

**France and Shaping a
Way Ahead for
European Defence:
Assessments by Pierre
Tran, 2022**



August 1, 2022

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European Defence Cooperation Projects: Diverse Flight Paths?

01/07/2022

Paris – France and other European nations should work together in military programs to allow Europe to reach “critical mass,” Guillaume Faury, chairman of GIFAS, the aerospace trade association, said Jan. 6, 2022.

It was important there was a “European dimension,” he said at the new year’s press conference held by the Groupement des Industries Françaises Aéronautiques et Spatiales.

Faury was answering in general terms questions concerning a clutch of European projects taking longer than expected to come to contract, or likely to be scaled back, or abandoned because of a lack of cooperation.

Faury is chief executive of Airbus, the airliner manufacturer based in Toulouse, southern France.

President Emmanuel Macron took up the rotating six-month presidency of the European Council of the European Union on Jan. 1. Macron has promoted a stronger role for the EU in defense and security, and it remains to be seen whether the German socialist-led coalition will back that call for greater European sovereignty in military matters.

Dassault Aviation and Airbus Defence and Space are locked in contract negotiations on a technology demonstrator for a future combat air system. Germany is reported to be reluctant to work with France on upgrading the Tiger attack helicopter to standard 3. Berlin is also reported to be likely to drop out of a planned cooperation for new maritime patrol aircraft, dubbed maritime airborne warfare system (MAWS).

Faury said he was optimistic on the European drone project, while the other projects would follow their own flight paths.

On the European project to build a medium-altitude, long-endurance drone, it only remained for Spain to grant approval, as partner nations France, Germany, and Italy have authorized the deal, reported to be worth some €7 billion (\$8 billion).

Germany issued in early 2020 a request for information to the US on the Boeing AH-64 Apache attack helicopter, specialist publication Janes reported Nov. 24, quoting a Boeing defense, space and security executive.

A low availability of the German Tiger, French media reported, was among the reasons Berlin was reluctant to modernize the combat helicopter, launched as a Franco-German program in the Cold War, intended to counter the Soviet and Warsaw Pact tanks that might one day advance through the Fulda Gap.

France was in partnership talks with Spain on upgrading the Tiger, but the lack of German cooperation would drive up modernization costs and cut the number of French army Tiger helicopters to be upgraded.

Germany last year acquired five Boeing P8-A Poseidon maritime patrol aircraft to replace the German navy's fleet of Orions. Although German procurement of U.S. kit was billed as an interim measure, the French concern was that Poseidon would be a permanent feature, leaving the cooperative MAWS project dead in the water.

In the absence of German cooperation, a French alternative was reported to be a military adaptation of the Falcon 10X business jet, with the prime contractor Dassault working with Thales, an electronics company.

Meanwhile, Dassault last year won orders for 49 Rafales, comprising 37 for export and 12 for France, the company said Jan. 6 in a statement.

Those orders did not include the 80 Rafales acquired Dec. 3 by the United Arab Emirates, as the contracts were signed but had yet to enter into effect. That UAE deal was expected to be entered into the company accounts this year.

Dassault delivered 25 Rafale fighter jets to export clients in 2021, in line with company guidance, compared to 13 in the previous year, the company said.

The order book rose to 86 Rafales compared to 62 in 2020.

There were no Rafale orders in 2020, the first year of the Covid pandemic, which hit nations around the world.

The financial details would be released on March 4 with its 2021 results, the company said.

Spain Invests in the European MALE UAV Program

01/28/2022

Paris – Spain formally approved Jan. 25 a total budget of €3.17 billion (\$3.5 billion) for its share of development, production and service of a European medium-altitude, long-endurance drone, clearing the way for a contract to be signed with industrial partners Airbus, Dassault Aviation and Leonardo.

That financial pledge from Madrid allows a long-awaited launch of a program for an unmanned aerial vehicle, backed by partner nations France, Germany, Italy, and Spain.

The industry ministry has set aside an initial €1.43 billion for 2022-28 for its part of the unmanned aerial vehicle program, the Spanish government said on its website. That pledge included €293 million in 2022.

The budget marks 23 percent of total program funding, with Spanish industry receiving at least 19 percent of work share, the government said.

The defense ministry will provide €1.74 billion in 2029-35, the government said. In that period, there will be funding of €125.65 million in 2029. A further €150 million has been earmarked for logistical support.

That funding covers Spain's order for four UAVs, with options for two units, and five years of service, the government said.

Michael Schoellhorn, chief executive of Airbus Defence and Space, said Jan. 25 on social media the Spanish budget approval paved the way for signing a launch contract for this "key collaborative programme, which strengthens Europe's strategic autonomy & sovereignty."

German-based Airbus DS will be the prime contractor, with Dassault and Leonardo as industrial partners. The Spanish Airbus unit will also work on the program.

That announcement from Madrid was the last funding commitment from the four-nation group, allowing the European OCCAR arms procurement agency to present a contract to industry. The agency acts on behalf of the partner nations.

That launch contract might come in the next few weeks, a defense official said.

Airbus DS declined to comment on the timing.

France earmarked in its 2022 budget €2 billion for an order for six European UAV systems, comprising 18 drones, with an initial order of four systems, followed by two more systems, as set out in the budget document Programme 146, Equipment for the Forces.

An initial French order had been planned in 2021, with the following order after 2022, but delay on the Spanish budget authorization held up the launch contract.

Germany is due to receive seven UAV systems, comprising 21 drones, while Italy is due to receive five systems, comprising 15 drones.

Difficulties over agreeing a budget and finding government funding slowed a launch of the MALE UAV project, which the French defense minister, Florence Parly, has hailed as a sign of European autonomy and sovereignty – but not at any price.

Industry, led by Airbus DS, initially pitched the UAV project for some €10 billion, prompting France to insist the budget should be capped at €7.1 billion, media reports said.

Delay in securing the funding pushed back delivery of the drone to 2028, three years late, as set out in the French budget document.

The four partner nations backed the European UAV project in a bid to resist a reliance on U.S. and Israeli UAVs, which dominate the world market. But that European support was long half-hearted, with previous drone projects landing in the waste paper basket.

The French air force flew the US-built Reaper drone in the sub-Saharan Sahel region, but US approval was needed if France wanted to fly the drone elsewhere, a French analyst said. Such reliance partly explained the call for greater autonomy and sovereignty.

The importance of Reapers flown by the French air force could be seen in the June 19 2021 video report from the spokesman of the French armed forces ministry at Cognac air base, southwest France. Hervé Grandjean pointed up the French Reapers have been capable of dropping bombs since 2019 and were due to be armed with missiles.

Spain is seen as a key ally for France.

“Spain and France are also conducting joint core capacity projects, notably the European MALE drone project and the (Tiger) attack helicopter modernisation project,” said a July 2019 French senate report.

“Spain is a major political, operational and industrial partner for France, one we must rely upon in order to advance European defence,” said the report, titled European Defence: The Challenge of Strategic Autonomy.

Franco-German Defense Industrial Cooperation: A Strategic Failure or Necessity?

02/07/2022

Paris – France would do well to discard Germany as a military and industrial partner and strike out on its own, Vauban, an anonymous group of defense specialists, said Jan. 24 in *La Tribune*, a French business news website.

“Three years after the signature of the Aix le Chappelle treaty (Jan. 22 2019), there is an incontrovertible truth: Franco-German ties in defense and armaments are a resounding failure,” the op ed said in a strident attack on the Paris-Berlin partnership.

Vauban, which describes itself as a group of some 20 defense specialists, does not give their names, perhaps raising questions of open governance.

The Vauban articles have pointed up in no uncertain terms perceived lapses in French support for the arms industry at home and abroad, with particular criticism for Germany, both under the

previous Christian Democrat-led administration and the new “traffic light” coalition of Social Democrats, Greens, and the Free Democratic Party.

French analysts, however, pointed up the need for Paris to stay close to Berlin and the compromises required on both sides of the Rhine. Large arms programs bring heavy financial burdens, calling for close partners.

The latest Vauban op ed carried a particularly harsh tone, calling out what it saw as German “treachery” in response to Berlin’s call for a study on whether to buy the F-35 fighter jet, seen as a policy switch threatening the European Future Combat Air System project.

“It is true it (F-35) is the only modern aircraft which can be certified to carry the future American B-61-12 gravity bomb, but how can it not be seen that this undoubted procurement is both a complete allegiance to NATO and the U.S., but also a betrayal of France and the FCAS project, which will have its budget gutted by the acquisition of the worst enemy of the European military aeronautics industry?” the defense group said. It was time for a “divorce.”

The U.S. life extension program for the B-61-12 weapon replaces various models of tactical nuclear bombs, namely the B61-3, 4, and 7, with a single version capable of hitting different types of targets.

Besides posing a perceived threat to FCAS, Vauban points to Germany pulling out of the Tiger Mk 3 attack helicopter upgrade, the maritime airborne warfare system (MAWS) – a project for a new maritime patrol aircraft, and the entry of Rheinmetall into a project for a new tank and team of vehicles, the Main Ground Combat System.

The notion that France should break away from Germany was unwise, analysts said.

“France and Germany are two large countries which cannot be ignored,” said Renaud Bellais, a director at Fondation Jean-Jaurès, a think tank.

A partnership with Germany made sense, with cooperation with the UK more complicated in the wake of Brexit, he said.

“It’s a real concern,” he said.

London had dropped a plan to build its own satellite communications network due to lack of funds, after being ejected from the European Galileo system in response to Britain leaving the European Union.

If Germany acquired the F-35, that would complicate the funding for FCAS, he said. France could go it alone, but the development and production cost would be much higher, the order would be smaller, and the production line would close earlier – maybe after 10 years.

“France and Germany need to make compromises and there is a real negotiation,” he said.

“There is interdependence, which is different from dependence. It is wrong to be idealistic and it is wrong to be over critical regarding cooperative programs between both countries.”

Major arms projects last about 50 years, so it was essential to put the programs on a sound footing, with cooperation in political, military and industrial terms, he said.

The expected contract for the European medium-altitude, long-endurance drone showed compromise was eventually possible, he said.

France, Germany and Spain are partner nations on the planned unmanned aerial vehicle, providing a budget of some €7 billion (\$8 billion).

The estimated cost of the FCAS project was €80 billion-€100 billion, with partners France, Germany, and Spain sharing the financial burden.

The 2020 total defense spending of the 26 member states of the European Defence Agency was €198 billion, up five percent from the previous year, the EDA said Dec. 6 2021. But cooperative procurement of equipment fell to a new low of €4.1 billion, down 13 percent.

The sale last year of 80 Rafales, worth €14 billion, to the United Arab Emirates could be seen as reducing the importance of German funding to France on the FCAS, specialist newsletter *Defence Analysis* reported in its January edition. That UAE deal will bring in a further €2 billion for the weapons.

The UAE deal will boost revenue for Dassault, Safran, Thales, and the other 400 or so companies in aeronautics, but will not flow directly to the Bercy finance ministry.

The government receives two percent levied on export deals, to recover funds for development of national arms programs when those weapons are sold to clients abroad, the spokesman for the armed forces ministry, Hervé Grandjean, told journalists Dec. 9.

"Dassault is not the French state," said Jean-Pierre Maulny, deputy director of Institut des Relations Internationales et Stratégiques, a think tank. "France cannot work all on its own."

For François Lureau, director of consultancy EuroFLconsult and former procurement chief, the op ed by Vauban gave "a nostalgic view of 50 years ago."

"What could France do on its own?" he said, adding that France could not have operated in the sub-Saharan Sahel region without US help.

"Defense is politics," he said. FCAS was a political decision, with the government providing funding and supporting industrial capacity.

There was concern as Germany relies heavily on trade with Russia, but if Europe wanted political weight, then strategic autonomy needed to be considered, to reduce dependency.

"It is very complicated, hard to manage," he said.

A senior executive said, "France cannot go on its own. Where else can they go?"

The UK was seen as changing every five minutes, depending on what Boris Johnson felt on the day, the executive said. Italy had teamed up with the British, while it took a couple of years for Spain to find funds for the European drone.

“The order for the drone is a first step,” the executive said. “Nobody thought it would happen. Cooperation — it takes time.”

There is concern in some French companies over the arms export rules agreed in the Franco-German treaty, which some see as giving Berlin too great a say on deals with nations such as Egypt and Saudi Arabia, where there are concerns over human rights violation. The German government and the powerful Bundestag parliament prefer sales to European nations – although Ukraine is something of a sensitive subject just now.

The Aix le Chapelle accord, also known as the Treaty of Aachen, entered into force Jan. 22 2020, a year after the signing by the then German chancellor, Angela Merkel, and French president Emmanuel Macron. That was an agreement on bilateral cooperation and integration, extending the landmark Ellysées treaty signed 56 years before.

Sébastien Le Prestre de Vauban was a military engineer who served mainly in the 17th century, and is remembered for his distinctive star-shaped fortifications, or bastion forts.

Indonesia Deepens French Defense Industrial Cooperation: Rafales Displace Su-35 Buy

02/10/2022

Paris – Indonesia ordered on Feb. 10, 2022, 42 Dassault Aviation Rafale fighter jets and missiles in a package worth \$8.1 billion, with delivery of a first batch of six units in 2025, a French defense official said.

“The chairman and CEO of Dassault Aviation, Eric Trappier, and the Air Vice Marshal Yusuf Jauhari, Head of Defence Facilities Agency of the Indonesian Ministry of Defence, signed the contract for the acquisition by Indonesia of 42 latest-generation Rafale aircraft, at a ceremony held today in Jakarta,” the aircraft company said in a statement.

Meanwhile, French warship builder Naval Group signed on the same day a memorandum of understanding with PT PAL, an Indonesian state-owned shipbuilder, for industrial cooperation and opening a joint research and development center for a prospective local build of the Scorpene diesel-electric attack submarine.

The Indonesian Rafale order will go into effect this year when a down payment is paid, the defense official told reporters. The fighter deal is the result of 18 months of detailed talks following the signing of a letter of intent by the French and Indonesian defense ministers.

The French armed forces minister, Florence Parly, flew out for the contract signing, marking the importance attached to the fighter deal and the significance attached to the Indo-Pacific region.

A major arms deal in the Indo-Pacific region could be seen all the more significant in the wake of the Australian cancellation of a project to build 12 French designed Barracuda Shortfin conventional attack submarines.

That submarine deal would have been worth some €30 billion (\$34 billion).

Indonesia will likely pay for the first batch of six Rafales from the some \$600 million earmarked for buying the Sukhoi Su-35 fighter, business website *La Tribune* reported.

That deal with Russia was dropped after the U.S. warned such a purchase would put Jakarta in contravention of the Countering America's Adversaries Through Sanctions Act.

That act went into effect in 2017, imposing U.S. sanctions against Iran, North Korea and Russia.

Indonesia had previously offered payment in palm oil, coffee and other commodities in exchange for 11 Sukhoi Su-35 fighter jets, when Russia was hit by U.S. and European sanctions in response to the annexation of Crimea, east Ukraine.

Rafale deal

The Rafale deal includes aircrew training, logistical support of local airbases, and a training center with two full-mission simulators, Dassault said.

No details were available on the missiles in the deal. MBDA declined comment.

Trappier signed a partnership agreement with PPTDI, a local aeronautics company, for implementation of 10 projects in engineering, electronics, and the engines, daily *Le Figaro* reported. Such local offset deals will account for 85 percent of the contract. Le Figaro is owned by the Dassault company.

"Indonesian industry will benefit from a substantial industrial return, not only in the aeronautical sector, but also in all the other major areas of cooperation relating to the broad portfolio of dual technologies mastered by Dassault Aviation and its industrial partners, Safran Aircraft Engines and Thales," the aircraft company said.

The Rafale deal comprises 30 single-seat and 12 twin-seat fighters at the F3-R standard, with an active electronically scanned array radar and capable of firing the Meteor long-range, air-to-air missile. The French air force flies that model.

Dassault has sold a total 471 Rafales, of which 279 were in the export market and 192 for the French air force and navy. Those foreign sales included second hand fighters previously flown by the French air force.

That makes a ratio of some 60:40 of foreign over domestic sales, compared to 50:50 for the Mirage 2000 fighter jet, which preceded the Rafale.

France sealed a notable arms deal with Indonesia in 2012, with the supply of 34 Nexter Caesar 155 mm 52 caliber truck-mounted artillery, with the €108 million deal financed by a bank loan.

