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## **Perspectives on French Defense and Foreign Policies**



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# A Tale of Two Macrons

07/04/2020

By Chloe Laird

*The Last President of Europe*, written by William Drozdiak is a very passionately written and good overview of Emmanuel Macron's first three years as President of the French Republic.

Drozdiak's book does a very good job of addressing a complex domestic and international situation with a President that has many aspirations for both his own nation and the wider European community.

Drozdiak lays out Macron's personality as a political figure that has two sides: a king in his castle as well as a man who admits fault and realizes the mistakes he has made.

**Macron is painted as both a man of the people and a man that is disconnected to the realities of the working class, two distinct personalities.**

## Macron and France's Domestic Challenges

In the first part of the book, Drozdiak lays out the domestic challenges quite well. For an audience that might not be aware of the intricacies of French government, it does a good job of providing context and organizing the complexities that Macron is faced with on the domestic front.

Drozdiak presents Macron's "grand strategy" as one with "three goals in mind": "to modernize France, to relaunch the drive toward a more unified continent, and to establish Europe as a major power in a multipolar world." (p. 5)

**Yet, his tunnel vision in establishing a reformed France led him to be shocked by the push back he received from his constituents.**

One of the largest issues plaguing the Macron administration was the *Gilets Jaunes* movement, in the early stages of the protests public support for them was "holding firm at 70 percent." Drozdiak takes great care in displaying the change that Macron underwent, "gone was the regal arrogance that so annoyed his many critics... he sounded apologetic and acknowledged that he had committed mistakes during the first two years of his presidency." (p. 38)

The author claims the solution to Macron's issues were solved by the Grand Debate, where constituents would "help shape a National Debate" and have a direct voice in the decision-making process (p. 45).

Drozdiak is quick to dismiss the criticism of this time dubbed "The Great Blah Blah" and ends his chapter with the statement: "The Grand National Debate also extricated Macron from his gloomy isolation inside the Elysee Palace and put him back in touch with the people in a way that would energize him for act two of his presidency." (p. 46)

## Macron and France's European and Global Policies

In the second half of his book, Drozdiak places Macron on the international stage: the populist menace, Germany, Russia, the U.S. and China as his main challengers throughout his presidency.

**The author sets up a scene to make it very clear that Macron clearly fits the title of the "Last President of Europe," the only one who believes in a united and strong Europe.**

Drozdiak does address the unfeasibility of some of Macron's initiatives and reports the frustrations that European leaders have with Macron's long list of reforms.

Yet, Drozdiak paints Macron to be a man ahead of his time through the use of grandiose quotes and philosophic moments where he has reflected on his time as president: “as he struggles in lonely isolation to push Europe forward, Macron is often reminded of Jean Monnet’s clarion warning that ‘as long as Europe remains divided, it will be weak and a constant source of conflict.’” (p. 213)

**While Macron is certainly one of the only European leaders to be pushing an image of such an integrated and connected Europe, it is bold to assume that he is “the last president of Europe” because of it.**

Many other European leaders believe in the European project and have clearly articulated this, their visions for Europe differ because they must be realistic in what they can achieve.

Macron is pushing for a Europe that no longer aspires to be just a “community of values” but one with clear intentions as a political project.

Macron claims that leaders who believe Europe should solely be an economic power rather than attempt to play into great power politics is a belief that is naïve to the world.

He claims that “this view would enable outside power to exploit Europe’s internal divisions, as has occurred with China.” (p. 211)

**While one must agree that if Europe does not develop a global strategy it will suffer, Brussels must also come to agreement on its own internal strategy with a common vision.**

If it decides to remain as political as it has become, increasingly encroaching on national governments, then it must take this responsibility for this role and not act like it is this ominous presence that believes to be holier than thou.

## And What About the COVID-19 Impact?

*The Last President of Europe* is a book published in the midst of the COVID-19 crisis.

The pandemic would have been an interesting chapter to both the domestic and international challenges Macron and his administration have faced. In a discussion with the author on April 22<sup>nd</sup>, in a webinar hosted by The Brookings Institution, this crisis was discussed in detail.<sup>1</sup>

Drozdiak addressed Macron’s concerns of being in a “race against time” and believed that the next crisis Europe would face would be larger than the Eurozone crisis that plagued Europe in 2010.

While Macron could not have known that COVID-19 would be the challenge faced, the crisis is here, and it is testing international cooperation and internal European unity.

While many have doomed the European Union to unravel, especially after seeing the divisions among the EU countries in response to the pandemic, the recovery and aftermath of COVID-19 may be a place for hope, if European nations can act to achieve damage control.

## The Brookings Webinar: Europe’s Future?

A question posed in the webinar hosted by Brookings was whether or not the COVID crisis is the first crisis faced by Europe in a post-America world.

The transatlantic crisis is one that must come to an end, the United States and Europe are stronger together than apart.

The tit for tat measures must stop, the EU should think very hard about who their allies are in fighting the very real threats that are posed by populist uprisings, illiberal democracies, international pandemics—the list, unfortunately, does not stop there.

When European Commissioner, Ursula Van Der Leyen decides to thank China for the masks (later to be found defective<sup>2</sup> or the EU collectively decides to trust China by letting them into the European Union and keeping the United States off of that list<sup>3</sup> they send a message that does not bode future unity, within the EU itself as well as internationally.

“The Last President of Europe” has more to add to his “To-Do” list before his dreams are to become a reality.

# Coronavirus: Geopolitical Stakes And Disinformation

03/23/2020

By Murielle Delaporte

The confinement generated by the Coronavirus pandemic has been at the origin of a light-spirited byproduct called “corona Vlogs” and the use of whatsapp to exchange jokes in order to kill boredom and diffuse potential anxiety (very similar to the underground humor characteristic of the Eastern bloc during the Cold war).

But in another sense, the response has been similar to the Cold War in another way as well.

The pandemic is also unfortunately providing the perfect environment for social anxiety which spawns rumor mills and fake news.

From advice such as drinking water every ten minutes to kill the virus to accusing the U.S. military of having brought the virus to China in the first place, global disinformation is rampant.

But we are better prepared to fight such disinformation than we used to just a few years ago.

We need to fight disinformation spun from the global pandemic.

And serious broadcasting and press agencies, as well as publications, have over the past years developed a fact-checking expertise which provide key tools to deal with disinformation.

The fight against Daech recruiting techniques as well as Russian interference in various electoral processes have been among the incentives and wake-up calls behind such initiatives.

Now another recent example is at hand.

A rumor currently is being spread in Ivory Coast by social networks about the “fact” that French soldiers have been contaminating Abidjan and are being taken care of at a French military base.

To illustrate such claim, a picture has been lifted from the French website [www.operationnels.com](http://www.operationnels.com) showing French military medical staff attending patients.

**Yet this photo was in actual fact taken years ago in Kabul International Airport during the Pamir operation, i.e. the French participation to ISAF in Afghanistan.**

One should therefore be grateful for journalists, such as AFP “fact checker” [Sadia Mandjo](#), who are seeking the truth against those who are trying to discredit French armed forces deployed in Africa for peace-keeping missions (such as in Ivory Coast) as well as in the fight against terrorism (like in Mali).

\*\*\*\*\*

*Editor's note : Murielle Delaporte is the editor of the French magazine Operationnels.*

*The then French Ministry of defense photo was illustrating an article initially published in Soutien Logistique Defense # 10, Winter 2013 (see PDF below page 20 / in French).*

*Mandio reached out to Delaporte to inform her of this case of disinformation in the Ivory Coast.*

# **U.S. Support for the Barkhane Operation: A Case Study in Effective U.S.-Allied Cooperation**

05/15/2020

By Murielle Delaporte

A few months ago the Secretary of Defense Mark Esper announced a broad review process in order to recalibrate the overall U.S. military posture overseas and align as best as possible the National Defense Strategy priorities – more effective forces to compete with Russia and China – with resources.

Such a review is supposed to be finished in September after each command has been examined, starting with US AFRICOM and US SOUTHCOM.

As the conclusions about a potential reallocation of U.S. armed forces from Africa to other theaters of operations are not yet fully known, a look back to assess the strategic value of the American tactical engagement alongside of its allies in the Sahel region reveals a success story which many people are not aware of.

