THE FRENCH AOC's NEWSLETTER N° 18

November 2002

THE CHAIRMAN'S WORD

Go international !

Five years after its creation, the La Fayette Chapter has now entered a phase of consolidation aimed at enabling members to meet on a more regular basis. For example, every two months or so, between 60 and 90 members attend conferences in a meeting room near the Eiffel Tower, with discussion continuing late into the evening over drinks. Amongst the subjects addressed, those dealing with international cooperation are naturally the most popular, whether they tackle politico-industrial issues – like the presentation given by Ken Miller, the parliamentary assistant to US Congressman Joseph R. Pitts - or are more overtly operational, as was the case when the commanding officer of the first Mirage 2000D detachment at Manas (Kirghizistan) came to talk about the fight against Al-Quaeda in Afghanistan. This French contribution to the war on terrorism, made alongside our US allies in a faraway and little-known theatre, was undoubtedly the most outstanding operational engagement of this year. A very broad range of resources was deployed and practically every type of electronic warfare system was used, albeit on a small scale.

The other outstanding French event was, of course, the national elections of May and June. The budget contained in the draft military appropriations law put to parliament is significantly higher than in previous years. This voluntary increase should enable us to make up for some of the time lost in achieving convergence towards the armed forces model planned for 2015. Sadly,

I cannot end these few words without mentioning the sudden passing of our friend Jean-Paul Siffre on 29 June this year. As General of the French Air Force, he was one of the truly great figures in French electronic warfare. A founder member of the La Fayette Chapter, he was also his director, and we paid him a well deserved tribute on the gala evening of the international AOC symposium held in Paris in May 1998. His memory remains with us and we can all be proud of his inter-force and inter-governmental achievements. The range of subjects covered in this issue owes a great deal to him !

Bruno Berthet
Chairman of Guerrelec

début

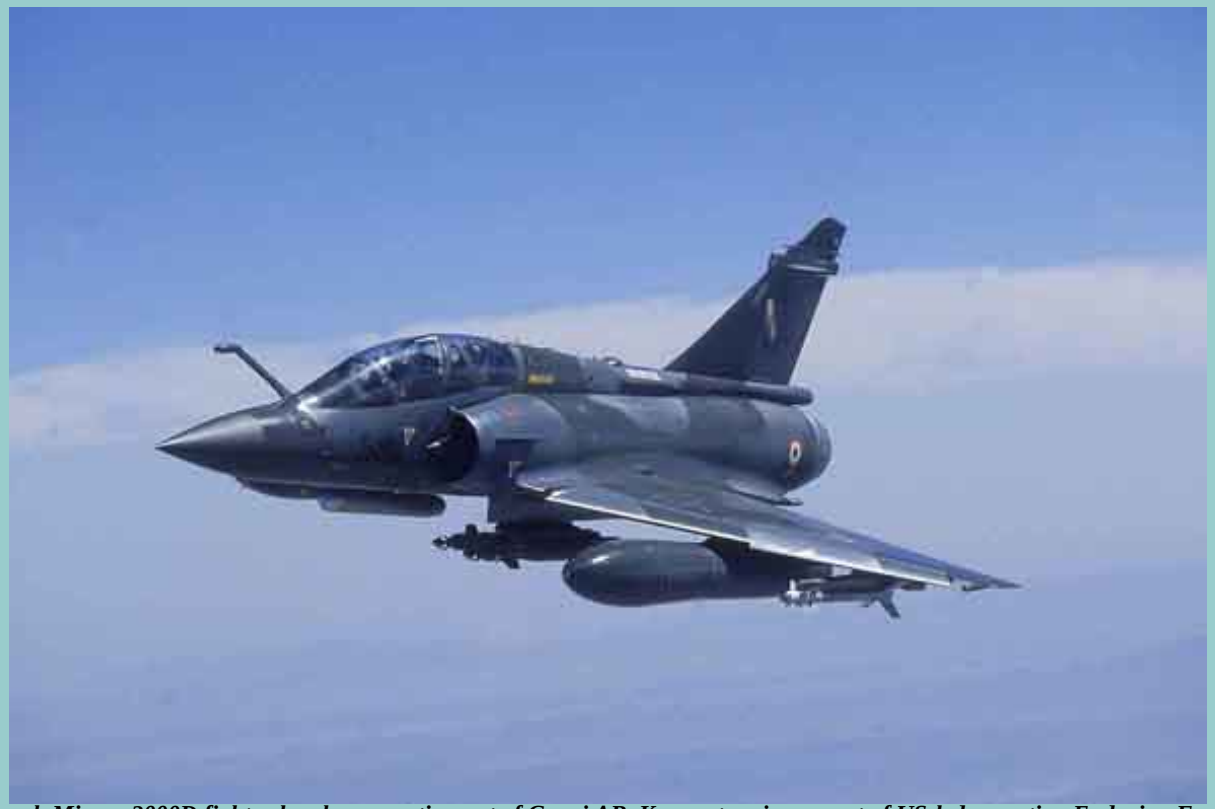
THE FRENCH MIRAGE 2000D SHOOTERS IN AFGHANISTAN

According to the Ministry of Defence, France flew 10% of all coalition missions during Enduring Freedom. In addition to the reconnaissance missions flown by Mirage IVP, Gabriel and Atlantic 2 aircraft, ground attacks were conducted from the Indian Ocean by 16 Super Etendards based on the aircraft carrier Charles-de-Gaulle and from Manas in Kirghizistan by 6 Air Force Mirage 2000Ds. For these missions, the French aircraft were supported by allied tankers (US Air Force KC-135s and KC-10s, Australian 707s, Royal Air Force TriStars and French C-135 FRs), Hawkeyes from the US Navy and Marine Nationale, and USAF AWACS and UAVs. To help improve understanding of the realities involved in such distant warfare, Guerrelec invited Lieutenant Colonel Patrick Joubert, the commanding officer of Fighter Squadron 1/3 Navarre based in Nancy to the Ecole Militaire on 29 May this year for a debriefing on the operational role played by the Mirage 2000D.

