This paper is NOT an official publication from the French Armed Forces. It provides an update on the French military operations and main activities. The French Defense Attaché Office has drafted it in accordance with open publications.

The French Armed Forces are heavily deployed both at home and overseas. On the security front, the terrorist threat is still assessed as high in France and operation “Sentinelle” (Guardian) is still going on. Overseas, the combat units are extremely active against a determined enemy and the French soldiers are constantly adapting their courses of action and their layout plans to the threat.

Impacted by the Covid-19 pandemic, the French Army has resumed its day-to-day activities and operations. In July, it also contributed to the celebrations of the national holiday.

1. IN MEMORIAM

Thursday July the 23th 2020, during a reconnaissance operation in the north of the Gossi FOB, the soldat de première classe Tojohasina RAZAFINTSALAMA, 1st Parachute Hussard Regiment (Tarbes), was killed in action by a car-bomb explosion.

On July 30, 2020, the brigadier-chef Andy FILA, 14th Infantry and Logistics Parachute Regiment (Toulouse), was seriously injured during a maintenance operation in the camp of N’Djamena. Despite the first cares and his transportation to the hospital, he died from his injuries.
2. OPERATIONS

DEPLOYMENT OF THE FRENCH ARMED FORCES

OPERATIONAL NEWS

OPERATION BARKHANE:
Global Sub-Saharan Anti-Terrorist Mission

Operation Barkhane, spanning five countries in the Sahel region of North Africa, started in the beginning of August 2014 after the completion of Operation Serval. With their main base located in the Chadian capital NDjamena, the FR forces are actively operating in Burkina Faso, Mali, Mauritania, Chad and Niger.

France and its G5 Sahel partners (Mali, Chad, Burkina Faso, Niger, Mauritania) are concentrating their common efforts in the Liptako Gourma sector, commonly named “the region of three borders”. On the field, operations mainly consist in a series of raids led in depth inside enemy sanctuaries combined with air and airmobile attacks. The goal is to leverage the destabilization of the enemy which is ISIS in Grand Sahara, following the elimination in early June of the terrorist leader Abdelmalek Droukdal.

New capacities have been recently brought into the fight as the European SOF Task Force Takuba declared its Initial Operational Capacity (see page 6 for more details).
OPERATION CHAMMAL:

Multinational Joint Operations in Syria and Iraq

Launched in September 2014, on request of the Iraqi government and in coordination with allied forces, operation Chammal aims at providing air and ground support as well as training to Iraqi forces committed against Daech and other terrorist groups. The operation has been extended to Syria following the terrorist attacks in November 2015.

France's contribution to the operations in these areas is now supported by a detachment of the French Air Force following the withdrawal of the Army’s mentorship troops from Iraq in March. Based in Jordan and in the United Arab Emirates, it participates to the allied air strikes against ISIS. As they’ve passed the 2,000 flight hours in war operations since January 1st alongside their allies, the French fighters gave another proof of France’s determination in the fight against terrorism in the region.

SENTINELLE & RESILIENCE:

Continental France Protections Missions

Committing 10,000 soldiers across the country, operation Sentinelle was launched to support the security forces in the aftermath of the November 2015 terrorist attacks. This operation is still ongoing. The posture of Operation Sentinelle is still composed of three responsive layers:
- a permanent operational force of 2,600 men, whose objective is to ensure permanent missions of security in the most sensitive and vulnerable areas;
- a planned reinforcement echelon of 4,400 men, helping to secure occasional or seasonal events;
- a strategic reserve of 3,000 men in the hands of the French President.

To support civil services who are still committed into the fight against COVID-19, the Armed Forces have adapted the layout of the operation RESILIENCE launched on March the 26th. After the lifting of many lockdown restrictions and the deconstruction of temporary structures, the Armed Forces have concentrated their efforts on the French overseas territories. In particular, very active clusters are maintaining high pressure on the local health system and the civil administration in Guyana and in Mayotte.

Today, 13,000 soldiers, airmen and sailors are deployed in France mainland and overseas territories in the frame of these two operations.
3. OPERATIONAL SUPERIORITY 2030

The Chief of Staff of the French Army's Vision

In June, Gen. Thierry Burkhard, Army Chief of Staff rolled out a new military strategy document that signals the turn to preparations for largescale wars. Two ideas embody its philosophy:

- The ambition: to provide France with a battle-hardened Army, ready to face the toughest clashes up to a major confrontation and capable of winning;
- The intent: to increase the level of operational training to forge soldiers able to fight up to the most demanding levels of conflicts.