According to a senior U.S. DoD official, 'With very few assets, the United States are providing asymmetric value not only from a tactical viewpoint, but also in terms of its strategic effect.'

## **Small Footprint**

That ratio between a very light footprint and a high added value is indeed often lost in sight when considering a theater of operation covering some 4 million square meters.

The U.S. contingent currently deployed mostly in Niger is less than 1,000 men (800 according to most sources), while the type of support provided in support of the French-led Barkhane operation in the region does not require a large U.S. presence on the African continent.

The Barkhane Operation encompasses five major countries where instability due to trafficking and terrorist groups has been contained over the past years : Mauritania, Chad, Mali, Niger and Burkina Faso.

From the beginning, the French armed forces have been relying on the United States on three levels : ISR (intelligence, surveillance and reconnaissance), air-to-air refueling and strategic lift mostly for equipment and personnel when relief in place takes place.

These missions are for most of them carried out from a base outside of Africa (such as Moron in Spain for strategic lift and refueling) and even from CONUS (California as far as drones operations are concerned).

According to French Air Force General Cyril Carcy, currently based in N'Djamena as Deputy Commander of the Barkhane Operation, the U.S. assists in these three areas much less than it used to be just a few years ago (the level of support diminished by roughly half).



Over time, other European allies have started to engage and therefore new tactics, have been made available for a theater known as rather challenging as far as air support, and logistics in general, are concerned.

The coming of the A400M is a good illustration of such developments with both the French and Spanish Air Forces being able to use them on a regular basis. Recently the A400M was able – for the first time – to fly from France to airdrop supplies directly to forces engaged in a combined operation, a key logistics enabler.

Similarly, the planned delivery of a Bloc V Reaper in the coming months will give the French armed forces total autonomy in the use of the General Atomics-built UAVs already based in Niamey.





*Mercredi 11 décembre 2019, Base aérienne projetée de Niamey, une équipe d'armuriers monte des bombes inertes GBU 12 sur le drone Reaper. Deux équipes de trois mécaniciens armement, autrement appelés "petafs" de l'escadron 1/33 Belfort, s'exercent sous le regard de deux mécaniciens formateurs américains. La première effectue le montage sur l'emport côté gauche de l'appareil tandis que la deuxième s'occupe de l'emport côté droit. La communication du trio est essentielle, chaque geste est millimétré. Des protections de conception française sont placées pour éviter tout choc avec le drone. Credit: French Ministry of Defence*

But for General Carcy "even though our dependency on the United States has diminished, we really need their help, as everything will take us longer: we would be able to do it, but slower, and as you know fighting Djihadists is above all a war of speed and a very short time-lapse is required between intelligence and strike. What takes us a month right now would take us a month and a half without the US help..."

The responsiveness of U.S. defense industries supporting the French equipment such as General Atomics for the Reaper and Lockheed Martin for the C130J is also very much appreciated by the French armed forces.

According to Carcy: "They are very flexible and listen: they always find solutions and never, ever say; 'it is not part of the deal!'"

## A High Strategic Value

Although very discreet and accounting for about 50 to 60 million dollars according to various sources (the overall cost of Barkhane for the French ministry of the armed forces exceeds 600 million dollars each year), the U.S. support is considered vital by the French leadership and military.

A full withdrawal from that part of the world by those very targeted U.S. resources right now would send the wrong message, at a time when France has increased the level of deployment to 5,100 troops, while operating in an increasingly integrated way with African and European allies also more and more numerous to participate.

As the French chief of staff, General Lecointre, said recently before the French Parliament, “if we had to do without [the Americans], we would do it. But, at a time when France is making a major effort and intends to put pressure on her European partners and allies, the political signal of a US withdrawal would be very negative.”

**Enhanced European capabilities have been seen but the U.S. engagement remains significant and clearly beneficial for the United States as well.**

There are at least three major strategic advantages for the US for the current support arrangements:

First, the common fight against terrorism: our joint presence not only deters more Jihadists to come from the Middle-East to reinforce the Islamic State in the Greater Sahara, but helps downgrade their ability to reach out.

As the enemy in this part of the world essentially uses drones mostly for propaganda, Barkhane and the G-5 Sahel governments are very active in countering such media visibility and ability to recruit in order to commit more terrorist acts not only in Africa, but also on the US and European continents as well.

Second, the U.S. armed forces work closely with Barkhane command and have access to the French local expertise which goes back for centuries, and this domain knowledge includes knowledge regarding Russian and above all Chinese activities in that part of the world.

French HUMINT and insight are very complementary to the US SIGINT and IMINT... Before Covid-19 a meeting with Africom would take place once a month to share intelligence. “Barkhane is also the perfect ISR observation platform regarding South Libya”, notes the deputy commander, and the U.S. involvement can therefore be used as leverage for future contingencies (a look at the [Juba rescue operation](#) in South Sudan a few years ago is a case in point).

Third, with the withdrawal from Afghanistan (and a bit from Iraq and Syria), Barkhane provides an opportunity to preserve the knowhow learned from operating together in these theaters of operation, to keep optimizing our interoperability and jointly prepare for the future.

For General Carcy, the battle against terrorists is currently effective, as it has in particular recently included a major surge in allied operations putting an end to what became last year regular monthly attacks against African and Barkhane forces. The last attack, which took place in the infamous tri-border region (between Mali, Niger and Burkina Faso) threatening to host a new Islamic Caliphate, goes back to January 9th in Niger.

But it is clearly essential to make sure that the threat does not come back while the planned efforts by Sahel forces to expand their capabilities and responsibilities in the region take place.

**The sacrifice of U.S and allied soldiers should not be in vain by simply abandoning the fight.**

General Carcy and the French military are keen on making sure the death of the U.S. soldiers ambushed outside the Nigerien Tongo Tongo village in 2017 will not remain unpunished.

**The perpetrators are known and are being pursued.**

The equipment the terrorists stole from U.S. forces at the time – which the terrorists consider as “totems” – are recovered when possible and returned to the United States via their Ambassadors in the region.

**It is a matter of honor and loyalty and underscoring to the terrorists that they will not prevail.**

This article was published in *Breaking Defense* on [May 14, 2020](#).

# France Withdraws from NATO Naval Mission: Turkish Alleged Actions as Cause

07/03/2020

By Pierre Tran

Paris – France has pulled out of a NATO naval mission in the Mediterranean in protest against a Turkish frigate allegedly switching on targeting radar on a French warship, plunging ties between two members of the military alliance to a new low.

“The president of the French republic has decided to withdraw French capabilities from Sea Guardian until further notice,” armed forces minister Florence Parly told July 2 members of the European parliament on the defense and security committee.

That French suspension from the Nato maritime security operation, dubbed Sea Guardian, was in response to a Turkish warship, the Orucreis, June 10 “lighting up” with targeting radar a French frigate, the Courbet, which sought to inspect a Turkish cargo ship.

“That is an aggressive act and undignified for a Nato ally,” Parly said.

The Turkish cargo ship, suspected to be carrying weapons to Libya, was escorted by three Turkish frigates, which were also sailing in the Nato mission, daily *Le Figaro* reported.

Turkey strongly denied that charge, with the Turkish foreign minister Mevlut Cavusoglu July 2 calling on France to apologize.

“We are waiting to France to apologize, that it apologize unconditionally,” he said at a press conference in Berlin with his German counterpart, Heiko Maas, AFP news agency reported.

The Turkish minister accused France of sending weapons to Gen. Khalifa Haftar, head of the Libyan National Army (LNA), which seeks to topple the UN-recognized Government of National Accord (GNA) in Tripoli.

France has made four requests, namely reaffirmation of respecting the arms embargo on Libya, Turkey giving up the use of Nato cover while making arms shipments, greater cooperation between the European Union and Nato, and mechanism to cut conflict, Parly said.

Parly raised the alleged naval incident at a June 17 Nato meeting, received support from eight members of the alliance, and a pledge from secretary general Jens Stoltenberg to conduct an inquiry, afternoon daily *Le Monde* reported.

The resulting classified Nato report avoided pointing the finger at Turkey despite information, notably electronic warfare data, supplied by the French. That lack of support led to the French ambassador to Nato writing June 30 a letter to Stoltenberg, informing him that France was suspending its contribution to Sea Guardian.