That buyer's credit allowed Jakarta to pay a 15 percent down payment and finance an 85 percent loan, backed mostly by French commercial banks. That bank loan ran for under five years and carried a lending margin below 200 basis points. A basis point is 1/100th of a percentage point and is keyed to official interest rates.

The Indonesian navy lost the KRI Nanggala 402 submarine April 21 2021, which sank with the loss of all 53 crew. The German-built boat had been engaged in a live torpedo firing exercise in the Bali sea, the BBC reported. The 40-year old submarine had gone through a refit in 2012.

Naval Group executive chairman Pierre Eric Pommellet signed the MoU with the Indonesian partner on local cooperation.

"Naval Group and PT PAL signed a Memorandum of Understanding seeking to leverage the capabilities of both partners to meet the growing requirements of the Indonesian Navy," the French company said in a statement.

"Both companies are leaders in their markets and confirm their willingness to further increase their cooperation to provide solutions to meet the needs of the Indonesian Navy but also by opening a joint R&D center involving other Indonesian companies."

Parly said on social media, "Indonesia announced the intention to buy two French-built Scorpene submarines. Indonesia is equally committed to cooperating with our industry in the domain of submarines."

The Russian Invasion of Ukraine and Its Initial European Consequences

02/25/2022

Paris – "The fate of not only our state is being decided, but also what Europe will be like," the president of Ukraine, Volodymyr Zelenskiy, said Feb. 24.

Zelenskiy was addressing the nation on the day of the Russian early morning missile attacks on the East European nation, followed by assault on land, sea and air ordered by Russian president Vladimir Putin.

Ukraine was offering assault rifles and urged people in Kyiv to prepare Molotov cocktails, as Russian troops entered the northern suburbs the following day.

Zelenskiy's remark raised questions on whether the Russian assault on a democratic sovereign state would bring change in the European architecture for security and defense, and what those reforms might be.

The Russian offensive raised a range of security issues, such as how to deal with energy dependence, Russian food supply, and the need to deal with cyber warfare.

On the military front, there might be questions on deployment of Nato troops and missiles in central Europe and the Baltic nations, members of the alliance.

"This changes everything," Timothy Garton Ash, professor of European studies at Oxford University, said Feb. 24 on BBC Radio 4. "We have to fundamentally rethink how we approach Russia, how we approach European security, how we approach a larger global architecture."

"Peace on our continent has been shattered," Nato secretary general Jens Stoltenberg said Feb. 24.

While Ukraine was not in the transatlantic alliance, Nato was holding Feb. 25 an emergency virtual meeting of heads of state and government of the 30 member states, to decide how to respond to the Russian assault.

Food, Energy Security

On the broad security front, Putin ordered investment of \$52 billion in Russian agriculture, to cut reliance on food imports, website *La Tribune* reported.

Russia effectively held a "food weapon," said Henri Biès Peré, head of the FNSEA farmers union, with 18 percent of the world wheat market, the report said. By grabbing Ukraine, which held 12 percent, Moscow controlled a third of the world market.

The Western nations had banned food exports among sanctions, in response to Russia seizing the Crimea region, eastern Ukraine, in 2014. That prompted Russia to become a leading wheat exporter after previously relying on imports.

Russia was also self-sufficient in poultry and almost so in pork production, following investing in industrial farming.

With lower quality standards, Russia grabbed market share from French wheat producers, who had been market leaders in Algeria, Egypt, Morocco, and Turkey. Russia had also won a share in Asian markets.

That strategy had political significance, as those nations would not "bite the hand that feeds them," and could be considered "natural allies," the report said.

In energy, Europe relied on Russia for some 40 percent of natural gas, with Germany vulnerable due to a switch away from nuclear power and plans to abandon coal by 2030.

Berlin suspended Feb. 22 a controversial certification of the Russian Nord Stream 2 gas pipeline, worth \$11 billion, and U.S. sanctions include the main contractor on the pipeline, Nord Stream AG, a Swiss-registered company, a unit of the Russian energy giant Gazprom. The industrial partners on that Russian pipeline, which bypasses Ukraine, comprise the French state-owned company Engie, Shell, Austrian firm AMV, and German companies Unipol and Wintershall DEA, Reuters reported.

That German suspension was just for now, but raised the question how Europe, and in particular Berlin, would tackle long-term dependence on Moscow.

The use of energy as a weapon for power projection could be seen with the International Energy Authority accusing Moscow of cutting 25 percent of gas supply in recent winter months, fuelling price rises to record highs in Europe.

Win the Information War

The French chief of staff, Army Gen. Thierry Burkhard, told Oct. 1 reporters there was need “to win the war before the war begins.”

Burkhard, a paratrooper who was previously spokesman for a previous chief of staff, pointed up the need to tackle the information war, and to train the services for “high intensity warfare.”

The opponents spread false information in a time of competition, contestation, and confrontation, and it was no more peace, crisis, and war of former times, he said.

There was also need to adapt the services from the asymmetrical warfare on the Barkhane mission in the Sahel sub-Saharan region, he said, where French troops did not receive incoming artillery fire, and pilots did not fly against air defense systems.

Russian forces fired cruise missiles, flew fighter jets, and their troops seized or destroyed 80 military sites on the first day of the assault on Ukraine.

France to Send Weapons to Ukraine

“We are in contact with the Ukraine authorities to supply them with the defense equipment they need,” French president Emmanuel Macron said in a formal written address read out Feb. 25 for him to both houses of parliament.

France was making further commitments to Nato “to protect the territory of our Baltic and Romanian allies,” he said, and would bolster the fight against manipulation of information and cyber-attacks from foreign powers.

Macron had earlier met former heads of state François Hollande and Nicolas Sarkozy before the solemn parliamentary address.

"The present crisis stems from the decision planned, decided and organized by Russia to invade Ukraine," Macron said. France would adopt sanctions, which would have consequences for Russia and France.

The sanctions would show that Europe was not a union of consumers but a political project tied to values and principles held in common, he said.

"It is in this way the European Union must truly become a more sovereign power in energy, technology, and the military," he said.

Ukraine would welcome delivery of weapons such as patrol boats, armored vehicles, and Caesar artillery, parliamentarian Jean-Charles Larsonneur told Feb. 23 the Association des Journalistes de Défense press club in a phone briefing.

Intelligence, surveillance and reconnaissance missions were important and France flies ISR missions from Romania, he said. Larsonneur delivered a report on Ukraine to the defense committee of the lower house National Assembly.

France, since Jan. 1, is the lead nation in NATO's very high readiness joint task force, set up in 2014 following Russia's attack on Ukraine and Middle East crises.

In NATO's enhanced forward presence, there are four multinational battalion-sized battle groups rotating through Estonia, Latvia, Lithuania and Poland. There is also a NATO multinational brigade based in Romania.

Macron told the NATO summit France will send in the next few weeks 500 troops to Romania as the "lead nation," with other NATO partners free to deploy soldiers, and also 200 troops to Estonia, alongside a British and Danish deployment, the spokesman for the armed forces ministry, Hervé Grandjean, told television channel BFM TV.

France was also as of Feb. 25 flying from France two air patrols a day, comprising two Rafale fighters and an A330 MRTT inflight refueling tanker in each patrol, he said, with the patrols flying on the eastern flank of Poland as part of a NATO air defense mission.

In mid-March the French air force will send four Mirage 2000-5 fighters to Estonia, with some 100 personnel, he said. These French deployments were intended as signs of "reassurance" to NATO members close to Ukraine.

Macron had discussed a fresh look at European security when he met Feb. 7 Putin in Moscow in a bid to "de-escalate" the crisis.

Macron spoke to Putin on the night of Feb. 24, with an exchange direct and brief, *Le Monde* reported.

Business Sanctions

The European Union, the U.K, and the U.S. were adopting a fresh batch of sanctions against Russia, which included freezing foreign accounts of Russian banks, suspending Aeroflot airline flights over Britain, and assets held by Russian parliamentarians and oligarchs close to Putin.

The Ukrainian foreign minister, Dmytro Kuleba, criticized the EU for declining to suspend the Swift system of interbank transfers for Russia.

“I will not be diplomatic on this,” he said on a social platform. “Everyone who now doubts whether Russia should be banned from Swift has to understand that the blood of innocent Ukrainian men, women and children will be on their hands too. BAN RUSSIA FROM SWIFT.”

Stock in Thales, an electronics company, was one of the rare shares which rose Feb. 24, when financial markets fell on concerns over the Russian invasion.

Thales had sales in Russia of less than one percent of total turnover, a spokesman said, with some 130 staff in that country. Some 100 personnel worked in the civilian digital, identity and security unit, which handled bank cards and SIM cards.

In aeronautics, Thales supplied cockpits for aircraft including the Sukhoi Superjet 100 regional jet, and components for space projects.

Safran, which builds aero-engines, received half its titanium from the Russian company VSMPO, executive chairman Olivier Andriès said Feb. 24, reporter Vincent Lamigeon said on social media. The French company would speed up diversification of supply but was presently relying on VSMPO. Safran had built up its stock of titanium and had enough until autumn.

Rolls-Royce, a British engine maker, relied on Russia for 20 percent of its titanium and was also looking for other sources of supply, Reuters reported.

Dassault Aviation was understood to have sold the Falcon business jet in Russia but no details were available.

Rearming Europe?

A fresh debate on rearming Europe was likely, Mark Leonard, director of the European Council for Foreign Relations, said in a note *Lessons for Europe from Munich Security Conference 2022*. Such a discussion was all the more likely if Russia stored nuclear weapons in Belarus.

How Turkey would balance its ties to Russia and the West was one of the issues, he said, and what was the outlook for EU member state Hungary.

“European leaders coming out of the Munich Security Conference 2022 should focus on how to invent a new West in which they are less infantilised and can actively shape the new rules of engagement that will emerge from this crisis,” said Jana Puglierin, head the ECFR Berlin office and senior research fellow.

France and the Ukraine Crisis, 2022

02/16/2022

Paris – President Emmanuel Macron's Feb. 7, 2022 flight to Moscow could be seen as the doves' diplomatic attempt to defuse the crisis over Ukraine, a counterbalance to the hawks dispatching troops and weapons to warn off Russian forces massed on the border with its neighbor.

Macron spent five hours in talks behind Kremlin closed doors with Russian president Vladimir Putin, with the French head of state flying the next day to Kyiv to meet Ukrainian president Volodymyr Zelenskiy, and then on to Berlin to see German chancellor Olaf Schulz.

The French aim was to "de-escalate" the crisis rising from Russia gathering some 130,000 troops and armor on the border with Ukraine, previously part of the former Soviet Union.

Moscow may have denied any plan to invade Ukraine, but there is deep concern Moscow will order a military move, such as seen in 2014 by seizing the Crimean Peninsula and Donbas region, eastern Ukraine.

Macron had assumed the role of peace broker, carrying the badge of French political leader, as he may hold the six-month rotating presidency of the council of the European Union, but he knew he had no mandate to speak for the 27-strong EU. And France may be a NATO member, but Paris also had no remit to speak for the transatlantic alliance.

Macron had actively taken up the role of the nation's top diplomat, spending precious political time in search of a peaceful solution to a perceived Russian threat on an East European nation. France is due to go to the polls in April, and Macron has yet to declare candidacy in the election for the five-year tenancy of the Elysée president's office.

That diplomatic whirlwind may well have been a French drive, but it may also be seen as part of Macron's wider mission of boosting the role of Europe in world politics, his pursuit of the concept of European strategic autonomy, including a military capability, separate from NATO and Washington.

Among the points Macron and Putin agreed at the Moscow summit was resumption of talks over the territorial dispute in Donbas under the 2015 Minsk agreement. Officials from France, Germany, Ukraine and Russia met Feb. 10, but the four members of the Normandy format came away with little to show for resolving the low-level conflict in the region.

Macron also discussed a new security order for Europe at the Moscow summit, as Russia has demanded a roll back of the NATO membership and missiles deployed around Russia. France has urged grave caution but has not advised French nationals to leave Ukraine, pointing up a distinct approach from at least 30 other nations, which afternoon daily Le Monde reported Feb. 14 have told nationals to leave the country.

Paris insists on an independent verification of threat, a cornerstone of its pursuit of strategic autonomy. France has its own intelligence gathering means on land, sea, air and in space, and will have access to intelligence gathered and shared by NATO partners. That independent approach could be seen in the decision by the then President Jacques Chirac to stay out of the U.S.-led 2003 invasion of Iraq, a decision which bruised relations between Paris and Washington for years.

After the Moscow meeting, the Russian spokesman disputed media reports that Putin had assured Macron that there would be no further military moves around Ukraine.

Russian intelligence agencies reportedly have a common practice of recording events, perhaps prompting the question whether there is a recording of that high-level exchange of views, perhaps resolving who said what and when.

Reinforcing Eastern European NATO States

The UK defense minister sparked controversy after the *Sunday Times* reported Feb. 13 that Ben Wallace said there was a “whiff of Munich in the air.” British authorities sought to play down that remark, which implied Russia might play the role of Adolph Hitler, the BBC reported the following day.

NATO was undergoing brain death; Macron told *The Economist* in 2019. But the crisis seems to have sparked something of a cerebral recovery, with NATO members rallying around to show support for Ukraine, which seeks to join the military alliance.

A first batch of U.S. airborne troops landed Feb.4 in Germany, part of a 2,000-strong deployment to Poland and Romania, with 1,000 soldiers moving from Germany to Romania.

The UK was sending 350 Royal Marines to Poland, adding to the 100 army engineers already there, helping to strengthen the border with Belarus.

Germany was sending 350 more soldiers to Lithuania, reinforcing some 600 German troops already there and accounting for around half the battle group.

Russia has drawn a red line against NATO ever accepting Ukraine as a member, and it remains to be seen whether the alliance will accept Kyiv’s application, which would pledge collective defense in the event of an attack. Russia has demanded a NATO retreat from its borders, with weapons and troops pulled out of former Soviet bloc states which joined the Atlantic alliance after 1997. Moscow has also called for the NATO withdrawal of intermediate-range missiles from Europe, and recognition and autonomy of the Donbas region.

Russia has issued Russian passports to Ukrainians in the region, underlining its territorial claim.

U.S. president Joe Biden has clearly said there would not be armed conflict with Russia, which would spell another world war. The Western partners, including the European Union, have pledged to take severe economic sanctions if there were a Russian invasion.

Europe vs Putin

After the Kyiv meeting, Macron flew to Berlin, allowing a late working dinner with Scholz and the Polish president, Andrzej Duda, bringing together the three leaders of the Weimar Triangle, the cooperative group of France, Germany and Poland. "Our common goal is to avoid a war in Europe," Scholz said.

Scholz was just back from meeting Biden in Washington for talks. Before Macron flew to Moscow, he twice called Biden, and called Duda, UK prime minister Boris Johnson, Putin, Scholz, NATO secretary general Jens Stoltenberg, and Zelenskyy, clearing the ground for the meeting with Putin, *The Economist* said on social media.

That was a departure from Macron's previous meetings with Putin, notably in 2019 at the Brégançon medieval fort, the French official holiday retreat on a Mediterranean island, and in 2017 at the Versailles palace, west of the capital. The Elysée reportedly did not brief Western allies before those meetings.

"These more than five hours of talks make us realise how different the Putin of today was to the Putin of three years ago," said a French source briefed on the Moscow talks, Reuters reported. The Russian leader spent most of the time "rewriting history from 1997 on."

Putin told the BBC that he had been forced to moonlight as a taxi driver in the 1990s as he earned so little after the collapse of the USSR.

"Sometimes I had to earn extra money," Putin said. "I mean, earn extra money by car, as a private driver. It's unpleasant to talk about to be honest, but unfortunately that was the case."

Putin's remarks were in the BBC documentary film, *Russia, Latest History*, which aired Dec. 12 2021.

Putin worked for the KGB intelligence service and resigned after the 1991 coup against president Mikhail Gorbachev, which led to the collapse of the Soviet Union. Putin went on to work with Anatoly Sobchak, mayor of St Petersburg.

Putin reportedly used the familiar French "tu" rather than the more formal "vous" form of address when he saw Macron at the meeting. Macron had declined to agree to give a Russian request for a DNA sample for a Covid test, which meant the meeting was held at a long table, sparking many visual jokes on social media.