The Why

Generally speaking, the world is evolving quickly and badly enough with a constant growth in the pace of conflicts. In the last decade, the Army has imagined a situation that has negatively evolved by 2035. In 2020, a certain number of checkboxes are already ticked. Therefore, the 20-page plan is answering the credible hypothesis of a symmetrical, state-on-state conflict.

New means of using force: unforeseeable and more insidious, based on intimidation and manipulation, in a new type of warfare, are used to obtain undeniable strategic gains by imposing a fait accompli.

The Strategic Objective: operational superiority

In this context and in order to acquire operational superiority, the French Army will aim four strategic goals:

1. Forge soldiers for future “clashes”, getting the gratitude from the Nation;
2. Build capabilities enabling French soldiers to outclass their adversaries through improved capabilities (EW, space, cyber), land concepts development, a more reliable and agile maintenance and strategic industrial projects and partnerships at European level;
3. Training focused on a major engagement building a more robust readiness, acculturating all fighters to multi-domain type maneuvers and forging a stronger reserve;
4. A simplified running to ensure efficiency, resilience that bans useless or redundant processes, promotes subsidiarity, meets units’ needs and takes into account the environmental stakes.

The Routes of Success

The main goals listed above are broken down into 12 strategic projects that will be undertaken simultaneously and will run from short to long term.

Overall frame of the action

1. New concept of employment for the next 15 years: adapt the “Army Strategic Offer”, high level of joint and allied integration, increased readiness and enhanced employment of the forward deployed forces.

Soldiers: a high-quality, trained, resilient force

2. Renovated reserve forces – focus areas: reserve force distribution, recruiting, deployment;
3. Army invested in youth – tied to France’s concept for “Service National Universal” (SNU);
4. “Army house” – a catch all that is meant to improve force support structures (e.g. wounded warriors);
5. Technical School – creation of a training program to train and retain young talent prior to the start of a 5 year enlistment.

Capabilities: the capacities for adversarial overmatch

6. Ground fleet management – eventual move away from unit’s having to share vehicles;
7. Future land combat: encompasses future air land capabilities as MBT, artillery, real time info sharing.

Training focused on “major conflict”

8. Effect based approach: adapt training to combine kinetic and non-kinetic effects.
9 - Training capabilities brought to high intensity: increasing training capabilities.
10 - Division level exercise: conduct a division level maneuver exercise in a MD environment.

Simplification: streamlining army operating functions
11 - Simplification – increase clarity and pragmatism;
12 - Evolution of support systems.

4. FROM THE FIELD

4.1. ONE MORE STEP FOR THE EUROPEAN SOF TASK FORCE TAKUBA

With its operational capacity statement made on July 15, the European Special Operation Forces task force Takuba is taking off to bring new critical capacities in Mali.

Committing ten partners (Germany, Belgium, Denmark, Estonia, France, Mali, Niger, Norway, Netherlands, Portugal, Republic Czech, United Kingdom and Sweden), TF Takuba is designed to advise, assist and support the malian armed forces in the fight against the armed terrorist groups. Its basis is made with a two platoon-strength force made up of French and Estonian special forces operators.

Their first mission will consist in the mentorship of the Light Reconnaissance Intervention Units of the Malian Armed Forces recently trained by instructors of the 2nd Foreign Infantry Regiment. Within the next semester, TF Takuba will accelerate its international growth with the imminent reinforcement of additional French troops, the integration of a Czech commando in October (around 60 operators) and the reinforcement of Swedish SOF planned in January 2021 (around 150 personnel). In addition, Italy is evaluating its participation through a substantial commitment including a specific unit composed of 200 SOF members and 8 helicopters (likely 4 NH-90 and 4 AH-129D Mangusta).

In the medium term, TF Takuba could become the 5th battle group of the force with its specific capacities and be integrated into the global Barkhane chain of command through a specific channel.

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1 The Takoba or Takouba or Takuba is a traditional sword used by warriors of several ethnicities of the Western Sahel as the Tuaregs, the Haoussa or the Fulani.
4.2. LYNX 7: FRENCH SOLDIERS IN LITHUANIA

Demonstrating solidarity with NATO Allies, France is renewing its participation to Operation Enhanced Forward Presence (eFP). Within this collective deterrent posture decided by the 28 NATO Allies in Warsaw on July the 9th 2016, France deployed in July a combined arms unit in Lithuania. The FR Lynx 7 detachment is a company-sized force composed of one Leclerc MBT platoon, one armored infantry and their supporting elements.

After the Full Operational Capacity statement and the official visit of the FR Ambassador in Lithuania on July 23, Lynx 7 kicked off its activities within the German-led multinational battalion.