Macron June 30 placed the “historic and criminal responsibility” of Turkey for the situation in Libya.

Turkey said it backs the internationally recognized Government of National Accord and accused France of backing forces led by Haftar, supported by Egypt, Russia, and the United Arab Emirates. Weapons shipped to forces led by Haftar would breach the arms embargo.

France deployed a frigate and a maritime patrol aircraft in support of that Nato bid to police the UN arms embargo on Libya. Paris continues to deploy a frigate and a maritime patrol aircraft to the EU Irini naval mission to police the arms embargo.

Macron has previously said Nato suffered from “brain death,” following a lack of response to Turkey’s invasion into northern Syria last year.

Turkey’s acquisition of the Russian S-400 missile strained relations with Nato, and led to the US withdrawing the sale of the F-35 fighter jet to the Turkish air force.

Turkish companies will continue to build key parts for the F-35 until 2022, Bloomberg reported.

## **An FCAS Update: June 2020**

06/24/2020

By Pierre Tran

Paris – The French, German and Spanish air chiefs signed two key cooperative documents on the Future Combat Air System and interoperability of the present fleets of fighter jets, the French air force said in a June 19 statement.

“General Philippe Lavigne, general Ingo Gerhartz and general Javier Salto, respectively chiefs of staff for the French, German and Spanish air forces, signed two documents relating to cooperation on the Future Combat Air System (FCAS) program and on national programs for fighter jets prior to FCAS, which will mark the way ahead,” the service said.

In the first document, signed soon after a high-level May 7 virtual meeting, “the air chiefs set out their vision on the priorities for the missions” on the Next Generation Weapon System, said general Jean-Pascal Breton, French air force program manager for FCAS.

The Direction Générale de l’Armement (DGA) procurement office also fields an FCAS program manager.

These priorities set out a definition of the common operational criteria, such as success of a mission, acceptable level of loss, and allows the evaluation of risk.

“That evaluation of risk allows an evaluation of architecture,” he said.

Industry will propose concepts of potential architecture for the Next Generation Weapon System, which will consist of a Next Generation Fighter, remote carrier drones, and the combat cloud, a network linking up the manned and unmanned aircraft.

The work on architecture stems from a joint concept study awarded to Airbus and Dassault Aviation, industrial partners on FCAS. That two-year contract began Feb. 20 2019.

A couple days after the signing of the first accord, the air chiefs signed a document on a Common Understanding of Connectivity, which seeks to boost interoperability between the present fighters flown by France, Germany and Spain, and those flown by Nato and multinational partners in European defense.

Sweden, while outside Nato, is a European ally and flies the Gripen fighter.

That interoperability document for the NGWS combined project team “also seeks to pave the path to NGWS/FCAS with respect to connectivity,” the air force statement said.

That interoperability aims to boost communications between the French Rafale and the German and Spanish Eurofighter Typhoon. Spain also flies the Boeing F-18.

Interoperability will also be sought for the replacement for the German Tornado fighter.

There are expectations the work on interoperability be supported by the planned European Defense Fund, a European Union project to part-finance research and development in the arms industry.

On the studies of remote carriers, there are more than seven types of disposable and non-disposable drones being considered. The studies have been running for more than a year and seek to draw up categories of unmanned air vehicles, to fly with manned aircraft.

Regarding work on the FCAS, Onera, a research and development organization, is in talks with the DGA for contracts, but any direct work for the procurement office was not expected before 2021, Bruno Sainjon, chairman of Onera, said in Challenges business magazine June 22.

Onera has a small contract with Dassault on the FCAS, but the aerospace research office hopes it will win more contracts, he said, adding that it seems the DGA has asked other companies to contract work with Onera.

A perceived lack of government support for Onera has stirred political debate, with a view that France was slipping behind Germany in research for FCAS.

Members of the French senate expressed concern Dec. 5 on the government planned annual funding for the research office of €110 million (\$124 million) respectively for this year and 2021, compared to €106 million and €107 million previously planned.

That planned increase was too small, senators on the foreign affairs and defense committee said.

That French funding compared to the €200 million of financial support DLR, its German equivalent, received from Berlin, the senators said. The DLR had already signed research contracts for the German national FCAS program, while the French DGA had yet to award contracts to Onera.

Airbus displayed a life-size mock up of a remote carrier resembling a cruise missile next to a concept model of a next generation fighter at the Paris air show last year.

MBDA, a European missile maker, is also working on concepts for remote carriers.

## **Arquus Highlights Its Armis Military Truck Portfolio: A Virtual Tour in the Absence of Eurosatory**

06/09/2020

By Pierre Tran

Paris – Arquus, a French military vehicle builder, unveiled June 8 a virtual tour of a stand planned for Eurosatory, a trade show for land weapons, cancelled due to the coronavirus crisis.

The company, a unit of the Swedish Volvo truck company, launched its line of Armis military trucks, key in Arquus's effort to retain pole position in light and medium vehicles for the French army.

**Arquus will pitch its Armis range of four, six and eight-wheel drive trucks in a competition expected to be launched around September or October, to replace an aging fleet of some 10,000 vehicles in the GBC and TRM product lines.**

Some of those trucks will continue to be operated alongside the new vehicles.

The French army requirement is for 7,020 trucks by 2030, an industry source said.

Some €2 billion has been earmarked for the trucks, website La Tribune reported.

"Mobile and resistant, they are adapted for long deployment, complex missions and lower service requirement," Arquus said in a June 8 statement on the sales launch of Armis.

The company has built the eight-wheel drive version of the Armis, and the four and six-wheel drive variants will be ready for presentation in September, a company spokesman said.

There will likely be strong foreign competition, with offers expected from Iveco, Krauss-Maffei Wegmann, Mercedes, and Scania.

Arquus is also promoting its Scarabée light armored vehicle. The company is due to pitch this vehicle in an expected competition to replace the French army's VBL scout car. The company has spent several million euros of own funds in developing the Armis and Scarabée.

Meanwhile, Nexter, KMW and Rheinmetall signed a vital contract on a joint architecture study for the Main Ground Combat System, a Franco-German project aimed at replacing the Leclerc and Leopard 2 tanks with a network of manned and unmanned combat vehicles.

The three companies set up a working group in December 2019, and signed a contract with the German Federal Office of Bundeswehr Equipment, Information Technology and In-Service Support for a system architecture definition study – part 1, the industrial partners said a May 25 statement.

The companies signed the agreement May 12.

The German federal office signed on behalf of France and Germany.

"This contract sounds the industrial starting gun for (an) MGCS demonstration phase," the companies said.

**The study will develop the concept of MGCS, building on work conducted at the national level, seeking to arrive at a common "multi-platform" architecture.**

The first phase of the architecture study is due to run for 20 months, leading to a technology demonstrator by 2024, followed by a full system demonstrator between 2024-2027, an industry executive said.

The study will be shared equally between France and Germany on a 50:50 basis, and will be conducted "under German political leadership," the companies said.

**MGCS will effectively be designed as the land version of Future Air Combat System, with a mix of manned and unmanned vehicles, all hooked up to a common network.**

The new vehicles will be expected to meet operational needs of French and German armies, and be compatible with the Scorpion modernization program of the former and Digitization of Land-Based Operations (D-LBO) of the latter, the companies said.

Nexter will be prime contractor for France, assigning subcontracts of the French work, while KMW and Rheinmetall will share out the German 50 percent share.

Arquus will watch with close interest the subcontracts, having invested in hybrid diesel and electric-powered military vehicles.

Coges, the show organizer of Eurosatory, has arranged an internet platform for business-to-business video conferences on Sept. 14-15, the Coges spokeswoman said. The online presentation is in response to a poll of members of Gicat, the trade association for land weapons.

The video conferences will be organized by Proximum, which specializes in exhibitions.

The Eurosatory exhibition had been scheduled to open on June 8, but the spread of Covid-19 forced its cancellation.

The next Eurosatory show will be in 2022.

*Editor's Note: According to an article published by Armada International on June 8, 2020, the new Armis range of trucks will provide several innovations of value to the ground forces,*

“The trucks of the new ARMIS range are fitted with recent technologies, adapted to the operational needs and proven in the most demanding situations. These technologies, developed in Arquus’ R&D centers, provide the ARMIS 4×4, 6×6 and 8×8 with optimal mobility on all grounds, limited fuel consumption and very high resistance, which guarantee optimal uptime and low cost of ownership...