A View from Latvia

The Latvian deputy prime minister and defense minister, Artis Pabriks, told Feb. 7 the German Marshall Fund of the United States, that while the US informed Latvia and the other Baltic states on US negotiations and plans with Moscow, it was not clear the Latvian government had been informed of Macron's "talking points" before he flew to Moscow.

Macron made a call Feb. 5 to Latvian prime minister Krisjanis Karins, before the meeting with Putin, the list from The Economist on social media shows.

Are those who are negotiating with Putin “representing the West or are they mediators between the West and Moscow?” Pabriks said, adding that Russia’s demands extended beyond Ukraine, and Moscow was seeking expansion against the West, Europe, the U.S. and Canada.

Pabriks evoked the then UK prime minister Neville Chamberlain and the 1938 Munich agreement – and referred to the film Munich: The Edge of War which recently started showing on Netflix. Macron should have flown to Kyiv first and discussed the “concessions” before going to Moscow, Pabriks said.

Franco-Russian Ties

France has strong links with Russia. That can be seen in the then leader of the Free French forces, Gen. Charles de Gaulle, sending French pilots to fly alongside the Russians on the Eastern Front in the Second World War.

Those French air force pilots formed a squadron, dubbed Normandie-Niemen, flew Yakovlev Yak 1 fighter planes 1943-45, and supported Russian troops in the battle of Kursk. Moscow awarded the French squadron the distinction of Hero of the Soviet Union.

The present Normandie-Niemen squadron flies Rafale fighter jets from Mont-de-Marsan air base, southwest France.

In 2011, the then president, Nicolas Sarkozy, backed a controversial sale worth €1.2 billion (\$1.4 billion) of two Mistral class helicopter carriers to the Russian navy, with options for two more.

The Baltic nations, the U.S., Ukraine, and other central European allies criticized that deal, which stood to boost Russian force projection.

Sarkozy’s successor, François Hollande, cancelled the Mistral carrier deal in 2015 and repaid Russia €948 million, comprising €893 million for building the two warships and €55 million for adapting Russian equipment for fitting on the vessels.

The French authorities declined to pay the French shipbuilder, Naval Group, an estimated €200 million payment for building the two warships, Vladivostok and Sevastopol, which were later sold to Egypt.

An Update on Arquus: February 2022

02/17/2022

Paris – Arquus, a French builder of light and medium armored vehicles, has set a high priority on winning export deals in 2022, after the COVID pandemic slashed foreign orders last year, executive chairman Emmanuel Levacher said Feb. 16.

Foreign deals accounted for some 10 percent of orders last year, with domestic contracts making up 90 percent, he told the annual news conference.

“2021 was a difficult year for orders,” he said, with foreign orders failing to hit targets.

On the domestic front, France was expected to launch in March or April a competition for some 9,400 army trucks, worth some €3 billion (\$3.4 billion), which was expected to attract fierce foreign competition.

Arquus has partnered with Soframe, a unit of the Lohr company, to pitch in that tender, which will include fuel trucks.

Arquus, a unit of Swedish truck maker Volvo, won orders worth some €68 million from overseas clients, Levacher said. Most of those foreign orders came from five or six nations in the Middle East and Africa.

The COVID crisis hit export orders as there were restrictions on overseas travel and sparse attendance of trade shows, notably DSEI in London and IDEX in Abu Dhabi, he said. Meanwhile, there was strong foreign competition, particularly from Turkey, which “pushed its geopolitical advantage.”

The return of trade shows, including the French Eurosatory land weapons exhibition, was expected to help business.

Europe as Target Market

Arquus was now focusing on export deals in Europe, where markets were more open and accessible, he said, and was seeking to cut dependence on the Middle East and Africa. The company was pitching its Sherpa four-wheel drive light armored vehicle in a competition in Romania and was competing in a Greek competition for military trucks. There were also tenders in Estonia and Sweden.

Sales to European forces were also seen to be more acceptable in public opinion, as there were allegations of human rights abuse in some Middle Eastern nations.

More generally, there was something of a “schizophrenia” in the European Union, which is setting up its European Defense Fund (EDF) in the pursuit of greater sovereignty and autonomy, while the EU was also considering a formal adoption of social responsibility concerns on the arms industry in Europe, Levacher said.

Such a recognition of social responsibility was “extremely dangerous,” as that would deter banks and investors from making funds available for arms companies.

As part of its European drive, Arquus was among 18 companies from some 10 partner nations taking part in two EDF research projects, dubbed FAMOUS 1 and 2, he said.

That acronym refers to the European Future Highly Mobile Augmented Armored Systems project, backed by a budget of €9.92 million, of which €9 million was from the EU, Forces Operation Blog (FOB) reported.

Upgrades and Services

Arquus saw a prospective boost in business from foreign client nations upgrading and servicing their fleet of armored vehicles, with Kuwait setting up a local workshop, while Qatar was conducting a retrofit of the six-wheel drive Véhicule de l'Avant Blindé (VAB) armored personnel carrier.

Qatar, which has a fleet of some 300 VABs, had initially considered upgrading 170, and had decided to fit out 120 units in the Ultima kit.

Operators of the VAB, such as Cyprus and Morocco, were seen as prospective clients for an Ultima upgrade, which included a remote-controlled machine gun turret, Slate anti-sniper acoustic system, anti-mine protection for the soldiers' seats, and updated driver's dashboard.

Arquus saw a boost in domestic orders, sealing deals worth €275 million last year, mainly from the Scorpion army modernization program and service support.

Sales from overseas clients accounted for some 25 percent of 2021 revenue, with the balance from France, Levacher said. The aim was a 50:50 balance of foreign and domestic sales.

Overall sales last year rose six percent, "not great," he said, and followed a 10 percent revenue fall in 2020. "Profit was not great" last year, he said, and rose in "the single figures."

The sales forecast for 2022, 2023 and 2024 was "moderate growth," and the target remained hitting €1 billion by 2030, he said.

There was an "uncertain environment," with political uncertainty due to the election, he said, Covid effects hitting client nations, and tension on the domestic supply chain, particularly in the auto industry. There was controversy on arms exports, and geopolitical uncertainty in the sub-Saharan Sahel region, Ukraine, and Eastern Europe.

French Tenders

There was "great satisfaction" with the French market last year, due to execution of the Scorpion program, which consists mainly of the Griffon troop carrier and Jaguar combat and reconnaissance vehicle.

In the outlook for domestic orders, the French Direction Générale de l'Armement procurement office was expected to launch in March or April a competition for a fleet of army trucks, in a deal worth some €3 billion.

Deliveries would run for 15 years, with first shipment in 2024. That program, replacing a Renault Trucks fleet, would include four- and eight-wheel drive vehicles, and a fuel truck. The air force and navy would receive a few trucks, with the army as the main operator.

The Dutch company DAF, Mercedes of Germany, Italian manufacturer Iveco, and Rheinmetall Man of Germany were expected to enter that tender.

In other French tenders, a competition was expected this year for some 40 robots to detect mines, to replace the fleet of Buffalo anti-mine vehicles, an industry source said. The requirement was for a remote-controlled robot of three to five tons, to be towed behind the Griffon troop carrier, which can hit a high speed of 70 km/hour. That budget will be less than €100 million, with a first delivery in 2024. French state-owned Nexter and Milrem, an Estonian robotics specialist, were expected to pitch rival products.

Technology explored in the EU-backed FAMOUS study will feed into a French project, dubbed Véhicule Blindé d'Aide à l'Engagement (VBAE). Belgium has said it was ready to work with France on the VBAE, which will replace a French scout car, the Véhicule Blindé Léger (VBL).

The French requirement for VBAE was for 1,900-2,500 units, weighing less than eight tons, with a first delivery in 2027.

UK and France Joint Weapons Development Moves Forward: February 2022

02/25/2022

Paris – France and the U.K. signed Feb. 18 contracts with MBDA for development of next generation cruise and anti-ship missiles, with the weapons due to enter service by 2030, the European missile builder said in a statement.

The long awaited agreement for work on risk reduction was significant, industry executives said, backing a rare case of industrial cooperation between France and the U.K., which have gone through a time of tension between president Emmanuel Macron and prime minister Boris Johnson.

“The United Kingdom and France have confirmed the launch of the preparation works for the Future Cruise/Anti-Ship Weapon (FC/ASW) program, after the signature today of a government agreement and associated contracts by the French Direction Générale de l'Armement (DGA) and the British Defence Equipment & Support (DE&S), MBDA said.

“These preparation works will focus on the co-ordinated development of a program of next generation deep strike and heavy anti-ship weapons,” the company said.

No details of the budget and development time were available.

The agreement signed by the procurement offices was a sign of “drop in tension” between Britain and France, a defense executive said, the start of a welcome change in political relations between the two nations.

There was a “return of dialog,” reflecting greater European cooperation sparked by the crisis in Ukraine, the executive said.

President Emmanuel Macron called Boris Johnson to brief the British prime minister before he flew to Moscow for a Feb. 7 summit meeting with Russian president Vladimir Putin, in a bid to defuse the Ukraine crisis. That call to Johnson was among those the French head of state made to leaders of allied nations, including two to U.S. president Joe Biden.

The Ukraine crisis helped move the project along but was not the “trigger” factor, a second executive said. There was need to resume work on the project, and on the British side, there was a particular perceived threat from China.

The teams of the two partner nations had been ready to work on the risk reduction phase but had to wait six months due to lack of French political will, the second executive said. A return of political backing allowed the procurement chiefs — rather than the ministers — to sign the intergovernmental agreement.

“That was the right level,” the second executive said.

A chill in relations was seen when the French armed forces minister, Florence Parly, pulled out of a meeting with her British counterpart, Ben Wallace, last September.

That ministerial meeting was due to be held one week after the U.K., Australia and the U.S. announced a plan to build nuclear-powered attack submarines for the Australian navy under the AUKUS agreement.

A memorandum of understanding on the MBDA development work had been due to be signed at that ministerial meeting, which the French minister had scuppered.

The AUKUS project sank a project for Naval Group, a French shipbuilder, to design and build a diesel-electric attack submarine for Australia, in a deal estimated to be worth some €30 billion (US \$34 billion).

France imposed a hold order on relations with the UK, as British officers played a key role in opening talks between Canberra and Washington, after the Australian navy switched interest to sailing nuclear-powered boats instead of conventional submarines.

Australia changed its procurement plan due to a heightened perception of threat from China, after picking in 2016 Naval Group for studies for the Australian Navy’s Attack class of boats.

The MBDA contract for cooperative development opened up a new phase in an Anglo-French replacement for the Scalp-Storm Shadow air-launched cruise missile, and Exocet and Harpoon anti-ship weapons.

“It will assess two complementary missile concepts, expected to be fielded at the end of the decade: a subsonic low observable concept and a supersonic, highly manoeuvrable concept,” MBDA said.

The development work follows MBDA’s studies in the FC/ASW concept phase, which had a budget estimated at €100 million.

The planned weapons will be a “game changing capability” to hit hardened targets on land and at sea, at very long distance, beating air defense systems in “increasingly contested battlespace environments,” the company said.

There was risk of two classes of next generation European cruise missiles, a third defense executive said, with the MBDA FC/ASW missiles potentially competing with remote carriers from Airbus.

If the Airbus remote carriers were just electronic jamming, loitering systems, there would not be direct competition with MBDA missiles, the executive said, but arming the former system would effectively split the market for long range weapons.

Remote carriers are a key part of the European project for a Future Combat Air System, backed by France, Germany and Spain. Airbus is prime contractor for the RC, with MBDA and Thales as industrial partners.

Airbus displayed a full-scale model of an RC at the 2019 Paris air show.

France and the Ukraine 2022 Crisis: France Sends 2nd SSBN to Sea

03/11/2022

Paris – The French fleet air arm is flying a daily patrol of two Rafale fighter jets and a Hawkeye spy plane over Romania and Bulgaria, part of a NATO enhanced Vigilance Activities (eVA) mission, a French navy officer said March 8.

Those flights are from the Charles de Gaulle aircraft carrier, in response to Russian invasion of Ukraine, which has led to heightened military activity to support Nato allies close to the besieged East European nation.

It takes 45 minutes for a Rafale pilot to fly from the aircraft carrier, sailing in the Eastern Mediterranean, to reach Romanian airspace, said the officer. The fighter jets are also flying in a second operation, supporting the European Union Althea mission in Bosnia and Herzegovina.

On the 14th day of the Russian invasion, there was a 12-hour ceasefire for Ukrainian civilians to take humanitarian corridors to escape artillery and rocket attacks. The Red Cross has called “apocalyptic” the conditions at the southern sea port of Mariupol.

Some two million refugees have left Ukraine, the UN has reported.

The French fleet air arm fighter jets and airborne warning and control system (AWACS) plane fly over the Black Sea, which Russia has effectively closed to warships of Nato allies since Christmas.

“That was no surprise,” the officer said.

The officer declined to confirm *Le Telegramme*, a regional paper, which reported March 1 a second French nuclear ballistic missile submarine has been ordered to take to sea.

“No comment. You have to call the other side of the Seine,” the officer said, referring to the president’s Elysée office.

This was the first sailing of two French nuclear missile boats since 1981, sparked by the Euromissile crisis, afternoon daily *Le Monde* reported. There is usually one nuclear ballistic missile submarine at sea.

Aircraft Carrier on Station

France has redeployed the Charles de Gaulle carrier to fly “air police and reconnaissance” flights over Romania, armed forces minister Florence Parly said March 3 on BFM TV.

The fighters and spy plane would “observe and deter,” she said, with the fleet air arm adding to air force patrols flying from France in response to the Russian assault.

The carrier task force had been on the Clemenceau mission against threats in the Middle East.

France has also sent some 350 troops and armored vehicles to Romania, part of the Nato “defense and deterrence posture,” the transatlantic alliance said March 8. The French armor includes Leclerc heavy tanks, photos with the statement show.

The French carrier-borne fighter jets were also flying a “a mission of presence,” the navy officer said, supporting the EU Althea mission in Bosnia and Herzegovina.

The EU, with its 700-strong European Union Force (EUFOR), backs the Althea operation, which trains the armed forces of Bosnia and Herzegovina to bring them to NATO standards.

Tension has been rising in Bosnia, with Serbian separatists seeking to form their own armed forces, effectively breaking the terms of the Dayton-Paris agreement, which brought an end to the Serbo-Croat war in 1999.

“At this time when the security equilibrium in Europe is shaken, the EU demonstrates its continuing commitment and resolve to support a safe and secure environment in BiH (Bosnia and Herzegovina) and the Western Balkans, EUFOR said in a statement.

The French air patrols over Bosnia and Herzegovina began March 7. NATO also has headquarters in Sarajevo.

NATO set up a battle group in Romania in an enhanced Vigilance Activities (eVA) operation, to bolster security among East European member nations against a perceived Russian threat.

“The establishment of the NATO eVA represents a decisive message of cohesion and solidarity,” the alliance said Feb. 15. “These measures increase the readiness, deter aggression, and clearly demonstrates NATO’s firm commitment to the defense of all allies.”

Meanwhile, French Air Force Mirage 2000-5Fs were due to leave Feb. 13 Luxeuil air base, eastern France, to fly to Estonia. The fighters will be based in Estonia, in the NATO enhanced Air Policing (eAP) mission, seeking to uphold “sovereignty of the airspace over the Baltic countries,” the air force said. The fighters will be stationed there until Aug. 1.

Russian Arc of Naval Reach

The Russian navy has an extensive arc of operations stretching from Murmansk in the north, through Sevastopol in the Russian occupied Crimea in Ukraine, to Odessa, also in Ukraine, the French officer said.

In the Arctic seas of the High North , the French navy sails the FREMM Multi-mission Frigate and maritime patrol aircraft, working with Western allies in the region.

Russia also has a naval base in Syria, which gives the capability to operate quickly and flexibly in the Mediterranean, and plans for a naval base in Sudan.

Meanwhile, China has a navy base in Djibouti and is fast building warships, including submarines and a carrier with catapult and arresting gear, the officer said, sparking Norwegian concern it was just a matter of time before a Chinese submarine sailed in the North Atlantic.

The security concern is that one day, Russia and China might use their bases to block maritime trade to Europe.

That perceived threat pointed up the importance of a European Union concept of Coordinated Maritime Presence, extending the reach of a European naval coalition to the Indian Ocean.