"The Mirage 2000D was well-suited to the Afghan theatre of operations and to the missions allocated, most of which were CAS missions in support of ground troops. The 2-man Mirage 2000D fighter-bomber can be refuelled in flight and carries Antilope V terrain following radar and two GPS-linked Uliss 52 inertial guidance platforms. These avionics give the aircraft extreme precision in terms both of position and target" explains Lt-Cel Joubert, who was in command of the Mirage 2000Ds based at Manas. "This was the first time we had used the Rafaut AUF1 twin bomb mounts carrying GBU12s fitted with the Paveway II laser kit. Guidance was supplied by night-capable Atlis or PDLCT-S pods". Lt-Cel Joubert also stressed the role played by the aircraft's self-protection system, which was strengthened for these operations.

Already fitted with a Serval (Radar Warning Receiver), Caméléon jammer (both manufactured by Thales) and Spirale decoy system (from MBDA) and carrying two Magic II self-defence air-to-air missiles, the 2000D s' armoury was reinforced with a DDM (Infrared Missile Launch Detection) system and a fin-mounted decoy system (from MBDA). Having arrived at Manas on 27 February with support from a Strategic Air Force C-135 FR, the Mirage 2000Ds made their first operational flight on 2 March and their first strikes on 4 March. On 12 March they attacked 27 targets. Tasked by the allied CAOC at Al Kharj in Saudi Arabia, they carried out the most demanding CAS missions of Operation Anaconda in support of US Special Forces within the Gardez/Khost zone. The French at Manas was joined at the end of April by the F/A-18 D Hornets of the US Marine Corps, other CAS specialists. During the evening's events, Jean-Michel Guhl, the Editor-in-Chief of Air Zone Magazine and recently returned from Kabul, described the action undertaken by the French ISAF battalion. Centred on the 21st Régiment d'Infanterie de Marines (Fréjus) they have since been relieved by the 17th battalion of Chasseurs-Alpins based in Varces.

This was the second Mirage 2000D debriefing to be organised by Guerrelec, the first having been presented by Captain Guy Zimmerman of Fighter Squadron 3/3 Ardennes after Operation "Allied Force" in the Balkans. Afghanistan has once again demonstrated that "the Mirage 2000D is the backbone of the French Air Force strike capability", in the words of General Jean-Patrick Gaviard, Deputy for Operations at the Joint Chiefs of Staff said during a symposium at the Institut Diplomatie & Défense in September last in the Paris Senate.



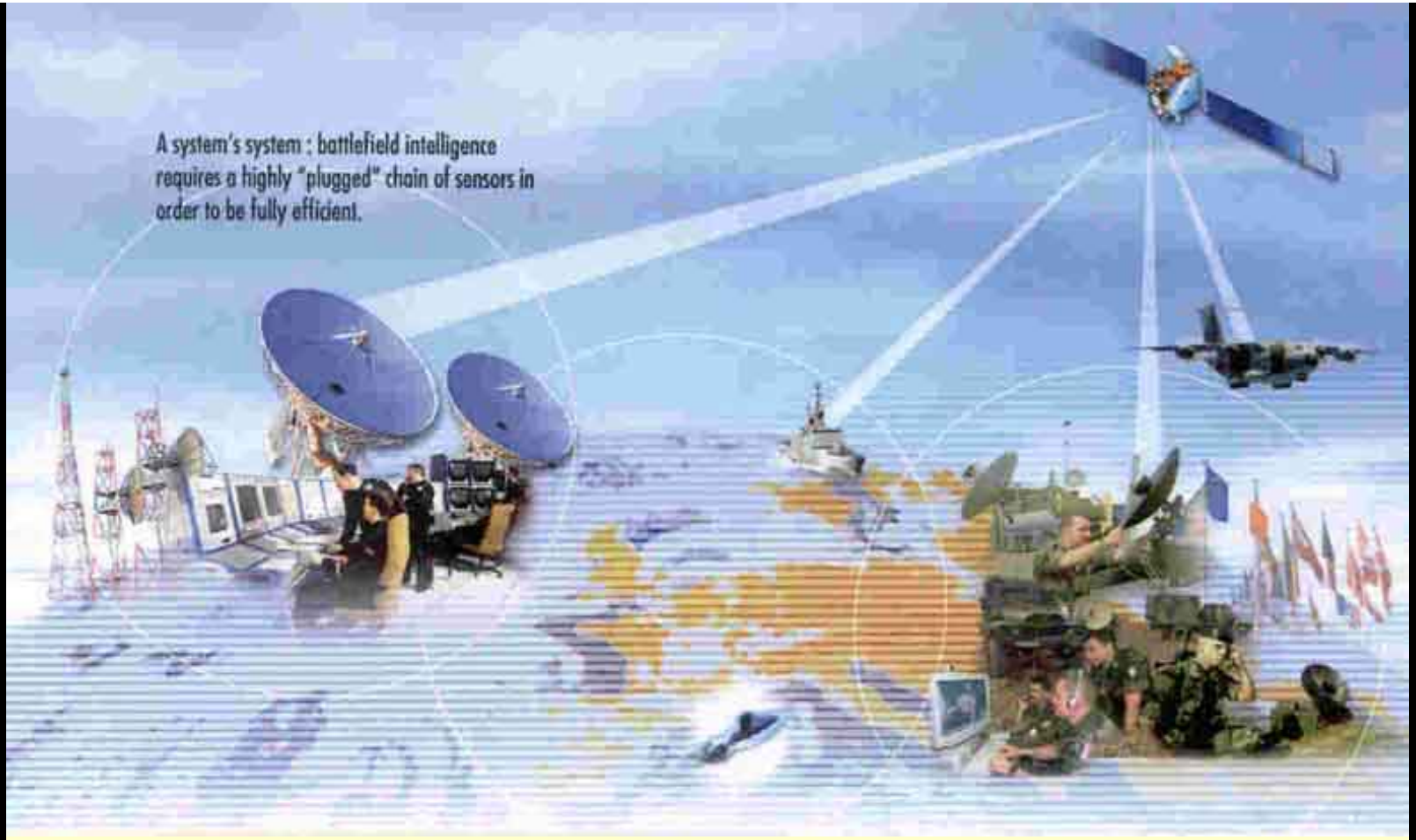
A French Mirage 2000D fighter-bomber operating out of Ganci AB, Kyrgyzstan, in support of US-led operation Enduring Freedom against Taliban hide-outs in Eastern Afghanistan. The aircraft carries a full self-protection EW suite designed by Thales and MBDA

Philippe Wodka-Gallien

début

SIGINT IN THE SERVICE OF BATTLEFIELD INTELLIGENCE

Nobody questions the need for intelligence and everyone agrees that it is useful. But, just like computing, anyone can access intelligence and yet controlling and mastering it in its entirety is a particularly difficult task for a battlefield commander, and this at a time when Signal Intelligence (SIGINT) is seen as an essential function.



