FRANCE AND EUROPEANS CONFRONTING THE “NEW DEFENSE” CHALLENGE: REARMING IN THE AGE OF ARTIFICIAL INTELLIGENCE

GILLES DELAFON

NOTE 79, JANUARY 2026

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Executive Summary

France and Europeans Confronting the New Defense Challenge • After eighty years of relative peace, Europe is facing the abrupt return of high-intensity warfare, the Russian threat, and weakening American security guarantees. In response, an unprecedented rearmament effort—unmatched since World War II—is mobilizing hundreds of billions of euros. Yet despite rising budgets and a growing number of announced procurement plans, this effort remains fragmented, slow, and insufficiently agile. The issue is no longer only to buy more, but to buy better, at a time of major technological disruption—most notably the rise of drones and artificial intelligence. New Defense captures this profound shift: a more agile, innovative, and integrated defense model, now an essential condition for European strategic autonomy.

Ukraine: The Most Technological Conflict of All Time • The war in Ukraine has been defined by the decisive entry of civilian innovations onto the battlefield. It is a full-scale laboratory for New Defense, where speed of adaptation, agility, and technological integration outweigh traditional military templates. Startups, commercial satellites, artificial intelligence, digital platforms, and civilian drones converted into combat systems have fundamentally reshaped how operations are conducted. Drone warfare, electronic jamming, large-scale data exploitation, and automation all illustrate this turning point. Beyond conventional weapons, strategic advantage now rests on the ability to rapidly integrate dual-use technologies, adapt them, and produce them at scale. The Ukrainian conflict shows that tomorrow's military superiority will depend as much on software innovation as on industrial capacity.

2016–2026: A Decade to Respond to the Risk of Western Technological Decline • China's technological rise triggered, as early as the 2010s, fears of a strategic gap opening in the West. Facing this risk, the United States launched a major shift by seeking to bring civilian innovation into the core of its military apparatus, notably through the creation of the Defense Innovation Unit (DIU) in 2016. This approach marks the emergence of New Defense: accelerating the adoption of dual-use technologies from startups to offset the inertia of traditional weapons programs. In France, this awakening led to the creation of the Defense Innovation Agency (AID). Russia's 2022 invasion of Ukraine confirmed the urgency of this pivot, exposing Europe's lack of preparedness and its technological dependence. Drones, artificial intelligence, electronic warfare—and soon quantum technologies—impose a new strategic tempo. The ability to integrate these innovations quickly is now becoming the decisive factor in military power.

New Defense Versus the Structural Inertia of Defense Markets and Institutions • In France and across Europe, integrating New Defense runs into strong institutional and industrial resistance. The American DIU experience shows how administrative drag and the dominance of major primes can slow the rapid adoption of startup-driven innovations. In France, an acquisition system dominated by the DGA and traditional contractors struggles to integrate essential dual-use technologies—particularly in software, drones, and artificial intelligence. Despite the creation of the AID, funding remains limited and true scaling remains rare. The central obstacle is still the lack of sufficient private and public financing.

Seven Policy Recommendations • France—and Europe as a whole—must fully integrate New Defense into their rearmament effort. Despite significant industrial and technological potential, dual-use innovations are still constrained by bureaucracy and resistance from large incumbents. To foster new champions, we offer seven recommendations: ring-fence dedicated budget flows; dramatically accelerate procurement; allow frontline units to purchase certain capabilities directly; prioritize genuine competition; secure large, firm orders that enable scaling; ease EU AI regulation so as not to stifle research or push startups abroad; tighten oversight of prime contractors' margins; and strengthen transparency in defense procurement through enhanced parliamentary scrutiny. The state remains the only actor capable of removing these constraints. The question is whether it can move fast—and decisively.

Introduction

"The history of military defeats can almost be summed up in two words: too late."
General Douglas MacArthur, address to the U.S. Congress, 1951

"Wars are not won only with brave men, but with instruments and doctrines that are ahead."
Charles de Gaulle, The Call, War Memoirs, Vol. I, 1954

"In this war, it is technology that decides who lives and who dies."
Volodymyr Zelensky, Davos Forum, January 2024

The wake-up call has been brutal for Europeans who had, until now, been lulled by a gentle historical parenthesis—eighty years of peace. As high-intensity war returns to the Old Continent, as swarms of drones paralyze airport traffic and cyberattacks bring hospitals to a standstill, Europeans must urgently make up a very considerable military gap. At the same time, they must persuade a disenchanted public of the need for this massive rearmament effort.

The challenge is all the more urgent because Russia is rebuilding an arsenal at breakneck speed and the American "ally" has been offering fewer and fewer serious security guarantees since the publication in December 2025 of its very official National Security Strategy, which clearly pushes Europeans back to their "responsibilities." **(1)** U.S. concerns—and therefore its priorities—are increasingly focused on its anticipated conflict with China.

Faced with the combined effect of the Russian threat and the possibility of American disengagement, **(2)** Europeans are embarking on a reconstruction of their arsenals unprecedented since the end of World War II. For its part, the European Commission stated in early 2025 that it could mobilize nearly €800 billion for this purpose, through various forms of financing—grants but above all loans, subject to conditions. **(3)** France, meanwhile, decided to add at least €15 billion to its latest Military Planning Law (2024–2030), which already totals €413 billion. Germany, sweeping aside years of antimilitarism, announced it would purchase €325 billion worth of military equipment between 2027 and 2040. **(4)** On December 9, the Bundestag voted a first package of €52 billion to begin equipping the country with an army worthy of the name. **(5)** All EU members—except the notable case of Spain **(6)** —and with the participation of the United Kingdom, **(7)** are moving in lockstep in this effort to guard against a large-scale conflict on their soil.

A race against the clock is now underway. On October 15, when presenting a roadmap for massive weapons purchases, the European Commission warned that given the accelerating pace of Russia's rearmament, the European Union must be ready for war with Russia as early as 2030 **(8)**—or at least be able to deter a Vladimir Putin whom German intelligence services say will likely go on the offensive in 2029. These prospects helped

(1) Nicholas Vinocur, Jacopo Barigazzi, Laura Kayali, Victor Jack, "Trump's Attacks Force Europe to Speed Up Post-America Defense Plans", Politico, December 10, 2025, available here.
(2) See Jean-Sylvestre Mongrenier, "Stratégie de sécurité nationale des États-Unis : un moment épochal pour l'Europe", Desk Russie, December 15, 2025, available here.
(3) Florian Chaaban, "Guerre en Ukraine : l'UE dévoile un plan de 800 milliards d'euros pour "réarmer l'Europe", Toute l'Europe, March 4, 2025,available here.
(4) Laurent Lagneau, "Berlin prévoit d'acheter pour au moins 325 milliards d'euros d'équipements militaires entre 2027 et 2040", Opex360, August 19, 2025, available here.
(5) Peter Bass, "From Zeitenwende to Reality: Bundestag Approves an Unprecedented Arms Mega-Package", Defense Magazine, December 13, 2025, available here.
(6) "Spain Agrees with NATO to Skip the 5% Defense Spending Target", Reuters, June 22, 2025, available here.
(7) Aletha Adu, "UK Will Commit to Spending 5% of GDP on Defense by 2035", *The Guardian*, June 23, 2025, available here.
(8) "Preserving Peace – Defence Readiness Roadmap 2030", European Commission, October 16, 2025, available here.

drive 13.8% growth in Europe's defense sector in 2024 alone, creating 633,000 new jobs across member states. **(1)** Overall, production in Europe has tripled since Russia's aggression against Ukraine. **(2)** The market looks colossal, since nearly all EU countries have committed to meeting NATO criteria—devoting up to 3% of GDP to purchasing military equipment.

The question now facing the stakeholders of this industrial and technological challenge is "how": how should they proceed, and by what criteria, so as not to repeat past mistakes? If Europeans have not today realized their full military capacity, and if their empty arsenals have not allowed them to replace U.S. military aid to Ukraine, it is not for lack of spending nearly €3 trillion on defense between 2013 and 2023. **(3)**

The drop in defense budgets linked to the "peace dividend" does not explain everything. On paper, Europeans field 1.47 million men and women under arms—more than the United States—yet Europe is neither a power nor even a fully-fledged geopolitical actor. **(4)** There is therefore no "European army," and "European defense" remains largely embryonic. Europeans have failed to coordinate in order to create a sufficiently deterrent force.