There would be a “coordinated European military presence,” the officer said, pointing up the significance of European allies working together in a new naval region.

“The (European) Council today also decided to launch the implementation of the CMP concept in the North-Western Indian Ocean by establishing a Maritime Area of Interest covering the maritime area from the Strait of Hormuz to the Southern Tropic and from the North of the Red Sea towards the centre of the Indian Ocean,” the Council of the European Union said Feb. 22 in a statement.

Missions with Western allies, which included the French carrier task force sailing with Italian and U.S. warships, pointed up the importance of coalitions, the officer said.

There is a real political decision to make: whether to act alone or in coalition.

European navies could sail some 100 frigates, "good ships," the officer said, pointing up the importance of interoperability and resilience. The EU project to build a European Patrol Corvette reflected European cooperation.

The other EU measure for naval cooperation was to extend a Coordinated Maritime Presence in the Gulf of Guinea for a further two years.

Meanwhile, it was commonplace for Russian warships in the Mediterranean to light up the Charles de Gaulle carrier task force with targeting radar, the officer said, a "highly disagreeable" measure intended to intimidate, and show their presence. There were also Russian Kilo class submarines sailing in the Mediterranean.

Relations with the Australian navy were now "rather cool," the officer said.

That chilly relationship was due to Australia in September dropping a plan to build a fleet of diesel-electric submarines with French shipbuilder Naval Group. That followed Canberra's unexpected switch to a nuclear-powered boat, in cooperation with the U.K. and the U.S.

Cooperation on operations was going well, such as the French FS Astrolabe, which sails from Hobart, Tasmania, off the Australian coast, to resupply the French Antarctic station.

The British first sea lord and naval chief, Adm. Ben Key, was due to visit France March 11 and 12, attending a work meeting with his French counterpart, Adm. Pierre Vandier, and going to Lorient, northwestern France, to watch the two rugby matches of men and women of the Royal Navy playing against the French navy.

American, British and French officers met at the Newport International Seapower Symposium last September. Just after that event, news broke of the AUKUS agreement on defense cooperation between Australia, the U.K. and the U.S., centred on an Australian plan to order nuclear-powered submarines.

A dependence on the U.S. to hit Serbian forces in the war with Croatia led to the then British prime minister, Tony Blair, and then French president Jacques Chirac, adopting a plan for European military cooperation at the bilateral summit at St Malo, northwest France, in 1998.

That agreement led to a European Council approval for a 60,000-strong European military force, a plan which stayed on paper.

The Future Cruise/Anti-Ship Weapon: A March 2022 Update

03/22/2022

Paris – France is keen to work with the U.K. on a project for next generation cruise and naval missiles, while Britain looked determined to field a hypersonic weapon, a French navy officer said.

There are 18 months of talks under an Anglo-French agreement signed Feb. 18 on an assessment study of the Future Cruise/Anti-Ship Weapon (FC/ASW).

The FC/ASW project aims to replace the French Scalp and British Storm Shadow airborne cruise missile, and Exocet and Harpoon maritime missiles.

The question for the British on hypersonic missiles is not whether but with whom, the navy officer said.

“We haven’t (got them) and we should,” the British chief of the defense staff, Adm. Tony Radakin, told Jan. 7 The Times, a London daily.

For the French, the preference is for supersonic weapons, to be studied under the FC/ASW assessment study.

“Which train will they hitch their wagon with tomorrow’s technology?” the navy officer said, referring to the British.

Either way, it looked like there would be significant impact for France, which stood to hold on to an industrial partner, or lose it.

The technical and operational discussions are taking place against the backdrop of cool political relations between the two allies.

“It is a very political issue,” the navy officer said, “relations between France and the U.K. are very difficult.”

For France, ONERA and MBDA had planned to conduct a test flight of the Lea experimental project for a hypersonic cruise missile in the U.S. by the end of last year or early this year, and that flight has yet to be made, a spokesman for the research office said.

There is sensitivity on the Lea project, two sources said.

The perceived importance of hypersonic missiles could be seen with wide media coverage of Russia's reported first combat use of hypersonic missiles in fierce fighting in Ukraine over the weekend of March 19 and 20.

The Russian defense ministry said air-launched Kinzhl hypersonic missiles were fired Saturday at an underground storage of missiles and aircraft munitions in Deliatyn, western Ukraine. Russian fighter jets fired Sunday the new generation Kinzhl to destroy fuel and lubricant storage for the Ukrainian services, near Kostiantynivka, southern Ukraine.

Kinzhl was designed for the Mig 31 fighter jet, with the attack on the Ukrainian fuel depot reported to be launched from the Crimean airspace.

That Russian brandishing of the hypersonic missile could be seen last week.

British tabloids The Sun and Mirror ran March 14 on their websites a clip of Russian TV Zvezda, showing a fiery launch of the hypersonic Zircon cruise missile from the Admiral Gorshkov frigate, sailing in the White Sea, south of the Barents Sea.

Russian television reported in December that naval cruise missile launch, but the release last week to Western media was seen as Moscow's attempt to warn Western nations against support for Ukraine, resisting on day 25 the bloody Russian invasion.

"It's gesticulation," an executive said.

A second executive said, "demonstration of force."

The Russian defense ministry is reported to be the owner of TV Zvezda.

Keen for Cooperation

French officers have discussed supersonic missiles with British counterparts, and their capabilities could be seen in last year's NATO exercise Formidable Shield, the navy officer said. The French navy has worked on war gaming simulation of threats with the Direction Générale de l'Armement procurement office.

Cooperation with the U.K. has "enormous significance for France," the navy officer said.

The political backdrop to the operational and industrial interest in new European missiles is marked by decidedly cool relations on the part of Paris toward London.

There is tension between French president Emmanuel Macron and British prime minister Boris Johnson, a source said.

Poor political relations stem from an announcement last September of the AUKUS agreement between Australia, Britain and the U.S., for a planned supply of nuclear-powered attack submarines to the Australian navy, in place of French designed conventional boats.

Armed forces minister Florence Parly responded by cancelling a September signing of a memorandum of understanding for working with the British on FC/ASW. It took six months before procurement chiefs – rather than defense ministers – signed an intergovernmental agreement and contract with European missile builder MBDA.

The U.K. is working with the U.S. on hypersonic technology, as the British are very close to the Americans, the source said.

“There is joint reflection,” the source said.

For Paris, there is quiet determination to master hypersonic technology.

“France is not part of the upmanship, or gesture politics, or unfettered competition, but seeks a reasoned development of what is seen as a technological necessity, to be in sync with the technology-operational requirement for combat in the near future,” Benjamin Hautecouverture, senior research fellow at think tank Fondation pour la Recherche Stratégique told TV5 Monde, a television channel.

An industry executive said the Anglo-French agreement was important as it delivered a “continuity of cooperation.”

It is significant France cooperates with the U.K. on the future cruise missile, the executive said, but Paris keeps separate its work on a fourth-generation airborne nuclear missile, dubbed air-sol nucléaire quatrième génération (ASN4G), due to replace around 2035 the air-sol moyenne portée-amélioré ASMP/A supersonic missile.

A Tale of Two Concepts

The Anglo-French intergovernmental agreement allowed MBDA to sign an 18-month contract to make a detailed assessment of two missile concepts.

“These preparation works will focus on the coordinated development of a program of next generation deep strike and heavy anti-ship weapons,” the company said in a Feb. 18 statement on FC/ASW.

“It will assess two complementary missile concepts, expected to be fielded at the end of the decade: a subsonic low observable concept and a supersonic, highly manoeuvrable concept.”

The missile company had completed a concept study, which had a budget estimated at €100 million (\$109 million). No details were given on the value of the assessment contract, which had been long awaited.

The concept study looked at various possibilities and came up with some 20 concepts, a second source said. The assessment study will take a closer look at the subsonic stealthy and supersonic concepts, and the work will be guided by air force and navy requirements.

There may be tradeoffs on the requirements, “which is a real subject for discussion,” the third source said. There could be two missiles rather than one weapon, or one missile with tradeoffs. Even with tradeoffs, the one missile could be expensive to build.

Finally, there will be a political decision.

The bilateral agreement allows for sharing common technology for a family of missiles, the second source said, much depending on the concept of operations drawn up by the services.

There will be need for the technology to be reliable and mature, the first source said. Given the operational need for reliability, cruise missiles are generally fired in salvos of three, based on a redundancy approach.

There is a big technology challenge in developing propulsion and communications for a hypersonic missile, which will fly surrounded by a plasma wall which interferes with communications.

A hypersonic missile generates intense heat of some 3,000° C, requiring new materials technology, the first source said. While hypersonic technology has been known since the 1960s, maturing the know-how has been difficult.

There is the high cost of hypersonic weapons, making it good for hitting an aircraft carrier but excessive for a patrol boat, the first source said. The forces need to cover a whole theater of war, and if the services had only expensive weapons, they could only tackle, say, 10 percent of the threat. A mix of costly, high technology arms and lower cost, simpler weapons was needed.

In view of the complexity of hypersonic technology, the second source said, it might take maybe a decade for Britain, France, and the U.S to build affordable missiles backed by mature technology.

The full scale mock ups on the MBDA photo on the statement on FC/ASW cooperation are a rough approximation, not an accurate representation of the future missiles, the second source said. The model of the future cruise missile is longer than the Scalp/Storm Shadow, indicating a greater range.

U.S. Seeks to Catch Up

For the U.S., there is strong political interest in catching up with Chinese and Russian industrial and military lead in hypersonic technology.

Defense secretary Lloyd Austin invited top executives from Aerojet Rocketdyne, BAE Systems, Boeing, Leidos, Lockheed Martin, L3Harris, Northrop Grumman, Raytheon, and another half dozen or so companies to a meeting with Heidi Shyu, the undersecretary of defense research and engineering, CNN reported Jan. 29.

Shyu told the media in January the six U.S. military branches were “pushing the contractors very, very aggressively” on developing hypersonic weapons, and that “no aggressive schedule, especially if you’re pushing hard on them, will go through perfectly without some problems,” CNN reported.

The Pentagon urging U.S. industry to pick up the pace came at a time when Moscow was massing military might on the border with Ukraine before launching the fateful invasion on the night of Feb. 24.

President Vladimir Putin said Russia led the world in hypersonic missiles, and by the time other powers fielded their own hypersonic weapons, Moscow would be able to field countermeasures to that technology, Reuters reported Dec. 12.

Russia has proudly displayed hypersonic capability, led by the Zircon and Avangard weapons.

The Zircon, or Tsirkon, is reported to have a speed of Mach 9 and capable of evasive flying to dodge detection. The missile, intended for launch from warships and submarines, is due to be delivered to the Russian navy this year.

There is the Avangard, a hypersonic glide weapon capable of carrying a nuclear or conventional warhead, also due to be delivered to the Russian forces.

The Russian seizing of Crimea in eastern Ukraine in 2014 led to a delay in development of Avangard, as a maneuver and targeting control system was built in Ukraine, according to Russian daily Izvestia, the specialist Missile Threat website of the Center for Strategic and International Studies reported.

Meanwhile, China has shown off in military parade its DF-ZF hypersonic glide vehicle mounted on the Dong Feng-17 medium-range ballistic missile.

The hypersonic glide vehicle is designed to fit in the nose of a rocket booster, which launches the vehicle into the upper atmosphere. The vehicle, powered by a scramjet at speeds above Mach 4, flies to the target, bearing a conventional or nuclear payload.

Designed to fly at great speed while maneuvering, the vehicle is intended to escape air defense radar and interception by anti-missile weapons.

Beijing denied Oct. 18 a Financial Times report the Chinese forces had tested a nuclear-capable hypersonic missile which had circled the earth, flying in space before gliding to a target, missed by some two dozen miles.

That had been a test of a reusable space vehicle, the Chinese foreign ministry spokesman said, when asked about the report.

That Chinese test flight had “caught U.S. intelligence by surprise,” the report said, drawing on five sources for the report.

Formidable Shield, a NATO naval exercise led by the U.S. Sixth Fleet last year, saw live fire of missiles, with the Smart L radar on a Netherlands frigate detecting incoming missiles, allowing interception by air defense missiles.

The Eurodrone Program Moves Ahead

03/01/2022

Paris – OCCAR, a European procurement agency, signed Feb. 24, 2022 a contract worth €7.1 billion (\$8 billion) with Airbus Defence and Space as prime contractor for a medium-altitude, long-endurance drone, marking a step in the European pursuit of military, industrial, and political independence.

“The Eurodrone program aims to deliver a sovereign capability in intelligence, surveillance and reconnaissance, support for ground forces in a theater of operation and attack, having capability to fire missiles and guided bombs,” the French armed forces ministry said Feb. 25 in a statement.

The launch of the program “marks a key step in the strengthening of European cooperation,” the ministry said. The order, worth €7.1 billion, covered developing and building 60 drones, with 12 for France, and five years of service.

OCCAR signed on behalf of the four partner nations – France, Germany, Italy and Spain – for Airbus DS to develop, build and maintain an unmanned aerial vehicle.

The UAV was expected to be certified to operate in civilian airspace in Europe and fly as part of the European Future Combat Air System, a complex network with a new generation fighter and remote carrier drones.

“This is important,” said François Lureau, “as it is the precondition for FCAS. It is a European program led by Germany. Lureau is head of consultancy EuroFLconsult and a former head of the French procurement office.

The political significance of the program could be seen in the German chancellor referring to the drone contract in a Feb. 27 keynote speech, in which Olaf Schulz said Berlin would commit €100 billion to the German defense budget this year, up from €47 billion in 2021, and pledged to spend two percent of gross domestic product on the military by 2024.

That speech marked a sharp change in German policy in the light of the Russian invasion of Ukraine, with Berlin pledging to send 1,000 anti-tank weapons and 500 Stinger anti-aircraft missiles to the Ukraine forces.

Europe Seeks to Catch Up

The drone program would allow Europe to break a dependence on Israel and the U.S., allowing European industry to learn how to build a MALE UAV from scratch, an industry executive said.

Although the first aircraft will likely be less capable than the Reaper, the foundations would be laid for a long term industrial capability for future European drones.

A second executive said the Ukraine crisis showed the prospect of “long term tension in Europe,” leading to the launch of an arms drive in Western Europe.

France needed to equip its forces for a “high intensity” conflict in Europe, as the army, apart from the Tiger attack helicopter and VBCI armored personnel carrier, was largely armed for overseas deployments in Africa, with wheeled armored vehicles rather than heavy tanks.

“There has been a change of software,” the second executive said.

On the military aspect, German forces launched attacks which led to the killing of civilians in the war in ex-Yugoslavia, the first executive said. Those slayings stemmed from the German forces relying on summaries of US intelligence rather than access to raw intelligence data and making their assessment. That led to Berlin launching the SAR-Lupe radar spy satellite program to cut that dependence.

Allied nations share summaries of intelligence, not the raw intelligence data, which pointed up the importance of gathering the data, assessing and then deciding the operations, the executive said. Cooperation among allies with independent ISR systems offered a “complementarity” of threat assessment.

France is updating its intelligence gathering capability with a three-strong fleet of new generation optical spy satellites, dubbed Composante Spatiale Optique. A second CSO satellite was put into orbit Dec. 29 2020, at a height of 480 km, to give sharp resolution. Belgium, Italy, Germany and Sweden signed bilateral agreements for access to CSO.

CSO replaces the French Helios spy satellite, intended to cut reliance on the U.S.

In the first war with Iraq, the Helios system may have lacked the sharpness of the then six-strong American fleet of satellites, but France had an independent capability which led them to disagree with the U.S. assessment of the strength of the Iraqi army, afternoon daily *Le Monde* reported in 1996.

Spain and Greece are partners on the Helios program.

France Gradually to Retire Reapers

On the European drone, France has ordered four systems, with options for two more, the ministry said. A system consists of three drones and two ground stations. The new drones will gradually replace the fleet of Reapers, which will start to be retired from service after 2030.

Building the first prototype was due to start in 2024, the ministry said.

Development was due to run for four years, a third industry source said, with first flight due in 2026, and first delivery toward the end of 2028.

The UAV project took time to win governmental approval, as the lead contractor Airbus had made an initial budget estimate of some €10 billion and had to cut the price to an amount seen as acceptable.