4.3. High North: A look back at several simultaneous naval deployments in this strategic area

From Northern Iceland to the confines of Greenland, French Navy units are often deployed in the High North. Recently, the patrol ship Fulmar, based in Saint-Pierre-et-Miquelon, the support and assistance ship (BSAM) Rhône and the hydrographic and oceanographic ship (BHO) Beautemps-Beaupré operated there simultaneously.

The mission entrusted to the crew of the Beautemps-Beaupré was to develop knowledge of the seabed off Iceland. Deployed since the end of July, they are continuing their precious collection of oceanographic data.

But these deployments in the High North are also an opportunity to maintain intense and friendly cooperation with the local navies. Thus, FS Fulmar participated under Canadian command in Exercise Nanook (White Bear) from August 9 to 11, helping to demonstrate the presence of Allied forces in the vast area of Labrador and the Baffin Sea that opens up to the Northwest Passage. This periodic gathering brings together Canada, the United States, Denmark, and since 2020, France.

Navigating in the High North beyond the Arctic Circle cannot be improvised and requires experience and specific knowledge. Seasoned in polar conditions since they crossed the Northeast Passage in 2018, this time the sailors of FS Rhône have confronted the Baffin Sea up to the 72nd parallel before sailing further south along the coast of Greenland and taking part in the Franco-Danish maritime rescue exercise Argus, which this year was joined by Canadian and American units.

In this extremely demanding environment, Rhone’s crew has confirmed its ability to operate in the Arctic zone and the versatility of the BSAMs, these new multi-purposes, enduring support vessels, able to provide decisive logistical support despite significant stretching.
The High North is a strategic area: the opening of new maritime routes due to global warming is now a proven fact. Through its naval presence, France maintains its own control of Arctic shipping and reaffirms to its allies the value of its contribution and solidarity.

4.4. **France is offering to host the future Space Center of Excellence (CoE) for NATO**

*Benefiting from the French space military and civilian expertise*

As a major space power in the Alliance, France operates a wide range of military space capabilities to support intelligence gathering, decision-making, strategic autonomy and military operations. She is also committed to peaceful and responsible use of space. Having fully understood and taken into account the evolving space environment and the risks and threats associated with it, both from military and civilian perspectives, France released in July 2019 a Space Defense Strategy.

The NATO Space CoE will be closely associated with the French Space Command created in September 2019 to federate national military space expertise and coordinate all means devoted to space defense. The CoE will therefore benefit from the French space operational activities and their agile developments, as well as the training and education capacities of the Space Military Academy, and more specifically its Military Space Operations Training Centre, and experimentations from the Space Lab. The CoE will be an open place enabling Nations to increase and share their skills through all the expertise available in Toulouse. Together, these entities constitute a coherent and ambitious Space Hub, in which the NATO Space CoE will be fully included.

A center of excellence fully dedicated to Space

The French NATO Space CoE will be the leading source of expertise on space through an overall approach that will accumulate, create and disseminate knowledge amongst NATO, Nations and partners. The NATO Space CoE will cover the full spectrum of military space activities such as Operational Space Support, Space Domain Awareness and Space Domain Coordination. It will foster expertise sharing between Nations and Subject Matter Experts from a wide diversity of fields: defense, industry and research. The NATO Space CoE will thus become the internationally recognized focal point for the space community of interest regarding the full spectrum of NATO space activities.

Located inside the French Space Agency’s site in Toulouse, the NATO Space CoE will have access to the best range of public and private space expertise in Europe, including world-class industrial companies, innovative “new Space” actors, cutting-edge laboratories and academic organizations of the highest standards. It will also benefit from a unique dynamic, building upon the development of defense assets unequalled in Europe, such as the newly founded French Space Command and its operations center, but also the upcoming Space Lab and Space Military Academy, all institutions located in the same region. Immersed in the unique environment provided by the birthplace of the aeronautics and space industry in Europe, the NATO Space CoE in Toulouse will ensure the Alliance’s ability to understand space in all its complexity, and better address the challenges it poses to our common security.

France’s contribution to a fair and balanced distribution of CoEs across NATO territory

By offering to host the NATO Space CoE, France is willing to enhance its participation in NATO’s prospective and thinking. Locating the future NATO Space CoE in France will allow us to go forward on a fairer burden sharing between Nations through a more balanced geographic distribution of the CoEs throughout NATO and Allied territories.

The NATO decision is due to the end of this year.
4.5. **THE ARMY SUPPORTS THE NATIONAL CIVILIAN PROTECTION**

Every summer, the southern regions of France are confronted to large-scale fires. In 2019, more than 200 fires burned 15,000 acres. Large military resources and assets are mobilized to support fire fighters on the ground during the operation Hephaistos (June 15 – September 15).