Industrially, the fault lies with purchasing that is too fragmented, prices that are too high, quantities that are too low, and each country's desire to favor its own industry and jobs. The result: European countries today operate seventeen types of tanks, twenty types of fighter aircraft, and roughly ten incompatible logistics systems—not to mention dependence on U.S. technologies that constrains most members and sometimes even imposes genuine subordination. Setting aside political and institutional questions, the major challenge today is to buy better, not simply to buy more.

But there is an additional—and major—difficulty: this effort is unfolding at the crossroads of geopolitical urgency, economic strain, and stunning technological upheavals that completely reshuffle the deck and whose full implications remain impossible to grasp. "The question is whether all this new spending will pay off, or whether the current technological rupture is transforming not only the nature of war but also that of the defense industry itself," columnist Rana Foroohar asked last May. For the controversial Erik Prince, former Navy SEAL and founder of the first private military company Blackwater, which at one point supported the U.S. Army in Iraq, "thousands of billions of dollars of installed [military] capabilities" are becoming obsolete. **(5)**

The twenty-first century is indeed the century of hybrid and asymmetric conflicts, with the war in Ukraine as the archetype. Since the February 21, 2022 invasion, more than two hundred Russian tanks—each worth roughly $3 million—have been destroyed by simple Chinese civilian drones purchased online for $300 and then reconfigured into kamikaze quadcopters by Ukrainian troops. **(6)** In the Black Sea, roughly half a dozen Russian warships—whose average cost can be estimated at $200 million—have been put out of action by naval drones costing no more than $200,000: a 1-to-1,000 ratio that upends every equation.

At the same time, in the Middle East, the French Navy had to fire French Aster missiles—€1 million apiece—several times at Iranian Shahed drones worth barely €20,000… before calling it quits. These lightweight kamikaze drones, launched by Yemen's Houthi rebels at tankers transiting the Red Sea, had enough potential

(1) Andrea Palasciano, "Europe's Defense Industry Grew by Nearly 14% in 2024", Bloomberg, December 2, 2025, available here.
(2) Christine Casimiro, "European Defense Production Triples Since the Russia–Ukraine War", Defense Post, August 14, 2025, available here.
(3) Adam Tooze, "The Emperor Has No Tanks", *Financial Times*, June 5, 2025, available here.
(4) See, for example, Jean-Sylvestre Mongrenier, *L''armée européenne', la défense de l'Europe et les enjeux géopolitiques occidentaux*, Institut Thomas More, Points Clés 20, May 2019, available here.
(5) Rana Foroohar, "Defense Spending Is Up — but on All the Wrong Things", *Financial Times*, May 27, 2025, available here.
(6) Christopher John Chivers, "How Suicide Drones Transformed the Front Lines in Ukraine", *The New York Times*, December 31, 2024, available here.

to paralyze oil shipments to European ports. **(1)** "Europe clings to its old equipment and its traditional ways of fighting. Despite all the talk about lessons learned from the war in Ukraine and the rise of drone warfare, there remains a gap between what European allies plan to spend and what their NATO 'capability targets' imply they should spend," warns Gundbert Scherf, co-founder of the German defense startup Helsing. **(2)** Founded in 2021, the startup offers various AI systems for the battlefield and manufactures its own drones. Valued at €12 billion, it embodies the rise of New Defense—the reinvention of defense in the age of AI. **(3)**

Born out of the surge of new technologies, "New Defense" refers to a profound shift in the defense model in response to contemporary technological, industrial, and geopolitical transformations—i.e., a new way of designing, producing, and employing military power in an interconnected world dominated by fast-moving civilian innovation and shaped by hybrid threats. It marks the transition from a hierarchical, heavy industrial military model to an agile, dynamic, digital ecosystem, like the tech world. New Defense is the eruption of Silicon Valley geeks into the antiquated universe of Pentagon brass.

This paper aims to show that French—and more broadly European—strategic autonomy in defense will depend as much on massively expanding military capabilities as on systematically integrating innovations emerging from the startup ecosystem. To that end, we draw on the American experience of integrating disruptive technologies from Silicon Valley into the military-industrial ecosystem tied to the Pentagon—an attempted transformation rich in lessons.

More than a year ago, former ECB President Mario Draghi tried to wake up a Europe lagging behind the United States and China by advocating, in a report too quickly forgotten, the use of "disruptive innovation" to close accumulated gaps. **(4)** Defense is precisely the quintessential sector that must be rethought to prevent a severe downgrading of the European continent. "Governments and populations are in a kind of denial about the level of violence in the world today," General Thierry Burkhard said last August. For the former Chief of the French Defense Staff, Europe must toughen up or risk becoming "a hunted animal." **(5)**

At a time when speed dictates priorities, this paper is about unleashing knowledge and energy. Facing a challenge that will shape our future for decades, perhaps we should keep in mind the mantra of Silicon Valley's early agitators: "If you don't disrupt yourself, someone else will do it for you."

(1) Guerric Poncet, "Faut-il encore tirer des missiles à 1 millions de dollars contre des drones à 20.000 dollars ?", *Le Point*, March 18, 2024, available here.
(2) Gundbert Scherf, "This Is Europe's Manhattan Project Moment, Argues a Tech CEO", *The Economist*, June 26, 2025, available here.
(3) Tim Bradshaw, Sylvia Pfeifer, "Spotify's Daniel Ek Leads €600 Million Investment in German Drone Maker Helsing", *Financial Times*, June 17, 2025, available here.
(4) Mario Draghi, *The Future of European Competitiveness*, report, September 9, 2024, available here. For a geopolitical analysis of this report, see Gilles Delafon, *L'Union européenne au miroir de Donald Trump : le réveil ou le déclassement ?*, Institut Thomas More, Note d'actualité 94, January 2025, available here.
(5) Laura Kayali, "Thierry Burkhard: Europe Must Harden Itself or Risk Becoming 'a Hunted Animal'", Politico, August 28, 2025, available here.

Ukraine: The Most Technological Conflict of All Time

The war in Ukraine—this is obvious—is already asserting itself as the most technological war in history. This conflict, more than any before it, consecrates the decisive arrival on the battlefield of innovations largely born in the civilian world. The entry of these so-called "dual use" technologies reshuffles the deck and triggers an undeniable strategic shift whose full implications are still too early to measure.

The First Startup War

For three years, the Russo-Ukrainian front has thus been the largest full-scale real-world laboratory for studying the wars of tomorrow. General staffs around the world sometimes struggle to keep up because in this hybrid war, speed of adaptation is decisive. The production and use of weapons evolve almost daily to match constant software updates. This qualitative shift was clear from the first days of the offensive, which saw the surprising involvement of a myriad of American startups rushing to support the Ukrainian army.

Thus, it was satellite photos from the very young San Francisco company Capella Space that made it possible to immediately identify Russian tank columns massed on the border—even through cloud cover. **(1)** Founded six years earlier by a 24-year-old NASA engineer, Capella Space specializes in satellites with synthetic aperture radar (SAR) sensors that work day or night, in any weather. The young startup, once threatened with bankruptcy, revealed to the world that day the lies of Vladimir Putin, who denied any intention to invade—and secured its own commercial future. BlackSky, from Seattle, and its constellation of about sixty Earth-observation satellites, detected a first Russian strike on the Ukrainian power plant in Luhansk the day before the offensive. **(2)** Primer AI, a San Francisco-based startup, used algorithms to collect, transcribe, translate, and analyze conversations of Moscow's soldiers confronted with unexpectedly fierce Ukrainian resistance—work that made it possible to conclude, in real time, that Russian morale was not high. **(3)** In New York, Clearview AI matched its facial-recognition software with a database of two billion photos scraped from VKontakte (the Russian Facebook), making it possible to identify killed enemy soldiers as well as war criminals involved in the Bucha massacres. **(4)** However, it was Starlink—owned by American billionaire Elon Musk—that provided the most decisive technological support to Kyiv after Ukraine's telecommunications network had been totally destroyed by the invader. The rapid delivery of thousands of Starlink terminals, relayed by a network of 7,500 satellites in orbit 550 km above Earth, brought an army and a Ukrainian state back to life after being rendered deaf and blind. To this day, 50,000 Starlink terminals are still active in the country. **(5)**

The intervention of these civilian technologies—almost exclusively American—fits, of course, alongside a far more decisive Western military effort: roughly $300 billion in aid, including anti-missile batteries, ultra-modern artillery, long-range missiles, fighter aircraft, and battle tanks.