Dassault Aviation and Leonardo are subcontractors on the program.

“This signature kicks off the development of one of the most ambitious European defense programs,” Mike Schoellhorn, chief executive of Airbus Defence and Space, said in a statement.

Eric Trappier, chief executive of Dassault, said, “This contract marks the determination of the European nations and industrial partners to achieve the political goals and to meet the technological challenges leading to European defense sovereignty.”

“Today’s announcement marks an important milestone for the European nations which confirms the determination and achievements of the industrial partners in meeting the challenges that accompany the development of a complex and strategic European defense and security program, said Lucio Valerio Cioffi, general manager of Leonardo.

Dassault, Exports and the Next Generation Fighter Aircraft

03/07/2022

Paris – Dassault Aviation insisted on being appointed lead prime contractor and architect on a European next generation fighter jet, and also lead contractor on the fighter’s flight control system, executive chairman Eric Trappier said March 4.

“These are two red lines,” he said on the sidelines of a news conference on 2021 financial results.

Dassault signed a contract on work on a technology demonstrator for the fighter, handed it the French procurement office, Direction Générale de l’Armement, and has been waiting since September for Airbus Defence and Space to countersign, he said.

The DGA declined comment.

Airbus DS is industrial partner on that fighter project, a key element in phase 1B on development of a European Future Combat Air System, a complex network linking up the planned fighter, remote carrier drones, and aircraft of allied nations. The new fighter would replace the Rafale and Eurofighter.

Dassault sees Airbus DS as seeking to share lead management of the fighter program, which the family controlled company resists.

There should be a “best athlete” approach,” with a single leader, Trappier said.

Airbus DS said it had made proposals on cooperation on the new fighter and was confident agreement could be reached.

“We have managed months ago to find fair and balanced agreements on all six other pillars, where even under a defined leadership the competence and capacities of each partner are respected and can participate in an equitable manner,” an Airbus DS spokesman said.

“Airbus has made several proposals to converge also on the Next Generation Fighter (NGF) and we are supporting any solution which will respect both the skills of each partner and the lead role of Dassault Aviation, leading to a fair agreement.

“We are confident that a resolution can be achieved if the rules of the cooperation agreed by the nations are respected in the NGF, as it is the case on other pillars,” the spokesman said.

“The FCAS programme is decisive to meet the requirements of Europe’s armed forces in the future and we are committed to it.”

The fighter is the first pillar in FCAS, with Dassault designated as the lead partner on the fighter. The other six pillars are the engine, remote carriers, combat cloud for network communications, simulator labs, sensors, and stealth.

The delay has been a “very high cost,” Trappier said, as some staff in the company’s some 100-strong design office have been re-assigned, with the prospect of re-assigning all those personnel if there were no contract on the fighter project.

Trappier declined to comment when asked if he had a plan B if an agreement failed to be reached.

Red Lines Issue

“We were surprised at how clear the issues on SCAF/FCAS have become for Dassault: the red lines are now glowing,” said Sash Tusa, analyst at equity research firm Agency Partners.

Work on the architecture and design of the flight control system was important, Trappier said, and Dassault’s design staff worked in Saint Cloud, the head office in the suburbs of the capital.

Airbus DS had design skills, and its staff worked in Toulouse, southwestern France, he said.

An analyst said that remark on the Airbus DS design engineers was a particularly barbed comment, pointing up a perceived lack of specialist experience in designing fighter

jets. Toulouse is the headquarters of Airbus, an airliner manufacturer, while the head office of the defense and space unit is in Manching, southern Germany.

It remained to be seen which would come first, Airbus DS signing the contract on the fighter project or Germany ordering the F-35 fighter, Trappier said.

On a contract signed Feb. 24 on a European medium-altitude, long-endurance drone, Dassault's share of the deal was worth €1.2 billion and consisted of architecture for the flight control system and communications systems, he said. Thales, in which Dassault holds a 24.6 percent stake, will share the communications work.

The total budget for the European unmanned aerial vehicle is €7.1 billion, backed by France, Germany, Italy, and Spain.

German chancellor Olaf Scholz said Feb. 27 told the Bundestag parliament the 2022 federal budget would adopt a one-off fund of €100 billion (\$109 billion) for military spending, and pledged an annual defense budget of more than two percent of gross domestic product.

Germany would also build the next generation fighter and tank in cooperation with France and other European partners, he said, and these projects were of "utmost priority."

The chancellor made his speech, widely seen as a major policy switch, in response to the Russian assault on Ukraine, which has sparked Western sanctions against Moscow in banking, sports, culture, aerospace, trade, and airline travel.

Scholz said there was a contract signed the previous week for a European medium-altitude, long-endurance drone, pointing up the importance of German military spending and cooperation. Berlin would press ahead with an order for an armed Heron drone from Israel.

There would also be a replacement of the German Tornado fighter, which carries nuclear bombs under a Nato agreement, he said.

"The F-35 fighter jet has the potential to be used as a carrier aircraft," he said, while the Eurofighter could be equipped for electronic warfare.

Cash Rich Dassault

The brakes were off for Dassault, such that the cash rich company should consider making an offer for Thales, a stock market research note from Agency Partners said Feb. 16, ahead of the 2021 financial results.

"We think a step change in the dividend payout ratio is possible, but we also suggest that Dassault could reassess its current minority shareholding in Thales, with the possibility of spending cash to buy a majority stake in, and control of, Thales," the report said.

Dassault holds cash of €4.8 billion, a gain of €1.4 billion from a year ago, the company said in its financial results.

Success in exports and the resulting inflow of cash would fund that M&A deal, the Agency Partners report said. Winning an Indonesian contract for 42 Rafales meant the company had won export contracts for 188 fighters from five nations over the last 18 months, including two new client nations – Croatia and Indonesia, the report said.

That allowed a manufacturing “bridge” of legacy fighters and the Système de Combat Aérien du Futur (SCAF/FCAS), with an estimated production of three Rafale per month into the early 2030s.

That export success has sparked a “re-think” in France of working with Germany on the future combat air system, due to German concerns on arms exports and tension over leadership of the FCAS project, the report said.

France levies a tax of two percent on arms exports, to recover a “fair portion” of the development cost of weapons ordered by the French authorities, Hervé Grandjean, spokesman for the armed forces ministry, told journalists Dec. 9.

That leads to limited direct financial gain for the French government from arms export, although prospects for overseas sales are factored in when funds for domestic projects are drawn up.

Profit Rise

Dassault reported a rise in 2021 adjusted net profit to €693 million from €396 million in the previous year, on sales rising to €7.2 billion from €5.5 billion.

That boosted net profit margin to 9.63 percent of sales from 7.2 percent.

Sales for 2022 were expected to fall. The book-to-bill ratio of orders to sales was 1.67.

Orders rose to €12 billion from €3.4 billion, helped by orders for 49 Rafales, of which 37 were export deals, including 31 units for Egypt and six new aircraft for Greece. Athens also ordered 12 second-hand Rafales, which France replaced with an order for the same number.

The order book rose to €20.8 billion from €15.9 billion.

Croatia bought 12 second-hand Rafales and signed a service contract with the company.

Dassault was expecting to receive hefty down payments this year, based on a total of 128 Rafale orders, consisting of an 80-strong order signed with the United Arab Emirates in December, an Indonesian order signed last month for 42 fighters, and an expected Greek contract for six more fighters. The deal for the latter was authorized by the Greek parliament last month and a contract is expected to be signed shortly.

In general, the price tag for a Rafale is €100 million per unit, with Thales accounting for some 25 percent, Thales chief financial director Pascal Bouchier told March 3 a news conference on the 2021 financial results of the electronics company.

Dassault, which is pursuing other export deals for the fighter, is working on an upgraded F4 version and will work on further upgrades, Trappier said.

The company expects to deliver 12 fighters this year, after 25 last year, shipped to India and Qatar.

France is expected to order next year a fifth tranche of Rafales for the French air force, the company said, potentially consisting of 30 units as planned, and a further 12 units to replace those sold to Croatia. France has ordered 192 Rafales, so far.

The Russian Invasion of Ukraine: Driver of Change in European Defense

04/05/2022

Paris – It looks like Kremlin's bloody advance through Ukraine has boosted Europe's resolve to forge its own operational defense and security identity.

The European Union added Feb. 24 a redrafted forward to its Strategic Compass policy paper on defense and security to refer to the Russian assault, which has transformed four million Ukrainian citizens into refugees, fleeing a European nation devastated and partly occupied by troops from just across the border.

While there is clear intent from some European political leaders, there is also skepticism whether that willingness will convert intention into reality.

It remains to be seen whether there will be political leadership in that quest for European capability, and where that direction will come from.

Paris is keen to promote a European military capability – separate but working with Nato, while Berlin has pledged an unprecedented €100 billion (\$111 billion) budget to upgrade German military, breaking with a deep and sustained pacifism after the second world war.

Berlin's budget boost begs the question where leadership in Europe will come from, as Germany will outstrip France in arms spending, a French parliamentarian said.

Rise In Risk

"The war against Ukraine proves that Europe is even more in danger than we thought just a few months ago, when the first draft of this Strategic Compass was presented," Josep Borrell, EU

high representative for foreign affairs and security policy, said in a revised forward for the white paper published Feb. 21.

“This crisis has made it even clearer that we live in a world shaped by raw power politics, where everything is weaponized and where we face a fierce battle of narratives,” he said. “All these trends were already happening before the Ukraine war; now they are accelerating.”

Defense for Europe was one of the priorities of Emmanuel Macron, French head of state, when he took up in January the rotating presidency of the Council of the European Union, the policy-setting institution. “Europe must rise to the major economic, educational, migration and military challenges,” he said Dec. 9 2021, ahead of taking up the European Council post.

The European Council of the 27 member states adopted the Strategic Compass, which includes plans to form a 5,000-strong European military force, dubbed rapid deployment capacity. The policy paper also calls for “more and better” spending on defense, greater cooperation, and innovation to cut dependency. That EU plan sets a 10-year road map, seeking European sovereignty.

Macron has promoted in his five-year national mandate the concept of European sovereignty, to reduce a reliance on NATO, seen as dominated by the incumbent at the White House.

A chaotic U.S. evacuation from Kabul and lack of cooperation with allies heightened a perceived need among European partners to strengthen their ties.

There is a European perception of the need to develop the national arms industry, maintaining domestic jobs, rather than buying U.S. kit. The Strategic Compass reflects a view of some in France that NATO is an extension of the U.S. market, helping to boost the bottom line of American companies, while pursuing interoperability of equipment.

France Trims Arms Spending – Just for Now

The armed forces ministry had to scramble to explain why there was a quiet unscheduled €346 million cut in the 2022 defense budget of €41 billion, having to reassure the funds would be restored in July.

Some €202 million of the cut related to arms procurement, with the reduction arising from a switch in spending due to the Ukraine crisis, which pushed up energy prices and called for funds for receiving Ukrainian refugees.

Parliamentarian François Cornut-Gentille said in a March 29 op ed in afternoon daily Le Monde there was need for a “real debate” on defense spending, with the major presidential candidates saying they would increase the military budget.

France goes to the polls April 10 and 24 in a two-step election, with far-right candidate Marine Le Pen narrowing Macron’s lead in opinion polls. Le Pen has gained ground as she attacks

Macron on the rising cost of living, a switch from the anti-immigration message of the National Rally party.

The chances Macron would keep his promise of a defense budget of €50 billion in 2025 are “extremely weak,” Cornut-Gentille said, due to economic problems arising from Covid. Even if funding were available, the services would still be unable to deter an aggressor, he said.

There is also need to rethink the “relevance” of big-ticket programs, such as an aircraft carrier, medium-altitude, long-endurance drone, and future combat air system, he said. Space systems and hypersonic weapons were today’s equivalent of the tanks and aircraft which transformed combat in the 1930s. There should be a policy review on whether France had the right platform for nuclear weapons, with the parliamentarian saying there was no doubt France should hold on to the nuclear warhead.

Parliamentarians recently put the defense ministry on the back foot, pointing up a perceived lack of ammunition stock, with the forces running out within a couple of weeks in high intensity warfare. The ministry spokesman sought to calm fears, pointing up an extra €110 million for building 100 mm, 120 mm and 76 mm shells, with attention to improving production of heavy caliber shells due to problems in the export market.

Meanwhile, the French navy has put to sea three of its four-strong fleet of nuclear ballistic missile submarines, regional daily Le Télégramme reported. Usually, just the one nuclear missile boat would be at sea. In response to the war in Ukraine, France has deployed the aircraft carrier Charles de Gaulle to the eastern Mediterranean, dispatched troops to NATO ally Romania, and sent Rafale fighter jets at fellow NATO ally Estonia, with defense minister Florence Parly visiting April 3 French air force personnel posted to the Amari air base in Estonia.

Macron has pledged to increase French military spending to two percent of gross domestic product by 2025, a target for NATO members.

Defense is second in national expenditure after the education budget.

German Budget Boost

A German commitment of hitting the two percent target of GDP will lead to €70 billions of annual arms spending, Cornut-Gentille said, bringing a “new context” for European leadership, as Berlin overtakes the Paris pledge of €50 billion.

Berlin spends some 1.3 percent of GDP on the services, which say they are poorly equipped.

Germany’s spending €100 billion on military modernization is part of the commitment to meet — and exceed — the two percent target, think tank Stockholm Peace Research Institute said March 25. That amount compares to €46.9 billion spent last year and will place Germany third in world arms spending, after the U.S. and China, and up from seventh in 2020.

German chancellor Olaf Scholz's announcement of the hefty budget boost surprised the three parties in the government coalition, but they backed the policy shift, and opinion polls showed 69 percent support, up from 39 percent in 2018.

The Russian invasion of Ukraine shocked Germany, and the coalition partners — center-left Social Democrats, market-friendly Free Democrats, and the environmentalist Green party — rallied round Scholz, who dropped a postwar policy of working closely with Russia through Ostpolitik, and maintaining a minimalist military posture.

Tens of thousands of Germans took to the streets in anti-Putin protests, bearing Stop the War banners, and show support for Ukraine.

Putin's invasion sparked talk of reviving German conscription and a parliamentary visit to Israel to consider ordering Arrow 3, a long-range, anti-missile system, as shield against a Russian attack. Such an arms order would be on top of German plans to buy the F-35 fighter jet to replace the Tornado, to carry U.S.-built atomic bombs for Nato.

Skepticism on the EU Plan

While the war in Ukraine has sharpened an EU search for military capability, such a quest merely repeats the past and lacks credibility where it matters – the commanders, an analyst said. Nato rules the reality game, not the EU.

“What really dooms the operational side of the (Strategic) Compass's agenda is, of course, the same thing that has crimped the EU's military aspirations from the beginning – the reluctance of top brass across Europe to take the enterprise seriously,” Nick Witney, senior policy fellow at think tank European Council for Foreign Relations, said March 31 in a research note.

“NATO has always been where ‘serious’ military business is done, where they rub shoulders with (and are told what to do by) the mighty United States,” he said in the note titled, “The EU's Strategic Compass: Brand new, already obsolete.”

The EU plan lacked credibility as there had been a post-Kosovo plan for a 60,000-intervention force, followed by talk of 1,500-strong battle groups, he said. Neither came to fruition, casting doubt on the EU plan for a 5,000-strong force.

There is a “rejuvenated” NATO, backed by the U.S., but Washington will soon look to the “Europeans to provide their own defense,” with little more than American supply of intelligence and nuclear deterrence, he said. A genuine “member state-owned” drive for defense integration was needed. While there has been discussion, there is little to show for it.

It remained to be seen where that leadership might come from, he said, perhaps a partnership from Scholz and Macron.

More likely, Europeans would wait to see what the U.S. would tell them what to do, while switching focus to the Pacific, he said.

Europe Counts

Another view lies in a larger European role in NATO, and the need for the U.K. to find a place alongside Europe while being outside the E.U.

There is much uncertainty on the future of NATO, and whether the U.S. can be relied upon to back the alliance, a March 29 op ed in London daily *The Times* said. There is the prospect of Trump's return to power, the right oscillating between "sneaking admiration" for Putin and Hungarian leader Viktor Orban and insisting America should not be pushed around, the op ed said. Meanwhile, the left is uncertain on militarily supporting liberal democracy, and hesitant on close ties to a European past steeped in "white imperialism."