“The ARMIS can be equipped with the automation solutions currently being developed by ARQUUS, such as platooning and automatic convoys. They may be fitted with the Group’s most innovative solutions in the fields of energy optimization and maintenance.... They simplify the necessary logistics and reduce the maintenance needs.”

## **What Happened to the Charles DeGaulle Aircraft Carrier in COVID-19?**

05/13/2020

Paris – A lack of ministerial coordination and sharing of information lay behind a two-day delay in recalling the Charles de Gaulle aircraft carrier while the crew were stricken by Covid 19, the minister of the armed forces told parliamentarians.

Florence Parly appeared respectively May 11 and 12 before the lower and upper houses of parliament in the wake of a public row over recall of the French flagship, at a time when the virus had attacked more than 1,000 crew and personnel.

Faulty communications lay in commanders detecting April 5 signs of the virus on board, while the joint chiefs of staff and the minister were informed April 7, she said. When Parly received the information, she ordered recall of the carrier task force, she said.

In response to a parliamentary question, Parly said she had read an open letter from the defense journalists association, which pointed up a lack of reliable and timely information from the ministry over the virus crisis. A meeting is to be held in the week of May 11 between press officers and the press club, she said.

The officers sailing the ship made mistakes in assessing the spread of the virus, but there was no “fault,” on their part, Parly told May 11 the defense committee of the lower house National Assembly.

The minister has asked the joint chiefs of staff to make recommendations on improving communications in the light of those errors.

“In the light of information that we have today — I insist on the word today — there were mistakes in the assessment of measures in the fight against coronavirus,” she told parliamentarians. The error was to treat the virus like the H1N1 flu which had hit the carrier in 2009, and to continue the mission while the infection was on board.

“Coronavirus is not H1N1 flu,” she said.

“The second lesson that I would like to submit relate to failings in coordination and sharing of information between the various chains of command, and at different levels within these commands,” she told the parliamentarians.

“These chains were too narrow, with information transmission too slow and partial,” she said. There was insufficient dialog between the actors, which denied the sharing of analysis of the situation.

In her remarks to senators, Parly said the virus had already boarded the capital ship before the vessel sailed to Brest, northwest France, March 13-16. The visit to that naval base speeded up the spread of the illness but was not the source, she said.

France entered a strict lock down midday March 17, with conditions eased May 11.

The carrier task force sailed out of Toulon January 21, conducted operations in Iraq and Syria, and called in February 21-26 at Limassol, Cyprus, she said.

After sailing from Cyprus, the carrier received personnel and equipment, with flights from Sicily, the Spanish Balearic islands, Spain, and Portugal, she said.

The carrier was effectively a “floating airport,” she said.

It was between the visit to Cyprus and Brest that the coronavirus boarded the warship, the medical enquiry noted. Parly pointed up the confined space, with cabins sleeping between 10 to 40 sailors, and narrow corridors and stairwells.

“Space is a luxury,” she said.



The carrier was designed in the 1980s and built in the 1990s, while the Chevalier Paul air defense frigate was designed in the mid-2000s and entered service in 2011, with four sailors to a cabin, she said. There was a lower incidence of the virus on the frigate compared to the carrier, which had an “old design,” she said.

After Cyprus, the officers and medical team on board ordered masks and antiseptic gel as a precautionary measure, confident the virus could be avoided and sail on operations in the Atlantic and North Sea.

That confidence was overblown.

The Brest visit, seen as needed for crew morale, logistics, and presenting the carrier for the first time in 10 years, speeded up spread of the infection, the medical enquiry showed. After the port call, the commanders ordered a protective confinement, which slowed down the virus, she said.

But that confinement sapped crew morale, leading the commanders March 30 to ease restrictions, and allowed group briefings, sports, and a concert on board.

“Yes, there certainly were errors, but the inspections have not noted fault,” she said.

The first clear sign of the virus on board was an officer showing April 5 positive on a test for Covid 19. The officer had visited Denmark March 30.

April 5 also marked more sailors than usual turning up at the sick bay. That sparked the return of strict isolation for the crew and personnel, and April 6 three sailors flown back to France for medical care.

Parly said she last week informed European counterparts of the reports and France would share the medical information with allies.

The findings were based on three enquiries conducted separately by the joint chiefs of staff, navy, and military medical service, which submitted their reports at the end of last week.

Parly has asked the joint chiefs of staff to propose changes in the various command chains, which will be applied to all the services and sectors. There was also need for better communications with the crew, which stayed in close touch with families. The families received information during the national lock down, some of which was false, she said.

“We need to communicate better, relying on detailed and instructive information,” she told senators. The official reports would be published after the senate committee hearing, she added.

The need for communications was clear.

It was “unthinkable” the ministry could fail to know there were dozens, maybe 100s of sailors, stricken with the virus on board the flagship carrier, dubbed “42,000 tons of diplomacy” and part of the French nuclear deterrent, Le Point weekly magazine reported.

# Rebooting the French Economy with the Help of the Defense Sector

04/29/2020

By Pierre Tran

Paris – The armed forces ministry has asked companies to submit ideas for speeding up orders for weapons, as part of a national recovery plan intended to soften the economic and social impact of the coronavirus crisis, industry leaders said.

Armed with information from industry, the ministry could claim a share of the national recovery plan. The government plans to inject more than €110 billion (\$119 billion) into an economy hit by an extended lock down and high unemployment.

A recovery plan for the arms industry was highlighted by the chairmen of the three trade associations, GICAT for land weapons, GICAN for naval systems, and GIFAS for aerospace, when they appeared April 23 before the defense committee of the lower house National Assembly. That hearing was conducted over a video link.

“We are proposing a recovery plan to support the defense industrial and technology base similar to the one adopted after the 2008 crisis which was much less severe,” said Stéphane Mayer, chairman of CIDEF, the trade body which represents the three associations. Mayer is also head of GICAT.

France adopted a supplementary budget of €2.4 billion after the 2008 financial crisis, funding a speeded up order of the third helicopter carrier, the Dixmude, and other arms programs.

Defense executives are concerned their claims for support will be lose out to civil sectors, with unemployment rising sharply in the first quarter, particularly in March, when the lock down started.

## Confirming Options

Among the ideas for a recovery plan were confirming options for the Griffon multirole troop carrier, Jaguar combat and reconnaissance vehicle, Serval light multirole troop carrier, Caesar artillery, helicopters, and drones, Mayer said. Industry was in talks with the ministry and Direction Générale de l’Armement procurement office.

There are effectively two recovery plans. The economy ministry is drawing up a macro-economic recovery plan based on deferred payment of tax, loans, and social security, while offering state guarantees for bank loans.

There is also a recovery plan for economic sectors.

“The economics ministry is asking sector by sector to make proposals for the key elements needed to relaunch the economy,” said Hervé Guillou, chairman of the GICAN naval trade association and former executive chairman of Naval Group. Guillou was speaking after the committee hearing closed.

The armed force ministry has asked industry leaders and trade associations to make proposals to relaunch the defense industry and technology base.

Companies are submitting their ideas, which are effectively requests for early orders for equipment, he said. The overall proposition was expected to be ready by May 15.

## Political Lobbying

This is essentially a political project, as French firms are keen to promote the defense industrial and technology base “as a strategic concern,” in light of the current crisis, an industry source said.

There is a multi-year military budget law, which is not legally binding, and every year there is risk the funding will be diverted, the source said.

“There is arbitrage every year,” the source said.

Among the ideas the defense firms could submit were medical service, and research and development in digital technology, which offer dual civilian and military use.

Defense was unlikely to be seen as high priority in the national recovery plan, an analyst said.

If funding indicated in the military budget law were observed in full that would be “superb,” said François Lureau of EuroFLconsult, a consultancy. “Do not expect more.”

## Virus May Hit Exports

France risked losing its share in the world arms market, as German companies had continued working during lock down, Chinese factories were restarting, and US industry was receiving government aid while maintaining large industrial capacity, Guillou told the parliamentary committee.

Maintaining a strong French supply chain was a positive signal to potential export clients, said Eric Trappier, head of GIFAS and executive chairman of Dassault Aviation. The timetable has been shaken in a Swiss competition for a fighter jet.