(1) Olivier Dellenbach, "Les start-up de la tech dans la guerre en Ukraine", *Les Echos*, December 13, 2022, available here.
(2) Dominic Gates, "Seattle-Built Spy Satellites Deliver Real-Time Intelligence", *The Seattle Times*, October 20, 2023, available here.
(3) "As Russia Plots Its Next Move, an AI Listens to the Chatter", Wired, April 4, 2022, available here.
(4) Thomas Calvi, "Ukraine : Clearview AI met sa technologie de reconnaissance faciale à disposition de Kiev", Actu IA, March 15, 2022, available here.
(5) Anna Desmarais, "Une "dépendance extrême" à l'égard de Starlink en Ukraine", Euronews, July 16, 2025, available here.

A Changing Way of War

But a new trend is taking hold. Observers unanimously recognize that, propelled by these technological innovations, the way war itself is fought is undergoing radical change; yesterday's strategic priorities are no longer today's; any serious rearmament effort cannot ignore these new parameters. The main American New Defense players understood this and quickly traveled to Kyiv—from Eric Schmidt, former Google chairman and member of the Pentagon's Defense Innovation Board, to Alex Karp, CEO of Palantir, the U.S. defense data-analytics giant, and Palmer Luckey, who founded Anduril at 25 and built it into a combat-drone leader.

All were first surprised by the technological competence of Ukrainian troops: "their army includes a significant number of engineers, and their computer scientists are among the best in the world," notes Eric Schmidt. **(1)** They discovered a partisan army with a Silicon Valley dimension—like the Ukrainian-American from San Francisco, a former Uber Works executive who came to fight and was immediately reassigned to deliver software for identifying enemy targets. **(2)** "If you have old technology and your adversary uses a digitized targeting system built on artificial intelligence, then you have a serious disadvantage," Alex Karp emphasizes. Palantir's defense software has become more valuable every day at the front, using AI to analyze millions of military data points collected by masses of sensors in order to produce optimal combat solutions. As a strong signal, Karp was the first foreign CEO received by the Ukrainian president in his bunker. **(3)** The two men speak the same language. Determined to build a "smartphone state," Zelensky had, upon his election in 2019, authorized the creation of a mobile app bundling as many as 80 public services, from taxes to social security.

In the first days of the Russian invasion, the Ukrainian army quickly added a Diia platform—soon nicknamed the "Uber of artillery." **(4)** The app enabled citizens to provide precise coordinates of Russian forces by sending simple photos. Scanned by dedicated software that immediately geolocates enemy positions, the photos quickly designate targets to destroy, with NATO software support: "ten programmers can change how thousands of soldiers operate," Eric Schmidt concludes. **(5)**

The most obvious embodiment of New Defense on the Ukrainian battlefield remains the "drone war"—the first of its kind, with decisive technological implications in software and jamming. On both the Russian and Ukrainian sides, hundreds of thousands of unmanned aerial systems are still used to support infantry. They are often destroyed, despite—or because of—the constant evolutions introduced by both armies. This decisive contribution is analyzed extensively by major military think tanks, all of which first highlight how unprepared their respective armies were in this domain. **(6)**

Keys to Success: Dual-Use Innovation and Speed of Tech Integration

The massive use of drones underscores the central importance of speed, agility, and autonomy. Digital velocity fuels the belligerents. The first Chinese civilian quadcopters—$300 drones improvised in 2022 in Ukrainian back kitchens—were followed in 2025 by a whole range of more sophisticated devices produced by more than two hundred companies created here and there. From the Blyskavska at $800 to the Vampire Hexacopter

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(1) Raj M. Shah and Christopher Kirchhoff, *Unit X: How the Pentagon and Silicon Valley Are Transforming the Future of War*, Scribner, 2024.
(2) *Ibid.*
(3) "President of Ukraine and Palantir CEO Discussed Cooperation in the Defense and Security Sector", President of Ukraine official website, June 2, 2022, available here.
(4) Raj M. Shah and Christopher Kirchhoff, *op. cit.*
(5) *Ibid.*
(6) Seth Cropsey, "Drone Warfare in Ukraine: Historical Context and Implications for the Future", Hoover Institution, March 14, 2024, available here.

at $13,000 **(1)** many proved more effective than the "disappointing" drones supplied by allies, *The Economist* notes. **(2)** Increasingly virtual, the clash pits not only soldiers, tanks, and aircraft against each other, but also algorithms. In the first year, 5,000 Ukrainian drones were shot down each month, victims of Russian jamming systems. Moscow's disruption of GPS was so severe that, an American expert notes, an Uber taxi ordered in Kyiv was sent to the middle of the Indian Ocean. **(3)**

Each side wages a major battle of jamming and spoofing and develops counter–electronic warfare techniques. Then came fiber-optic tethered drones, controlled by a long, thin strand of fiber and emitting no radio waves. Depending on spool weight, the tether can allow control out to 30 kilometers. **(4)** Since then, battlefields have become covered by an ocean of colored strands.

Innovation undeniably sets the tempo. The average lifespan of a drone is now seven days. Its software is decoded in three weeks. Recently, to reduce human losses, the first remote-controlled robots have appeared. They perform the most exposed missions: resupply, demining, reconnaissance, and evacuation of wounded under enemy fire—prototypes made, once again, mostly by Ukrainian firms. **(5)** To offset shortages of new recruits, Kyiv planned to produce 15,000 of them in 2025 alone. **(6)**

New Defense advocates repeat it relentlessly: combining traditional weapon systems with the most advanced technologies is the recipe for success. The remaining question is how to combine them most creatively.

Many Pentagon officers do not necessarily share this view: "We are not fighting in Ukraine with Silicon Valley, even if they'll try to take credit. The Tech Bros don't help us that much in Ukraine. What matters is intense production of really serious weapons. And don't tell me it integrates artificial intelligence or quantum. I don't care," strangely snaps U.S. Under Secretary of Defense for Acquisition Bill LaPlante in November 2022. **(7)** Ukraine's former Commander-in-Chief Valerii Zaluzhnyi sees it differently: "the reality is that we see everything the enemy does, and he sees everything we do." **(8)** In that light, thinking the war in Ukraine confirms every paradigm of the old way of making war—or producing weapons—seems purely and simply tragic.

Early feedback does confirm the importance of long-range precision missiles, artillery, air defense, radars, communications satellites, and ammunition stockpiles. But it also reveals the decisive contribution of cheap kamikaze drone swarms, electronic intelligence, jamming, cyberwarfare, and satellite imagery—in short, AI at every level.

The most technological war in history therefore offers two major lessons: every future conflict will be understood in light of available dual-use innovations, and the speed with which those technologies are integrated and scaled could be the decisive advantage.

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(1) "Savage Drone Warfare Engulfs Ukraine's Front Line", *The Economist*, October 19, 2025, available here.
(2) "Western Drones Are Underwhelming on the Ukrainian Battlefield", *The Economist*, October 23, 2025, available here.
(3) Raj M. Shah and Christopher Kirchhoff, *op. cit.*
(4) Jean-Philippe Lefief, "Guerre en Ukraine : les drones à fibre optique, nouvelle arme russe létale sur le front de l'Est", *Le Monde*, March 27, 2025, available here.
(5) Hanna Arhirova, "Ukraine Uses Remote-Controlled Vehicles for Dangerous Missions to Protect Soldiers", AP, September 22, 2025, available here.
(6) David Kirichenko, "Ukraine's Expanding Robot Army Can Help Address Manpower Shortages", Atlantic Council, August 7, 2025, available here.
(7) Raj M. Shah and Christopher Kirchhoff, *op. cit.*
(8) "Ukraine's Commander-in-Chief on the Breakthrough He Needs to Beat Russia", *The Economist*, November 1st, 2023, available here.

2016–2026: A Decade to Respond to the Risk of Western Technological Decline

At the heart of New Defense thinking lies fear of technological slippage. That fear emerged in the West in the 2010s, in the wake of China's triumphant rise as the "world's factory," whose industrial revolution gradually revealed a worrying techno-military counterpart.

