional Defense Organization), rather than following the network of regional health agencies (Health Ministry) or academies (Education Ministry) who do not have zonal levels. At the very least, plan for a coordination/liaison division at this level in a crisis situation.

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3/ Protect government activities and democratic life

- Ensure the continuity of all government activities (police, justice, Armed Forces) and public services.
- Give national (parliament) and regional institutions the resources to function using secure means of communication.
- Develop secure systems for electronic voting in degraded situations (e.g., second round of municipal elections in 2021).

3. Strategic autonomy as a determining factor

The comprehensive approach to crises and the build-up of resilience cannot be truly operational without taking a fresh look at the main prerequisite on which they rely: strategic autonomy.

The shortage of masks during the pandemic is a striking example. France chartered Russian cargo planes to get supplies from China. Some allies, such as the US, made higher bids to seize these scarce resources from French hands. In the end, this shortage largely determined the strategy put in place to deal with the pandemic, in particular the timetable for ending the lockdown. One can easily imagine the consequences of such dependencies in an even more difficult context: the production of masks is much less complex than that of munitions and Covid-19 is not setting up a hostile strategy in a way Russia could!

Consequently, there is now a clear need to extend the concept of strategic autonomy and to better organize across all sectors to put it in place – so as not to give up more assets to the powers that have become experts in hybrid strategies.

3.1. Strategic autonomy: a constantly evolving concept

Strategic autonomy is historically related to defense and encompasses freedom of decision and freedom of action. Today it is broken down into three major components.

The political component

A military engagement is a strong political act. Therefore, such action depends not only on operational capabilities but also on the ability to make a political decision and take responsibility. This is mainly based on:

- the attributions of the executive branch, and the President in particular, as defined by the Constitution of the Fifth Republic, give them the power to use force rapidly, at least in theory;
- an autonomous ability to assess situations in order to avoid manipulation by a third party and the means to make informed decisions. Some countries have made more concessions than France in this respect. The UK, for example, bitterly regretted Tony Blair's action in forcing through the engagement in Iraq alongside the US in 2003. In addition to maintaining the "special relationship", the UK largely accepted the arguments put forward by the US intelligence services regarding the presence of weapons of mass destruction. The British Nation emerged from this episode deeply shaken. The result was the highly critical Chilcot report, which led to virtual political paralysis in defense matters, as illustrated by the delay of several months in the UK's engagement in the operation against ISIL in 2015;
- an autonomous nuclear deterrent capability.

The operational component

It is *"based on an institutional framework and the capabilities required to independently plan and conduct civilian and military operations"* (CERFA/IFRI report). It relies mainly on:

- preserving a comprehensive Armed Forces model in order to be able to carry out actions with sufficient autonomy when interests are not shared between allies;

- the ability to assume the role of lead Nation in a coalition formed to federate the critical mass;
- forcible entry capability (i.e., the capacity to withstand the intensity of a direct confrontation in the most degraded conditions against an enemy in a defensive posture).

The main challenges are:

- the massive financial investments made by many strategic competitors that are tipping the balance of power. Turkey says it deployed around 80,000 men for its operations in the North of Syria in 2019. It seems credible that around 20 UAVs were deployed simultaneously. This exceeds France's total operational land forces (77,000 men) and its UAV fleet;
- the widespread circumvention of power by means of operations that Western powers would consider "special": discreet, unclaimed and ambiguous (at least temporarily), indirect, carrying high risk and high added value, occasionally exploiting the full potential of available technology (space, cyber, robots, etc.);
- the widespread offensive actions in the cyber and space domains.

The industrial and technological component

This mainly refers to the DTIB and energy supply. Primary challenges are the lack of critical mass at the national level in the face of US or Chinese competition, the extension of conflicts to cyber and space, and economic and budgetary difficulties – now magnified by the Covid-19 crisis.

It is clear that the scope of strategic autonomy needs to be extended even though its preservation already requires a better ability to use all these levers. This requires the implementation of inter-ministerial strategies to regain a footing in areas where France has lost ground to the powers that are exploiting hybrid strategies.

3.2. Expanding the scope of strategic autonomy beyond defense

Strategic autonomy is primarily a concern for the defense sector. It has also been extended to security of supply in several areas:

- energy, with the national nuclear power plant network, reduced dependence on fossil fuels, diversification of suppliers, build-up of strategic reserves;
- food, within the framework of a common agricultural policy.

Today, it must expand into four new sectors: health, for reasons made obvious by the Covid-19 crisis; digital; space; and commercial and financial. Even if this last case is rarely clarified in strategic autonomy discussions, it presupposes that public debt is under control. Sooner or later, an excessive level of debt considerably reduces the State or country's leeway, by depriving it of its economic sovereignty. The financial burden inevitably leads to unacceptable pressure in other areas of public spending, including vital ones such as defense. Finally, it becomes a sword of Damocles hanging over future generations, since it places them in a position of dependence on the financial markets to fund essential expenditure.

However, for all these vitally important sectors, autonomy does not imply autarky, protectionism or self-sufficiency. We cannot free ourselves from a strong dependence on foreign countries for access to raw materials (e.g., energy, rare earths) and innovations. Similarly, in the health sector, we must be able to benefit from innovations produced by foreign laboratories.

Moreover, in all these areas, France is faced with a problem of critical mass, from upstream research to the final format of downstream capacities, including the means of production. It is therefore important to link the national and European levels in each case. Paradoxically, the acceptance of certain dependencies can maximize strategic autonomy, as long as our sources of supply are diversified and hosted by our allies or partners.

3.3. Digital attacks and destabilization maneuvers

Cyber conflicts are becoming a permanent phenomenon in peacetime. This poses four major challenges:

- cyber coercion: the constant threat to our critical infrastructures posed by the introduction of foreign State-sponsored malware implants into these infrastructures;
- exponential growth of major cybercrime and ransomware: cyber-piracy carried out by mafia groups more or less openly established in States that have rejected the Budapest Convention on Cybercrime;
- the manipulation of digital information: particularly on social media, which is constantly growing and under regulated;
- the weakness of the industrial and technological base of French digital security: 80% of the protection tools used by our businesses and institutions are of US and Israeli origin.

To address these challenges and build on the successful ramping-up of military cyber capabilities, two priority actions need to be taken.

Approve a cyber coercion doctrine

France does not yet have a deterrence doctrine for coercive cyber operations (i.e., the ability of an adversary to inflict damage on critical civilian infrastructure). Though Article L2321-2 of the Defense Code does authorize retaliation against information systems that are the source of attacks affecting military or economic potential, security, or the nation's capacity for survival. The doctrine of offensive cyber warfare presented in January 2019 by the Minister of the Armed Forces explicitly provides for retaliation only to cyber attacks against the Armed Forces or the Ministry. In the many public forums where French offensive cyber warfare is mentioned, it is always in response to cyber attacks targeting the forces, the IT systems of the Ministry of Armed Forces, or in support of an external intervention as appears to have been the case with actions against the ISIL cyber propaganda systems.