Airbus, Boeing, Dassault and Lockheed Martin are competing in the Swiss tender.

Finland was holding a fighter competition, for which Lockheed had retained a former head of the Finnish defense forces, Trappier said.

In Finland, Airbus and Boeing had retained as lobbyists respectively a former commander of the defense forces and former defense minister, Helsinki Times reported April 18. Airbus, Boeing, Dassault, Lockheed Martin and Saab are competing in Finland.

A budgetary burden stemming from Covid 19 will move foreign arms deals down the priority list, analysts said.

“An export arms order is a political, economic and diplomatic card to play, and that is not a priority at the present time,” said Loic Tribot La Spiere, director of think tank CEPS. For now, it was not a priority for Switzerland to order a new fighter jet.

For the French economy, there are concerns in sectors such as tourism, education and health service, he said. Defense has slipped down in the priorities list, and internal security was more of an issue.

Arms exports could be hurt by the need for clearance by customs officers, who have been on furlough, said Jean-Pierre Maulny, deputy director of think tank IRIS. A delay in customs clearance held up delivery, which would slow down client payment.

Airbus has cut production of airliners in response to a big drop in air travel, a move which hurts the supply chain, which builds equipment for dual civil and military use. That sparks cashflow problems.

## Europe seen as Key Focus

“Europe is the real subject,” said Lureau, in view of the need for funding.

There is debate on whether the European Union 2021-27 budget will finance the European Defense Fund, which had been proposed to stimulate cross-border spending on research and technology, and research and development.

The European Commission initially proposed €13 billion for the fund, with Finland proposing €6 billion, leading European Council president Charles Michel to pitch €7 billion, Maulny said. Now, with the ballooning budgets to counter the spread of the virus, there are concerns the fund might be cancelled.

If the fund were dropped, there could be other ways to support the arms industry.

Patrick Bellouard, chairman of EuroDefense-France, a think tank, sent March 29 a letter to Thierry Breton, European commissioner for internal market, calling for support of the technology and industrial base in the light of the Covid 19 crisis.

The think tank called for a European recovery plan in two steps, with an initial rescue of companies, to maintain their factories and most critical capabilities, followed by orders for equipment to relaunch industry after the crisis.

A study of the various means of financial support and financial instruments was needed, with these to be applied to the rescue and recovery plans, the letter said. This would help investment in the European Union.

Studies conducted by the Commission for a “financial toolbox” to be used on production and delivery could be activated with urgency, the letter said.

## Funding Could be Matter of Timing

Generally, if a project is in the early stages when a financial crisis hits, it will likely be left on the shelf, said a European official. If there is program in progress, it could be slowed down, with funding returned in the medium term.

“It is a maturity issue,” the official said.

This article was published by Opérationnels on [April 27, 2020](#).

# An Update on the Impact of the Coronavirus Crisis on French Defense Industry: April 23, 2020

04/23/2020

By Pierre Tran

Paris – Naval Group seeks to cut costs in a “savings plan” and conserve cash in response to a slowdown in shipbuilding due to the Covid 19 crisis, the company said.

“While the productive activity of all Naval Group’s shipyards has been reduced, Naval Group is launching a savings plan to prepare for the future and to preserve the group’s investment capacity,” the company said in an April 16 statement.

That savings plan relies on cutting the cost base in view of a “foreseeable reduction of the revenues,” said the company, which is keeping its workforce on full pay while on furlough.

To sail through an economic storm, Naval Group has adopted “cost saving and cash management measures,” including cancellation of seminars and conventions, cutting back on travel, and less use of temporary staff and subcontractors.

Training and recruitment will focus on production and skills deemed to be critical, while reliance on external services will be cut to the “strictly necessary,” the company said.

Non-priority projects will be postponed.

## Keeping Staff

Naval Group, along with other French arms companies, is keeping on its workforce, relying on the 70 percent government-backed pay for temporary leave due to the national lock down. That lock down, now in its sixth week, started midday March 17 and runs to May 11.

The French government offers to pay 70 percent of salary to workers on furlough. The UK government offers 80 percent financial support to British companies.

Due to the slowdown of its activities, Naval Group has filed applications for partial activity and is committed to maintain employees’ revenue for the second half of March, as well as their base salary and variable pay elements,” the company said.

That full payment to staff includes April, a spokesman said.

The company and three labor unions agreed April 2 a new work schedule and to set up a “solidarity fund,” with the company contributing half and the rest based on staff contributing their paid holiday. The executive committee is contributing five days of leave.

In April, staff who are not required to work full time must take days off, the company said.

Under a statutory regime of the 35-hour work week, employees are entitled to a set number of days off on top of the five weeks’ annual leave required by law.

“The ramp up in activity will be gradual,” Naval Group said.

## Most of Salary Paid

Arquus, which builds light and medium armored vehicles, is paying 92 percent of salary to workers on furlough, based on a “solidarity agreement,” a company spokesman said.

The company has gradually restarted production at four factories, with some 300 workers returning to work since April 6, the spokesman said. Some 100 workers had stayed on during the shut down, bringing the total to around 400 at the work place, with some 10 workers returning each day. There have been no permanent lay-offs in the 1,300 strong work force.

It was too early to estimate the cost of the shut down, the spokesman said. The company saved money in the cancellation of the Eurosatory trade show, which had been due to run June 8-12.

Dassault Aviation is also paying 92 pct of salary to workers and office staff on furlough, the company said in an April 15 note to staff on its website.

That level of payment was agreed following April 2 and April 9 meetings with three labor unions, and reflected a differential between workers who were entitled to 84 percent and executives entitled to 100 percent of salary.

“These new measures should help us get through this worldwide crisis which is hitting dramatically our country and our industry,” executive chairman Eric Trappier said.

## Airbus Restarts Work

For Airbus, work on the A400M airlifter and other military aircraft has restarted in Spain since the government eased a lock down on non-essential work, a company spokesman said. Work is organized into two shifts – red and blue – to cut the number of workers on site.

A shift is to avoid contact with the other shift, with the work place disinfected between shifts.

In the close lock down, which included industry, Airbus continued work deemed to be essential, providing service for C212, CN235, C295 and A400M aircraft for the Spanish air force, as well as Super Puma and H145 military helicopters.

There was also support for the French and German air forces.

Spain, one of the countries worst hit by the virus, ordered March 14 a strict lock down. The prime minister, Pedro Sanchez, is seeking a third 15-day extension of the lock down to May 9. Spain has seen more than 20,000 people die due to the pandemic.

For MBDA, in France, almost 20 percent of the workforce had gone back to the factory, 70 percent were remote working, and 10 percent on furlough, a company spokesman said.

## Rise in Cyberattack

The increase in working from home has seen a rise in cyberattacks by hackers seeking to benefit from the Covid 19 crisis, Sophie Le Pennec, Thales vice president for occupational health, safety and environment, said on the company website.

The Defense Innovation Agency has called for projects to fight the pandemic, with Thales submitting some 12 projects including crisis management tools, patient admission in hospitals, rapid diagnosis, and teleworking.

Across France, 10.2 million workers are on furlough, with nine out of 10 staff at restaurants and hotels laid off, afternoon daily Le Monde reported April 22. Some 93 percent of the building trade have registered as unemployed.

Some 20,796 fatalities due to coronavirus have been registered, with 531 deaths over the last 24 hours, Le Monde reported.

The admissions to hospital and those in intensive care are falling, but the spread of the virus remains at a high level, said Jerome Salomon, number two at the health ministry.

President Emmanuel Macron went to Brittany April 22, to show support to farmers in the western region.

The agricultural sector is effectively the second line of defense in the “war” against the virus, protecting France from want, the head of state has said, Le Monde reported.

# FCAS Odyssey: July 2020

07/16/2020

By Pierre Tran

Paris – The unofficial estimated cost of the Future Combat Air System project could be €50-€80 billion (\$57 billion-\$91 billion), with much depending on whether the planned Next Generation Fighter will be manned or unmanned, French senators said July 15.

“The total cost of the programme is valued by certain analysts to be in a range of €50-€80 billion,” said the 85-page report titled 2040: the FCAS Odyssey, drafted by senators Hélène Conway-Mouret and Ronan Le Gleut.