2016: The United States Responds to China's Acceleration

Among the first to worry was Barack Obama's Secretary of Defense, Ash Carter, appointed in 2015. A physicist educated at Yale and Oxford and a professor at MIT and Harvard, Carter repeatedly warned that China and Russia were "closing the gap" and that America could no longer rely on its "traditional technological dominance." **(1)** A similar alarm rang out from Silicon Valley, where Eric Schmidt—then still Google's chairman—argued that the United States risked "losing the AI battle to China." **(2)**

In 2016, the RAND Corporation dropped a bombshell. This Pentagon-linked think tank revealed that in Pentagon wargames, Washington was now losing simulated battles against the Chinese military one after another. **(3)** Informed during a defense-expert symposium in Colorado, Secretary of State Madeleine Albright blurted out: "The United States is screwed!" **(4)**

China never really hid its intentions. Between 1991 and 2015, its spending on research and development multiplied by thirty—investments officially devoted to robotics, precision weapons, cyber software, and AI. Xi Jinping, who came to power in 2013, decided above all that all innovation generated by Chinese private firms would henceforth be integrated into the production of the People's Liberation Army (PLA). China's stated goal: to become "the world leader in AI by 2030." **(5)**

On the other side of the Pacific, as Google, Microsoft, Apple, and Amazon reached market capitalizations greater than the entire defense industry combined, the Pentagon continued to do business with the famous "military-industrial complex." In the era of the iPhone boom, the military still asked those conglomerates to develop its software. For Ash Carter, this was absurd: he had long argued the military should be the fastest sector in the world at adopting commercial technologies into defense systems. But Silicon Valley and the Pentagon were not talking. A wall of mistrust had arisen between pacifist, arrogant, suspicious geeks and the stiff, pontificating emissaries of defense giants, jealous of their rents.

As soon as he was named Secretary of Defense, Carter made his first trip to California. There, facing skeptical CEOs in jeans and sneakers, he proposed measuring the stakes, building ties with defense, and above all promised firm orders. **(6)** In 2016, he created the Defense Innovation Unit (DIU), reporting directly to him, and placed its office across from Google headquarters. DIU's mission: identify startups able to deliver innovative solutions quickly to the armed forces, fund them, and above all help them overcome administrative obstacles

(1) Raj M. Shah and Christopher Kirchhoff, *op. cit.*
(2) Jim Garamone, "America in Danger of Losing Its Lead in AI, Innovation Board Chair Says", *U.S. Department of Defense*, November 1st, 2017, available here.
(3) David C. Gompert, Astrid Stuth Cevallos, and Cristina L. Garafola, *War with China: Thinking Through the Unthinkable*, RAND Corporation, July 28, 2016, available here.
(4) Raj M. Shah and Christopher Kirchhoff, *op. cit.*
(5) *Ibid.*
(6) *Ibid.*

so they can test and produce rapidly. In short, Carter wanted to impose Silicon Valley dynamism on an overly cautious Department of Defense (DoD). DIU was meant as the antithesis of traditional defense procurement—interminable and ruinous—applied for decades by the Pentagon and its affiliated industrial base.

This disruption was initially entrusted to a former F-16 pilot and true geek, Captain Raj M. Shah. Thirty-one years old, he was known for flying over Iraq carrying a Compaq laptop loaded with a $300 civilian navigation program. Nothing aboard his $30 million jet could locate the Iranian border, exposing him to serious trouble. Like Carter, Shah was astonished that a contractor like Lockheed Martin had not turned to Silicon Valley to equip the F-16. **(1)**

DIU's early days were disastrous. Promoting civilian innovation in the military universe means navigating a path full of pitfalls, traps, and reversals. Shah discovered you cannot easily encroach on the turf of a Pentagon with three million employees and, with a $700 billion budget, the most powerful procurement organization on the planet. "The U.S. military acquisition system was designed to deliver a Patriot missile battery in five years, not a drone tomorrow morning," the former F-16 pilot summarizes in the book he published in 2024 with DIU co-director Christopher Kirchhoff, a former National Security Council official. Eight years later, DIU's budget grew from $36 million to over $1 billion, and the unit can claim the emergence of startups including Capella Space and its SAR satellites, valuable in Ukraine. **(2)**

Despite mixed results, DIU's very existence embodies an essential shift: it forces—or tries to force—the world's leading military power to acknowledge the indispensable contribution of civilian innovation to its defense systems, innovation generated by engineers who have revolutionized the daily lives of billions of consumers for thirty years.

The impulse spread in 2016 with the UK's *Defense and Security Accelerator*. A year later Germany set up the *Cyber Innovation Hub of the Bundeswehr*. In 2018 France launched the *Defense Innovation Agency (AID*). In 2021 NATO created the *Defense Innovation Accelerator for the North Atlantic*, and in 2022 the European Commission established the *European Defense Innovation Scheme*. The threat of technological slippage versus China or Russia clearly worries all Western militaries. "We must detect and exploit innovations as early as possible, otherwise we will be overtaken," warned Florence Parly, then French Minister of the Armed Forces, at AID's inauguration. **(3)** AID's mission mirrors DIU's: identify French defense startups or "dual use" technologies to help them scale through calls for projects.

France: Defense Innovation Without Silicon Valley

French forces regularly gauge the slow drift toward hybrid and asymmetric wars during overseas operations. In 2017 in Iraq, during the battle of Mosul alongside American troops, they observed Islamic State fighters using small civilian drones equipped with grenades—Chinese DJI *(Dà-Jiāng Innovations*) models bought online for under $400. **(4)** Highly agile tools compared with the Pentagon's lumbering drones: *ScanEagles* at $1 million or *Predators* at $30 million. Some GIs then chose to buy small Chinese drones themselves, but they were quickly reprimanded: data captured by the Chinese manufacturer could allow their location to be tracked. **(5)**

(1) *Ibid.*
(2) *Ibid.*
(3) Florence Parly, Launch speech of the Innovation and Defence Agency, November 22, 2018.
(4) Raj M. Shah and Christopher Kirchhoff, *op. cit.*
(5) *Ibid.*

In France, to embody the turn to be made, the first director of AID, Emmanuel Chiva, was a top-level engineer, a graduate of the École normale supérieure, and head of a company specializing in high-performance computing. “France has nothing to be ashamed of in terms of research. I found gems—lots of gems! The problem is getting them to surface and letting them grow in an overly constrained framework,” he said in 2019. Chiva rejected the idea of a skills gap. For him, the only obstacle was Defense Ministry bureaucracy: “technological ruptures move much faster than acquisition processes. If we don’t find a way to integrate these innovations, we will be overtaken.” **(1)** There is, however, a key difference between AID and the American DIU: DIU can rely on the wealthy *Silicon Valley* ecosystem.

Then came the shock of February 2022. Ukraine’s invasion brought high-intensity war back to Europe and above all highlighted states’ unpreparedness and the under-equipment of their armed forces. “Europe no longer has the industrial capacity or the technological base needed to sustain a prolonged high-intensity conflict,” Emmanuel Macron observed in 2024. **(2)** AID’s director grew more alarmed: “If we miss a technological turn, it will be difficult to catch up.” **(3)** Ukraine’s experience also underscored Europe’s cruel capability dependence in areas like air defense, transport aircraft, and satellite intelligence—often abyssal gaps versus the United States, which has seven times more military satellites and conducted fifty times more launches than Europe in 2024. **(4)**

Drones, AI, Quantum: React Fast and Hard

This unpreparedness became visible on European soil when, in fall 2025, drones of unknown origin flew over various European airports, including Copenhagen, forcing closures. With no real means of response, Danish Prime Minister Mette Frederiksen proposed turning to Ukraine: “We must transfer Ukrainian experience, technology, and innovation into our rearmament,” she said. **(5)** A similar message emerged in Germany, where *Rheinmetall* CEO Armin Papperger called on Europe to invest in low-cost anti-drone defenses, cheaper than traditional air defense and producible in large quantities. **(6)** In France, General Burkhard likewise supported these adaptations and denounced dependence on overly expensive weapon systems: “we won’t win a war with Ferraris,” he said in summer 2025. **(7)** *New Defense* calls established certainties into question and imposes AI-era speed on projects long governed by the long term.