The complexity of battlefield intelligence

There are a large number of players involved. The need for intelligence covers the strategic, operational and tactical domains and concerns a range of users from the ordinary infantry soldier to the commander, and we must not forget the political domain. Because these needs are so varied, suitable answers must be provided for each "client" for whom specific "intelligence" products have to be created each time.
Naturally, intelligence encompasses IMINT (photographic infrared and SAR images), HUMINT (human intelligence) and SIGINT, which is divided into COMINT (communications intelligence) and ELINT (electronic intelligence) about the radar signals. As part of the war of information, intelligence also covers open sources and the specific intelligence necessary for psychological operations (Psyops).
Intelligence also involves a large number of specialists: photo interpreters, interpreters/linguists, signal analysis specialists, deceptive tactics experts and even the "psychologists" working on psyops. Furthermore, these skills are precious, often take a long time to acquire and form a capital that must be maintained and preserved. This all means that varied sensors should be deployed on all the platforms in the three dimensions (from satellites to land vehicles) where very advanced technology, computing and telecommunications, for example, is allied with more traditional methods, like visual observation.

The production of intelligence: a global process

Takes the different phases of execution into account: planning (to ensure the intelligence process is a continuous one), conduct

(in particular targeting and the short loops), analysis and BDA (estimating strikes),

Automates the tasks, like those related to the "transverse" operations of merging and correlating information from specialized sources or different parts of the forces,

Manages the circulation and the broadcasting of information to all the users,

Simulates for analysis and training purposes but also in order to anticipate the enemy's tactics.

SIGINT: a poor relation?

The media coverage of recent crises has demonstrated the need for images as proof or just simply for images. The attacks on the 11th of September were a reminder of the importance of human sources of intelligence in regions where technology has revealed its limits. But, apart from a few references to the "Echelon" network, until recently the use of signal intelligence has remained rather confidential. Is that a proof of failure or is it consistent with the specific features of SIGINT? The few reports broadcast by our television channels showing combatants in Afghanistan with walkie-talkies would tend to make us think that the evidence favours the second hypothesis. SIGINT is an area that is not easy to access. It requires special means for gathering the information and specialists for interpreting it. It is immaterial in more than one sense: the information carried on the spectrum is invisible and it is naturally confidential, because not everyone can access it. All this makes SIGINT difficult to "sell", even to operational personnel.

And yet, SIGINT provides:

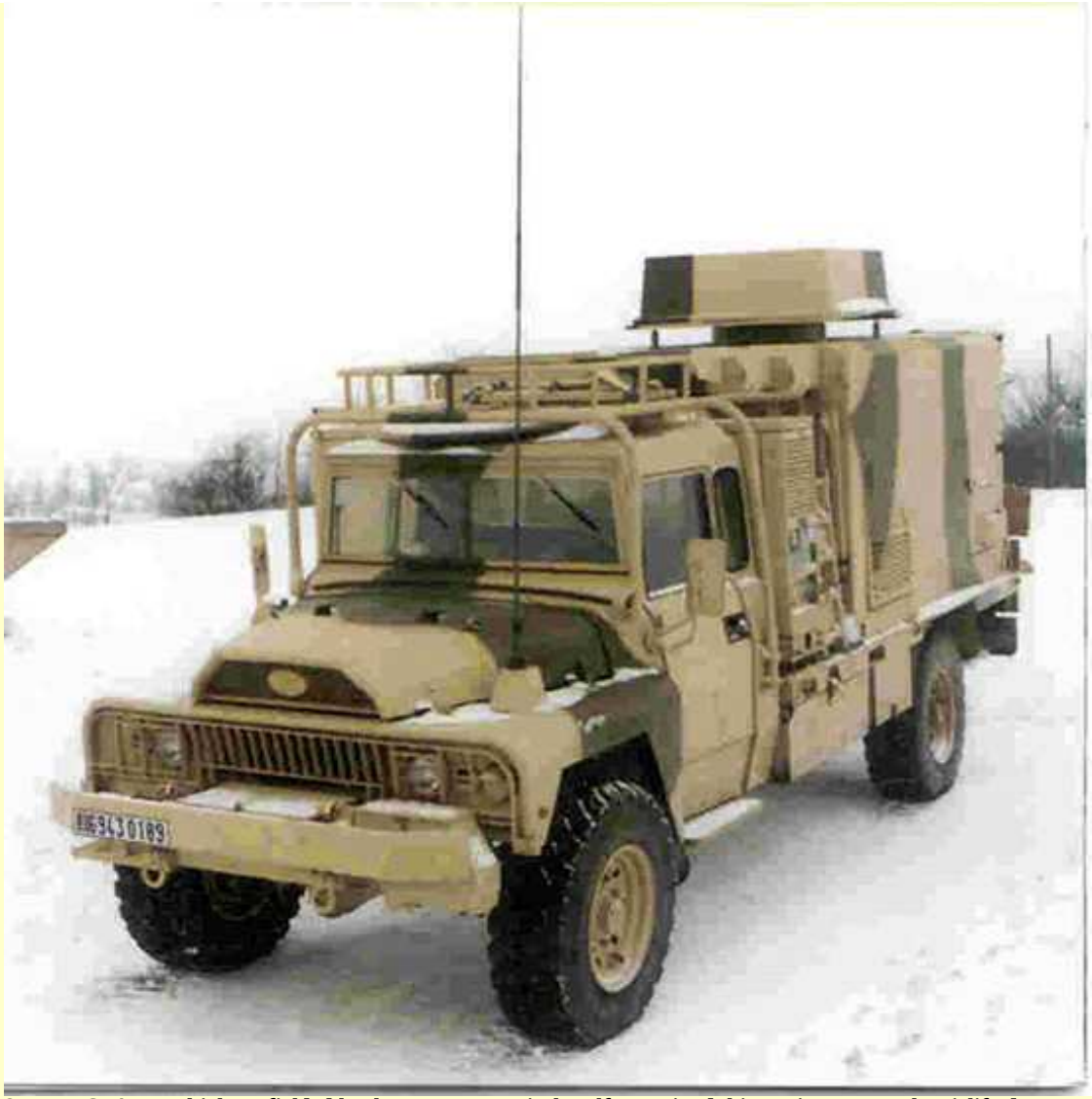
access to the contents communications (although this is more and more difficult),

information about the enemy's situation, or even intentions thanks to the establishing of the electro-magnetic situation; i.e. the establishing of the enemy's electro-magnetic order of battle,

a means of preventing, by identifying and locating the weapons systems, actions contributing to the acquisition of operational superiority,

protection for the platforms (in particular aircraft and warships) by supplying the technical characteristics necessary for programming the counter-measure or offensive electronic warfare equipment.