Much of the uncertainty of the cost stemmed from whether the new fighter jet would be manned or unmanned, the senators told reporters.

For now, the planned fighter jet was understood to be a manned aircraft, bearing in mind a manned aircraft cost more than an unmanned system, a specialist said.

The FCAS project comprised a new stealthy fighter jet, flying in a swarm of remote carrier drones, and a communications and command network, dubbed combat cloud, with links in air, sea, ground and space.

“This is an existential project,” Conway-Mouret said, pointing up the importance for industry and the collective interest. Strategic autonomy and support for the national and European defense industrial and technology base were seen as key factors.

France, Germany and Spain were backing the project, which would be an alternative to the F-35 fighter and compete with the UK Tempest fighter project.

## Program cost

The cost would depend on whether the new fighter jet will be manned or unmanned, the senators told reporters ahead of the publication of the report. There was for now little information available on the nature of the fighter.

That high cost pointed up the need for trilateral cooperation between France, Germany and Spain, even though the former has much of the critical technology needed to build the fighter, the senators said.

Work on the FCAS, equally shared between France and Germany, was expected to cost €4 billion by 2026, when the demonstrator fighter was due to fly, and climb to €8 billion by 2030, the report said. There would also be the cost of production lines.

The phase 1B in the framework contract for development of FCAS is expected to be worth €2 billion. Phase 1A of that contract, signed in February, was worth €155 million and ran for 18 months.

Funding from Spain had yet to be fixed, but this was expected to match the French and German contributions, the report said.

Although international cooperation would increase the non-recurring cost of research and development, that cross-border link also allowed sharing of costs and cut the amount paid by each country, the report said. Orders would rise, lowering the unit price and operating costs through shared maintenance.

A budget for the FCAS will compete with funds for a new aircraft carrier, while defense will rival education, health and other civil sectors in an economy weakened by coronavirus.

That tough outlook showed the need to win support from the proposed European Defense Fund and other European initiatives, Conway-Mouret said.

## FCAS vs Tempest

In drafting the report, the rapporteurs held a virtual meeting with the British defense procurement minister, Jeremy Quin, to be briefed on the Tempest project.

The UK was seeking partners, having agreed technology studies with Italy and Sweden, and approaching Saudi Arabia, Turkey and Japan, the senators said. That search for partners contrasted with the FCAS, which took a highly structured industrial approach based on “who does what” rather than an overall view.

This was not a “European” project but a restricted three-strong group of partner nations, a senator said.

That reflected a lesson from the A400M airlifter program which required consensus among the seven partner nations and the “juste retour” principle of funding effectively buying a project management and learning on the job. That approach led to heavy costs.

There appeared to be a “real” UK political determination to pursue Tempest, the report said, adding that British capabilities in fighter jets were “indispensable,” and it was to maintain that competence the UK would enter joint US programs.

There was close UK cooperation with the US, which brought access to American satellite intelligence and a 15 percent share of F-35 export sales, but there was also a “dependence” which the US could use to block development of a potential competitor, the report said. The UK’s share of F-35 sales financed its acquisition of the Lightning II fighter.

The Brexit factor and consequences of coronavirus set a tough financial outlook for Tempest, with the UK’s “integrated review” of defense, security and foreign policy postponed to the end of the year or early next year, the report said. That meant the budgetary consequences would only be known later rather than sooner.

The £2 billion (\$2.5 billion) budget to assess Tempest technology to 2025 seemed too low, raising pressure to find partners, but the UK sought a “massive” domestic industrial return, making it hard for foreign cooperation.

There was a complete lack of cooperation between FCAS and Tempest, and any “reciprocal interest” would decline, the report said. Any cooperation would become more difficult if the UK gathered foreign partners, and a sharing of tasks among industry leaders — such as Airbus, BAE Systems, Dassault, Leonardo and Thales — in the one program would be “highly complex.”

The two fighter projects would likely be in direct competition, hurting the building of a European defense industry and technological base, and increasing export competition, making the economic consequences of coronavirus all the more difficult, the report said.

The Tempest was scheduled to fly in 2035, five years earlier than FCAS, giving the former a competitive advantage in the world market, the senators said.

## Stealth assignment

On the FCAS demonstrator, a company was due to be appointed this year to lead the work on stealth, the report said. The principle was the “best athlete” approach, with the most advanced company managing rather than the country which contributed the most funds.

There was little known on the stealth work, which was important in strategic, operational and industrial terms, the report said. “Mutual confidence” was needed to decide which company would take the lead on this highly sensitive area.

Airbus unveiled Nov. 5 at a trade media briefing, work on stealth with its Low Observable UAV Testbed, which had been classified since the German defense ministry ordered work in 2010, the report said. The anechoic chamber, at Manching, southern Germany, was used to lower the acoustic, IR, and radar signature, and sought visual discretion.

In France, the Direction Générale de l’Armement procurement office said Feb. 20 the flight test campaign was concluded on the Neuron demonstrator for a stealthy unmanned combat air vehicle.

Of the €155 million on phase 1A research and technology work, €90 million was earmarked for the fighter, €18 million for the engine, €20 million for remote carriers, and €15 million on the combat cloud, the report said.



The planned new fighter is expected to carry remote carriers of various functions, capable of long range and a large internal missile bay to boost its stealth.

## Cultural difficulties

Cultural and institutional differences were among the factors raised by the report, which referred to a Jan. 14 study observing that France and Germany “do not speak the same language.”

Berlin and Paris shared the political will to back the FCAS and could find agreement on divisive topics such as arms exports and the perceived threat, but difficulties lay in the German view there were close links between the French government and industry which put Germans at a disadvantage, the report said.

The Franco-German study was titled Consent, Dissent, Misunderstandings: the Problem Landscape of Franco-German Defense Industrial Cooperation.

A separate study, published Sept. 16, pointed up the institutional and judicial oversight which made the German approach different from the French, and gave a greater role for industry to set technological trends in weapons. That report was titled “Defense Industrial Policy in Germany: The State Caught in the Play of Glass Beads.

## 14 recommendations

Among 14 recommendations, the non-binding report called on the three nations to sign in first half 2021 a framework contract covering delivery of the demonstrator by 2025/26 rather than a series of contracts, requiring repeated political approval, slowing down the project.

The timing was important as next year sees German elections, and French elections in the following year, slowing down the project.

Other recommendations include:

- The partner nations drawing up a joint industrial strategy agreement
- Speed up the FCAS timetable, to win funding under the French national recovery plan after the coronavirus crisis, and fly the aircraft before 2040
- Germany sign an export agreement with Spain, similar to the deal reached with France
- The demonstrator should fly with an M88 engine. There had been talk of fitting the EJ200 motor, which powers the Typhoon, but that was shot down by backers of the M88, which powers the Rafale fighter.
- The combat cloud should carry the same level of importance as the new fighter and new engine, and link the combat cloud to the SIC command and control network in the French Army’s Scorpion program
- ONERA should have a full role in FCAS, and companies should be encouraged to subcontract work to the aerospace research agency
- after the 2026 demonstrator flight, sign up other partner states and seek support from European Union defense initiatives.
- -Take into account the Tempest program as a competitor and the parallel existence of the two fighter projects.

The authors chose the title of the report to echo the science fiction novel by Arthur C Clarke and film by Stanley Kubrick, 2001: *A Space Odyssey*.

Homer’s work, *The Odyssey*, recounted the 10 years Odysseus took to find his way back to his home on the island of Ithaca, perhaps a time of travail the three partner nations are keen to avoid.

# Building the Next Generation French Aircraft Carrier

07/02/2020

By Pierre Tran

Paris – A new-generation aircraft carrier to succeed the Charles de Gaulle flagship would cost at least €5 billion (\$5.6 billion), with a larger price tag if France opted for nuclear propulsion over a conventional engine room, a June 24 French senate report said.

The wide-ranging senate report on a next-generation carrier examined nuclear and conventional power, the significance of a planned Next Generation Fighter, and a US electromagnetic catapult instead of a steam system.

Studies from industry and the defense ministry have been delivered to the president, Emmanuel Macron, who was expected to decide soon on technology and financial options, and a timetable, said the report, co-authored by senators Olivier Cigoletti and Gilbert Roger on the foreign affairs and defense committee.

The carrier was a symbol of military capability and backed a French seat at the top table in the UN security council, Nato, and European defense, the report said.