There is hypersonic speed too—like the missile China secretly tested in August 2021. An absolute weapon: titanium-clad, traveling ten times the speed of sound (around 12,000 km/h), slipping under radars, defeating air-defense batteries, and able to reach any target on Earth before being detected. **(8)** Washington was stunned, and the information only became public three months later. General Mark Milley, Chairman of the Joint Chiefs, described it as a “Sputnik moment,” recalling 1957 when the Soviets launched the first artificial satellite, and the United States realized the extent of its lag in the space race. **(9)**

(1) Emmanuel Chiva, “J'ai trouvé des pépites, beaucoup de pépites !”, *La Tribune*, September 11, 2019. available here.
(2) Emmanuel Macron, Speech on Europe from the Sorbonne, April 24, 2024.
(3) Emmanuel Chiva, “Si nous ratons un virage technologique, il sera difficile de le rattraper », Opex News, April 13, 2023, available here.
(4) See Connor Brighton, “Countries by Number of Military Satellites”, World Atlas, September 26, 2024, available here and Jack Kuhr, “2024 Orbital Launch Attempts by Country”, Payload Space, January 3, 2025, available here.
(5) “Europe Looks to Ukraine for Advice on Drone Defence”, European News Room, October 2, 2025, available here.
(6) Sylvia Pfeifer and Charles Clover, “Rheinmetall Calls for More Investment in Low-Cost Anti-Drone Capabilities”, *Financial Times*, September 12, 2025, available here.
(7) “France’s Top General Says Russia Could Attack in Five Years”, *The Economist*, July 31, 2025, available here.
(8) Demetri Sevastopulo and Kathrin Hille, “China Tests New Space Capability with Hypersonic Missile”, *Financial Times*, October 16, 2021, available here.
(9) Zachary Basu, “China’s Hypersonic Missile Test ‘Very Close’ to a ‘Sputnik Moment’”, Axios, October 27, 2021, available here.

First consequences: procurement timelines are disrupted and some projects are doomed. In May 2025, South Korea's navy officially announced it would abandon plans to buy U.S. F-35s for its future aircraft carrier, preferring unmanned aircraft and planning a squadron of multi-mission drones. **(1)** These upheavals even affect ongoing operations. In late 2024, during NATO's Baltic Sea operation to thwart Russian attacks on undersea internet cables, French Admiral Pierre Vandier chose to use naval drones rather than immobilize frigates condemned to sail in circles. **(2)** About twenty naval drones were deployed north of Finland, **(3)** including four prototypes from the U.S. startup *Saildrone* spotted by DIU. **(4)**

The drone is the weapon of the decade. As early as 2023, the U.S. Air Force announced an order for 2,000 supersonic drones that will fly by the dozens alongside F-35 fighter jets: a $3 million drone versus a $70 million fighter. The Air Force chose a decisive advantage: mass. Technological slippage has a name: artificial intelligence. Some U.S. generals now set a fifteen-year horizon for an air force without pilots, a navy without sailors, and tank units without crews. **(5)** The logic is simple. For years now, U.S. Air Force aces have been losing every dogfight to AI-piloted jets. **(6)**

When Northrop Grumman unveiled its newest long-range strategic bomber, the B-21, in 2023, it offered two versions of the $700 million aircraft: one crewed, the other uncrewed. Some experts were already arguing in 2016 that the uncrewed version should enter service sooner than planned. **(7)** *Shield AI*—also helped early on by DIU—is working on a fully autonomous vertical takeoff jet. Its *Hivemind* software has already flown an unmanned F-16 and was used by *Airbus* to test its H145 helicopter. **(8)**

Then there is quantum sensing, which—based on quantum physics—will be able to detect any weapon attempting to penetrate defenses stealthily and will end surprise. "Quantum sensing technologies detect interactions at the atomic scale in gravity, magnetism, and light, which could neutralize weapon systems based on stealth and invisibility," the Center for Strategic and International Studies reminded in October, urging essential Pentagon reforms. **(9)**

In this vast maelstrom sweeping defense technologies, Europeans are trying to keep up—at their own pace **(Focus 1)**. In July 2025, software from the German startup *Helsing* took control of a Swedish Gripen fighter for several hours over the Baltic Sea. Engineers' conclusion: pilotless combat aircraft are feasible by the end of the decade. They note that while a top fighter pilot may have accumulated roughly 5,000 flight hours, their software has absorbed several millions. **(10)** Each actor adapts: missile-maker *MBDA* is also working on a supersonic drone, a Remote Carrier Expendable—an unmanned aircraft capable of decoying and jamming enemy defenses, acting as a flying shield for the future European fighter. **(11)**

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(1) Daisuke Sato, "F-35 Dropped: South Korea Turns to Unmanned Naval Power", Defence Blog, May 11, 2025, available here.
(2) Anna Desmarais, "NATO May Turn to Using a Fleet of Sea Drones to Protect Vulnerable Internet Cables in the Baltic Sea", Euronews, December 19, 2024, available here.
(3) Vadim Kushnikov, "NATO Deploys Naval Drones in the Baltic Sea", Militarnyi, February 23, 2025, available here.
(4) "Baltic Sea Demonstration Showcases Saildrone Capabilities for NATO Task Force X Baltic", Saildrone, July 7, 2025, available here.
(5) Raj M. Shah and Christopher Kirchhoff, *op. cit.*
(6) Eric Tegler, "AI Just Won a Series of Simulated Dogfights Against a Human F-16 Pilot, 5–0. What Does That Mean?", *Forbes*, August 20, 2020, available here.
(7) Kelley Sayler and Paul Scharre, "The B-21 Bomber Should Be Unmanned on Day One", Defense One, May 31, 2016, available here.
(8) Sinéad Baker, "A New Autonomous Fighter Jet Just Broke Cover. It's Powered by the Same AI Brain That Flew an F-16 Through a Dogfight", Business Insider, October 22, 2025, available here.
(9) Jahara Matisek, Katrina Schweiker and Morgan Bazilian, "Quantum Sensing and the Future of Warfare: Five Essential Reforms to Stay Competitive", CSIS, October 9, 2025, available here.
(10) "Europe Just Years Away from Uncrewed Fighter Jets, Says Defence Start-Up Helsing", *Financial Times*, July 10, 2025, available here.
(11) "Pourquoi le MBDA ERC développé dans le cadre du programme SCAF est-il révolutionnaire ?", Avions légendaires, June 23, 2023, available here.

Focus 1 • Europe's Lack of Agility in Software Development

Many studies highlight the difference between Europe and the United States in software development agility. This gap shows up notably when moving from pilot to deployment. Several factors are cited:

- Fragmentation of the European market compared with the U.S. market, reflected for example in a gap between stated ambitions and allocated resources. The EU is trying to address this (significant funding earmarked for "European content" projects; the EUDIS program supporting innovation in defense).
- More frequent and faster exchanges under the Software Acquisition Pathway, ensuring frequent user feedback to innovative companies and enabling rapid software corrections.
- Dedicated acquisition cycles in the United States that are faster than the long cycles of standard European programs.
- A more mature innovation-financing ecosystem in the U.S., with many investment funds able to invest large sums even at early stages.
- European regulatory burdens and interoperability issues between each country's systems.

No one can ignore the challenges. The task is to prevent the already-begun technological slippage: "the power of advanced algorithmic warfare systems is now so great that it is equivalent to possessing tactical nuclear weapons against an adversary who only has conventional weapons," sums up Alex Karp, Palantir's CEO. **(1)** Fueled by an AI-driven tech bubble, Palantir was valued in 2025 at more than $400 billion.

(1) Bruno Maçães, "How Palantir Is Shaping the Future of Warfare", *Time*, July 10, 2023, available here.

New Defense Versus the Structural Inertia of Defense Markets and Institutions

Taking *New Defense* into account in French and European rearmament will be crucial for making our armed forces credible and deterring adversaries. It is also a sine qua non condition for preventing technological slippage and keeping pace with AI's progress. How can heavy defense procurement structures be adapted to the speed required by geopolitics and exponentially accelerating innovation? Resistance inside the arms industry is strong—if not outright violent.