France must approve and implement an anti-coercive strategy based on an explicit doctrine of proportionate cyber retaliation against the IT systems of any aggressor in the event of any real or potential attack against French critical infrastructures.

Strengthen our industrial base

The observation has been made many times: aside from the DTIB, the French industrial and technological digital security base is very weak. At present there are about 20 Israeli-US companies that have reached “unicorn” size (valuation of more than \$1 billion) and which provide 80% of the cyber defense tools and systems that enable French companies and organizations to defend themselves.

This situation is rather paradoxical: our State agencies and organizations (ANSSI, the French National Cyber Security Agency; COMCYBER, French Cyber Defense Command; DGSE/DT, the technical division of the Directorate-General for External Security) are highly rated by our major allies and this ensures that France is considered a top-ranking partner. But this recognized high-status has not led to industrial excellence. France has world-class IT service companies but very few cyber defense software publishers and no cyber unicorns.

This technological dependence is a big problem because French industry is becoming highly vulnerable to sophisticated digital attacks and, therefore, to State-sponsored cyber coercion against France.

In view of this situation, it is essential to react quickly and accordingly. The time has come to create a major umbrella program enabling France to regain its autonomy in digital security and pave the way for the rapid growth of a very high potential industry. The UK adopted this approach in 2015. Over the last five years, high-potential start-ups have appeared in France. Those created by experts from State bodies such as ANSSI, DGA, DGSE/DT, are the most innovative. Countries such as Israel, the US and the UK have reached the same conclusion and launched proactive initiatives that combine five key elements:

- a strong incentive for State experts to set up their own business (spin-offs);
- physical centralization through the creation of cyber campuses, involving the academic research community and creating joint teams of State experts and researchers, and above all, authorizing access to sensitive data to work on real cases;
- support for setting up investment funds specializing in cyber;
- incubator-accelerators to support start-ups in their development (incubators are often located on cyber campuses);
- masters degrees in cyber security in universities, the creation of doctoral schools and multi-disciplinary cyber research institutes.

OUR DESTINY IS CLOSELY TIED TO THAT OF EUROPE

The strategic context is decidedly unstable and subjected to renewed confrontations between leading powers, especially competition between the US and China. The challenges of resilience and power, and thus of strategic autonomy, cannot be taken into account without considering the critical mass that these stakeholders have attained.

The accelerating competition reinforces the imperative need for Europe to take its destiny in hand and to fulfill the goal of strategic autonomy, even though, considering the political objective, the results in defense so far have been rather modest.

In the Global Strategy for the European Union's Foreign and Security Policy unveiled in 2016, the High Representative of the Union, Federica Mogherini, set out for the first time the objective of strategic autonomy for the European Union. According to the document, this is *"necessary in order to promote the common interests of our citizens, as well as our principles and values"*. How can we make this objective a reality when the ambitions of our partners do not always live up to our expectations? This conceptual advance is potentially so important that France has an obligation to pursue the proactive course of action it has been taking in this area for many years.

However, the "European Defense Union's" external operations achievements for example, are a rather mixed bag. The Multi-annual Financial Framework budget plan adopted by the Council on July 21, 2020, also disappointed those who were hoping for strong financial commitments to achieve the objective of

being a "Geopolitical Commission", and to give substance to European strategic autonomy. Some even described the budget plan as *"a final nail in the coffin"*.⁴⁷

Where do we stand in the various sectors crucial to achieving strategic autonomy at the European level? Is it appropriate to extend the concept to aspects other than foreign and defense policy? Finally, what proposals can we make to progress towards the objectives that link national and European strategic autonomy goals?

1. Coordinate between national and European interests

A distinction has to be made between matters relating to national strategic autonomy and those pertaining to European strategic autonomy – initially based on the division of competences between the two levels, as defined by the European treaties.

For policy that cover "shared" or "supporting" capabilities, it is up to the Member States to decide on the appropriate level of action based on the principles of subsidiarity and proportionality. Given the way in which decisions are made in Brussels, they will have to rally other Member States behind them to build coalitions.

These principles tie in with the provisions of Article 5 of the EU Treaty: *"The limits of Union competences are governed by the principle of conferral. The use of Union competences is governed by the principles of subsidiarity and proportionality. Under the principle of conferral, the Union shall act only within the limits of the competences conferred upon it by the Member States in the Treaties to attain the objectives set out therein. Competences not conferred upon the Union in the Treaties remain with the Member States. Under the principle of*

⁴⁷ <https://www.lopinion.fr/edition/international/arnaud-danjean-defense-ne-sera-pas-priorite-l-union-europeenne-221154>

*subsidiarity, in areas which do not fall within its exclusive competence, the Union shall act only if and in so far as the objectives of the proposed action cannot be sufficiently achieved by the Member States, either at central level or at regional and local level, but can rather, by reason of the scale or effects of the proposed action, be better achieved at Union level [...].*⁴⁸

2. Urgent areas of cooperation: digital and space

2.1. Digital and cyber

France and Europe are lagging behind in the digital sector. It is unlikely that they will be able to catch up in all domains compared to countries with critical mass such as the US and China. This also presents a security and defense issue, given the importance of data in contemporary threats and conflicts. Alongside the autonomous approach proposed above, we must pick the battles to be fought in cooperation: data storage (cloud trust in particular) and encryption could be priorities for France to tackle with Europe.

The innovation cycle in the digital field is 18 months. It is necessary to constantly adapt and never rely on certainties, which evolve very quickly. In particular, network segregation is no longer relevant. Threats succeed in penetrating most firewalls. The backdoors provided for the authorities can be exploited by malevolent players. In the short term, a key issue will be data encryption.

- Data storage and the cloud: American legislation does not allow any control over the use of French data that finds its way into the US. This is particularly true in the operation of “clouds”. This aspect of American extra-territoriality is a challenge to national sovereignty. It is crucial to have other solutions. In addition to storage, associated applications must be provided.
- Interdependence with space: The role space plays in data management (i.e., circulation and synchronization of ground networks) is accelerating with the

arrival of large low-cost satellite constellations. It is unfortunate that Europe did not seize the opportunity to take on American and Chinese competition by acquiring OneWeb, which today has become an Indo-British entity (still looking for funding). It is aiming for a more ambitious project by 2027, with a constellation that would be complementary to Galileo and Copernicus, particularly in terms of connectivity. To achieve this, it is important to support an increase to €16 billion (+1 billion) of the space budget under the MFF.

2.2. Space

Space has become a contested field in its own right, in which the principle of self-defense applies (NATO, 2019). Several countries have already demonstrated their anti-satellite capabilities (e.g., China, India), and Russia has gone on the offensive with its orbital maneuvers (Luch-Olymp). Space is now a major factor to consider in terms of strategic autonomy. Its importance is growing as our society increasingly depends on it, and costs in the space sector are now beyond the reach of individual nations. Therefore, the idea is to achieve better linkage between sovereign entities and European policy. In France, responsibility for space issues has been transferred from research to the Ministry of the Economy and Finance since the arrival of the new government.