For this yearly mission, several Army units are committed and contribute to the preservation of the national natural heritage:
- Soldiers from the 2nd Foreign Legion Parachute Regiment (Calvi) are deployed in a monitoring and alerting layout in Corsica;
- Engineers from the 19th Engineer Regiment (Besançon) are pre-positioned in south of France and employed to support the fight against fire outbreaks and clear forest tracks when necessary;
- A detachment from the Army Aviation teamed with a light platoon of the UIISC-7 of Brignoles (Var – southeast of France). The aviators operate from the Army Aviation School base of Le Luc and intervene everywhere in France on short notice to fight fires in inaccessible areas to the ground assets.

5. **THE NATIONAL HOLIDAY CELEBRATIONS**

5.1. **A NATIONAL SYMBOL**

**Bastille Day**, the French national holiday, commemorates the storming of the Bastille, which took place on 14 July 1789 and marked the beginning of the French Revolution. The Bastille was a prison and the symbol of the absolute and arbitrary power of the French King of France Louis the 16th. By capturing the old fortress, the people demonstrated that the king’s power was no longer absolute: power should be based on the Nation and be limited by a separation of powers. In brief, it was the end of the privileges and the beginning design of a government by the People for the People.

Exactly one year later, on July 14 1790, delegates from every region of France proclaimed their allegiance to the new Constitution and to a single national community during the “Fête de la Fédération” (Federation Fest) in Paris. Declared national holiday on 6 July 1880 when the new 3rd Republic was firmly entrenched, Bastille Day celebrates this key event as well.

Since this period, the celebration is deeply associated in the French collective memory to the birth of the Republic and to the promotion of its three ideals: *Liberty, Equality, and Fraternity*.

5.2. **A COMMITTED, UNITED AND COHESIVE NATION**

Since 1880, France has celebrated the national day on July 14. Symbol of the unity and values of France, this celebration traditionally takes the form of a large military parade on the Champs-Elysées, in front of the President of the Republic, many distinguished guests and a popular audience.

Due to the health crisis, the 2020 July 14 was adapted to pay tribute to people, civilians and soldiers, engaged in the fight against COVID-19. The famous “Place de la Concorde” was the beating heart of a remembrance ceremony followed by the traditional military parade (air and ground). As they supported France during the pandemic Austria, Germany, Luxemburg and Switzerland were the special guests of the celebrations.

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2 **UIISC-7** = Unité d’Instruction et d’Intervention de la Sécurité Civile = Instruction & Intervention Unit n°7 of the Civilian Protection. This belongs to the homeland security department. A company of this unit is specifically trained to airborne firefighting technics.
In this "year of de Gaulle", the commemoration ceremony celebrated the man of June 18. The parade began with a tribute to one of the most illustrious leaders in French history. WWI hero, visionary fighter, leader of Free France, founder of the Fifth Republic, General de Gaulle’s heritage is still alive.

To honor the commitment of the Nation in the COVID-19 fight, specific services, like the Armed Forces Health Service or the Firefighters, have been specially honored during the starting ceremony.

Later on, the military parade enlightened the commitment of the fighting units who maintained the Armed Forces operations’ operational tempo. Finally, nurses, doctors, and hospital personnel have been celebrated and received a strong tribute from the Nation in the final table of the ceremony.

5.3 **NOWADAYS HEROES**

The yearly national holiday celebrations often put into the spotlight personal and collective actions of bravery.

**Military Valor Cross for a Legionnaire**

Deployed in Mali in November 2019, the caporal-chef Radu Mihai (2nd Foreign Legion Parachute Regiment) participated to harsh combats during a reconnaissance mission. Dropped with its group of commandos, he took part to tough fights against determined ISIS terrorist groups. After several hours, he was part of the final assault and eliminated several terrorists. Hit by 5 bullets and temporarily isolated, he put himself a tourniquet waiting for the medical team. Evacuated to Gao, he was then transported to France where he has been recovering for 7 months. Fully recovered, he was awarded the Military Valor Cross on July 23 for his great fighting spirit and resilience facing the enemy.

**GAZELLE crash in Mali: cohesion and resilience**

On the occasion of the Bastille day celebrations, the French public TV channel broadcasted an exclusive documentary centered on the immediate extraction of a GAZELLE crew by a TIGER in June 2019 in Mali during a search and destroy operation conducted by night (the GAZELLE was shot in the engine).