United States: Administrative Drag and the Big Five's Power

The difficulties DIU leaders faced in carving out even a modest place in the U.S. market are extremely instructive for New Defense advocates. They are described in detail by former DIU directors Raj M. Shah and Christopher Kirchhoff in their book, in a frank tone that conveys the scale of the task. **(1)** From DIU's creation, its initial budget—barely $36 million out of the Pentagon's $700 billion—was blocked by a Senate subcommittee responsible for approving military expenditures. Two junior employees, jealous of funds going to California, had the administrative power to abruptly halt financing for the first selected startups. DIU tried to work around this by legally obtaining R&D budgets, hunting for loopholes in legal texts, and walking the Pentagon's labyrinthine corridors hundreds of times. But long timelines prevail. If in tech a deal can be sealed with a handshake and an immediate DocuSign approval, the Pentagon imposes an obstacle course: 1,300-page contracts, endless meetings, deliberation periods, negotiations, tests, and validations. "DoD is used to buying aircraft carriers, tanks, and missiles. As the sole buyer, it holds the power in the commercial relationship," a DIU member notes. **(2)** Normal market rules don't apply, and accumulated obligations can discourage even the most motivated. And because there is one buyer and one seller in public procurement, no fewer than three state agencies totaling 15,000 employees handle the required verifications. Defense insiders call this ordeal "the valley of death." "To get through, we had to hack the Pentagon—its archaic acquisition procedures that prevent money from moving at Silicon Valley speed," Shah explains. "No startup can wait eighteen to twenty-four months to receive the first contract payment that would let it approach venture capital." **(3)**. This administrative puzzle is only one side of the boulder. The other side—just as discouraging—is the Big Five primes: *Northrop Grumman, Lockheed Martin, Raytheon, Boeing,* and *General Dynamics*.

This is exactly what DIU's first solution, *Jigsaw*, ran into. Built in four months for barely $1 million, *Jigsaw* is a digital app that schedules—and thus optimizes—in-flight refueling for all U.S. Air Force fighters. Aviators save $5 million per month and improve safety. The problem: *Jigsaw* disrupted a broad US Air Force modernization market won eight years earlier by a prime, *Northrop Grumman*. Initially $374 million, that contract has now reached $745 million due to delays and generous congressional add-ons. *Northrop Grumman*, which has produced nothing concrete to date, had no intention of letting *Silicon Valley* geeks threaten its market. Obstacles multiplied—political, economic, legal. After months of struggles, disappointments, and betrayals, only the intervention of Senator John McCain, chair of the Armed Services Committee, validated DIU's application in a matter of minutes—while *Northrop Grumman*, of course, kept its entire contract. **(4)**

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(1) Raj M. Shah and Christopher Kirchhoff, *op. cit.*
(2) *Ibid.*
(3) *Ibid.*
(4) *Ibid.*

Prime obstruction is a constant in DIU's story. When *Capella Space* emerged, DIU faced fierce opposition from the military intelligence community: the Pentagon refused to rely on civilians for precision satellite imagery and cut off DIU's funding. The startup narrowly avoided bankruptcy by signing its first contract with… a foreign intelligence service. These resistances aren't new. Even *Palantir*—once financed by the CIA—had to sue the U.S. Army in 2016 for the right to compete. It won a $876 million ten-year contract, dealing a first serious blow to Big Five monopolies. **(1)**

Silicon Valley's most prominent defense startup, *Anduril*, established itself by first going through the civilian sector. Founded in 2017 by Palmer Luckey, a former Facebook employee and creator of the *OculusVR* virtual-reality company sold to Meta for $2 billion, *Anduril* moved early into surveillance drone manufacturing. These drones detect illegal crossings at the U.S.–Mexico border using cutting-edge AI solutions that create an almost digital wall. When the war in Ukraine began, *Anduril* attracted the Pentagon's interest as it faced a shortage of low-cost light drones. *Anduril* was quickly valued at more than $30 billion. **(2)**

France: A System Clogged by the DGA and Traditional Primes

The U.S. example is striking because—proportionally—European New Defense players face the same resistances and inertias. DIU's early directors say out loud what many French actors experience but must often discuss more quietly. In France, the ability to integrate dual-use innovations is indeed heavily dependent on DGA networks. As in the United States, procurement in France **(Focus 2)** rests on two main pillars: first, the all-powerful *Direction Générale de l'Armement* (DGA), equivalent to the Pentagon's acquisition and procurement apparatus; second, a group of nine entrenched industrial champions: *Airbus, Dassault Aviation, KNDS (ex-Nexter), Safran, Thales, ArianeGroup, MBDA, Naval Group, and Arquus (ex-Renault Trucks Defense*). Our primes—the French counterpart to the Big Five. France owes this defense industrial and technological base (BITD) much of its status as having one of the world's best militaries. But in the age of electronic warfare, it accumulates delays, cost overruns, and failures. Attached to the Ministry of the Armed Forces, the DGA has 10,000 employees and in 2025 had €18.7 billion in payment credits for equipment purchases, **(3)** compared with a Pentagon acquisi-tion budget of $167.5 billion. **(4)** It alone holds the reins of public procurement.

A dominance increasingly challenged by members of parliament, **(5)** and by experts as well, who denounce excessive concentration, opaque governance and the locking-up of public procurement markets. **(6)** The preferential treatment granted to France's major defense contractors—sometimes partially state-owned—is evident. Primes often rely on what amounts to genuine rents. The ecosystem is almost incestuous, as career revolving doors between the armed forces and these same industrial players create an extremely harmful interdependence. Under such conditions, shaking an order that has been entrenched for decades is a near-impossible mission for New Defense entrepreneurs. It is no easy task for a young company of 20 to 200 employees to stand up to giants that often employ over 100,000 people and master every lever of influence. As seen earlier, it was precisely to ease the path for innovators and prevent a "technological slippage" that the AID—the French counterpart to the American DIU—was created in 2018.

(1) Jen Judson, "Palantir—Which Successfully Sued the Army—Has Won a Major Army Contract", Defense News, March 29, 2019, available here.
(2) Utkarsh Shetti, "Anduril Secures a $30.5 Billion Valuation in Latest Fundraise", Reuters, June 5, 2025, available here.
(3) Dominique de Legge, *Projet de loi de finances pour 2025 : Défense*, rapport général n° 144 (2024-2025), tome III, annex 9, French Senate, November 21, 2024, available here.
(4) Department of Defense Budget, *Procurement Programs (P-1), Fiscal Year 2025*, March 2024, available here.
(5) Christophe Plassard, *Défense : préparation de l'avenir*, Annex n°13 to the report made on behalf of the Committee on Finance, the General Economy and Budgetary Control on the draft finance law for 2025, French National Assembly, October 19, 2024, available here.
(6) AID, *The 2024 activity report on defense innovation is online*, August 4, 2025, available here.

Focus 2 • Acquisition Processes in France and the United States

In France, Ministerial Instruction 1618 (IM1618) of February 15, 2019 aims to simplify procedures and introduce new provisions so that defense procurement better matches new realities. Beyond improving cost, schedule, and performance control, IM1618 also seeks to shorten acquisition cycles and foster innovation through agility. This instruction is a real step forward in modernizing procurement procedures—for example by distinguishing three main phases: decision to launch (DL), launch dossier for realization (DLR), and decision to launch into use (DLU), with governance in a steering-committee mode. The text also encourages supporting projects incrementally, in short cycles, to test innovations, and it enables streamlined qualification procedures for "off-the-shelf" products. Other mechanisms support innovative projects, such as RAPID (the Dual-Use Innovation Support Regime), which can finance up to 80% of an R&D project. While not capped, funding typically ranges from €500,000 to €5 million, with an average amount of €700,000.

On the U.S. side, procedures are not free of bureaucratic burdens, pressures from elected officials defending industries in their states, or delays and cost overruns by contractors. But changes were introduced via DoD 5000.02 effective January 23, 2020. While France relies on a standard three-phase process with some flexibility, the United States distinguishes six different processes—for example urgent purchases, major capability programs, and software systems—through the Adaptive Acquisition Framework (AAF). In software, projects are reviewed under Instruction 5000.87 (Software Acquisition Pathway), regardless of the amount involved. This offers more responsiveness and agility by allowing projects to escape the burdens of Major Defense Acquisition Programs. The Americans also have a very powerful tool, especially for New Defense projects: Other Transactions (OT), a contractual instrument that enables fast funding without dollar limits for research, prototyping, or production. It can depart from key federal contracting rules and move closer to commercial procedures in the civilian world.