In this new space race, which extends beyond the defense sector, France is competing with new players and finds itself with a subcritical mass at the national level. The space sector has undergone rapid change in the last decade, particularly with the emergence of New Space. On the one hand, the US private sector (the Tech Giants in particular) is positioned at the heart of the action with funding resources far superior to the competition. These companies are all the more competitive since they benefit from substantial institutional orders (at a high price). This practice enables the US to further shore up its hegemony in the sector. The very substantial support of the Trump administration for private US space stakeholders should be underlined:

- ULA and SpaceX are sharing a multi-year Pentagon contract for 30 to 34 missions over the period 2022-2026. Price paid for the first launch: \$316 million for SpaceX (compared to \$45 million on the commercial market);

⁴⁸ Treaty on European Union, Article 5
(<https://eur-lex.europa.eu/legal-content/FR/TXT/?uri=celex:12012M005>).

- the successful first manned flight by SpaceX to the International Space Station with Crew Dragon. Project to return to the Moon with Starship, still supported by the US administration;
- in July 2020, the Federal Communication Commission (FCC) approved Jeff Bezos' project to launch 3,236 Amazon satellites (Kuiper constellation).

France and Europe must fully commit themselves to remain in the global space race before it is too late

In the conventional civil communication satellite industry, France has two undisputed world leaders: Airbus and Thales.

The Covid-19 crisis has highlighted the fragility of the space sector in Europe, for example, the takeover of OneWeb when it was on the verge of bankruptcy by the British government and the Indian group Bharti, as well as the severe financial difficulties of many SMEs. The Guiana Space Centre (CSG) was at a standstill for several months because of the crisis (while the US and China each performed eight launches during Q2 2020). Finally, the Member States confirmed that the EU's 2021-2027 budget allocated to space would be 17.5% lower than the initial proposal by the European Commission (€13.2 billion and €16 billion, respectively) – compared to the \$60 billion expenditure for the year 2020 alone in the US civil and military budget.

If Europe wants to compete globally and ensure its strategic autonomy, it urgently needs a “software upgrade” and massive investment in telecommunications. Of the \$13.2 billion earmarked for space in the 2021-2027 MFF, \$12.8 billion will go to navigation (Galileo) and Earth observation (Copernicus) – programs launched more than 10 years ago. The European Space Agency does not support the development of satellite telecommunications proportionally to the investment and revenues that this sector generates as part of overall space activities (at the last ministerial council meeting, ESA telecoms programs were funded to the tune of €1.36 billion out of an overall budget of €14.4 billion). However, in the global market, 95% of the value of the international commercial satellite segment comes from the telecommunications sector.

The US, by backing the SpaceX and Amazon projects, has understood this. Europe, in turn, must support a similar ambition, which is the only one capable of sustaining the space industry in the long term and making it competitive on a global scale.

Moreover, until now defense has not been a concern for European space programs. These programs are essentially civilian programs, in some cases with dual-use applications. The EU nevertheless seems to be addressing the problem. The new commission is proactive in this respect, notably under the impetus of European Commissioner Thierry Breton, who is promoting the European space program. Thierry Breton's grand ambition for a European high-speed internet constellation – combining geostationary satellites and an LEO constellation – heralds a change in strategy for European space policy. This ambition to ensure Europe's strategic autonomy in space-based telecommunications, as well as the concrete vision of an infrastructure combining LEO and GEO are a step in the right direction, responding to institutional and commercial needs, with joint public and private funding.

Nevertheless, we must remain cautious and avoid being overly short-sighted or relying solely on a recovery based on a few industry orders. Rather, we must take advantage of this post-Covid awareness to completely review the European attitude towards investment in the space sector and establish a structural approach. The aim being to create a virtuous circle in which a large consolidated European operator would ensure a sustainable order book for industry, notably for the benefit of sovereignty projects.

If we want sustainable orders for European industry, the priority ought to be to strengthen the position of European satellite operators by:

- creating new dedicated market opportunities (GOVSATCOM for example);
- launching major programs (future broadband constellation);
- promoting the integration of satellites into the 5G ecosystem, IoT markets;
- allowing commercial operators such as Eutelsat to operate more services on behalf of institutional players (Armed Forces, Interior, etc.);
- offering a premium for European preference (Eutelsat cannot be the only operator in Europe to order 90% of its satellites from European industry).

For this method to be an economic success in the longer term, it will have to be coupled with strengthened cooperation between satcom operators such as Eutelsat and the institutional players. The future of European space cannot be ensured without reinforced institutional support for all stakeholders in the value chain, starting with the operators.

3. Strengthen Europe's strategic autonomy

Europe is in a paradoxical situation. On the one hand, it has real economic and commercial leverage to enable it to hold its rank on the world economic stage and contribute to its strategic autonomy. For several years it has had a Central Bank, a competition policy and a trade policy, all of which are areas in which the EU has exclusive jurisdiction. It is in the process of improving in areas where it was historically weak, with the emergence of a common fiscal policy (the recovery plan), and a policy of controlling foreign investment in its strategic companies. On the other hand, it does not have a shared strategic culture. On December 1, 2019, in her mission letter addressed to the Commissioners at the beginning of her mandate, Ursula von der Leyen indicated that it would be a "Geopolitical Commission". While this term is not described in detail in the document, the mere fact of using this terminology in an official document can be seen as evidence of a real awareness of these issues⁴⁹. In reality, a strategic culture better shared among European States is clearly a necessary condition for the construction of greater political, operational and industrial cooperation.

3.1. The political component

The publication of the Global Strategy for the European Union's Foreign and Security Policy in 2016 was an important step forward, particularly regarding its reference to the objective of strategic autonomy for the European Union.

According to the document, this is "*necessary to promote the common interests of our citizens as well as our principles and values*".⁵⁰ Despite the attempt to list priorities for the EU's external actions, these remain rather vague: to guarantee the security of the European Union, to promote State and societal resilience to the East and South, to promote an integrated approach to conflicts, and to strengthen cooperative regional orders and global governance based on respect for international law.

However, this awareness and these objectives, which have been clarified over time, cannot hide the differences that are regularly highlighted by the positions of European Union States on foreign policy (e.g., lengthy negotiations concerning France's Union for the Mediterranean initiative in 2008; modest results – politically speaking – of the Barcelona Process on the Israeli-Palestinian conflict due to strong divergences between Member States; lack of coordination in recognizing Kosovo; differences in the negotiations for the accession of North Macedonia and Albania to the EU in 2019).

Several actions can undoubtedly be taken to enhance dialogue and, ultimately, to achieve greater consensus at European level on these issues: focus on East-West and North-South dialogue, creation of "Weimar"-type forums building on French or Franco-German initiatives. This is a prerequisite for the credibility of the EU as a political power.