Interviewing the protagonists and presenting classified images filmed by the participating aircrafts, it shows the helicopters of the Airmobile Desert Battle Group in action (investigations, warning shots and suppressive fires). The documentary shows how the TIGER crew quickly decided to rescue the shot down crew, how the sniper, only valid crew member after the crash, carried the injured pilot to the TIGER and how the pilot in command rolled to it from the GAZELLE in flames (injured to the backbone, he was unable to
walk). Installed on the landing gears, the aviators and the sniper were extracted by the TIGER just 6 minutes after the crash. Back in their unit, the soldiers have resumed their training and are ready to fight again.

Link to the video: https://www.youtube.com/watch?v=RPPyWYKi9Sc (rescue scenes from 16’50” to 21’)

5.4. **THE 14 JUILLET: THE RIGHT DAY TO JOIN THE SERVICE OF THE NATION**

To win the battle of the human resources, catch up the attention and inform those who wish to commit themselves to the service of the Nation, a recruitment area was deployed at the Hôtel national des Invalides on July 14.

That day, the Armed Forces were highly visible and presented in booths dedicated to the Army, the Navy, The Air Force, the Foreign Legion, the Armed Forces Health Service, the Paris Firefighters Department, the General Directorate of Armament, the Armed Forces Ministry civilian servants and the Armed Forces Administration Service. To promote the Armed Forces Ministry’s determination, its representatives insisted on the policies recently implemented to improve the conditions of the deployed personnel and their families.

With more than 23,000 new contracts a year, the Ministry of the Armed Forces is one of the top public recruiters. Due to the recent sanitary crisis, more than 27,000 jobs need to be filled. To achieve this strategic objective, the information and recruiting centers have reopened their doors two months ago and work at the maximum of their potential. Ms. Florence Parly, minister of the Armed Forces, also announced in June that 2,000 additional jobs are to be created to boost the apprenticeship within the ministry.

In these times of incertitude, the initiatives led by the Ministry of the Armed Forces contribute directly to the support the national economy.

6. **HISTORICAL CORNER**


French Lions in Asia

Despite its heavy commitment in Indochina, France decided to back the new principle of collective security after the aggression of South Korea. Assuming its responsibilities of UN security council permanent member, France set up and sent in Korea a battalion of regular troops, Legionnaires and volunteers. Integrated into the 23rd US infantry regiment, this unit also counted many South-Korean volunteers who fought alongside their French brothers in arms.

Because of their ability to stop North-Korean and Chinese progression by launching attacks by night, the French unit was highly appreciated by their allies of the US led UN force. It proved its valor several times during the conflict.

From January 7–12, 1951, the French Battalion participated in the First and Second Battle of Wonju where it contributed to stop the North Korean advance. In February 1–2, 1951, it was involved in the Battle of the Twin Tunnels and of Jipyeonri from February 3 to February 16, 1951. During this battle, when the Chinese used their previously successful psychological warfare tactics of banging gongs and blowing horns, the French blew their own. Then they fixed bayonets and charged the Chinese who ran away. Doing so, the battalion allowed the 8th Army to score a victorious counter-offensive. Only three weeks later, the battalion was engaged in the fight for Hill 1037 (50 miles east of Seoul) where it attacked and captured the enemy positions. In Spring, the FR
Battalion crossed the 38th parallel with the whole UN force and took part in fall to the battle of Heartbreak Ridge. In the fall of 1952, after a lethal war of positions, similar to the WWI battle of Verdun, the battalion stopped a Chinese offensive toward Seoul in Chongwon. Its resistance resulted in 47 dead and 144 wounded. At the same time, the total Chinese losses against the French were estimated at 2000 men. In the winter and the spring of 1953, the battalion took part into the fights that blocked the road of Seoul to the North Korean and Chinese forces.

After the Armistice signed in July 1953, the French Battalion left Korea with five French Citations to the Order of the Army, the French Fourragère of the Military Medal, two Korean Presidential Citations and three American Distinguished Unit Citations. During the war, the battalion deployed about 3,400 personnel and counted 262 men killed in action, 1,008 wounded, seven missing in action and 12 POWs.

**A charismatic leader**

The first French battalion commander was General Raoul Charles Magrin- Vernerey, well known under his war name, Ralph Monclar. Officer in the Foreign Legion, WWI veteran (wounded seven times), he served in World War II with the Free French Forces lead by Charles de Gaulle. Lieutenant General in 1950, he volunteered to command the FR battalion. To do so, he took a voluntary demotion to lieutenant-colonel.

In addition to the numerous of French medals and distinctions he was awarded, the United States of America gave him a Silver Star and Britain the Knight Commander of the British Empire.

**Despite the COVID-19 outbreak, Korea doesn't forget the French Vets**

Last May, Michel Oswald, a French Vet retired in Belfort, received an unexpected packet. Coming from the Korean Embassy in France, it contained medical masks accompanied by a thankful letter signed by the Korean ambassador.