France, Russia and India each operated one carrier, Britain and China have two, while the US sailed 11. Only France and the US sailed nuclear-powered carriers.

Announcement of a major arms project could be seen as politically charged, with national debt rising to 120 percent of gross domestic product in the wake of the Covid 19 crisis, amid calls for support in the civil sector, such as pay rise for health workers.

## Carrier costs unclear

The report pointed up a lack of information from industry and the DGA ahead of an announcement by Macron.

“Regarding the amounts for acquisition of a new aircraft carrier, it is clear there is a very wide range of costs,” said the senate report. “Today, the scale of costs runs to several billion of euros, undoubtedly at least five billion – and more, if the nuclear propulsion were chosen.”

There had been talk of €6-€7 billion, but there had also been a lack of information on the comparative cost of nuclear and conventional power, Cigoletti told June 24 the foreign affairs and defense committee.

The price would fall if a second ship were ordered, spreading development costs and bringing economies of scale of 30-40 percent, the report said. A second vessel offered a permanent carrier presence at sea, compared to 63 percent availability of the Charles de Gaulle.

On an illustrative basis, there could be annual spending of €450 million on a new carrier, accounting for 1.5 percent of the defense budget and 0.02 percent of gross domestic product over at least 10 years, said the report, drawing on Institut Thomas More, a think tank.

“The Direction Générale de l’Armement (DGA) has conducted initial cost estimates,” the report said. “Despite our requests, we have not been able to obtain details, particularly costs respectively for the nuclear option and conventional option, nor building cost of sister ships.”

The DGA, when contacted for comment, said, “The budget for building a new generation aircraft carrier is one of the factors in the framework of structural scenarios and an overall view taking into account in its design not only investment,

operations and service over the operational life of the ship, but also its contribution to French sovereignty and strategic autonomy, maintaining capability and employment in France.”

The report was highly informative but showed a lack of transparency from the armed forces ministry, which would like an open check from parliament, parliamentarian François Cornut-Gentille said on social media. It was impossible to comment without considering the financial impact of the various options, he said.

Naval Group was not available for comment.

Some €154 million has been earmarked in the 2019-2025 military budget law for development of a new carrier, which the senators hoped will be confirmed when the multiyear budget is updated, the report said. The bulk of spending will fall in the next multiyear budget after 2025.

## Next Generation Fighter

The key aircraft for the carrier will be a planned Next Generation Fighter, expected to weigh some 30 tons, more than the Rafale which weighed a little more than 20 tons, the report said.

The new fighter will be the core element in the Future Combat Air System, which included remote carrier drones.

That fighter led the carrier to weigh 70,000 tons, with a length of 280-300 meters, compared to 42,000 tons and 261 meters for the Charles de Gaulle, the report said. That compared to 65,000 tons of the two Queen Elizabeth class carriers for the British navy and 110,000 tons on the Ford class in the US Navy.

Studies commissioned 18 months ago and worth €36 million were delivered to Macron, who had intended to make an announcement in June, but the Covid 19 crisis had pushed that back in the president’s agenda, the report said.

The studies considered operational and capability needs, future technology, emerging threats, and a permanent carrier task force, the report said. The armed forces ministry looked at the military requirements, while a technology and operational study was conducted by an industrial group comprising Dassault Aviation, MBDA, Naval Group and Thales. Naval Group, Chantiers de l’Atlantique and Technicatome also conducted a separate study.

Technicatome provides maintenance of the two nuclear engines on the Charles de Gaulle.

## Design concepts

The studies generated several concepts, some of them new, but for now the design included a diagonal runway, catapults and arresting gear, with choice of nuclear or conventional engines.

The number of aircraft on board would also decide the size of the new carrier, which would also carry the new generation Hawkeye spy aircraft and helicopters, the report said.

The design of the carrier would need to accommodate the management of unmanned and manned aircraft in hangers, on the flight deck, and when flying at close and long range, said said Hervé Guillou, chairman of Gican, a trade association for the naval industry.

An armed Rafale weighed 25 tons and would continue flying on the new carrier, while studies on the FCAS indicated the new fighter weighing some 30 tons, Adm. Christophe Prazuck, navy chief of staff, told parliamentarians Oct. 23 2019.

“How to catapult such an aircraft?” he said. There were electromagnetic catapults already on US carriers and being installed on Chinese vessels, he said. These US catapults were 90 meters long, could catapult “very heavy” aircraft of some 30 tons as well as lighter drones, while not wearing out the aircraft, he added.

The FCAS was expected to enter service around 2040, the same time as a successor vessel was due to sail with the Charles de Gaulle due to be retired in 2038, the report said. The timetable for building a new carrier should be speeded up, with the ship being launched in 2030 and entering service in 2035.

The size of crew cabins was critical, as the infection of Covid 19 on the crew of Charles de Gaulle showed, the report said. The new cabins should accommodate no more than six or eight crew members, compared to the 10-12 per cabin in the present carrier, which had a maximum of 42. Designed in the 1980s, the Charles de Gaulle failed to meet standards in 2020.

## **Nuclear or not nuclear**

A nuclear-powered vessel offered “undeniable advantages in terms of operations and autonomy,” while designing and building an atomic naval engine would sustain know-how, Prazuck said.

A nuclear-powered carrier played a significant role in how the US saw France, with power projection seen as a critical factor, as well as a capability to assess independently, gather intelligence and share that information with allies, particularly those in the Five Eyes community, namely Australia, Britain, Canada, New Zealand and the US, the report said.

The biggest inconvenience of nuclear engines was an 18-month overhaul every 10 years to install fresh nuclear fuel, and a further six months to return to full service, the report said. If the Charles de Gaulle were extended in operational life beyond 2038, a further replacement of nuclear fuel would be needed.

Whether nuclear or not, the carrier would need to be larger than the Charles de Gaulle to meet operational needs, particularly the FCAS program, the report said.

“No decision has been taken at this stage,” the report said.

## **New threats and cooperation**

On the negative side, there were threats of hypersonic missiles, increasingly stealthy enemy submarines, and China developing maneuvering ballistic missiles, dubbed carrier killers, the report said. That risk called for defense systems to improve as threats evolved, and signalled the challenge for the air defense frigate, which is being built.

With 10 years of the Lancaster house Anglo-French defense treaty hovering into view and the Royal Navy soon sailing two carriers, was there not scope for cooperation, Christian Cambon, chairman of the foreign affairs and defense committee, asked parliamentarians. That mutual support would lead to having two out of three carriers out at sea at any given time.

“The United Kingdom, which has two aircraft carriers and the deterrent, is a natural partner,” he said. If European defense were to be built, mutual support should be considered.

The senate report opens with a quotation from History of the World, by Walter Raleigh, seaman and adventurer who sailed to America in the Elizabethan age:

“For whosoever commands the sea commands the trade; whosoever commands the trade of the world commands the riches of the world, and consequently the world itself.”

# **The Next Generation French Aircraft Carrier and Cooperation with the United States**

07/04/2020

By Pierre Tran

Paris – A US electromagnetic catapult on sea trials has sparked industrial interest and political debate as France considers launching a project for a new aircraft carrier estimated to be worth at least €5 billion (\$5.6 billion), a French senate report said.

Fitting two 90-meter Electromagnetic Aircraft Launch System (EMALS) offered greater “flexibility and reliability” than steam catapults, and made the French vessel interoperable with aircraft flying from US carriers, said the June 24 report from senators Olivier Cigoletti and Gilbert Roger of the foreign affairs and defense committee.

An order for the electromagnetic catapults from General Atomics was estimated to be worth some €1.5-2 billion, with French industry seeking offset deals, a French industry source said.

That new catapult raised questions of dependence on US technology while France sought strategic autonomy, said the report, which gave a positive view of transatlantic ties in the carrier community.

## US catapult seen as essential

Nuclear power and catapult assisted take-off but arrested recovery (CATOBAR) were strengths of the French flagship Charles de Gaulle carrier, which could be maintained on a successor vessel, the report said.

That catapult distinguished the French warship from the British carriers, Queen Elizabeth and Prince of Wales, equipped with a ski jump flight deck for Short Take-Off and Vertical Landing (STOVL) for the F-35B fighter jet, the report said.