Yet six years after its creation, the AID's track record remains highly mixed. With a budget of €1 billion (up from €100 million at inception), the agency has opened a one-stop shop for startups, launched around one hundred projects and support programs such as *RAPID, i-Défense, DefStart,* and *DefInnov*. **(1)** Its grants have helped bring about some thirty companies—but always under DGA control. These funding levels are deemed far too modest by *New Defense* stakeholders, who denounce a mere "sprinkling" intended to keep a semblance of an ecosystem alive. In fact, none of the startups identified so far has crossed the decisive threshold of scaling up to reach a European level. Only three or four have received firm orders from the state. "The DGA said: 'We'll be there to place orders.' In reality—where are the orders? The narrative is not credible," judges Vincent Lamigeon, defense expert and journalist at *Challenges* magazine. **(2)**

Among the rare exceptions, the Toulouse-based company *Delair* benefited from a government order to deliver 150 drones to Ukraine. **(3)** But the textbook case remains that of the gem *Preligens*, a specialist in large-scale satellite image analysis whose world-class AI software tracks the slightest movement on the ground. *Preligens* seemed destined for unicorn status. Yet despite a €240 million contract signed with the military in 2022, the company was forced in 2025 to sell itself to a prime contractor, Safran. *Preligens* could not secure the capital required by its rapid growth: "there are no financial funds in Europe of sufficient size that are interested in defense," its CEO argued at the time. **(4)**

Under political pressure to accelerate capability reinforcement, the DGA remains focused on major programs *(Rafale, Scorpion, SSBNs, etc.),* too often neglecting the fact that today 90% of new technologies are dual use. In the *New Defense* domain, the list of industrial failures is growing long. The drone issue was labeled an "incredible fiasco" as early as 2013 and a "poorly managed strategic rupture" by the French Court of Auditors

(1) AID, "125 start-up sélectionnées dans le cadre de French Tech 2030", June 16, 2023, available here.
(2) Alexandre Jubelin, Samuel B. Faure, Vincent Lamigeon, "Armement, la vague Anduril en approche", Le Rubicon, October 28, 2025, available here.
(3) Audrey Sommazi, "Guerre en Ukraine : le fabricant de drones français Delair engrange les commandes", *Le Monde*, March 8, 2024, available here.
(4) Jean-Michel Bezat, Alexandre Piquard, "La vente de Preligens illustre les difficultés de financer une start-up d'IA de défense en France", *Le Monde*, May 30, 2014, available here.

in 2020. **(1)** Under-equipped, burdened with often obsolete projects—such as the *Patroller* program entrusted to *Safran* for €316 million and abandoned in 2025. **(2)** France announced in June its intention to catch up. At the 2025 Paris Air Show, it set a target of 3,000 drones by the end of 2025. **(3)** An order for 1,000 ultra-high-performance light systems—the so-called "soldier drones"—was placed by the DGA with startup *Harmattan AI*. **(4)** At the same time, Ukraine announced it would produce… 4 million drones that year. **(5)**.

One conclusion is unavoidable. Like its Pentagon counterpart, the DGA is designed to deliver an aircraft carrier in ten years, not a drone in ten days—and always late. After fifteen years, the Contact program is still not fully completed. Awarded in 2010 by the DGA to *Thales* to replace the armed forces' aging *PR4G* radios from the 1980s, it has still not delivered. **(6)** As a result, French Special Forces use American *L3Harris* multiband portable radios.

To enable soldiers to appropriate the latest innovations, the Army Staff created in August 2023 a new "Future Combat Command" *(Commandement du combat du futur, CCF)* in anticipation of tomorrow's battles. **(7)** Intended to be fully autonomous in experimentation, the CCF often runs into administrative obstacles in practice, and ultimately the DGA alone decides acquisitions. The DGA's inertia is such that it does not know—or cannot—terminate a project. Money already spent, lack of competition: everything justifies additional funding within a closed circle devoid of performance sanctions. In 2025, fed up with "repeated bugs" that irritated even Chief of Staff Thierry Burkhard, the Ministry of the Armed Forces abruptly pulled the plug on the *SIA C2* data-analysis project intended to coordinate the three services. The solution developed over eight years by *Thales* and *Sopra Steria*—with a €1 billion budget—was abandoned in favor of a Danish system. **(8)** "The DGA doesn't know how to buy digital. It's extremely complicated for an agency that doesn't master it. It never has—or badly. Digital procurement is handled the same way as a nuclear submarine," observes a *New Defense* entrepreneur. **(9)**

Another serious problem file is the *Artemis* platform for massive data processing, launched in 2019 and entrusted to Athéa (*Atos* and *Thales*) to provide the armed forces with an equivalent to the American Palantir. As early as 2021, the National Assembly's Defense Committee questioned the project's viability, which to this day is still not fully operational. **(10)** "It would be regrettable to continue a project out of mere dogmatism if it proves ineffective and ill-adapted," noted one MP at the time. **(11)** Meanwhile, the Ministry of the Interior equipped the DGSI with Palantir before beginning in 2024 to migrate to *Argonos*, a platform developed by the French gem *ChapsVision*. **(12)** "For the DGA, it's better to fail with a prime than to succeed with a startup, because success would expose the limits of its system," observes a former sector insider. **(13)**

(1) Michel Cabirol, "Drones : l'histoire d'un incroyable fiasco français", *La Tribune*, May 30, 2013, available here, and Cour des comptes, *Les drones militaires aériens : une rupture stratégique mal conduite*, Public Report 2020, February 2020, available here.
(2) Grégory Priolon, "Drone Patroller de Safran : l'armée de terre jette l'éponge", Intelligence Online, September 10, 2025, available here.
(3) Olivier Pinaud, "La France lance une course dans les grands drones pour tenter de rattraper son retard", *Le Monde*, June 18, 2025, available here.
(4) Alexandre Boero, "L'armée de Terre française s'équipe de 1 000 nouveaux drones made in France", Clubic, July 3, 2025, available here.
(5) Julia Struck, "Ukraine Emerges as Drone Superpower, Producing 4M UAVs a Year", *Kyiv Post*, November 12, 2025, available here.
(6) François Cormier-Bouligeon, *Défense Équipement des forces – Dissuasion*, Opinion on behalf of the Committee on National Defence and the Armed Forces on the finance bill for 2026 (no. 1906), French National Assembly, October 29, 2025, available here.
(7) Mickaël Bosredon, "Soldat augmenté, IA, armes à énergie dirigée... A quoi pourrait ressembler le champ de bataille en 2040 ?", *20 minutes*, April 7, 2025, available here.
(8) Elsa Trujillo, "Le ministère des armées arrête les frais avec Thales et Sopra Steria sur un méga-projet numérique", La Lettre, July 22, 2025, available here.
(9) Interview with the author.
(10) "Le projet de big data des armées critiqué en commission défense", La Lettre, October 29, 2021, available here.
(11) Laurent Lagneau, "Numérique : l'important projet Artemis du ministère des Armées est-il trop ambitieux pour réussir ?", Opex360, November 9, 2021, available here.
(12) Pierre Gastineau, "Palantir dans le renseignement français jusqu'à la fin de la présidence Macron ?", La Lettre, April 17, 2025, available here.
(13) Interview with the author.

The Critical Challenge of Innovation Financing

An entire system refuses to let go. A new entrant responding to a tender with a proven solution was advised by the DGA to partner with a major group to "lend credibility" to its offer. Complying, the startup was astonished when the prime's representative explained that together they would propose a bid five times higher: "we have engineering offices to keep running," the industrialist justified. **(1)** Other actors describe even more intimidating exchanges designed to dissuade challengers from encroaching on protected turf. To date, a defense-innovating company in France lacks a sufficient domestic market to cross the decisive threshold into orbit.

It was in San Francisco that the Toulouse-based team behind *Loft Orbital* founded their highly sought-after company, which leases capacity on satellites manufactured by *Airbus*. A Franco-American firm located in Silicon Valley, *Loft Orbital* benefited from the fact that the United States is the world's leading space market and thus offers real profitability prospects. **(2)** That did not prevent *Loft Orbital* from winning a French defense contract in July alongside *Thales* and Portugal's *Tekever*—another promising newcomer. **(3)** A success that remains the exception.

"In terms of maturity, the emerging European defense startup ecosystem lags the United States by about five years," a McKinsey report emphasized in early 2025. The main reason cited: funding round size. In the U.S., rounds are two to four times larger thanks to a hyper-dynamic venture-capital market. Yet European investment in the sector rose by 500% between 2021 and 2024. **(4)** "It is obvious that today we do not have—either in France or in Europe—a private financing ecosystem sufficient to support the emergence of a 'French *Anduril*' or a 'European *Anduril*,'" concludes Jean-Louis Thiériot in his recent report on defense industrial strategy. **(5)** Large funds are essential to recruit talent, test products, fail, and try again.