Furthermore, the rapid development of technologies makes the exploitation of signal intelligence, on the one hand, more difficult and, on the other, more expensive, because imposes a consequent equipment policy. However, greater complexity also means more elements to analyse and therefore more intelligence.



A French Army COMINT START vehicle as fielded by the 54e R.T. Entirely self-contained this equipment can be airlifted to any foreign ops theater

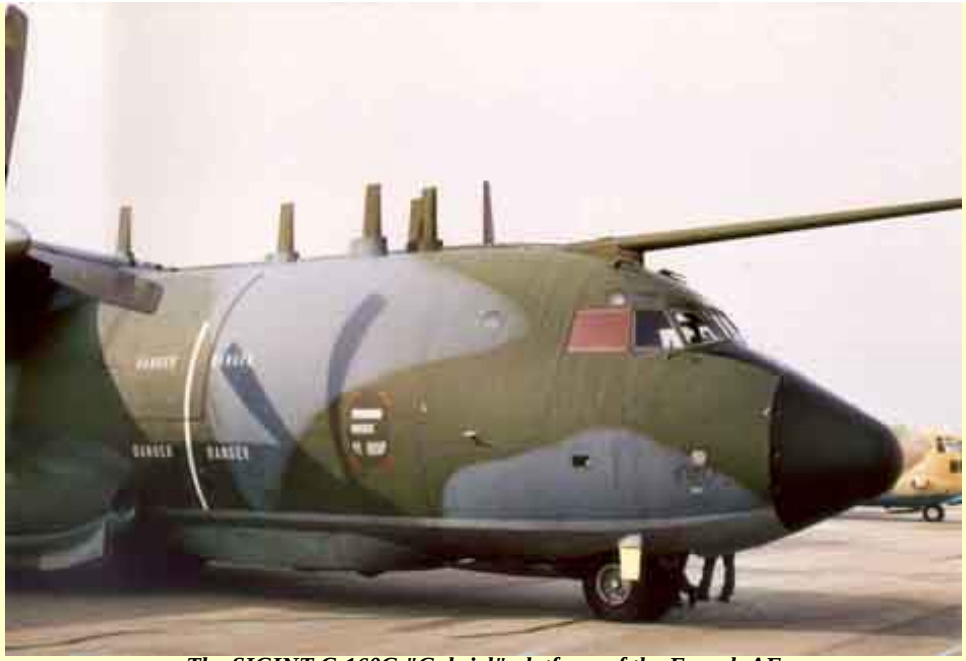
A necessity: adapt to take up the challenge

In the case of COMINT, technological developments are making access to the communications themselves more and more difficult, which means that priority must now be given, following the example of ELINT, to the analysis of the container (i.e. the signal) rather than the contents. The intelligence provided will then mainly consist of data identifying and locating the transmitters. This new approach tends to combine COMINT with ELINT and lead to the design of SIGINT sensors that are capable of detecting and analysing communications and radar signals simultaneously. Equipment like this can be made now and would have been able to provide concrete solutions to the problem of the ground-to-air weapons systems encountered in Kosovo. In practice, the fact that the transmissions of the fire control acquisition radars were cut off meant that the allies SEAD (Suppression of Enemy Air Defence) systems were ineffective, leaving our aircraft under threat throughout the campaign. By using a SIGINT sensor with COMINT functions the allies could have looked for the associated means of transmission and thus located the weapons system. This solution would have had even greater advantages due to the fact that the Serbs moved their weapons systems, which meant that they could not use their fibre optic network. If we add to this the capacity, that we can now

consider, of locating a source of transmission instantaneously (from an aircraft, a helicopter or a drone), the information necessary for targeting (from a short loop) is available within a very short time, thus increasing the chances of dealing with the target.

In order to prevent SIGINT from being marginalized, thus depriving operational personnel of one of their main sources of intelligence, it must be adapted to the new situations created by constant technological change. This means, amongst other things, that SIGINT must now take into account the new orientations that prioritise the exploitation of the container of a signal rather than its content and develop (and bring into service) new systems with a global SIGINT approach.

The ELITE technology launched by Thales in close collaboration with the DGA's programmes departments takes this approach: interception of all forms of waves, including civil and military telecommunications and radar. Moreover, in the service of the war of command, Thales is working on developing processing centres that can detect weak indicators and data mining. To this end, Thales has created the Kalima company. The stakes are high, because it will determine whether France remains one of the few countries that have all the necessary capabilities to guarantee its independence in the strategic domain of intelligence.



The SIGINT C-160G "Gabriel" platform of the French AF

André Carbon,
Operational Adviser with the Information Dominance Systems business unit at Thales Communications
début

TIGER AND NH-90 HELICOPTER SELF-PROTECTION

For helicopters, France and its European partners has recently started to implement a policy similar to that already applied for a long time to combat aircraft. This policy aims to equip all aircraft with individual full electronic warfare systems. The Tiger and NH90 programs are indicative of this new policy. Lt. Col. Thierry Bon in charge of helicopter ECM at ALAT and STAT/Aéro (Valence) talks to Guerrelec about the Tiger and NH90 self-protection program, essential to achieve airmobile force coherence.

February 2002 saw the completion of the second qualification campaign of the Tiger electronic warfare system at the Cazaux Flight Test Center. This is then a good time to stop and look back on this major helicopter EW/ECM program which has drawn together the DGA's test centers, the EPIGE, and on the industrial side, Thales, EADS, MBDA and, last but not least, Eurocopter, prime contractor for the platform and its weapon system. It must be noted that the Franco-German Tigre/Tiger helicopter's electronic warfare system is based on a system built in from the helicopter's design stage. Interoperability is achieved through the use of common equipment installed on the different machines used by the allied countries, and it has been a decisive factor in the choices underlying this electronic warfare system. Moreover, this equipment covers all threat types (radar, missiles and laser) and is identical to that already selected for the NH90 tactical transport helicopter.