3.2. The operational component

The EU is currently conducting 17 missions and operations under the Common Security and Defense Policy (CSDP), 11 civilian and 6 military.⁵¹ The results are rather disappointing.

49 https://ec.europa.eu/commission/commissioners/sites/comm-cwt2019/files/commissioner_mission_letters/president-elect_von_der_leyens_mission_letter_to_thierry_breton_fr.pdf

50 « Shared Vision, Common Action: A Stronger Europe – A Global Strategy for the European Union's Foreign and Security Policy », June 2016.

51 <https://ue.delegfrance.org/details-sur-les-missions-en-cours>

A recent report by the French Senate notes that “CSDP missions and operations provide only very partial responses to current crises”.⁵² In the East, NATO seems to be the most appropriate framework for intervention, while in the South, ad hoc coalitions seem to be the most effective. However, in the Mediterranean and Africa, the CSDP, with its comprehensive approach, serves as a practical support force.⁵³

Each European State and each international organization has its own definition of the “comprehensive approach”. France believes that it should mean “restoring the security of populations and the stability of the State, then promoting development in the intervention zone. Governance requires sustainable solutions such as cooperation between civil society, institutions, NGOs and opposing military groups in order to find a viable way out of the crisis. The work must also necessarily include the government of the country where the comprehensive approach is being planned. Without interfering, the aim is to provide military aid to ensure the security of the country, followed by reconstruction”.⁵⁴ The European Union adopts the same approach by relying on the “3Ds”, “Defense, Development, Diplomacy”. The concept of the comprehensive approach was developed by the EU under the term “Civil-Military Coordination (CMCO)” and “addresses the need for effective coordination of the actions of all European actors involved in the planning and subsequent implementation of the EU’s response to the crisis”.⁵⁵

More specifically, Operation ATALANTA, a counter-piracy operation off the coast of Somalia which began in 2008, illustrates how the concept is applied. During this operation, the EU deployed 1,800 troops and simultaneously released €215 million in development aid for the 2008-2013 period. The operation is considered a success as the number of pirate actions has fallen sharply (from 176 attacks in 2011 to 2 in 2018).⁵⁶ However, it should be noted that the root

causes of piracy are not being addressed – which seems to be confirmed by the extension of the operation until the end of 2020. This result can be explained by the modest resources made available for the operation by the Member States.⁵⁷

Many observers also note a decline in the pace of CSDP external missions and operations, which can be explained by the difficulty for Member States to agree on a mandate. For example, ships were temporarily withdrawn from Operation Sophia due to a lack of agreement with Italy on migrant disembarkation. This withdrawal prevents the mission from enforcing the arms embargo on Libya — the mission is limited to airborne surveillance.⁵⁸ In the light of these difficulties, the Council launched Operation IRINI to replace Sophia on March 31, 2020. Officially, IRINI involves maritime, aerial and satellite assets to enforce the UN arms embargo on Libya.⁵⁹ The reality is less encouraging since here again the Member States have failed to supply the equipment needed (only one ship was on zone during the first weeks of the operation and 3 aircraft — less than the resources used in Operation Sophia, and inadequate for the mission). These difficulties have been further exacerbated by Greek-Italian rivalry over command of the operation.⁶⁰

France is involved in these operations in a variety of ways: it provided one frigate during the first month of Operation IRINI and additional maritime assets later. Although it makes up more than half of the EUTM RCA (Armed Forces training) contingent, it only represents a tiny part of the troops deployed in EUTM Mali since 2013. This can be explained by the fact that France is already deploying a substantial number of troops and resources in this region through strictly national operations.

52 <http://www.senat.fr/rap/r18-626/r18-6264.html#toc63>

53 <http://www.senat.fr/rap/r18-626/r18-6264.html#toc63>

54 https://www.iris-france.org/wp-content/uploads/2017/05/Approche_Globale_CRISIS_VF_2_4.pdf

55 https://www.iris-france.org/wp-content/uploads/2017/05/Approche_Globale_CRISIS_VF_2_4.pdf

56 <https://www.atlantico.fr/node/3569335>

57 <http://www.opex360.com/2016/11/29/operation-anti-piraterie-europeenne-atalante-prolongee-jusqu'en-2018/>

58 <http://www.senat.fr/rap/r18-626/r18-6264.html#toc63>

59 <https://www.consilium.europa.eu/fr/press/press-releases/2020/03/31/eu-launches-operation-irini-to-enforce-libya-arms-embargo/>

60 <https://www.bruxelles2.eu/2020/06/une-operation-irini-bien-en-peine-de-moyens/>

One could also note that some capabilities have never been deployed. For example, the EU Battlegroups (EUBGs) created in 1999, which should have been able to deploy 1,500 troops in 15 days under the CSDP, have never been used due to a lack of political consensus and the complexity of implementation and funding⁶¹. The community framework, despite providing a stamp of legitimacy, seems to be one of the reasons for this slowdown.

Clearly these types of observations have led France to consider setting up a purely intergovernmental framework to promote operational initiatives alongside ad hoc bilateral cooperation: the European Intervention Initiative (EI2). In view of the aforementioned differences in strategic doctrines – including implementation of the “comprehensive approach” – it would seem more effective to favor a flexible, pragmatic framework in this area in order to be able to move ahead with interested nations⁶². Furthermore, it seems important for France to continue to nurture bilateral relations with other Member States in addition to the multilateral arrangements in place. EI2 is not exclusively aimed at EU Member States and therefore goes beyond the framework of the European Union.⁶³

In order to generate added value through intervention at a European level, the question of capabilities and capability sharing is fundamental. EATC (European Air Transport Command), created in 2010, is working particularly well and is growing steadily (more aircraft types, more States joining the platform).⁶⁴ It is time to further develop a European strategic transport capability, to reduce dependence on Russian cargo aircraft. This type of capability is beyond the reach of individual nations, unless it becomes a top priority. Moreover, it lends itself well to a collective approach, since these assets are not exposed on the front line and can be used in sectors other than defense.