"What all this means is that Europe cannot rely on the leadership and support of the U.S. in future as it has done in the past. That leadership and support might be forthcoming. But it also might not," the op ed said.

There is a call for Europeans to stand up for Europe. "It is perfectly obvious now that we face security challenges in Europe that we must tackle as Europeans," the op ed said. But it was difficult "to forge a European defense identity" and for the U.K. to find its place after having left the E.U.

There is a call for London to work through NATO "to build common European defence aims" that the U.K. previously rejected, as that was seen as reducing Britain's independence. "If we do not engage, then these policies will be decided without us."

Working Hypersonic Cruise Missiles: MBDA Provides an Update

04/12/2022

Paris – There appears to be no problem in setting up flight tests of a French technology demonstrator for a hypersonic cruise missile in the U.S., the executive chairman of European missile company MBDA said April 6.

"I am not aware of any particular problem," Eric Béranger said on the margins of a press conference, when asked why a test flight of the demonstrator, dubbed Lea, had yet to be made.

Hypersonic missiles – weapons which fly at Mach 5 and above – have hit headlines around the world, with Australia, the U.K. and U.S. saying they will cooperate on the high-tech weapons through the trilateral AUKUS alliance.

"We also committed today to commence new trilateral cooperation on hypersonics and counter-hypersonic, and electronic warfare capabilities, as well as to expand information sharing and to deepen cooperation on defense innovation," the partner nations said April 5 in a joint statement.

That extension of Western cooperation followed Russia's March 19 statement of the first combat use of the air-launched hypersonic cruise missile, dubbed Kinzhal or Dagger, in the assault on Ukraine. The Russians released a video of that airstrike and Moscow also released Russian television reporting in December 2021 of a naval launch of a Zircon hypersonic cruise missile, with British tabloid dailies showing March 14 the video on their websites.

Béranger said he had read media reports of the AUKUS statement, and while he could not comment on the contents, it was clear MBDA has been working on hypersonic technology for "decades."

"This is a capability where we are extremely competent," he said. "You know that we are developing something which is hypersonic. And so, in terms of technical capability, MBDA doesn't have anything to envy anybody."

MBDA has been working with ONERA, he said, and is working on a program for a fourth-generation air-launched, nuclear-tipped missile, with the project name ASN4G. ONERA is the French research agency for civil and military technology. The planned hypersonic, scramjet air-launched nuclear missile would fit on a planned next generation fighter, replacing the supersonic ASMP-A atomic weapon carried on the Rafale fighter jet.

The flight test of Lea had been due to take place at a U.S. air base on the East coast in a few months, an ONERA executive said last July. The French project name Lea comes from the Russian phrase for "flight test vehicle," a RAND report on non-proliferation of hypersonic missiles said in 2017.

"Our research suggests that France could play a key role in organizing the international community for such (non-proliferation) controls, the report said.

French flight tests of Lea had been planned in Russia in 2014-15, the report said, and it was not clear whether those tests had been conducted. Full-scale wind tunnel tests to Mach 6 were conducted on Lea in 2012.

Flight tests of Lea had been planned on a Russian Tupolev Tu-22 M3 "Backfire" bomber to test the missile at Mach 4-8, ONERA and MBDA said in a 2009 NATO research note. That planned flight test would have used a booster based on the Russian Raduga AS4 missile.

The NATO research note appeared a year after the Russian 2008 invasion of Georgia ordered by president Vladimir Putin.

The planned Lea flight tests in Russia in 2014-15 would have taken place around the time of Putin's ordering annexation of the Ukrainian Crimea peninsula, and backing Russian separatist movements seizing control in the Donbass region, eastern Ukraine.

Western allies have been criticized for failing to act earlier against Moscow, amid extensive news coverage of summary execution, torture, and harsh treatment of Ukrainian civilians by occupying Russian troops.

The Ukrainian services have forced a Russian retreat from the north, with a redeployment back to the east of the partially occupied country. France 24 television channel ran a check of “truth or fake” on a video released by the Russian defense ministry claiming to be the Kinzhal hypersonic missile strike of the Deliatyn underground ammunition dump in western Ukraine.

With the help of satellite imagery, the television reporter showed the Russian video was the replay of an airstrike the week before, against a farmhouse some 1,000 km away in the east of Ukraine, not the munitions storage site.

In French projects on hypersonic weapons, ArianeGroup was flight testing a hypersonic glide vehicle (HGV) in a “proof-of-concept for a future deep-strike weapon,” *Aviation Week Aerospace Daily & Defense Report* said Dec. 21. That hypersonic demonstrator was part of the Experimental Maneuvering Vehicle (V-Max) program announced in 2019.

The demonstrator was being tested in ONERA’s S4 wind tunnel, the report said, and the planned hypersonic weapon would be armed with a conventional warhead. ArianeGroup builds space launchers and is a joint venture between Airbus and Safran.

The State of the U.S. Efforts

An official U.S. report on research on hypersonic missiles for American forces said test flight facilities were struggling to meet deadlines.

The General Accountability Office published March 22, 2022 a report on work on hypersonic weapons, based on a January report which contained classified information. The 54-page report pointed up aggressive schedules, with program officials and documents admitting the timetable for delivering operational hypersonic missiles was “ambitious.”

Those timetables depended on other programs, and “will be difficult to achieve,” the report said. Logistical difficulties for test flights were among the problems, leading the defense department to explore “international partnerships that could provide access to overland flight ranges.”

Australia has the Woomera test range, South Australia, where the U.K. conducted in 2013 and 2014 test flights of the Taranis demonstrator for an unmanned combat aerial vehicle. The Queensland authorities said in November a test flight range for drones was open for business.

Some \$15 billion has been earmarked for fiscal years 2015 through 2024, to fund 70 projects to develop U.S. hypersonic weapons and related technology, the GAO said, with the defense department accounting for most of the funds. The Pentagon works with the department of energy and Nasa.

There were difficulties on test flights on the hypersonic air-launched weapon, which put pressure on deadlines for an operational deployment.

“We found in June 2020 that the Air-launched Rapid Response Weapon program experienced a cascading delay of all four of its planned flight tests, which put additional pressure on the

program's plans to achieve an operational capability by the end of fiscal year 2022," the report said.

The Pentagon needed to tighten program management to avoid wasting money.

"Without clear leadership roles, responsibilities, and authorities, DOD (department of defense) is at risk of impeding its progress toward delivering hypersonic weapon capabilities and opening up the potential for conflict and wasted resources as decisions over larger investments are made in the future," the GAO said. The defense department agreed with the recommendation for closer management.

The UAE, Serbia and European Defense: An Update on the Rafale

04/21/2022

Paris – The United Arab Emirates has paid a down payment for its order for 80 Rafale fighter jets, aircraft builder Dassault Aviation said in an April 19 statement.

"Today, we received the first down payment of the contract for the acquisition of 80 Rafale by the United Arab Emirates," the company said, pointing up the "the strength of the strategic partnership" between France and the UAE.

The UAE signed Dec. 3 the contract, worth €14 billion (\$15 billion), for the Rafale and the related deal worth €2 billion for missiles from MBDA, a European maker of guided weapons.

The down payment, usually 15 percent of the total amount, means the contract goes into effect and allows Dassault to add the UAE deal to its order book.

Dassault reported a 2021 order book of €20.8 billion, up from €16 billion in the previous year. The family-controlled company said the 2021 order book excluded the UAE deal, which was expected to be entered in 2022.

French president Emmanuel Macron and Abu Dhabi crown prince Sheikh Mohammed bin Zayed al-Nahyan attended the contract signing, pointing up the political weight of the largest export order for the Rafale fighter.

"Dassault Aviation is fully committed to supporting the United Arab Emirates in its sovereign power, its strategic challenges and its ambitious vision of the future," said Eric Trappier, executive chairman of Dassault.

It remains to be seen what happens to the UAE's fleet of Mirage 2000-9, with media reports there is a search on for a buyer for the fighters acquired in the 1990s. Egypt, Greece, and Morocco are seen as potential clients for the UAE's 56-strong fleet of upgraded Mirage 2000-9s, *Forbes* magazine reported.

“It is up to the partner nation to decide the future of its aircraft fleet,” a French source said.

The Direction Générale de l’Armement procurement office declined comment.

Meanwhile, Indonesia is expected to be the next client nation to pay a down payment to Dassault, for an order worth \$8.1 billion for 42 Rafales, with the French armed forces ministry expecting payment to be made this year.

Serbia Seeks To Order Rafale – Maybe

Meanwhile, Serbia is in talks for an order for 12 Rafale fighters, pointing up a political intent to sever close military ties with Russia, *Reuters* reported April 11. Belgrade had to be careful how to fund that purchase and was determined to avoid “jeopardising” its public finances, president Aleksandar Vucic said.

Serbia is also in discussion with the U.K. for ordering the Eurofighter Typhoon and an unspecified missile, which could be fitted to the Typhoon and Rafale, specialist publication *Janes* reported April 19.

That missile is “probably” the Meteor, *Meta-Defense* website reported April 20, with France reluctant to supply the long-range weapon to Serbia, prompting Belgrade to pursue talks with the U.K. for the fighter deal.

But if London were to offer the MBDA Meteor to win the Serbian fighter order, Paris could withhold export authorization as there is French technology in the missile, notably the radar seeker, *Meta-Defense* reported.

Britain, France, Germany, Italy, Spain, and Sweden hold such authorization, as companies from those nations supply equipment on the Meteor. The MBDA Scalp/Storm Shadow also fits on the Typhoon and Rafale, and British and French authorization also apply to foreign sales of the cruise missile.

A French reluctance to supply the Meteor might stem from concerns on the fragile balance of power in the Balkans, an arms executive said, with the missile capable of very long range.

Paris could be seeking “to avoid fuelling the risk of conflict” in the Balkans, a second executive said.

The negotiations for the French fighter runs alongside Serbia’s search for 12 secondhand West European ground-attack aircraft, French publication *Le Journal de l’Aviation* reported April 12.

The Serbian air force seeks West European fighters to replace a 13-strong fleet of MiG-29 Fulcrum fighters of the Soviet era.

The service also wants to replace an aging fleet of some 15 J22 Orao ground-attack aircraft built by Soko, an aircraft manufacturer of the former Yugoslavia.

Serbia, which is applying to join the European Union, has voted three times in the United Nations against Russia, following president Vladimir Putin's order for the Feb. 24 invasion of Ukraine.

More than five million Ukrainians have fled their own nation, with the Russian forces launching April 19 a concerted attack on the Donbass region in Eastern Ukraine.

Putin has called off the storming of the Azovstal steel plant in Mariupol, southeastern Ukraine, the BBC reported April 21, ordering Russian troops to seal it up so not even a "fly" can escape. There is no need to seize the last pocket of Ukrainian resistance, as Russian forces control the strategic port city.

Serbia has placed military orders with West European companies, in an attempt to boost ties with the West and take distance from Moscow.

That Serbian procurement includes a 2019 contract for MBDA Mistral 3 short-range, surface-to-air missiles, and two Airbus C295 military transport aircraft ordered in February this year. First delivery of the C295 twin turboprop is due late next year, Airbus said Feb. 23.

Belgrade has also ordered a fleet of H145M combat and transport helicopters from Airbus Helicopters.

Serbia also relies heavily on Russia for energy supplies, and there remains a dependence on Moscow for military kit, weekly *Air & Cosmos* reported. Belgrade ordered four Russian Mi-35 and three Mi-17 combat helicopters last year.

There are also close Serbian military ties with China, with Belgrade ordering from Beijing the FK-3, a new generation medium-range, radar-guided surface-to-air missile, Reuters reported Aug. 3 2020. China also delivered to Serbia that year six CH-92A combat drones armed with laser-guided missiles, which were "the first such deployment of Chinese unmanned aerial vehicles in Europe," the news agency reported.

Serbia has also accepted Chinese loans worth billions of dollars to invest in its infrastructure, seen as part of Beijing's pursuit of political and economic influence around the world.

Shaping a Way Ahead for French Defense Industry: The Perspective of the Chairman of GIFAS

05/01/2022

Paris – There are difficulties in reaching an industrial agreement to build a technology demonstrator for a future European fighter jet, Guillaume Faury, chairman of the Gifas aerospace trade association, said April 28.

The phase 1B for the Future Combat Air System was “difficult,” he said at a press conference of Groupement des Industries Françaises Aéronautiques et Spatiales, which gave a review of 2021 for the French aerospace industry.

Faury is also chief executive of Airbus, the European manufacturer of airliners.

A contract for that critical phase 1B has yet to be signed, holding up the building of a demonstrator for a next generation fighter, the key element in the FCAS project backed by France, Germany and Spain.

That delay stems from prime contractor Dassault Aviation insisting on clear leadership in managing the fighter project, while industrial partner Airbus Defence and Space seeks a high level of cooperation, effectively equal status.

The fighter demonstrator is due to fly in 2027, but there appears to be little progress in resolving a deep divide, reflecting the distinct management cultures of the family-controlled Dassault and Airbus, which prides itself as a European company working in close partnership rather than a subcontractor.

Asked if there was room for the British Tempest fighter project to join FCAS, to avoid there being two rival European fighter jets, Faury said there would be three fighters with the F-35, which is a “great success” in Europe.

FCAS is still a project exploring the technology, not yet a program, he said, and there are already three partner nations. It is, effectively, too early to say.

“We have to win on FCAS,” he said, as that will give critical mass to Europe, which seeks sovereignty through cooperation in defense and security. The Ukraine crisis pointed up the importance of that European pursuit of capability.

There was a German election last year, and this year France has gone to the polls, which may have had an effect on the FCAS timetable.

A French election returned April 24 Emmanuel Macron to a second five-year term as president, with 58.54 percent of the vote, beating far-right candidate Marine Le Pen, who won 41.46 percent.

There will be a parliamentary election in June, with pollster Harris Interactive predicting Macron winning support from a center-right majority in the lower house National Assembly.

Ukraine War as Stimulus

The Ukraine crisis points up the importance of the pursuit of sovereignty, and European cooperation needs to be speeded up, Faury said. The European Council, the policy-setting institution for the European Union, supports the drive for European defense cooperation, and Berlin backs that European quest.

German chancellor Olaf Scholz has said Berlin is buying the F-35, and also said Germany will pursue the FCAS with France, he said.

Individual nations lack the means to pursue their own fighter programs, he said, pointing up the need for the “European dimension” and the importance of FCAS.

It is worrying that Germany plans to spend heavily on non-European weapons, he said, and there should be consideration of the long-term prospects for European industry. Faury was answering a question on Berlin’s plans to buy the F-35, the Israeli Arrow 3 missile and U.S. Chinook heavy transport helicopter.

On European cooperation, there is the contract for the “Euro drone” a few months ago he said, referring to the €7.1 billion deal for a European medium-altitude, long-endurance unmanned aerial vehicle, with Airbus DS as prime contractor.

Airbus DS has selected the Catalyst engine from Avio, sparking dissent, as the Italian company is a unit of a U.S. company, General Electric, while a rival offer led by Safran Helicopter Engines, a French company, was rejected.

Safran HE had teamed up with Italian partner Piaggio Aerospace, German firms MT-Propeller and ZF Luftfahrttechnik, and Spanish manufacturer ITP.

France, Germany, Italy, and Spain backed the European drone in a bid to cut dependence on Israeli and U.S. for UAVs, seen as an important system.

There has been an op ed on the business website La Tribune and those on a social media platform calling for France to ditch Germany as partner nation, as Berlin has gone its own way in ordering weapons.

The new fighter is the key pillar in the seven pillars of technology underpinning the FCAS project, with partner companies signed up to work on those six other sectors. The other six pillars are the engine, remote carriers – or drones, combat cloud for network communications, simulator labs, sensors, and stealth.

Each of the partner companies negotiated its role in those pillars, such as Airbus, Thales, and Indra reaching agreement on their work share on the combat cloud, a network intended to hook up the new and legacy fighters, remote carriers, and allied aircraft. It remains for Dassault and Airbus DS to reach agreement on phase 1B on the demonstrator for a new fighter.

The FCAS phase 1B is reported to have a budget of €3.6 billion (\$3.8 billion) and runs 2021 to 2024, while phase 2 runs 2024 to 2027, with a budget of €5 billion, backed by the three partner nations.

The war in Ukraine has prompted a rethink on the corporate social responsibility of arms manufacturers, Faury said, which have seen it hard to raise financing due to concerns over CSR.