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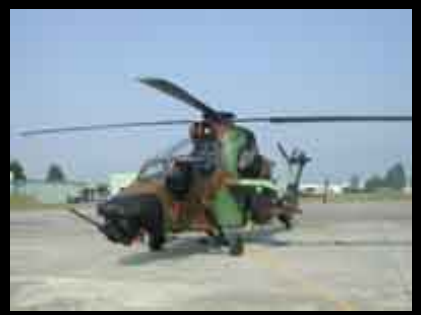
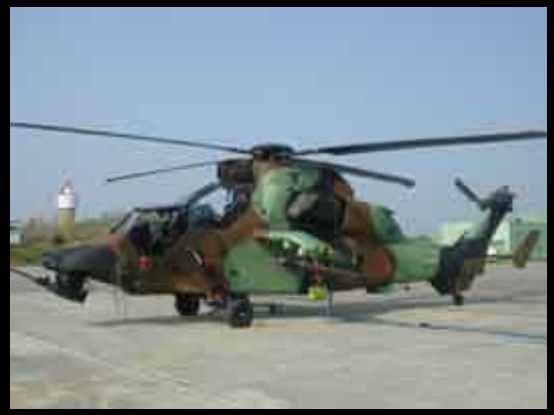
EWS :
Self-protection for the Tigre (FR) and Tiger (DE)

The Tigre's electronic warfare system (EWS) is made up of several devices designed to detect threats and counter them through the use of decoys (flares/chaff). In addition to a Radar Warning Receiver (RWR) and a Laser Warning Receiver (LWR), the German Tiger's system also includes a Missile Launch Detector (MLD), the MILDS AN/AAR-60. In this system, RWR and LWR make up the Threat Warning Equipment (TWE). Combining the TWE and MLD, the Radar Laser Missile Warning (RLD) is obtained. This assembly is in turn associated with a Chaff and Flare Dispenser (CFD), the Saphir M. Developed by Thales Systèmes Aéroportés, the TWE RWR uses the direct wideband reception technique. Adding a frequencymeter optimizes identification through instantaneous frequency measurement. The TWE covers bands E through K by means of four antennas at 45° on the helicopter's longitudinal axis, two at the forward and two at the rear end). Two Laser Sensor Units, supplied by the EADS Airborne Systems Electronic Warfare unit, give the TWE the laser warnings. These Laser Sensors, covering bands I and II, are located at the end of the helicopter weapon carriage support arms. The passive UV missile detector MILDS AN/AAR-60 was developed by EADS/LFK (LenkFlugKörpersysteme). Four sensors are installed at 45° on the aircraft, two on the forward end close to the RWR's forward antennas and the other two at the rear end, below the tail boom.

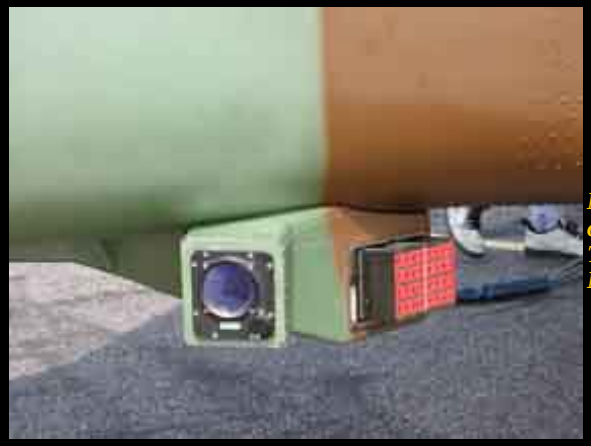




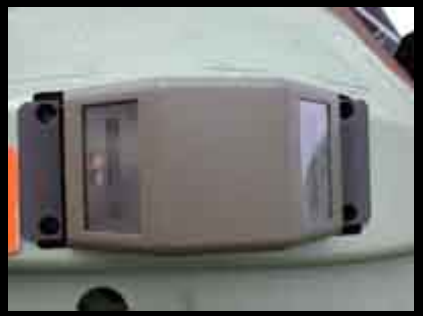
Flight-testing the Tigre's EW suite at the CEV in Cazaux

The Saphir M CFD is produced by MBDA. It consists of a control unit and two chargers and will be qualified with standard 1" x 1" and 1" x 2" NATO ammunition. This gives it the capability to carry respectively 32 or 16 cartridges per charger. The charger box can combine the two kinds of ammunition, as well as carry both ammunition types (IR or EM). In addition, the Saphir M can launch dia. 19-mm Mucalir decoys (SNPE/Lacroix). With this cartridge, the carriage capability is increased to 72 shells per charger, achieving optimized helicopter self-protection effectiveness. The results of the EMBOW 9 tests performed on a Saphir A assembly mounted on a Puma helicopter were outstanding. The Tigre's two chargers are installed below the tail boom.

The Thales Systèmes Aéroportés designed radar warning receiver of the TWE and the EADS/LFK designed MILDS AN/AAR-60 mounterd in the Tigre's nose



MBDA's Saphir M CFD mounted on the helicopter boom beside the antennas of the MILDS AN/AAR-60 pointing away from the helicopter flanks at 45°. The Saphir M countains two standard NATO 32-cartridge pods, as used on the NH-90 TTH.



The LWR mounted on either side of the Tigre's wing stubs. This EADS equipment, part of the TWE system, is a sophisticated device adapted to the new threats present in the combat theater, and is identical both on the French and the German Tigre/Tiger.