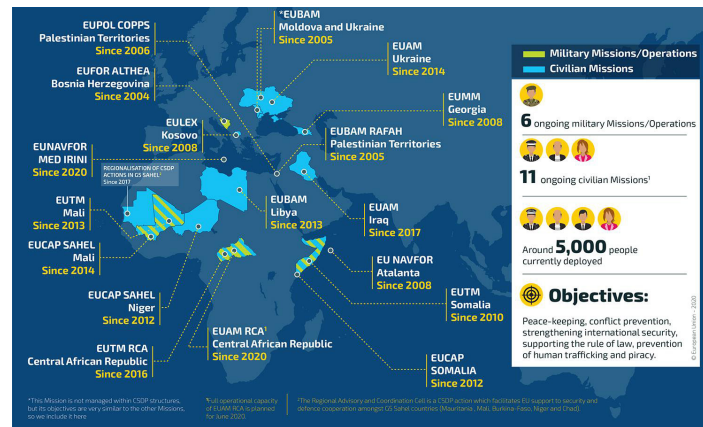
61 <http://www.senat.fr/rap/r18-626/r18-6264.html#toc63>

62 https://www.iris-france.org/wp-content/uploads/2017/05/Approche_Globale_CRISIS_VF_2_4.pdf

63 <https://www.defense.gouv.fr/dgris/action-internationale/l-ei/l-initiative-europeenne-d-intervention>

64 <https://club.bruxelles2.eu/2019/06/le-commandement-aerien-integre-eatc-un-modele-a-suivre-entretien-avec-le-general-marboeuf/>

Missions and Operations of the European Security and Defence Policy (ESDP) in 2020⁶⁵



3.3. The industrial and technological component

Europe must protect businesses, assets, resources and strategic talent. Strengthening and rationalizing a defense industrial base is the first step in implementing this requirement. From an institutional point of view, the direction of this defense industrial policy is “mixed”: the Member States continue to have an important influence through dual comitology in the choice of projects to be funded under PESCO and the European Defense Fund, but a community dimension has been introduced (DG DEFIS, oversight by the Parliament and the European Court of Auditors on the use of allocated credits).⁶⁶ In this respect, several new instruments have been created since 2016.

65 Source: <https://ue.delegfrance.org/missions-actuellement-en-cours>. © European Union - 2020.

66 Nicolas Gros-Verheyde, blog B2, article of 13th February 2020 “Que signifie la cohérence ? Nouveau mot-clé des européens en matière de Défense”.

- Permanent Structured Cooperation (PESCO) – a mechanism designed to promote the emergence of cooperative projects with an operational or capability objective, in response to the requirements of European Armed Forces. France is taking part in 25 projects (out of 34).⁶⁷
- The European Defense Fund (EDF). The EDF has two components: research and capability development. The aim of this instrument for the period 2021-2027 is to contribute to consolidating the European defense industrial and technological base.⁶⁸ Unfortunately, ambitions have been scaled back sharply following negotiations on the European recovery plan, and the EDF is expected to receive €7 billion for the period 2021-2027, instead of the €13 billion initially planned.
- The Coordinated Annual Review on Defense (CARD), which facilitates capability cooperation.

Budgetary instruments for the defense industry have already been voted. These are Preparatory Action on Defense Research (PADR) and the European Defense Industrial Development Program (EDIDP). An initial assessment, carried out in June 2019, shows that in the EDIDP program, France is coordinating three projects and is involved in 14 others (compared to 4 coordinated projects and involvement in 13 projects for Spain, no coordinated projects and involvement in 8 projects for Germany, for example). As far as the PADR program is concerned, France and Italy have validated the largest number of projects by far.⁶⁹ These are encouraging initial results for French companies and research centers.

These instruments must be encouraged and paired with other mechanisms to strengthen Europe's "technological sovereignty".⁷⁰ This concept, which emerged

in the early 2000s, does not have an agreed upon definition at the European level. However, it would seem that the increased awareness triggered by the Covid-19 crisis could lead to heightened focus on the defense of European industrial and technological capabilities, including in the fundamental area of European competition policy, which would become more sovereign. This would be a major development.⁷¹

The aforementioned instruments are being launched in a European industrial context of overcapacity for several important reasons.

- Historical: European industry is fragmented, as each European country with a defense production capacity wants to retain it for technological independence and sovereignty, but also for its economic and social impact. In the current budgetary context, the ideal goal would be an industrial model based on two European players per major defense sector – air, space, naval, land, missiles, defense electronics and cyber security. This industrial model would enable the players to move closer to critical size while preserving competition. Today, the number of players per major sector averages around five.
- Equipment imports into the EU: there is still no European preference in equipment procurement. In the air sector, for example, the participation of countries such as Italy, the Netherlands and more recently Belgium in the F-35 program is weakening the European fighter aircraft industry. The same applies to the procurement of satellites and launches. More generally, the procurement of US equipment affects State defense budgets and budgets remaining for European industry, this allows a certain amount of American interference in EU defense matters.
- Export difficulties: the defense market is increasingly competitive due to the emergence of Chinese players and the growth of Russian exports with increasingly credible technologies at reduced costs, thus reducing export sales opportunities for European industries.

67 <https://www.defense.gouv.fr/dgris/action-internationale/l-ue-et-la-psdc/l-union-europeenne-et-la-politique-de-securite-et-de-defense-commune>

68 <https://www.defense.gouv.fr/dgris/action-internationale/l-ue-et-la-psdc/l-union-europeenne-et-la-politique-de-securite-et-de-defense-commune>

69 <https://www.frstrategie.org/sites/default/files/documents/evenements/2020/2020-06-30/PADR-EDIDP.pdf>

70 https://ec.europa.eu/commission/commissioners/sites/comm-cwt2019/files/commissioner_mission_letters/president-elect_von_der_leyens_mission_letter_to_thierry_breton_fr.pdf

71 *Note Fondation pour la Recherche Stratégique, La souveraineté technologique européenne, une réponse à la crise de la COVID-19?* Jean-Pierre Darnis, 19 mai 2020.

Possible synergies between the major defense contractors

(Chart of European players in the defense industry)

Country	Air	Naval	Land	Missiles	Defense electronics and cyber security
France	Dassault Aviation Airbus Group	Naval Group	KNDS Renault Truck Défense	Thales MBDA	Airbus Group Thales
Germany	Airbus Group	Thys-senKrupp German Naval Yards Kiel	Rheinmetall KNDS	Atlas Electronics MBDA DIEHL	Atlas Electronics Hensoldt
UK	BAE Systems	BAE systems	BAE Sys-tems	MBDA Thales	BAE Systems Leonardo
Italy	Leonardo	Fincantieri	Leonardo	MBDA Leonardo	Leonardo
Sweden	SAAB	SAAB	SAAB	SAAB	SAAB
Spain	Airbus Group	Navantia	General Dynamic		Indra
Nether-lands		Damen			Thales

Beyond the political obstacles, a recurring sticking point remains the definition of technical specifications for each platform. Uses vary greatly from one country to another and the issues of compatibility and interoperability are complex. Moreover, development cycles are not always synchronized. For example, the German decision to withdraw the P-3C Orion from service in 2025 threatens the Franco-German MAWS (Maritime Airborne Warfare System) program, scheduled to replace the P-3C in 2035.

However, there are a number of encouraging programs – at this stage mainly bi- or even trilateral (FCAS, MGCS) – demonstrating the desire to jointly build major systems for the future. The extensive cooperation between Airbus and Dassault on FCAS deserves to be highlighted. In the past, the two companies were rivals (the Eurofighter vs. the Rafale). Alongside Thales and INDRA, they have significant assets in a combat system project encompassing more than the aircraft. It includes its entire environment and plays an important role in the battle for connectivity standards, data management and AI. However, there this is overshadowed by: the arrival of a competing project from other European countries led by the UK, Tempest.