Sent by the diplomatic network of the Korean Republic to all the veterans of the UN forces alive all over the world, this mail has been highly appreciated by Michel Oswald. Orphan educated by the public assistance, he joined the Army at 18 years old and fought for a free Korea from 1950 to 1952. When he went back to France, he continued to serve France in Indochina and in Algeria. Many years later, he retired from the Army as a colonel.

**6.2. A FLYING FRENCH WOMAN AT THE FOREFRONT OF THE MILITARY HELICOPTER BOOM**

Just graduated from medical school, Valerie Andre volunteered to serve in Indochina where she decisively contributed to the development of an emergent capacity.

Trained as a parachutist war surgeon, she used to serve in advanced surgical units. A helicopter demonstration changed her life in Saigon in spring 1950. Taking a flight in one of the external stretchers of an ambulance Hiller 360, she realized that it represented a better evacuation process than being dropped with heavy equipment and a battalion for protection. She finally became the first French woman military helicopter pilot and wanted to make the most of her ideas.

This time was the beginning of a great adventure that conducted her from Indochina (more than 150 medical missions) to Algeria where she served as the head physician of a H19 and H34 company. During these years, she realized more than 4,000 flight hours and 500 war missions. Back to France, she continued her career and became the first female general in 1976. Five years later, she accepted Charles Hernu’s proposition (ministry of Defense) to be the chairperson of a commission created to study the future of the military women. There, she obtained a lot of progress in terms of equality between men and women within the Armed Forces.

During her 33 years of service, she was awarded many military decorations like the Legion of Honor, the Cross of Valour (Vietnam) and the US Legion of merit.
7. MILITARY THINKING: FOCH’S LIVING LEGACY

To draw one's path, it is sometimes useful to look back to the past and question the relevancy and the validity of one's heritage. This intellectual approach guided the conference “Principles of War in 2035” hosted by the French Doctrine and Leadership Education Center (CDEC\(^3\)) in June 2019 in Paris. Numerous high-ranking officers from the allied Services - including the UMSC and US Army - attended the event. Their works were recently brought into the light by Michael Shurkin in one of his articles published on warontherocks.com\(^4\).

The conference purpose was to discourse on the relevancy of the French Principles of war for future conflicts. These principles - namely Economy of force, Concentration of efforts, Liberty of action – are inherited from Marshal Ferdinand FOCH (1851-1929) who led the allied countries to victory in 1918. Studying Napoleon’s wars and the defeat of France against Prussia in 1870, he drafted them before WWF\(^5\) when he was instructor at the Ecole de Guerre (the French Command and Staff College). Augmented in the early 1990s by the contribution of Admiral Guy Labouérie\(^6\) who described two additional principles, Incertitude \& Foudroyance\(^7\), this trinity is still at the heart of the French military culture today.

The Clausewitzian influence is tangible in FOCH’s work and his approach on tactics that sometimes converge with Napoleon views on decisive battles. The article reminds that during the conflict, FOCH adjusted his theory in light of his experience on critical topics using feedbacks from severe operational setbacks. Indeed, initially preaching for systematic straightforward attack strategy and constant seeking of the decisive battle, he advocated later for a « hammering » strategy that proved to pay off.

To a certain extent, these 3+2 principles forge the French operational art and allowed such a constant capacity of evolution. Stressed by the author of the billet, this agility can be considered as FOCH’s most valuable heritage. Unsurprisingly, this legacy is one of the top references for the French Army’s most recent high-level doctrinal book, Future Land Action (2016) and nourishes the French military decision making process through Foch’s famous catchphrase « What is it all about » (De quoi s’agit-il?). Nowadays, the French Army still teaches this legacy to every French officer and declines it within its doctrine and TTPs documents.

The conference eventually concluded that the Principles of war are still relevant in the foreseeable future although their application is to evolve, and some new Principles might be considered to complete the set.

8. INNOVATION CORNER

8.1. French Maritime Patrol Aircraft (MPA) at the cutting edge.

French Maritime Patrol Aircraft Atlantique 2 (ATL2) is a unique and specifically designed aircraft to fly over seas and oceans. Commissioned in the early 90’s, its primary mission is to protect and secure French submarine areas and naval group forces against submarine threats. The ATL2 has the ability to fly at 100 feet with an incredible flight endurance up to 12 hours. It can also carry active/passive buoys and torpedoes, which makes it a genuine anti-submarine warfare weapon. The crew consists of 14 officers and enlisted personnel who undergo an intense yearlong training program to become fully operationally qualified.