The Charles de Gaulle, dubbed 42,000 tons of diplomacy, was a military capability of nuclear-powered force projection, and a symbol of national sovereignty and strategic autonomy, the authors said.

“The American electromagnetic catapult system EMALS seems highly appropriate, offering greater flexibility and reliability than the present steam catapults while maintaining the equipment as the reduced stress extends the service life of the aircraft,” the report said.

Steam catapults were likely to be withdrawn from service in 20 years’ time, and EMALS would make the French vessel interoperable with US aircraft flying from the Gerald R. Ford class of carriers, the report said.

The Charles de Gaulle operated with a US catapult, and British catapults equipped two previous carriers, Foch and Clemenceau.

## French firms seek offset deals

The French naval trade association has presented ideas to the government for potential industrial offset if the American catapults were ordered, said Hervé Guillou, chairman of Gican, the industry body which represents some 20 companies, including Naval Group.

Those offsets could include local assembly and maintenance of the catapults, which would require a limited amount of technology transfer.

While there is little expectation of extensive technology transfer, there is a search for work for French industry in exchange for ordering the US equipment.

“The ideas for offset are not limited to EMALS and could include a wider range of activities from General Atomic such as drones, energy and other sectors,” he said.

The catapult was one of the concerns of the rapporteurs, and French industry should be able to take part in the project, which would grant a certain autonomy, co-author Roger said.

“American aircraft carriers of the Nimitz class will continue to operate with steam catapults but this technology will probably be discontinued in some 20 years time,” the report said. To continue steam catapults or build its own electromagnetic system, France needed to set up an industrial capability.

“The requirement would not deliver the critical mass needed to set up this industrial sector,” said the report, which pointed up close ties with the US.

The US is very much aware France is the only power to have a nuclear carrier with catapults and arrestor gear interoperable with the US navy, with cooperation dating back to the post second world war era, the report said.

“Moreover, the United States is also mindful of the interests of its industry; it would be highly prejudicial to them not to remain a reliable partner,” the report said.

## Close links

A US catapult on the Charles de Gaulle required an American officer to be on board, reflecting carrier cooperation which remained close even when relations were strained between Paris and Washington in 2003, the report said.

Bilateral ties weakened in 2003 when France stayed out of the US-led invasion on Iraq, such that a congressman renamed French fries as freedom fries.

Installation of EMALS brought reliance on the US, which seemed to contradict French autonomy, but the report found no major obstacles to using the catapults. The 75-meter steam catapult on the Charles de Gaulle was American, posing no problems for the French navy.

The new carrier could be equipped with two catapults, allowing a back up capability, the report said. The vessel could also launch and receive aircraft simultaneously, a capacity unavailable on the Charles de Gaulle.

The US navy was testing EMALS, with almost 3,500 launches conducted, and the system would be largely tested by the time a new French carrier were built, the report said.

A fault on the EMALS on the Gerald R. Ford meant the carrier could not launch aircraft for five days while at sea, the US navy said in a June 7 statement, USNI News reported.

# French Agency ONERA and the Future Combat Air Systems Project

07/09/2020

By Pierre Tran

Paris – Research on optical wireless communications and future enemy threats are among the studies ONERA could provide to support the Future Combat Air System, said Jacques Cornu, program director for air combat systems at the French aerospace research organization.

ONERA has a department working on electro-optical technology, which could be adapted to provide optical wireless communications and replace radio some time in the future, he said. The US is studying adaptive electro-optical systems.

**A study of “tomorrow’s threat from adversaries” is another potential area for the FCAS project, as Onera keeps track of emerging technology, he said.**

There is concern over timing, as managers need to “prepare the teams” to ensure they will be available for work on the FCAS, to deliver the studies on time, he said.

Meanwhile, the French senate is publishing a report calling for greater government support for ONERA, seen as losing ground to its German counterpart DLR.

“DLR appears to have already secured a national budget for its contribution to the FCAS through BDLI, which is not the case for ONERA,” wrote Dominique de Legge, the rapporteur on the senate finance committee, financial website La Tribune reported July 8.

BDLI is a German aerospace trade association.

The absence of ONERA in the preliminary work on the FCAS poses “a threat to the balance in Franco-German relations in the defense industry,” the report said. “If its participation in the FCAS is insufficient, the definitive loss of know-how at ONERA poses a major risk.”

Germany has funded upstream work on FCAS, with research institutes DRL and IABG receiving state contracts, Cornu said.

## In search of technology

The demonstrator for the Next Generation Fighter in the FCAS is due to fly in 2026, with the fighter jet due to take to the skies in 2035 and enter service in 2040, Cornu said.

There will be work to be done in researching and maturing technology to see that it will be “viable” for the Next Generation Fighter, remote carriers and network which will make up the FCAS, he said.

ONERA has other technology areas which could support FCAS, including propulsion, radar, stealth, surface materials and aircraft design. Talks are going on to draw up contracts for studies expected to be launched in 2021.

On the FCAS, a major requirement is seen to lie in tackling anti-access/area denial systems, where enemy radars and missiles work in networks to detect, jam communications and destroy aircraft seeking to enter the airspace, an industry executive said.

Optical communications such as lasers would be sensitive to clouds and hot weather, but would be “impossible to intercept,” the executive said. An understanding of future threats would allow manned aircraft and remote carriers to be suitably armed and equipped.

Those remote carriers could be armed or carry payloads designed to outsmart air defense systems, fooling the enemy to think the remote carriers were fleets of manned fighters, seeking to trigger a firing of missiles and disclosing their location.

In the research community, there are concepts and work graded in the technology readiness level, which runs from one to nine. ONERA works upstream from level one to five or six, before industry takes over work in the more mature stage at level six, Cornu said.

The government, through the Direction Générale de l’Armement procurement office, commissions ONERA to pursue the early research work, to “unlock the technological barriers,” and assess whether the technology is mature or not.

ONERA then hands over to industry to pursue the most appropriate approach.

## Preparation needed

There will be no government research contract on FCAS this year for ONERA. There is concern the staff may be committed to other projects, making it hard to pursue research when the FCAS contracts land. Test benches need to be prepared and equipment brought to the right technical standard.

ONERA also needs to talk to the services for the concept of operations and technical requirement. With those discussions, the resources can be set aside.

“There is need for visibility,” Cornut said.

Industry received the first round of funding for work on FCAS, indicating there was no shortage of funds. The government awarded a two-year, €65 million (\$73.4 million) joint concept study in February 2019 and signed in February 2020 an 18-month contract worth €150 million for demonstrator Phase 1A of the FCAS project.

The DGA was not immediately available for comment.

On FCAS, Dassault Aviation is prime contractor on the Next Generation Fighter, with Airbus Defence and Space as main partner. Airbus manages the remote carriers, with MBDA as main partner. Thales is leading work on the air combat cloud network.

In work on aircraft carriers, Onera conducted aerodynamics studies for the Charles de Gaulle flagship, examining airflows from the island on the flight deck, which created turbulence and destabilized aircraft coming in to land.

Those studies may come in useful as there are media reports president Emmanuel Macron might announce plans to build a successor to the Charles de Gaulle carrier on July 14, the Bastille day national holiday marking the French revolution.

For the website of ONERA, see the following:

<https://www.onera.fr/en>

*The featured photo shows President Macron getting ready to address the French Army on the eve of Bastille Day, July 14, 2020.*

*France will make it compulsory for people to wear masks in shops and other enclosed public spaces from next month to stop a resurgence of the COVID-19 outbreak, President Emmanuel Macron said on Tuesday.*

*The virus, which killed more than 30,000 people in France, has been on the decline, but Macron said it was spreading again in some places as France opens up beaches, bars and restaurants after a two-month lockdown.*

*"We have some signs that it's coming back a bit," Macron said in an interview with French broadcasters. "Faced with that, we must anticipate and prepare.*

*"I ask fellow citizens to wear masks as much as possible when they are outside, and especially so when they are in an enclosed space," Macron said.*

*"We will put ourselves in a position where we could, for example, make it completely mandatory from Aug. 1," he added.*

*Aides later said Macron had decided on Aug. 1 "to give everyone time to organise themselves, for example the stores, and thus allow a smooth transition".*

<https://news.yahoo.com/masks-mandatory-enclosed-public-spaces-121031023.html>