We now need to take full advantage of all these instruments in the field of defense in order to be able to draw initial conclusions about their effectiveness and their contribution to European strategic autonomy. These are extremely recent instruments in an area in which the EU does not have exclusive competence. On the other hand, in the economic and monetary field, the EU clearly achieved a major and unprecedented mobilization during the Covid-19 crisis, demonstrating its role in the economic resilience of certain Member States.

These few encouraging observations cannot hide the disappointment due to the modest achievements in the field of operations as well as in budget resources allocated to programs that enable progress towards the French-backed goal of European strategic autonomy. Of course, negotiations are often very difficult and the final agreement is necessarily a compromise between the many interests and parties involved. This raises questions as to the realism of European objectives and the strategy that France should adopt to deal with critical mass stakeholders.

Recommendation 11: Reinforce European strategic autonomy in key areas

1/ At the operational level: develop a shared strategic transport capacity.

2/ At the technological and industrial level

- A mechanism needs to be introduced to channel part of the €750 billion recovery plan to the EDF (which has been cut by almost half), even if these two tools are based on different frameworks.
- Defend and implement genuine European preference: in the digital field (focus on data control – the trusted cloud and its applications); in space (European preference for launchers, convince European partners to include the military dimension in space policy, continue to compete in mega-constellations); in defense (and in particular public procurement by States).
- Coordinate recovery plans between Member States, to avoid funding national sectors where there is overcapacity and duplication (German and Spanish projects in launchers, for example).
- Encourage industrial alliances based on building blocks upstream in the value chain: on the one hand in systems (C4I, mission systems, combat systems, etc.) and, on the other hand, in equipment and technologies (connectivity, cyber security, sensors, radars, weapons, electronic warfare, etc.).

3/ At the economic, financial and commercial level

- Launch a reflection on updating the so-called Blocking Statute adopted by the EU in 1996 to protect European companies from extraterritorial application of US laws.
- Monitor closely the application of the FDI regulation, in particular concerning the programs cited in the regulation: Galileo and Egnos, Copernicus, Horizon 2020, EDIDP, PESCO.

4. The principles of a French strategy: persevere, diversify, explain

For all the reasons mentioned above, the community approach is proving to be laborious but, when it bears fruit, it is the only one that puts us in a position to truly meet global challenges, as shown by the unprecedented scale of the European recovery plan. Pragmatically, in the mean time, France has engaged in ad hoc initiatives to overcome certain obstacles linked to collective decision-making and in particular the rules of consensus. The European Intervention Initiative aims both to provide tailor-made solutions in the short term and to nurture the common strategic culture in the long term. The dynamism of this initiative is promising and has already produced results with the launch of Operation Takuba in the Sahel.

Nevertheless, this approach also makes it harder for allies to understand the French posture. This difficulty exacerbates the French position on “strategic autonomy” or on “Europe as a great power” that is often misunderstood by our partners, or simply absent from their strategic culture. This disparity is particularly obvious with regard to Europe’s place in NATO, which at this stage is a major sticking point.

We must therefore explain and clarify our discourse and improve our communication with Brussels and European capitals in order to strengthen alliances and reduce misunderstandings – which could be exploited by States that do not share European interests.

It is in this perspective that Franco-German cooperation should be pursued. France must take Germany’s particular sensitivities and interests into account. Its European political and industrial ambitions in the defense sector, as well as its relations with the Alliance, often hamper joint projects. The delays on UAVs bear witness to these difficulties. For these reasons, France must remain open – as it already is – to as many partners as possible. The fact remains that only a shared Franco-German ambition will drive the rest of Europe forward and make it possible to develop the main components of strategic autonomy. A new awareness in

Germany should help to achieve this. The Future Combat Air System (FCAS) and Ground Combat System (GCS) projects represent considerable progress in this respect compared with experience on previous-generation armaments programs. This will be the litmus test of a new shared ambition, proof of which requires concrete action and political perseverance on both sides of the Rhine. German space and cyber security (with sovereign cloud projects) will also be essential aspects of the added value of Franco-German cooperation. This shows the rigor with which this non-exclusive but essential effort must be pursued.

4.1. Clarifying the French doctrine (mainly regarding ties with NATO)

A stronger role for the EU in foreign affairs and defense is not incompatible with NATO – on the contrary, it is a precondition for strengthening the transatlantic partnership by enabling the EU to establish itself as a reliable and solid partner for the United States, particularly in dealing with powers such as China, described as a “systemic rival” in a European Commission communication in 2019.⁷² The same argument applies to increased European defense spending which allows for better sharing of the collective defense burden.

NATO remains the bedrock of collective defense for the EU States that are members of the Atlantic Alliance under the Treaty of Lisbon. Politically, it is based on the provisions of Article 5 and the belief that the United States will come to the defense of any ally in the event of an attack. However, on the American side, the hypothesis of a reduced commitment – raised by several commentators and foundations, such as the Körber Foundation in Germany – and the call for fairer burden-sharing are leading to a renewed European concrete approach. It might therefore be useful to consider how States that are members of both the EU and NATO can gain influence within an Atlantic Alliance that is likely to evolve.

At present, EU missions and operations can be considered complementary to those conducted by NATO because they differ in nature and intensity. However, in the long term, is it justifiable to need NATO in order to act on European soil, as is currently the case in Kosovo?

The ties between European defense operations and NATO inevitably raises the industrial question. The United States links industrial aspects to the defense guarantee it provides through NATO; the issue of nuclear deterrence can be seen in the recent debate in Germany over the replacement of its Tornado fleet. It is therefore understandable that the US is exerting strong pressure to participate in the EDF. EDF – whose total amount and precise criteria for participation have not been specified at the time of writing – is intended, in the words of a French Senate report,⁷³ to affirm “the importance of European preference, which alone is capable of fostering true autonomy for the European defense industrial and technological base, and therefore fully support the principle that, on the one hand, the recipients and subcontractors participating in an action with financial support from the Fund are established in the European Union or in an associated country and are not controlled by a non-associated third State or non-associated third-State entity and, secondly, that the infrastructure, installations, goods and resources of those recipients and subcontractors are located on the territory of a Member State or associated country for the duration of the action, as well as their executive management structures”. Dedicated funds should be made available to the European defense industries so that they may develop the strategic capabilities that Europe lacks and that the US is urging Europe to acquire. Thus, the end result is a better sharing of the defense burden, as legitimately requested by the US.

In order to be effectively implemented at the European level, these different actions must be supported by at least a majority of Member States, which requires a long-term diplomatic effort.

72 Joint communication to the European Parliament, The European Council and the Council – EU-China – A strategic outlook, 2019.

73 *Résolution européenne sur le Fonds européen de Défense*, French Senate, 17th February 2020. <https://www.senat.fr/leg/tas19-061.html>

4.2. Helping our partners better understand the French perspective

French ideas regarding defense, the relationship with NATO, the defense industry and competition policy often stand out. We are the only ones to simultaneously back: procurement of ITAR-free armaments, coordination of arms export policy, capability initiatives, investment in research and development, and finally integration of the European defense industry.⁷⁴ Given the way the European institutions function, France has to rally the support of the other Member States in order to carry decisions. In this respect, it seems useful to promote long-term strategies of influence, both in Brussels directly and in the other European capitals, in order to better explain and promote our point of view through different channels.