Over the last decade, as new threats have risen and geopolitical climates evolved, so has the missions of the ATL2. Able to carry AM39 missiles and GBU-12, it is a fearsome machine in both anti-surface warfare and Close Air Support.

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\(^3\) CDEC = Centre de Doctrine et d’enseignement du Commandement = Doctrine and Leadership Education Center

\(^4\) Link to the article: [https://warontherocks.com/2020/07/modern-war-for-romantics-ferdinand-foch-and-the-principles-of-war/](https://warontherocks.com/2020/07/modern-war-for-romantics-ferdinand-foch-and-the-principles-of-war/)

\(^5\) On The Principles of War, Ferdinand Foch, 1903;

\(^6\) Strategy, Guy Labouérie, 1992;

\(^7\) Foudroyance = overwhelming shock (derived from foudre = lightning).
In the very near future, the upgraded ATL2 version, called Standard 6 or Mk6, will be fully operational and ready to face new challenges.

8.2. **STAR NAVIGATION TO MITIGATE GPS JAMMING**

Specialized company in space instrumentation that plays an essential role in deterrence (FR M51 strategic missiles), SODERN (subsidiary of Ariane Group) is working on a robust navigation system adapting its stellar finder to protect manned / unmanned aircrafts from GPS jamming.

The project led by the General Directorate of Armament in collaboration with SAFRAN Electronics & Defense is focused on advanced technologies like inertial units paired to stellar finders and high-detailed data bases for better protected day and night navigation capabilities. Mrs Parly, Armed Forces minister, has welcomed the first positive evaluations and stressed SODERN’s capacity of reinventing the legacy of the Ancients who used to navigate looking up into the sky.

8.3. **A NEW MATERIAL TO ENHANCE HELICOPTERS SURVIVABILITY**

Achieving greater survivability for highly sensitive machines such as helicopters is a key challenge for militaries. Success will definitely be based on a large array of solutions.

One of them could greatly enhance the physical protection of the aircrafts deployed on the battlefield. Led by the General Directorate of Armament, “SPINELLE” is a project created to improve the resistance of the glass parts. In this framework, a new material has been developed in collaboration with Airbus and Nexter.

According to the first tests, the company has created a very light nanostructured ceramic material six times more resistant than glass with 80% of its transparency and 30% less costly than sapphire. The version developed for aircrafts is 50% lighter than glass and might provide a ballistic protection up 7.62 mm caliber ammunition.

The improvement of the transparency without any protection degradations and the production of multi-curved pieces fitted to the aircrafts in service will be the main industrial challenges. They will both explore during the NH-90 SOF version development.

8.4. **ADVANCED MANUFACTURING CORNER**

In February, at the initiative of the 2nd Marine Infantry Regiment, the 9th Marine Infantry Brigade organized a 48 hour-Hackathon dedicated to advanced manufacturing solutions.

Designed and conducted in a problem-solving approach, the main objective was to explore the possibilities offered by 3D printing and advanced manufacturing to military units deployed on the field. At the end, more than 60 applications were developed by the 74 participants who came from the units of the brigade and used equipment provided by disruptive private companies.

Fused with the industry partners’ expertise, analyzed by the FR Logistics Center of Excellence and compared to the conclusions of operational evaluations conducted in Mali, the feedbacks will constitute a great added value to the development of advanced manufacturing within the Army.
8.5. **Which cyber warrior are you?**

To attract talents and inspire vocations, the *COMCYBER* organized the on-line challenge "Which hacker are you?".

Placed under the authority of the Chief of Staff of the Armed Forces, the *COMCYBER* is responsible for the digital network protection of the Ministry of the Armed Forces. To complete its mission, it's in charge of the operational supervision over around 3,400 "cyber-warriors", whose recruitment is not always simple because of the competition from private companies.

Launched on June 22, this “capture-flag competition” had run till July 26. The event was built around 18 tests including intrusion and digital evaluations. The scenarii were designed as immersive and realistic as possible and proposed several levels of technical difficulty.

As an example, the challengers participated to this kind of investigation:

"The Defense Innovation Agency has launched a project called “fuel of innovation” for the benefit of the Armed Forces Fuel Service. “Genious Laboratory”, a French innovative company, won the challenge and is developing a new “green fuel” that is 3 times more efficient (range/consumption). On the darkweb, it is discovered that a criminal group sells the formula.

Considering the situation, the Ministry of the Armed Forces is setting up a dedicated Cyber Intervention Group, CIG, to identify the source of the digital leak and compromising. As part of the CIG, your mission is to analyze a file extracted by your croup and identify the server used during the exfiltration. To take the test, you must determine the domain used by the attacker."