“Ukraine has changed the cards,” he said, with sovereignty seen as key to resilience.

Signs of Recovery

GIFAS reported 2021 sales of €55 billion, up 7.2 percent from a year ago, with exports accounting for €37.3 billion, Faury said. Civilian aircraft accounted for 65 percent of sales.

Military aircraft saw a strong rise in sales, worth €19.5 billion, up 18 percent from the previous year. Military export sales rose 24 percent to €10.3 billion, while domestic military sales rose 13 percent to €9.2 billion.

Military orders jumped 140 percent to €27.6 billion, with exports worth €11.7 billion, up 258 percent. Domestic orders rose to €15.9 billion, up 92 percent.

“Major success” in military orders stemmed from deals for the Rafale fighter jet for Croatia, Egypt, Greece, and the United Arab Emirates.

In helicopters, France ordered the light joint helicopter HIL Guépard, and the UAE ordered the H225M Caracal.

Indonesia and Kazakhstan ordered the A400M military transport, while Spain and the UAE ordered A330 multirole tanker transport aircraft.

In 2022, Indonesia and Greece ordered Rafales, while last year Saudi Arabia ordered civil helicopters.

Overall orders last year rose 68 percent to €50.1 billion, with military orders accounting for 55 percent, a highly unusual proportion as civil orders usually outweigh the defense sector.

The book-to-bill ratio of overall sales to orders was close to 1:1, he said.

Return of the Paris Air Show

“We shall return,” Patrick Daher, chairman of SIAE, the organization which runs the Paris air show, told the press conference. Daher was referring to the pledge made by Gen. Douglas MacArthur as the U.S. forces withdrew from the Philippines in the second world war.

The Paris air show will re-open in 2023, having been forced to cancel last year’s exhibition due to the Covid pandemic. The air show next year will mark the “start of the recovery,” Daher said, pointing to a festive spirit planned for the weekend when the high profile exhibition opens to the public.

The show organizer expects to attract 177,000 public visitors, the same level as the 2019 show.

The air show serves as an important means to attract and train a skilled work force for the aerospace industry. Gifas is looking to recruit 15,000 workers this year, but finds it hard to recruit women. The trade body has launched a brand name, Aéro Recrute, to boost the hiring drive.

The air show organizer also seeks to boost business for start-up companies, and there will be exhibition space named Start Air.

Dassault and Airbus DS held a joint press conference at the 2019 air show, with respectively executive chairman Eric Trappier and the then chief executive Dirk Hoke standing next to a life size model of the next generation fighter.

The unveiling of that model, with French, German and Spanish defense ministers signing a cooperation agreement, was the media high point for European military aeronautics.

It remains to be seen whether there will be a joint press conference at the 2023 Paris air show, with a similar upbeat note.

The Paris air show is due to run June 19-23 next year.

Australia and France: New Governments and Next Steps

06/14/2022

Paris – Australia seeks to calm troubled waters by paying shipbuilder Naval Group (NG) €555 million (US \$581 million) for sinking a large French submarine deal, with Canberra pledging to resume close relations with Paris.

That desire to be mates again with France follows the Australian Labor party winning last month's general election, with Anthony Albanese taking up the prime minister's office after the departure of Scott Morrison, leader of the conservative Liberal party.

It remains to be seen how Australia will rebuild those ties with France, in the wake of severe turbulence brought on by Canberra's cancellation last September of the Shortfin Barracuda project, once seen as the multibillion deal of the century for NG.

There may be political will to rebuild links between the two nations, but there remains bitterness at the business level in certain circles. A French executive who worked on the Australian project expressed deep skepticism on the outlook for cooperation.

"Just words," the executive said, "there are no competitions, no concrete ideas, no details."

On tenders, Australia is holding a competition for unmanned autonomous systems for a maritime mine countermeasures and military survey program, dubbed Sea 1905 MCM Tranche 1. The unmanned system will be fitted on ships based on the Arafura class of offshore patrol vessels, with media reports of a budget of A\$3.3 billion -A\$5 billion for the fleet of future mine warfare ships.

ECA group, a French underwater specialist, said May 2021 it has teamed up with a local partner, Total Marine Technology, for that competition. Saab Australia said last month it has partnered with Leidos, SeeByte, and Sonartech Atlas.

A restricted tender for the mission management system for that program comprises four bidders, namely Atlas Elektronik, ECA, SeeByte, and Thales Australia, Asia-Pacific Defence Reporter, an Australian magazine, reported last month.

Australia stands to lose submarine capability, national sovereignty, and jobs due to the cancellation, the executive said. It looks likely the Australian navy will wait 20 years to sail a nuclear-powered boat, seen effectively as under joint U.S. control.

If the submarine deal were the price Australia was willing to pay for U.S. security, there is uncertainty over U.S. political leadership to consider, the executive said.

The U.S. program for nuclear powered boats is fully committed, as is the U.K. with its Astute class of nuclear submarines, leaving little room to supply boats for the Australian navy, the executive said.

Australia had considered ordering two Virginia class submarines by 2030, Peter Dutton, the former defense minister, wrote June 9 in The Australian daily, sparking a row with the Labor government.

"You don't defend your country and our national security with a media release," Albanese told June 11 a press conference. "You defend it with operational capability. My government intends to concentrate on delivering rather than the statements that Peter Dutton has made that contradict all of the statements that he made while he was defense minister."

The Australian navy is in bad shape, the executive said, with the Collins class of submarines aging, and there is a delayed start to building the Hunter class of frigates, based on the Type 26 frigate from BAE Systems.

Perhaps there might be Australian interest in the Airbus A400M transport aircraft, which has greater reach than the C-130, a defense specialist said. The A400M could tackle Australia's lack of long-range capability.

The Australian air force flies seven Airbus A330 multirole tanker transport aircraft, badged as KC-30A and based at Amberley air base, near Brisbane, eastern Australia. A further two more units were considered in the 2016 defense white paper, the website of the Royal Australian Air Force reported.

That reach for long range was a key reason for Australia switching to the requirement for nuclear power on the submarine, dropping the diesel-electric Shortfin Barracuda, which would have been a modification of the nuclear-powered Barracuda built for the French navy.

The Suffren, the first of class of the six Barracuda boats, entered service June 3, and the newly appointed armed forces minister, Sébastien Lecornu, attended the high profile event at Brest naval base, northwestern France.

Lecornu met June 11 his Australian counterpart, Richard Marles, on the sidelines of the Shangri-La security conference in Singapore, after president Emmanuel Macron and Albanese had agreed the settlement on NG.

“He (Lecornu) expressed the wish that this agreement and the change of the government team will make it possible to overcome the crisis of confidence with Australia,” the French defense ministry said in a statement.

“France, Australia’s neighbor in the Pacific, namely because of New Caledonia, will listen to Australian proposals to project the bilateral defense relationship into the future, on the basis of operational cooperation and structuring projects,” the ministry said. There will be work meetings in Paris, it was noted.

Both sides, Albanese and NG, used the phrase “fair and equitable” on the settlement on the submarine deal.

Thales has its Australian unit, which supplies Bushmaster and Hawkei protected vehicles, and works on underwater systems and mine countermeasures. The Australian unit has generated exports worth A\$1.6 billion over 10 years.

Thales holds 35 percent of NG, with the French state owning 62.3 percent.

Airbus Helicopters has fallen on hard times in Australia.

Australia last December decided to ditch its fleet of NH90 military transport helicopters, known locally as the Multi-Role Helicopter 90 Taipan, to be replaced by the Sikorsky Black Hawk and Seahawk. Airbus Helicopters is partnered with Leonardo Helicopters and Fokker Aerostructures on the NH90.

Australia is also replacing the Airbus Tiger armed reconnaissance helicopter with the Boeing Apache attack helicopter.

A Clean Slate

Just three weeks in office, Albanese told journalists June 11 he had talked to his French counterpart, Macron, and agreed financial settlement of €555 million to wipe the slate clean with NG, and how it was important to renew close ties with France.

"I thank him (Macron) for those discussions and the cordial way in which we are re-establishing a better relationship between Australia and France," Albanese said, pointing up the cost of the cancellation, which he saw as a fumbled move.

"It brings the total cost of the former government's failed policy to A\$3.4 billion (US \$2.3 billion). This is a saving from the A\$5.5 billion that Senate Estimates was told would result from that program."

France is a long-standing ally, having fought side-by-side in two world wars, and also had a "significant presence" in the Pacific, amid tension in the Indo-Pacific region, he said.

Labor, then the opposition party, had backed the switch to a nuclear-powered submarine.

The financial settlement is intended to clear the decks with NG, which won a competition in 2016 and had expected to be approved for the next design stage last September. Instead, Australia sent notice of cancellation.

"Importantly, this draws a line under this issue, and I thank the Naval Group for the way in which they have conducted the relations," Albanese said. "This procedure has gone through our appropriate approvals processes and ensures that we can now reset the relationship without this clouding that relationship going into the future."

The settlement payment of €555 million follows the €840 million of sales NG booked for its work on the Australian future submarine project since 2016.

Details of the settlement are confidential for commercial reasons, Albanese said.

It is understood NG will pay subcontractors out of that settlement, as it closes down its Australia future submarine office, which is down to 50 staff, with 45 Australians and five French, after previously employing some 350 personnel.

"Naval Group and the Commonwealth of Australia have reached a fair and equitable settlement to bring a conclusion to the Future Submarine Program," NG said in a June 11 statement, which declined to give an amount for the settlement.

"Naval Group also recognises the important work of those who contributed to the discussions leading to this agreement."

NG has its Naval Group Pacific office in Sydney, working in research and development.

In 2016, the then Australian prime minister, Malcom Turnbull, said the French submarine project would create 2,800 local jobs and use Australian steel for the ocean-going boats.

Last September, NG had been expecting to sign an Australian two-year contract worth €1.4 billion for the basic design stage, having received approval on the system functional review.

Instead, Australia told NG the Shortfin Barracuda was cancelled. Talks started on financial settlement.

That cancellation was due to Australia, the U.K. and the U.S. setting up the AUKUS alliance, opening the way for Canberra to order nuclear-powered attack submarines, with help from its British and American allies.

Albanese said Macron has invited him to a Paris meeting, and that was “absolutely vital to resetting that relationship, which is an important one for Australia’s national interest.”

The French Army’s Titan Project: A July 2022 Update

07/11/2022

Paris – The French army is preparing for future high intensity warfare with its Titan project, working with the DGA procurement office to devise a high capacity information network to enter service after 2040.

Titan is seen as changing the game, based on the concept of “strategy of simultaneity,” a term used by army colonel Arnaud Goujon at the May 31 conference on land weapons organized by Fondation pour la Recherche Stratégique, a think tank.

Titan is “not just about platforms,” he said, as the project aims to deliver an “extremely different capability.”

The project seeks to extend a combat cloud for ground forces, a follow-on to the army’s €10 billion (\$10.4 billion) Scorpion program. That modernization drive is delivering medium armored vehicles, notably the Griffon multirole troop carrier, Jaguar combat and reconnaissance vehicle, and Serval light multirole vehicle.

Scorpion includes a command and control network based on Atos SICS battle management system, and Thales Contact software-defined radio technology, as well as a training system in the vehicles. There will also be a vehicle to replace the VBL scout car.

Military planners and procurement officials of the Direction Générale de l’Armement are looking to deliver and manage a wider transmission of battlefield information, with greater density of data, to provide interconnection of joint military units.

Titan factors in a shift to fighting a high intensity war, moving away from a concept of operations based on troops deployed overseas for counter-insurgency, asymmetrical combat, as seen in Afghanistan and Mali.

The Russian invasion of Ukraine and the use of troops, armor, and artillery barrages to seize the Donbas region, eastern Ukraine, point up the significance of high intensity warfare, military analysts said.

A key feature of Titan will be to plug in a planned heavy tank and unmanned vehicles dubbed Main Ground Combat System (MGCS), a project pursued under Franco-German military and industrial cooperation.

That heavy armor in the Titan network will follow on from Scorpion's focus on medium vehicles, although the latter includes upgrade of 200 Leclerc main battle tanks. The total Leclerc fleet is some 240 units strong, specialist magazine *Defense Zone* reported.

Artillery and the Tiger Mk3 attack helicopter will also be hooked into the information network, as part of the bid to boost air-land capability.

Scorpion works on collaborative combat, boosting command and control (C2), and bringing "an in-depth transformation," Goujon said. That complex change will take years to complete, with new vehicles working in network and going on field exercises for certification. The plan is to field a Scorpion brigade in 2023 and a division in 2025.

The new fleets will change the culture and operations of the army, he said, as Scorpion vehicles will not be used the same way as the VAB troop carrier.

The Véhicule de l'Avant Blindé has been the workhorse for the army for some 45 years old, and has undergone various upgrades.

France has sent the VAB to help Ukraine, armed forces minister Sébastien Lecornu told June 27 daily *Le Parisien*, without giving the number of units.

That press interview confirmed a video clip that had run on social media, showing 14 VABs transported by road in Slovakia, prompting assumption they were bound for Ukraine.

In future combat there will be greater dynamic in the battlefield, Goujon said, with real time video from space satellites for intelligence, surveillance and reconnaissance.

"The battlefield will be very exposed," he said. There will be changes in connectivity with high bandwidth in 5G fifth-generation telecommunications for soldiers and vehicles.

Finding a budget to fund the Titan project poses a problem, with rising inflation and the high cost of technology and service support, he said. Technology will take time to mature, and unmanned systems will be more costly than manned.

Titan To Replace Kit

Titan will also renew the equipment inventory, as well as boosting the information network.

Titan will start replacing weapons at the high end of the conflict spectrum from 2040, equipment which will be worn out by 2050, said Charles Beaudouin, a retired general who led Scorpion in the army technical section. He was on the general staff when the army chief of staff launched the Titan project in 2018.

The weapons to be replaced include the Leclerc tank, VBCI infantry fighting vehicle, Patroller tactical drone, and Tiger helicopter, he said. Artillery will be succeeded by the planned Franco-German Common Indirect Fire System, while a mobile ground-to-air, low-altitude missile system will replace Mistral 3.

A next generation information and communications system using broadband, artificial intelligence and drawing on metadata in the combat theater, will replace Scorpion SICS.

Those new weapons will be fitted with advanced automation and in some cases, intelligent robotics.

“The research budget relating to Titan will be decisive because this program of programs must offer total superiority in 2050 — and for a long time after,” he said.

Technological and capability breakthroughs in Titan will allow upgrade of the Scorpion vehicles — Griffon, Jaguar, and Serval — which will be entering mid-life service, he said. Titan will also address initial gaps in Scorpion, namely defense against anti-tank missiles and drones.

“With the return of wars between nations, the nature of war is changing,” he said, “and without abandoning asymmetric combat, it is now a question of finding a full spectrum of capabilities for symmetric high intensity combat, while acknowledging any combat, symmetric or asymmetric, may have high intensity peaks.

“In this sense, we are not experiencing a return to the Cold War paradigm but a much more complex aggregate combining Afghanistan, Syria-Iraq, Ukraine, to which can be added what we do not even think of today — because war always surprises,” he said.

There will certainly be major disorders and mass migrations due to shortage of raw materials and natural resources, he said.

“What is certain is that the enemy will use the equalizing power of technology and we must imperatively regain mass — symmetry warriors inflict strong human and material attrition,” he said.

“It is not by sacrificing technology to rusticity but by developing a lower cost digital technology and in its rightful place,” he said. “This is where we expect innovation.”

Beaudouin is chairman of Coges Events, organizer of the week-long Eurosatory trade show for land and air-land weapons, which closed June 17. Coges is a unit of the Gicat trade association for land weapons.

Beaudouin was speaking in his private capacity.

Superiority In the Field

“Titan is a major project seeking to guarantee operational superiority on the ground in face of a first rank adversary,” the DGA said.

The project seeks to address the return to high intensity combat in equipment and multi domain operations, the importance of new technology – such as drones – delivering a levelling effect, and the acceleration of change or breakthroughs, the procurement office said.

The architecture and preparation of key capabilities in high intensity warfare require a “top-down” approach, the DGA said. Titan is not a program guided by physical platforms and funding, but seeks to deliver a “strengthened capability,” based on coherence of air-land forces at the high end of the conflict spectrum.