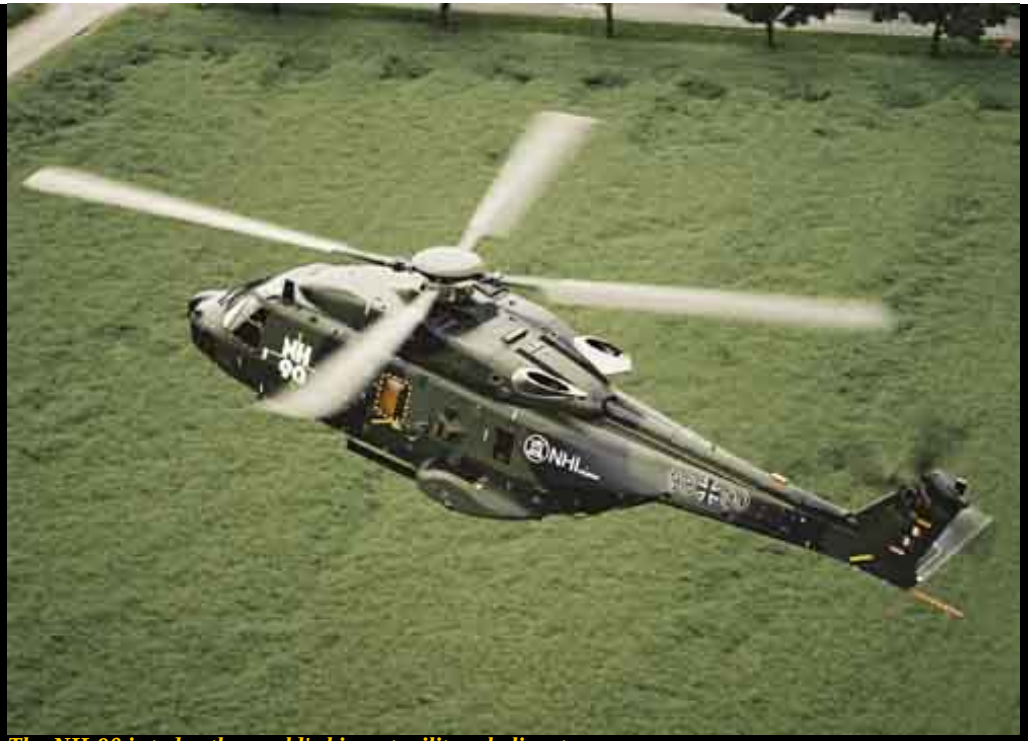
The RWR antennas mounted on both sides of the tail fin of the Tigre have a 45° coverage. Developped by Thales Systèmes Aéroportés, this device covers the frequency bands E to K

début

EWS : seen from the cockpits

The crew views the warnings, nature of the detected threats and self-protection system status on the screen displaying the EWS page. As for combat aircraft, before each mission the software-based EWS planning programs the "libraries" and loads them in the Electronic Warfare Data Module (EWDM), retrieving the flight data after the mission. Like all aircraft electronic warfare systems of the three French services, the Tigre EWS planning is programmed exclusively by the Mont-de-Marsan EPIGE, sole center qualified to perform this task. The EPIGE is a squadron of the Air Force, based near the CEAM, to which personnel from the Navy (CEPA) and Army (STAT/Aéro) are seconded to prepare the programming of each service's aircraft electronic warfare systems. This specific work is not performed only for the operational context, but also in the development and qualification phases, where the EPIGE personnel cooperates closely with the government bodies and the industries involved in the EMC programs, as was the case for the Tigre.

Today the Tigre's EWS program proceeds within the framework of a €48 m contract signed in early 2000 between Eurocopter and EADS and Thales to manufacture 160 systems, supplemented by a second contract between Eurocopter and MBDA for the CFDs. The first production systems is to be delivered in the second half of 2002. Following the example of combat aircraft, the EWS is the first built-in electronic warfare system for helicopters. In addition, these self-protection systems are developed within European programs managed by NAHEMO at Aix en Provence for the NH90, and by OCCAR at Bonn for the Tigre/Tiger.



The NH-90 is today the world's biggest military helicopter programme

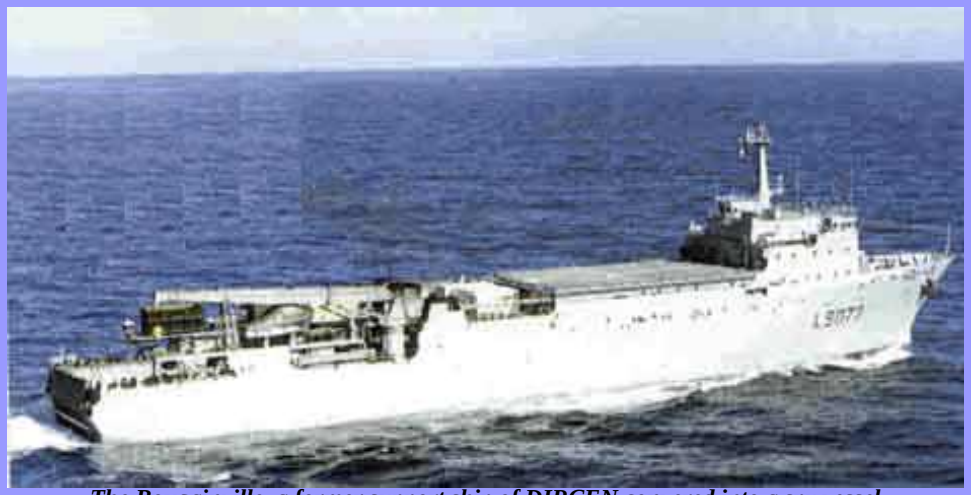
Lieutenant Colonel Thierry Bon,
head of the STAT/Aéro EMC group seconded to the EPIGE Head of the STAT/Aéro ECM group seconded to the EPIGE when this article was written. Now at the HQ of the 4th Aeromobile Brigade (French Army).
début

To learn more in the press see :
Air & Cosmos – March 22nd 2002
Aviation Week & Space Technology – April 22nd 2002

A BRAND NEW SIGINT VESSEL FOR

FRANCE

On the 14th of January 2002, the Ministry of Defence announced the launch of a new intelligence programme. This "Intelligence-Gathering Auxilliary" ship was called MINREM, or the Naval Forces Signals Intelligence Vessel. At the end of a very intense competition, Thales was chosen as the main contractor for this 122 M euros programme by the DGA's Naval Programmes Department. Alain Duhamel, the sales manager of Thales Naval France and Michel Masselin, the commercial manager of Thales Communications France describe this naval SIGINT (Signal Intelligence) programme for Electronic Warfare.



The Bougainville, a former support ship of DIRCEN convered into a spy vessel

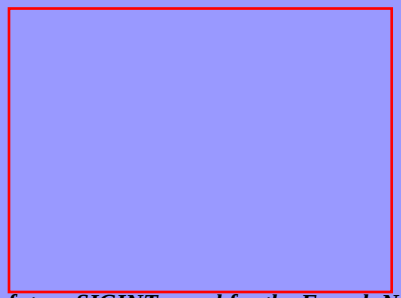
France is going to build a new signal intelligence ship, the MINREM, by 2005. It is a component of the C3I (Command, Control, Communication and Intelligence) system of forces, as defined by the DGA's eight systems of forces architecture. This vessel will be deployed by the Navy on missions defined by the national SIGINT authorities. Her role will be to undertake documentary intelligence acquisition and elaboration missions. To carry out the programme, Thales will work in partnership with the Compagnie Nationale de Navigation, which is supplying the platform. The companies have put forward a solution that meets all the requirements expressed by the Military Intelligence Directorate (DRM). To do this, Thales contributed to the programme the experience it had gained during previous collaborations with the DGA, the DRM and the forces in the field of intelligence. This experience also meant that Thales was able to determine the technical choices that will ensure that the MINREM can interwork with the DRM's other SIGINT systems in the short and medium term.