Risk-taking is also required. The only true European defense unicorn to date—Germany's *Helsing*, valued at €12 billion—benefited at its creation in 2021 from the backing of a visionary investor, Sweden's Daniel Ek. At 23, Ek founded Spotify in 2006, disrupting the music industry. Since Russia's invasion of Ukraine, his venture-capital firm has increased its investment in *Helsing*'s AI ambitions to €600 million, **(6)** fully confident that orders will follow.

Money sits at the core of the innovation engine. Integrating new technologies requires massive liquidity—something crisis-stricken Europe is rediscovering day after day. Especially since the second shock of February 28, 2025, when Donald Trump publicly humiliated Ukrainian President Volodymyr Zelensky in the Oval Office. **(7)** A month earlier in Munich, his vice president J.D. Vance had already berated stunned Europeans watching their protector turn against them. The following March in Bercy, the ministers of the Armed Forces and Finance, together with representatives of the DGA and Bpifrance, summoned a gathering of private equity actors, banks, insurers, and investment funds already active in defense. All were urged to shift into higher gear on rearmament—even if that meant bending some rules. **(8)**

(1) Interview with the author.
(2) Stefano Lupieri, "Loft Orbital, l'espace en libre-service", *Les Echos*, June 12, 2025, available here.
(3) Michel Cabirol, "Spatial : l'américano-français Loft Orbital rafle un contrat défense très sensible", *La Tribune*, July 10, 2025, available here.
(4) *European defense tech start-ups: In it for the long run?*, McKinsey, February 12, 2025, available here.
(5) Jean-Louis Thiériot, *Stratégie européenne industrielle de défense*, report, October 2025, available here.
(6) "Helsing lève 600 millions d'euros avec le fonds du fondateur de Spotify", Maddyness, June 17, 2025, available here.
(7) "Guerre en Ukraine : la rencontre entre Donald Trump et Volodymyr Zelensky tourne au clash", France 24, February 28, 2025, available here.
(8) "Défense : des investisseurs et industriels conviés à Bercy jeudi pour imaginer des pistes de financement", *Le Figaro*, March 18, 2025, available here.

Several avenues were discussed, including tapping French household savings. In October, Bpifrance launched the "Bpifrance Défense" fund, allowing individuals to invest in primarily unlisted companies in the defense and technological sovereignty sectors. At the European level, in two separate reports published two years earlier, former ECB President Mario Draghi and his compatriot Enrico Letta—former Italian prime minister and EU commissioner—had already called for mobilizing Europeans' idle savings to catch up on the Union's economic, financial, and technological lag. Savings estimated at €33 trillion. **(1)** French and Europeans alike now find themselves with their backs against the wall.

(1) Shanny Basar, "EU Needs to Unlock €33 Trillion in Private Savings", Markets Media, April 23, 2024, available here.

Conclusion and recommendations

“Russia has brought war back to Europe, and we must prepare for a war on a scale comparable to that experienced by our grandparents or great-grandparents,” warned NATO Secretary General Mark Rutte in Berlin on Thursday, December 11. **(1)** An alarmist message echoed by many European leaders, as if to spark awareness—reminding us that if you want peace, you must prepare for war. Facing the challenge of integrating New Defense, France and Europe nonetheless have major assets: powerful, high-quality industrial groups; innovative startups capable of surprise; engineers who feed the world’s top tech labs; exceptional expertise in electronic warfare, sensors, and jamming; mastery of secure communications, quantum cryptography, and dual-use space capabilities, among others.

Yet this potential—born of civilian dual-use innovation—remains too often stifled by outdated reflexes. What is at stake, urgently and especially in France, is once again the ability to adapt to global transformations. Despite engineers’ dedication to security, resistance within the military-industrial sector symbolizes a reluctance to reform that regularly paralyzes the country. Such resistance exists in the United States as well—but there, notably, it is now under sustained attack. Most recently, a series of *New York Times* articles harshly denounced the Pentagon’s opaque, inefficient, and costly bureaucracy, with the editorial board openly calling for a “disruption” of the U.S. weapons procurement system. **(2)**

What then of France, where the AID lacks even the limited autonomy enjoyed by the American DIU? Here, AID remains a creation of—and subordinate to—the DGA. Its first director, Emmanuel Chiva, was promoted two years later to head the DGA itself, with the aim of imposing change from the top. His sudden removal in November reflects, according to early analyses, the system’s inertia. **(3)** Will his successor, Patrick Pailloux—a former technical director of the DGSE well-versed in innovation—be able to carry out the necessary Copernican revolution? One must hope so, because the massive rearmament ahead will profoundly reshuffle the European defense industrial landscape. Positions will be fiercely contested. Germany, with its €325 billion in planned purchases, and wartime Ukraine with its 1,200 startups, will quickly disrupt the established order. Which French or European companies will become the *Andurils* or *Shield AIs* of tomorrow? It is too early to say. Beyond the *Helsing* exception, contenders include Portugal’s *Tekever* (surveillance), the UK’s *Cambridge Aerospace* (drone interception), Germany’s *Quantum Systems* (drones), the Netherlands’ *Destinus* (combat drones), and Finland’s *Iceye* (SAR satellites). **(4)** Rankings driven more by fundraising volumes than by actual revenues.

France’s unicorn is still awaited—despite promising signs. The French AI specialist *Mistral AI* has signed a partnership with the Army. **(5)** *Harmattan AI* has raised €200 million, notably from *Dassault*, to pair its combat drones with the future Rafale F5. **(6)** *Renault* has partnered with *Turgis & Gaillard* to build a combat drone for the Ministry of Defense. **(7)** Still, the true disruption has yet to arrive. It requires a shift in mindset, a willingness to take risks, a new ethos.

(1) Hugues Maillot, “‘Nous devons nous préparer à l’ampleur de la guerre que nos grands-parents et arrière-grands-parents ont connue’, avertit le chef de l’Otan”, *Le Figaro*, December 12, 2025, available here.
(2) “America’s military has defended the free world for 80 years”, *The New York Times*, December 8, 2025, available here.
(3) Elise Vincent et Olivier Pinaud, “Défense : électrochoc à la tête de la direction générale de l’armement”, *Le Monde*, November 7, 2025 available here.
(4) Tim Bradshaw, “Europe’s defence tech start-ups attract investment surge”, *Financial Times*, September 8, 2025, available here and “8 European Defense Tech Startups to Watch”, Bloomberg, October 21, 2025, available here.
(5) Raphaël Raffray, “La start-up française Mistral AI signe un partenariat stratégique avec le ministère des Armées pour ‘garantir la souveraineté et l’excellence technologique de la défense française’”, BFM Tech, January 9, 2026, available here.
(6) Adrien Lelièvre, “Harmattan AI, première licorne de défense de la French Tech”, *Les Echos*, January 12, 2026, available here.
(7) Anne Bauer, Lionel Steinmann, “Renault s'associe à Turgis Gaillard pour produire des drones militaires”, *Les Echos*, January 20, 2026, available here.

The practical solutions to foster new champions are well known:

1 • Ring-fence budget flows and dramatically accelerate acquisition procedures for dual-use technologies

2 • Allow combat units to procure certain light equipment directly, without going through the DGA (1)

3 • Favor the best solutions by establishing genuine competition that includes new entrants

4 • Ensure scale-up through firm and substantial state orders

5 • Lighten the European regulatory framework on AI to avoid stifling research or driving startups abroad

6 • Enable tighter control of major defense contractors' margins, as demanded by the DGA (2)

7 • Ensure real transparency in defense procurement through strengthened parliamentary oversight

Only public procurement can enable new actors to emerge. As the sole buyer, the French state holds the key. What it currently lacks is the will—and the means. In early June, the amount of state payment arrears for defense procurement owed to its preferred partners stood at €8 billions. **(3)**

(1) Matthieu Fauroux, "Les armées prêtes à lâcher des nouveaux budgets autonomes à leurs régiments", La Lettre, October 30, 2025, available here.
(2) Matthieu Fauroux, "La DGA entame un bras de fer avec les industriels sur leurs marges", La Lettre, September 12, 2025, available here.
(3) Jean-Baptiste Huet, "Retards de paiement, des promesses mais pas de commandes... Comme l'État, l'armée française vit à crédit", BFM Business, June 5, 2025, available here.

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