Other countries have foundations, including political foundations, in every European capital.⁷⁵ As part of a long-term approach, France could therefore replicate this type of system and step up its efforts to make better use of all human resources within European institutions. This would have the added benefit of shoring up France's influence within the European Commission's think tank, the European Political Strategy Centre.⁷⁶

⁷⁴ https://www.ecfr.eu/specials/scorecard/independence_play_europes_pursuit_of_strategic_autonomy

⁷⁵ <https://www.kas.de/fr/mondial>

⁷⁶ *Rapport sur les think tanks français : mission d'information et de recommandations*, Yves Saint-Geours, French Ambassador to Spain, 2016.

Recommendation 12: Strengthen France's unifying role in European defense and in NATO

France could adopt a more unifying stance by pursuing the following lines of action, particularly in view of the NATO summit in 2021 and the French presidency of the EU in 2022.

Persevere

- Contribute to building a common strategic culture based on the absence of any alternative to a European Union defense policy in order to collectively achieve real strategic autonomy.

Diversify

- Develop the network of bilateral ties without which there is no effective multilateral cooperation. The UK must remain a key partner despite Brexit. Special action should be taken with respect to the countries of Central and Eastern Europe.
- Develop multilateral variable-geometry cooperation solutions with real operational effectiveness that avoid deadlocks – these should account for Europe's wide variety of ambitions and capabilities. Among all the existing mechanisms, E12 must be the priority framework, given its flexible and non-exclusive structure. These operations should be followed by “political security councils” in a variable format which would serve to prepare European Security Councils.

Explain: highlight France's role as a role model in the Alliance, with an updated vision of the link between the Alliance and Europe.

.../...

CONCLUSION

- France could publish a strategic vision, “EU-NATO 2030: strategic added value”, in order to reduce friction in the run-up to the 2021 NATO summit. It would be a reminder that the French Armed Forces are one of the best tools available to the Alliance and underline the recent renewal of the defense efforts of the Alliance’s European members. It would examine how to develop a political dialogue between Europeans within NATO.
- It would put forward the potential benefits for the Alliance from European initiatives, especially in countering the major threats from China and Russia, and with the contribution of tools developed since 2016.
- It would demonstrate what “European preference” for access to the EDF ultimately offers our US partner assets from an overall strategic viewpoint.
- It would present a renewed case for complementarity between the Alliance and Europe in order to enable Europe to respond to risks and threats to which some Alliance member States, and in particular the US, do not wish to react because of differences in perceived interests.
- It would decide which organization will respond to recurring attacks on asset duplication.
- These proposals must be followed by a few concrete initiatives: funding for the action plan on military mobility in Europe; bringing the NATO mission in Kosovo under the EU banner; mobilizing an E12 force as part of NATO’s reassurance measures on the eastern flank when the Alliance encounters mobilization difficulties; EU investment in the fight against illegal immigration (FRONTX); further development of European crisis management and civil protection structures.

Every policy is based on a prognosis, a certain vision of the future. Forecasting is inherently difficult in the strategic sector, where history shows that there is great risk in preparing for yesterday’s challenges. This holds particularly true today. The current context is very unstable and marked by a succession of crises. Ambiguity is skillfully maintained by certain players to gain advantage, while the reconstruction of global balances is ongoing.

In spite of these uncertainties, an immediate assessment of French and European security strategy is needed. Several decades of strategic complacency in defense have already come to an end. France needs to solidify its military apparatus in the face of its adversaries’ increasing capabilities, as evidenced by record arms expenditures and operational experience. Rivals are now capable of denying access to areas of strategic importance to French security, such as northern Syria. They are also carrying out rapid and wide-ranging interventions beyond their borders, and are even deploying forces at our doorstep (i.e., in the Mediterranean). This new assertiveness in land, sea and air, is accompanied by a less obvious but equally bold deployment in the cyber domain as well as in exo-atmospheric space, where hostile machinery is no longer the purview of science fiction.

Technological potential remains a key component of military power, as in Nagorno-Karabakh, where UAVs played a decisive role. Moreover, focus should be on the industrial capacity to produce in sufficient quantities and within the necessary timeframe.

This reinforcement of the French military apparatus is also required for national security in the broadest sense. The recent health crisis showed the relevance of separate State players. In times of crisis, the added value of the Armed Forces derives from their specific organization and capabilities, designed to remain operational in the most degraded situations.

More than ever, the strategic context calls for defense to be considered within the broader framework of a comprehensive approach. Flexibility and strength are inherently necessary components for a defense and security policy, as are direct and indirect strategies, nuclear deterrence, conventional forces and Special Forces. They have often been pitted against each other in the face of budget restrictions. Strategic thinking reduced to a single component is outdated in the world ahead. France must be sufficiently agile in response to adversaries who combine and mix economic, military, intelligence and diplomatic instruments. It would be particularly advantageous to deepen the interpenetration of military and economic components on the one hand, and State and civil society instruments on the other.

Moreover, France's defense and security can only be examined in light of the inner resilience of French society. Comparative resilience in relation to strategic competitors is a particularly determining factor in global equilibrium in times of crisis. A renewed national crisis management doctrine is a prerequisite. Furthermore, social fractures and information manipulation vulnerabilities call for consideration of the spirit of defense and the role of the Armed Forces in this respect.

Finally, strategic autonomy remains paramount, particularly in industrial and technological terms. To meet the need for critical mass, it is important to concentrate efforts on the most indispensable building blocks of sovereignty and to exploit European leverage. Therefore France needs allies, particularly with the return of power politics. Beyond this utilitarian vision, it is important to note that the destinies of France and Europe seem more closely linked than ever. This observation does not contradict the development of a French strategic vision in the world that lies ahead, on the contrary. In all aforementioned subjects, France has its own characteristics that complement those of its allies. It must take advantage of them to contribute to a common strategic culture and overcome antagonisms (as between the EU and NATO). As the world reconfigures itself, a defensive stance is not enough. It is important to take on a unifying role with chosen allies and to prevent external social models from being imposed.

ACKNOWLEDGMENTS

Institut Montaigne would like to thank the following people for their assistance with this work.