For Thales, this programme involves three divisions. First of all, Thales Naval France is the program's main contractor: project management, design engineering, functional integration and acceptance tests in the factory and at sea. Thales Communications is the main contractor for the payload, composed of all the COMINT and ELINT sensors, the information and intelligence exploitation system and the ship's internal and external communications systems. For its part, profiting from its experience in radar electronic warfare, Thales Systèmes Aéroportés will develop the ELINT component. These two divisions of Thales have already been responsible for major SIGINT programmes in France, such as the DC-8 Sarigue aircraft and the army's SGEA. The CNN, via its subsidiary the

Compagnie Maritime Nantaise, will supply the platform while the payload will be integrated and the support provided in France by Thales. For the whole of the contract, the companies will also guarantee to maintain the ship in correct working order for five years based on the principle of a global service guaranteeing the system will be available for 350 days a year, an essential level of availability when you realise that it is the only vessel of its type.

The future MINREM marks another stage in French intelligence services, following in the wake of two other ships deployed by the Navy on missions defined by the DRM. The first, a German cargo ship built in 1958 by a shipyard in Bremen, was transformed in France into an electronic eavesdropping ship between 1976 and 1977. Decommissioned in May 1999, she handed the baton over to the Bougainville, which was formerly a supply ship used since 1988 by the Nuclear Experiments Department for the Pacific Tests Centre (CEP). For its new mission, she was fitted with SIGINT sensors and a Syracuse II satellite transmission system. The Bougainville has been in service since July 1999; distinguishing herself recently in the Indian Ocean during a mission following the terrorist attacks of last September the 11th, and will thus provide cover until 2005, when the future vessel enters service. The future MINREM will be a respectably sized ship: her 100 metre long hull will house a crew of 108, including 30 sailors. Equipped for resupplying at sea and by helicopter, she will be fitted with a high performance stabilisation system and will be able to sail at a continuous cruising speed of 16 knots in a force 3 sea, and at 10 knots in force 6. Naturally, her speed on a mission is less. It is the first French ship designed exclusively for the SIGINT mission and features an open architecture that provides the system with extensive upgrade capabilities and capacities for extension over her planned lifetime of 30 years.

For France, the MINREM is an instrument of sovereignty that will strengthen its intelligence capabilities and contribute, by the data gathered during missions, to a greater mastery of its electronic warfare, at a time when the current security situation is confirming the importance of the control of information in a defence system. The ship will be christened Dupuy-de-Lôme, name of a brillant military naval architect who lived in the XIXth century.

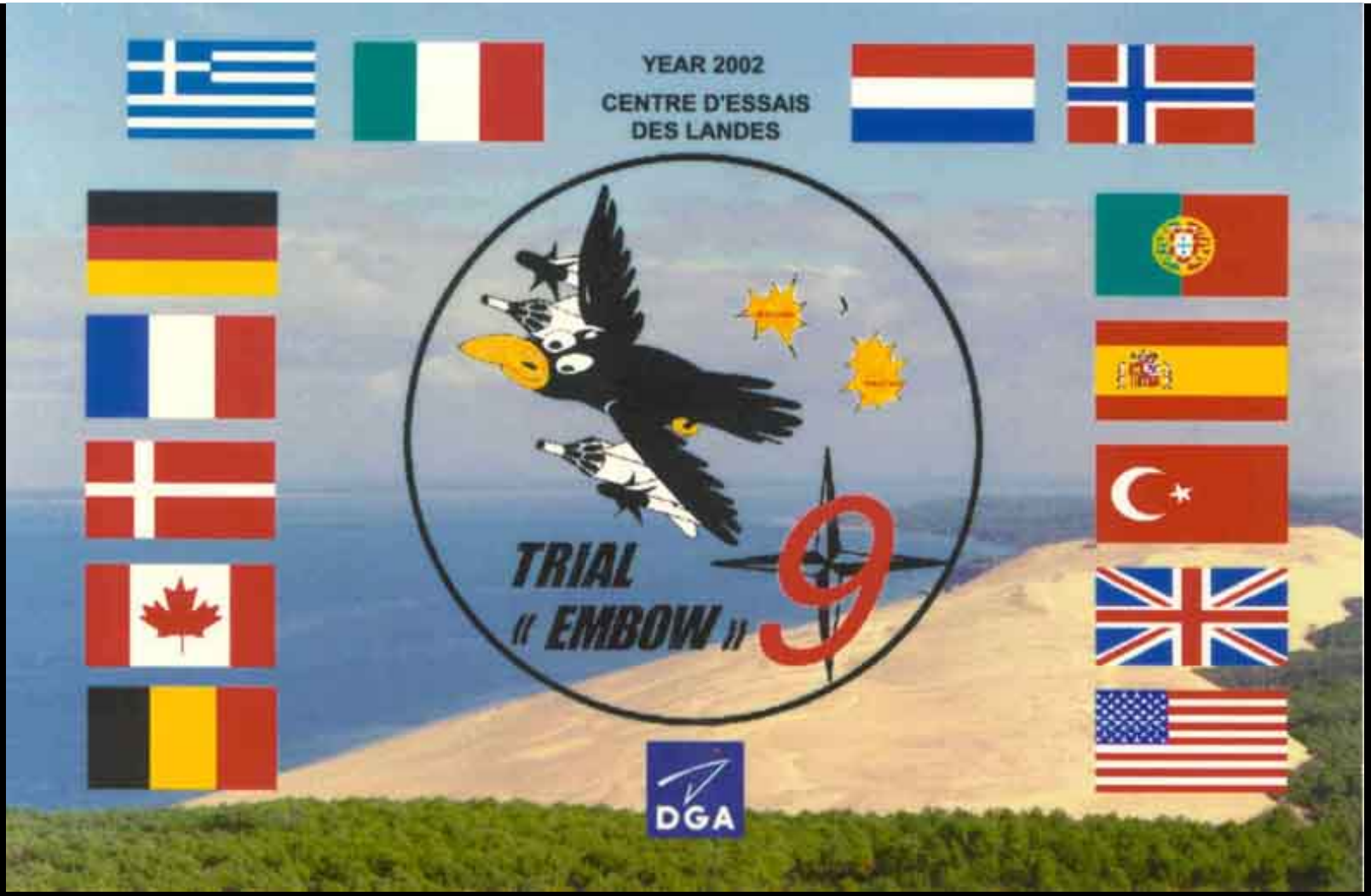


Artistic rendition of the Minrem, the future SIGINT vessel for the French Navy due to be commissioned in 2005.