This challenge was prepared and conducted with the help of civilian partners like SYSDREAM. This private company organizes several similar events, such as “Hack In Paris” or “La Nuit du Hack” (“The Hack Night”), which is the largest annual convention dedicated to ethical hacking in France. For Mrs Parly, the French Armed Forces Ministry, "This challenge represents a good way to test the fighting spirit of the potential future recruits and to make them want to join the team”.

As a reminder, the recruitment of more than 1,000 cyber-warriors is planned in the framework of the running 2019-25 Military Programming Act.

9. **The French Army Vol.6: Cyber – CIS**

9.1. **Scorpion-CIS to boost land forces capacities on the battlefield**

Despite the Covid-19 pandemic, the Scorpion program is still going forward. As it recently kicked-off the first deliveries, the General Directorate of Armaments (GDA) is one schedule in building the next global information network.

Replacing its existing communication & information systems, the Army addresses the needs of combined arms battle groups especially when it comes to exchanging and protecting operational command information, including visualization and presentation of the tactical situation.

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*COMCYBER = Commandement de la Cyber Défense = Cyber Defense Command*
The Scorpion Combat Information System (S-CIS) will provide troops a better, more intuitive, more ergonomic and more solid system. It will also bring greater automation and unprecedented fluidity between the different levels of command.

**Speed-up the combined-arms and joint maneuver**

As the next global information system of the French Army, S-CIS will enable the integration of combined-arms components into a digitized battlefield. Designed to develop information valorization teaming troops and weapons systems, the battle group will be connected to the command post through an instantaneous transmission loop. Currently operating fleets of S-CIS compatible vehicles, the Army is preparing the future with S-CIS native assets.

Regarding the pace of the maneuver, the S-CIS accelerates and facilitates tactical situation sharing in the blink of an eye (Blue & Red Force Tracking). Flexible and versatile, it uses the present and incoming communications assets (PR4G and CONTACT radios) as well as any other channels of communication.

**Experimental deployment at Barkhane**

Part of the operational evaluation, S-CIS has just been deployed in Mali for the very first time. There, several units have received lightweight portable digital terminals (tablets and smartphones size devices). The first phase will assess the intuitive navigation and mission preparation capabilities offered by the system.

For the moment, only 80 tablets and 20 smartphones have been deployed for the first experimentations carried out at the heart of the operations at the lowest levels. Their introduction is finely tuned in order to test their efficiency and reliability without threatening the operations. The Observed key points will be:

- The system network performance in terms of information flow and operating range;
- The devices’ survivability (screens, processors, antennas) considering the harsh conditions faced in Mali (dust, sand, high temperature…);
- The robustness of the architecture, the ergonomics of the system and the devices developed in a user-friendly approach. Easiness for reports and orders exchange, blue and red forces tracking, fast targeting capabilities will be particularly observed.

### 9.2. THE FR ARMY COMMUNICATION & INFORMATION SYSTEMS COMMAND (CISC) AND THE SIGNALS CENTER OF EXCELLENCE (ETRS)

Divisional command created in 2016 and collocated with the Signal School (ETRS*) in Cesson-Sévigné (Britany), the CISC is responsible for the CIS policy and coordination within the Army.

**For its part, the ETRS’ global mission** is to train and educate the leaders, the soldiers and the specialist needed in CIS and EW. As the other centers of excellence, the principal tasks of the ETRS are:

- Initial & advanced trainings for young officers and NCOs;
- Development of the Ministry personnel professional skills with mastery of technical knowledge, concepts and doctrine;
- Provide the rare and the non-specific skills that the Army, the Armed Forces and the French state need;
- Contribute to the Army’s global effort in prospective studies;

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*ETRS = Ecole des TTransmissionS, Signal Corps Center of Excellence*
A center looking for the future. Home of Signals, the ETRS is the guardian of the Signal Corps traditions (with the Ferrié Museum) but also a modern training center. Army's unique competence center for information and communication systems (CIS) and electronic warfare (GE), the ETRS is responsible for more than 300 courses and yearly trains 3,600 students from the Army but also specialists and operators from the other services and the ministries. Center of synthesis in its domain of expertise, the ETRS defines and directs the communication policy for the Signal Corps and decisively contributes to doctrinal and experimental studies lead by the Army in CIS and EW.

A school opened to Europe. Within the framework of NATO and multinational partnerships, the ETRS carries out twinning and personnel exchanges (students and executives) with the German and the British signal schools. It also maintains permanent links with Hungary, Italy, the USA and Spain. Every year, 70 foreign students are trained in Cesson-Sévigné.