The near term aim is to consider, compare and optimise architectures for air-land forces, the office said. Titan is not an equipment program with a budget.

The main factor in Titan is the MGCS project, which will replace the Leclerc and German Leopard 2 tank, the office said.

There are technical-operational studies which will steer research and technology studies and future programs. Those studies are worth “several million euros,” the office said, without giving details.

Besides those technical-operational studies, Titan draws on MGCS architecture studies, feasibility studies on robotics, and studies backed by the European Union on future artillery, such as FIRES and E-COLORSS, respectively the Future Indirect fiRes European Solution and the European Common Long Range indirect fire Support System.

The latter two EU studies are two-year design studies backed by the 2020 European Defense Industrial Development Program, each study with a budget of €3.5 million.

FIRES examines next generation 155 mm artillery ammunition and rockets based on common technology, while e-COLORSS considers improved European artillery with a 155 mm cannon and rocket launcher mounted on a hybrid truck.

Doubts On the Main Ground Combat System

It remains to be seen how Titan will proceed if the MGCS project were scaled back from its planned Franco-German industrial cooperation.

Doubts over MGCS spring from Rheinmetall reported to be seeking a place at the top table with Krauss-Maffei Wegmann on the armor project. That German struggle for the leading role on the future tank system is seen as risking the work share for the French partner, Nexter.

KMW and Nexter had expected to share the work on MGCS on a 50-50 basis, reflecting their equal stakes in the cross-border KNDS joint venture formed in 2015. The MGCS tank and unmanned systems are due to enter service in 2035.

MGCS is important for France but also for the German army, the French army chief of staff, general Pierre Schill, told parliamentarians Oct. 12.

While there were industrial issues to take into account, “the army has a strategic need to have a MGCS delivered in 2035,” he said. “Despite the difficulties that go with a cooperative project, we must pursue our studies with our German allies on the operational needs that we share.”

Belgium is the only other European nation to have ordered Scorpion vehicles, he said, but there could be development of a “Scorpion community” through interoperability with Luxembourg and Netherlands, and perhaps Germany.

Belgium has ordered Jaguar and Griffon vehicles through its Capacité Mobilisé (CaMo) program.

Eurosatory provided a showcase for the competing corporate advances on the tank front, with Rheinmetall unveiling a technology demonstrator for its KF 51 Panther, while KNDS showed an updated demonstrator of its Enhanced Main Battle Tank (E-MBT).

Pitching the two competing tank prototypes to the world market signalled MGCS might be on borrowed time, a research note said.

“We are increasingly unable to escape the conclusion that both groups increasingly expect (or hope for?) MGCS to go the same way as the parallel SCAF/FCAS combat air “cooperation”, and collapse due to a combination of national political/industrial rivalries and technological over-ambition (= cost and time),” Agency Partners, an equity research company, said in a June 21 research note titled European Defence.

The army’s success in winning funding for its modernization drive stems partly from the use of a brand name – Scorpion – after a long backstory of finishing last in the inter-service race for the military budget.

The nuclear deterrent was ring fenced in the budget, while the air force and navy won funds for big ticket items such as fighter jets, nuclear ballistic missile submarines, frigates and an aircraft carrier.

That left the army behind as poor bloody infantry when it came to securing funds, unless a catchy program name could be found. Army planners came up with Scorpion, and secured some €10 billion.

Perspectives from the French Navy: July 2022

07/16/2022

Paris – The U.S. navy is seeking to forge closer operational ties with the French navy, with the French service invited to plug sensors and data into the [U.S. Overmatch project](#) for an extended information network, a French navy officer said July 11.

The offer of greater interoperability was one of the priorities of a visit to the U.S. by French navy chief of staff, admiral Pierre Vandier, who was there June 18-25, the officer said.

That was Vandier's third and longest visit to the U.S., marking a reset in relations after ties were strained by the September 16 announcement of the AUKUS partnership, with Australia, the U.K. and the U.S. looking to supply the Australian navy with a fleet of nuclear-powered attack submarines.

The AUKUS plan scuppered a project led by French shipbuilder Naval Group (NG) to build 12 Shortfin Barracuda diesel-electric submarines in Adelaide, southern Australia, in a deal worth an estimated €30 billion (US \$30 billion).

Vandier flew to the U.S. a week after Australian prime minister Anthony Albanese said June 11 Canberra would pay NG €555 million for cancelling the Barracuda project, and pointed up the need to rebuild close ties with France.

That financial and political settlement renewed relations, with French president Emmanuel Macron giving Albanese a warm welcome when the Australian leader came July 1 to the Elysée office for their first meeting.

Australia has also changed its navy chief of staff, the officer said, and there are plans for French exercises with the Australian service.

Vice Admiral Mark Hammond took up July 6 the post of chief of the Australian navy, with vice admiral Michael Noonan stepping down after four years in the top job.

There has also been a change at the top in the U.K., with admiral Ben Key promoted to first sea lord, with his predecessor, admiral Tony Radakin, taking up the post of chief of the defense staff.

Vandier spoke to the then French armed forces minister, Florence Parly, before his visit to the U.S. last month, such was the perceived importance of the trip, and the minister spoke to her American counterpart.

The French navy chief met Kurt Campbell when he flew to the U.S. in January, the officer said. Campbell, who reportedly played a key role in setting up the AUKUS submarine deal, is coordinator for the Indo-Pacific on the U.S. National Security Council.

Overmatch is the U.S. navy's project, along with the air force and army, to set up a network for joint all-domain command and control (JADC2), with the navy's Overmatch budget second only to the Columbia ballistic missile submarine program, monthly magazine National Defense reported.

The Overmatch project includes cloud computing power, with the U.S. navy partnering with Amazon Web Services to store the vast amount of data, and drawing on artificial intelligence as a tool to sift through the pooled information. A U.S. warship would effectively have two computers onboard, one to fight the war, the other to hold the data, the officer said.

A French team is due to go to the U.S. in September for further discussion on Overmatch, the officer said. It is still early days but it is important to get a head start rather than be left behind, and be out of step.

The French navy is setting up its Polaris project, in Toulon naval base, southern France, forming a center for training and studies for high level naval doctrine, drawing on highly capable combat management systems, the officer said. Overmatch calls for an exchange of information.

The U.S. Navy briefed Vandier on its Pacific strategy on his visit to the west coast, which included the San Diego Naval Information Warfare Center, and going to San Francisco, to visit high tech centers in Silicon Valley. There is an impressive breadth and production of software in the U.S., the officer said. It is unlikely the French navy would strike a deal with Amazon.

On the east coast, Vandier visited Norfolk naval base and Washington, where he met his U.S. navy counterpart.

Vandier's latest visit follows the French and the U.S. navy signing in December the strategic interoperability framework agreement, aimed at boosting operational cooperation between the two services.

What is being considered is the right level of cooperation and "synchronization" with the U.S., with the possibility of a dual carrier operation in 2025, sailing west of Singapore, with fourth generation fighters such as the Rafale fighter flying with the fifth generation F-35, the officer said.

In general, there is a need to set priorities as the French navy lacks resources to take on all missions at the same level of urgency — "If everything is important, nothing is important," the officer said. The main theaters of operations are the Atlantic, Mediterranean, and the Indo-Pacific.

That calls for the joint chiefs of staff to take a strategic view, the officer said. There is perception of average yield for the French contribution to NATO, with strategic yield from operating in the Indian Ocean, making the latter something of the center of gravity for the French navy.

The annual Jeanne d'Arc naval training mission sailed through the Indian-Pacific this year, and the Charles de Gaulle nuclear-powered aircraft carrier will sail in the Indo-Pacific later this year,

the officer said. On Sept. 16, the day the AUKUS partners announced the Australian submarine project, the European Union published its report on the strategic importance of the Indo-Pacific.

In India, where the navy is holding a competition for carrier-borne fighters, France has offered to supply two to four French navy Rafales, if the fighter were chosen, the officer said. If India took up that option, that would lead to a 10 percent cut in the French fleet air arm, which consists of 42 Rafales.

India has not asked for that option, which was offered by the French authorities.

The U.S. has pitched the F/A 18 E/F Super Hornet.

The French presence in the Indian Ocean is seen as taking some pressure off the U.S. Pacific command, which faces growing strength of the Chinese navy.

The U.S. navy is concerned that at the rate China is building warships, the People's Liberation Army Navy will be 2-1/2 times larger than the U.S. navy by 2030, the officer said. The U.S. navy may be modernizing its fleet, but warships and submarines are simply being replaced rather than being increased in number.

Meanwhile in Europe, there is concern in the Norwegian navy of the prospective Chinese naval reach into the region, the officer said.

That U.S. sense of urgency from the perceived growing threat from China and the need for Australia as a strong ally, led to a "strategic shift," with Canberra last year sinking the Barracuda project and seeking nuclear-powered boats.

There are talks going on, the officer said, and one of the options is for the U.S. to send the two Virginia class attack boats built each year to the Australian navy.

That would mean the U.S. navy waiting four years before receiving its submarine, as Australia seeks to sail eight nuclear powered boats.

In view of the training, infrastructure, and need to build up an industrial base, it is hard to see an Australian boat sailing under an Australian flag before 2040, the officer said. That calls for a "political decision."

The Lowy Institute, an Australian think tank, published July 14 its note, The Interpreter, which explored three options for the Labor government, which stands to breach the non-nuclear proliferation regime with the AUKUS submarine plan. The U.K. and U.S. use highly enriched uranium to power their boats, so that weapons grade material stood to be sent to the Australian navy.

The options include Australia switching back to a conventional submarine fleet, asking the U.S. to supply boats powered by low enriched uranium (LEU) – which is unsuitable for nuclear

weapons, or ask France to supply LEU powered submarines, as French boats use that form of atomic power.

There would be “political, bureaucratic, legal, and financial” hurdles to the latter option but such a deal would allow Albanese to avoid proliferation of weapons grade uranium and equip the Australian navy, and perhaps create “AUKUS+1,” the note said.

Heading Towards Plan B: FCAS in the Balance?

07/22/2022

Paris – Dassault Aviation hopes Airbus will agree to a clear program leadership in building a next generation fighter, perhaps with a deal formally approved by the end of the year, executive chairman Eric Trappier said July 20.

There was hope for a “decision in the (coming) weeks or in one or two months’ time,” he said, with entry into effect “by the end of the year.”

That was not an ultimatum, said Trappier, speaking at a press conference on Dassault’s first half financial results.

Dassault was actively working on plan B for the new fighter jet, he said, and the priority was to inform the defense ministry before any public disclosure of the fall back option.

Trappier was referring to the reluctance of Airbus Defence and Space to sign a contract for phase 1B work on a technology demonstrator for a next generation fighter, the core element of a future combat air system (FCAS) backed by France, Germany and Spain.

That lack of agreement stems from Airbus DS effectively seeking to be joint prime contractor, while Dassault insists on holding exclusively that lead management role and to be the project architect.

Dassault, headquartered in the Paris suburbs of Saint Cloud, set out the dispute in its results statement.

“Dassault Aviation is prime contractor for pillar 1,” the company said. “The prime contractor/main partner relationship is still to be clarified.

“Dassault Aviation is seeking a clear statement of acceptance of its role as prime contractor by Airbus Defence and Space for the NGF (in symmetry with Eurodrone).”

Dassault sought that lead position for the full fighter program, not just the demonstrator project, Trappier said. The first flight of the demonstrator had already slipped back three years to 2027, and there was prospect of sliding to 2028, he said.

Pillar one refers to the fighter project in FCAS, with the other six pillars comprising fighter engine, remote carriers, combat cloud for network communications, simulator labs, sensors, and stealth.

Airbus was prime contractor on the Eurodrone, and Dassault was happy to be subcontractor, Trappier said.

Eurodrone is a medium-altitude, long-endurance drone, with a budget of €7.1 billion, backed by France, Germany, Italy, and Spain.

Airbus Also Has Plan B

Airbus chief executive Guillaume Faury said the focus was to reach agreement on plan A on the future combat air system, but there were other options if the talks broke down.

“There’s a plan A and plan A is FCAS...There are other options, we think of other options but we are working for plan A,” he told Reuters on July 20.

“We want to make it happen. I don’t want to be discussing plan B. That will undermine the likelihood to get to plan A, because plan A is plan A and remains plan A,” he said at the Farnborough air show.

Trappier, asked at the press conference if he spoke to Faury to resolve the dispute, said he spoke often to the top Airbus executive — Airbus was a member of the Gifas aerospace trade association — but rarely about FCAS.

The key interlocutor was Airbus DS chief executive Michael Schoellhorn, he said, as the partners were the Airbus units in Germany and Spain.

“He (Faury) is not German, nor Spanish,” Trappier said.

Asked about Japan joining up with Britain on a new fighter, Trappier pointed up the lead role of BAE Systems on Tempest, and said that was the right approach, one to adopt for the European next generation fighter.

“I advise a strong leadership,” he said.

The partner nations on the European FCAS — France, Germany and Spain — have been drafting a joint statement welcoming the signing of a contract for phase 1B.

That was effectively a high-level political elbow intended to nudge Airbus DS into accepting Dassault’s industrial leadership on the fighter project.

The head of the French Direction Générale de l’Armement procurement office, Joël Barre, met May 10 his German counterpart, and Benedict Zimmer agreed to drafting that joint statement, which included the terms of cooperation in work after phase 1B.

Meanwhile across the English Channel, the U.K. said July 18 Japan was taking part in joint concept analysis on the British Tempest new generation fighter project, with decisions due on whether to enter partnership by the end of the year. Italy was also taking part in that concept analysis.

That raised the prospect of Japan pooling its F-X fighter jet project with the Tempest, with Mitsubishi Heavy Industries working with BAE Systems.

The U.K. prime minister, Boris Johnson, said on the same day at the Farnborough air show the Tempest demonstrator would fly in 2027. London has earmarked a budget of £2 billion (\$2.4 billion) for the Tempest to 2025, and the Tempest fighter was due to fly in 2035.

The budget for phase 1B has been reported to be worth €3.6 billion (\$3.7 billion) and runs 2021 to 2024, while phase 2 runs 2024 to 2027, with a budget of €5 billion, backed by the three partner nations.

Tough Times

The Russian invasion of Ukraine has raised tension on raw materials, energy, and the supply chain, Trappier said. The company closed its Moscow office for the Falcon business jet and its Dassault Falcon Service, as part of the Western sanctions against Russia.

Russian sanctions against the Western allies put “severe pressure” on the supply chain, forcing Dassault to look for other sources, he said. There was also potential risk on electronic components due to tension between China and Taiwan.

Dassault reported a sharp gain in orders in the first half, with orders worth €16.3 billion, up from €3.9 billion a year ago.

Despite tough business conditions, Dassault reported upbeat financial results.

Rafale export contracts accounted for €13.9 billion of that total amount, up from €1.9 billion, with orders for Falcon jets making up the balance.

The United Arab Emirates paid a deposit in April for its order for 80 Rafales, making up the bulk of those orders, while Greece signed a contract, which came into force in March, for six more Rafales. That brought the total Greek order to 24 Rafales, following an order last year for 18, including 12 second-hand units flown by the French air force.

Dassault expected Indonesia to pay a deposit for an order for 42 Rafales by the end of the year, Trappier said.

That Indonesian deal could then be entered in the order book, once the deposit was paid. That order consisted of an initial six-strong batch, followed by 36 more.

Dassault’s order book rose to €34.1 billion, up from €20.8 billion.

Thales reported July 21 a total order book of €38 billion. Dassault holds 24.6 percent of the electronics company.

Dassault's adjusted net profit rose to €318 million from €265 million, with a net profit margin of 10.3 percent, compared to 8.5 percent.

Sales were stable at €3.1 billion. The cash holding rose to €6.3 billion, up from €4.9 billion.

Dassault was a small company, with 12,000 employees, Trappier said, and had recruited 700 staff, with a target of 1,300 new hires for the full year.

The forecast for 2022 was unchanged, with a fall in net sales, and delivery of 13 Rafales and 35 Falcons.

The company expected a French order for 42 Rafales, with the 30 units expected for the fifth tranche for the air force, and a further 12 to replace those sent to Greece. That order might be made at the end of 2022 or early 2023.

Dassault continued to seek new Rafale export orders, the company said.

India, Serbia, Iraq, and Colombia were reported to be among prospects.

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