Taskforce

Chairs of the taskforce

- **Nicolas Baverez**, Lawyer, Gibson, Dunn & Crutcher
- **Bernard Cazeneuve**, Former Prime Minister, Associate Lawyer, August Debouzy

Taskforce members

- **Julie Burguburu**, Chief of Staff, Eutelsat
- **Mathieu Duchâtel**, Director of the Asia Program, Institut Montaigne
- **Michel Duclos**, Special Advisor – Geopolitics, Institut Montaigne
- **General Christophe Gomar**, Group Director of Security & Crisis Management, Unibail-Rodamco-Westfield
- **Admiral Édouard Guillaud**, Former Chief of the Defense Staff
- **Jean-Baptiste Jeangène Vilmer**, Director, IRSEM
- **Pierre Jeannin**, Deputy Head of Industrial Participations – Industry, French Government Shareholding Agency
- **Bernard de Montferrand**, Former Ambassador, Senior Advisor, Roland Berger
- **Bruno Tertrais**, Deputy Director, Foundation for Strategic Research, Senior Fellow - Strategic Affairs, Institut Montaigne
- **Stéphane Volant**, President, Smovengo

Rapporteurs

- **Erwin Bruder**, Lieutenant-Colonel, École de Guerre (general rapporteur)
- **Alain Quinet**, Associate Professor, Écoles de Saint-Cyr Coëtquidan (general rapporteur)
- **Mahaut de Fougères**, Policy Officer, Institut Montaigne
- **Antoine Jean**

- **Romain Lucazeau**, Partner, Roland Berger
- **Édouard Michon**, Senior Strategist – Group Strategy, Allianz

As well as

- **Raphaëlle Camarcat**, Assistant Policy Officer, Institut Montaigne
- **Agnès de Castellane**, Assistant Policy Officer, Institut Montaigne
- **Camille Dutheil de la Rochère**, Assistant Policy Officer, Institut Montaigne
- **Alexandre Garcia**, Assistant Policy Officer, Institut Montaigne
- **Paula Martinez Lopez**, Assistant Policy Officer, Institut Montaigne

Interviewees

- **Bertrand Badie**, Emeritus Professor, Sciences Po Paris
- **Olivier-Rémy Bel**, Visiting Fellow, Atlantic Council
- **Alice Billon-Galland**, Research Associate Europe Programme, Chatham House
- **Antoine Bouvier**, Director of Strategy and Public Policy, Airbus
- **Maxence Brischoux**, Deputy Head of European Affairs and International Relations, Naval Group
- **General Thierry Burkhard**, French Army Chief of Staff
- **Patrick Calvar**, Former Director-General of Interior security, Special Advisor - Security, Institut Montaigne
- **Christian Cambon**, French Senator, President of the Foreign Affairs, Defense and Armed Forces Committee
- **Admiral Jean Casabianca**, Major General of the French Defense Staff
- **General Didier Castres**, Former Army Inspector General, French Ministry of the Armed Forces
- **Marie-Colombe Célérier**, Head of External Relations, Public Affairs Department, Naval Group
- **Arnaud Danjean**, Member of the European Parliament, Member of the Security and Defense Subcommittee
- **Julien Délémontex**, Member of the French National Assembly, Chairwoman of the Defense and Armed Forces Committee

- **Jean-Marie Dumon**, Deputy Secretary-General, GICAN
- **Philippe Errera**, Director for Political and Security Affairs, French Ministry of European and Foreign Affairs
- **Henri-Damien Ferret**, Deputy Assistant Director for International Affairs, SGDSN
- **Mircea Geoana**, Deputy Secretary General, NATO
- **Jean-Louis Gergorin**, Professor, Sciences Po, Co-Author of *Cyber : La Guerre Permanente* (Éditions du Cerf, 2018)
- **Nicole Gnesotto**, European Union Chair, CNAM
- **François Godement**, Senior Advisor for Asia, Institut Montaigne
- **Alexandre Gouffier**, Head of International Relations, Thales
- **Didier Gros**, Assistant Director for International Affairs, SGDSN
- **Alice Guitton**, Director General for International Relations and Strategy, French Ministry of the Armed Forces
- **Pierre Haroche**, Research Fellow in European security, IRSEM
- **François Lambert**, Former General Delegate, GICAN, Deputy Chief of Staff, Sea Minister
- **Air Force General Philippe Lavigne**, Chief of Staff of the French Air and Space Force
- **General François Lecointre**, Chief of Staff of the Armed Forces
- **Ronan Le Gleut**, French Senator, Member of the Foreign Affairs, Defense and Armed Forces Committee
- **Olivier Martin**, Secretary-General, MBDA
- **Stéphane Mayer**, Chief Executive Officer, Nexter, co-CEO, KNDS, President of the Council of French Defense Industries
- **General Denis Mercier**, Former Chief of Staff of the French Air and Space Force, Deputy Managing Director, Fives
- **Pierre Morcos**, Foreign Affairs Advisor for Strategic affairs, Security and Disarmament, French Ministry of Europe and Foreign Affairs
- **Aurore Neuschwander**, Strategy Director, Naval Group
- **Squadron Vice-Admiral Xavier Paillard**, Former Defense Advisor to the President of MBDA, Defense Advisor for Strategy and Public Policy, Airbus
- **Marion Paradas**, Vice-President of International Relations, Thales

- **Guillaume Poupard**, Director General of the French National Cybersecurity Agency (ANSSI)
- **Admiral Christophe Prazuck**, Sorbonne University, Former Chief of the Naval Staff
- **Claire Raulin**, Ambassador, Permanent French Representative to the European Union Political and Security Committee
- **General Grégoire de Saint Quentin**, Former Deputy Head for Operations of the French Army, President of the consulting firm Petra Advisors
- **Squadron Vice-Admiral Henri Schricke**, French Military and Defence Representative to NATO and the EU
- **Jeremy Shapiro**, Research Director, European Council on Foreign Relations
- **Nicolas Suran**, Former French Permanent Representative to the European Union Political and Security Committee
- **General Didier Tisseyre**, Cyberdefense Commander, French Ministry of the Armed Forces
- **Hubert Védrine**, Former French Foreign Affairs Minister
- **Nick Witney**, Senior Policy Fellow, European Council on Foreign Relations

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THERE IS NO DESIRE MORE NATURAL THAN THE DESIRE FOR KNOWLEDGE

Rethinking our Defense in the Face of 21st Century Crises

In the midst of a health and economic crisis, France needs to decide on its defense budget. The current Military Programming Law (MPL) provides for a total of 295 billion euros for the French Armed Forces for 2019-2025. This law is however set to be revised at the end of 2021.

In order to contribute to the debate that will lead up to this revision, Institut Montaigne has decided to participate with its take on France's defense policy. We formulate 12 recommendations resulting from the analysis of the current strategic context and of France's policy to address it. While the financial commitment of the MPL is significant for the Nation – especially in the midst of an economic crisis due to the pandemic – we believe that it should not be amended in 2021, as it is adapted to the growing and varied threats our country is facing. In addition to securing the MPL, France must prepare its Armed Forces and its entire defense-industrial ecosystem for harsher conflicts, and forge a comprehensive and agile response to more systemic threats to its security. Finally, it must pursue its efforts towards European cooperation: there simply is no alternative.

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Institut Montaigne

59, rue La Boétie - 75008 Paris
Tél. +33 (0)1 53 89 05 60
www.institutmontaigne.org/en

ISSN 1771-6764
FEBRUARY 2021