Alain Duhamel,
sales manager of Thales Naval France

Michel Masselin,
commercial manager of Thales Communications France Légende
début

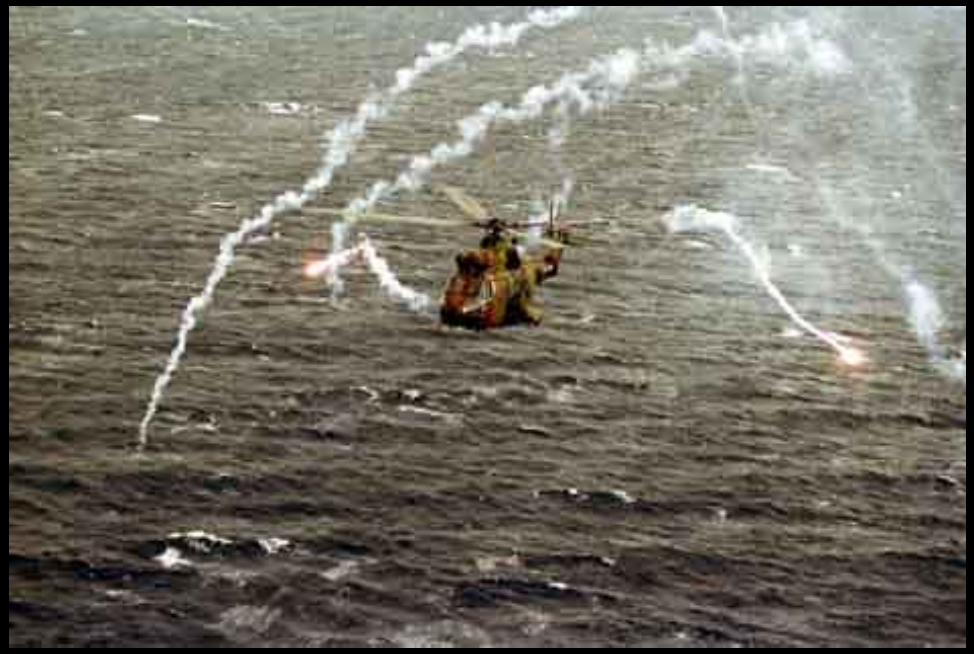
EMBOW 9 :
THE FIRST RESULTS OF THIS FRENCH-HELD NATO EVENT



France regularly hosts NATO trials of aircraft electronic warfare systems. This year, March 2002 saw intense activity over the Landes region (South-West of Bordeaux) on the occasion of the 9th EMBOW campaign. This codename designates a test campaign of aircraft self-protection systems using IR decoys. Organized by NATO Sub-Group 2 of Air Group III, specialized in aircraft self-protection against IR threat, EMBOW trials have been held regularly since 1983, alternating with MACE trials, devoted to EM self-protection, RWRs and jammers.

Much appreciated as an organizer, after United Kingdom in the eighties (EMBOW 1, 2, 3 and 4), Canada (EMBOW 7) and Italy (EMBOW 8), France had already given proof of its skill on the occasion of EMBOW 6 in 1994 and MACE X in August 2000. EMBOW trials are important because short-range IR-guided missiles are proliferating. Low in cost and easily deployed, these weapons can endanger alliance aircraft, be it in offensive or humanitarian missions. EMBOW 9 was programmed over a year ago (the time needed to gather the equipment, personnel and test devices of several countries), an international test steering team working to define and implement them. But this campaign is all the more justified now the need to acquire effective EW systems has already been proven, even in asymmetric conflicts and when many NATO countries are involved in Afghanistan. The EMBOW trials aim to study, test and share various IR decoying techniques and tactics by recreating a representative IR

environment. The Air Force and DGA test centers have been enlisted to help : the CEL (Landes Test Center) at Biscarosse received the ground forces; the Mont-de-Marsan airbase BA118, host to the CEAM (Military Air Experiment Center), and well-acquainted with the NATO aircraft, the air forces; and the CELAr (French Armement Electronic Center) supplied its expertise in EW. The test program extended over three weeks, flights taking place between March 4th and March 27th with all participants sharing six daily one-hour slots.



A French Army Aviation (ALAT) Puma seen launching decoys during EMBOW 9

During each slot, the aircraft made IR decoy-releasing passes in a reserved zone on the sea, against the systems deployed at the CEL on the Atlantic coastline. At the BA118, 15 aircraft belonging to 10 NATO nations starred during the three weeks in a pyrotechnical choreography organized by the CEL: two F-16 (of the European Participating Air Force), a Mirage 2000 D, an AMX, a C-130J (these two belonging to Italy). Helicopters were also massively represented: Puma (France and the UK), A109 Agusta (Italy), Bell 412 (Norway), Sea King and EH-101 Merlin (UK). On the ground, instrumented IR-guided missiles were assessed in the face of the decoying actions deployed against them. The flights were performed according to a very strictly set scenario (stable altitude and speed, decoy-launching points clearly identified by radio beacons) in order to gather enough data to produce reliable statistical results. In all, over 1500 passes were made, i.e. more than twice the activity recorded in the preceding trials. EMBOW 9 placed the spotlight on the effectiveness of MAW/MWS-based solutions combined with decoys. At the same time, these trials served for all aircraft types in service, but also concern future projects such as the A400M. The underlying idea is for EMBOW to increase NATO countries' knowledge of each other. Work has already started on the trial report, but over six months will be needed to analyze all the data. Only then will it be known whether the targets set by the Sub-Group 2 have been achieved. But it can already be stated that EMBOW 9 clearly showed that France has both considerable talent as an organizer, and real know-how in the field of IR protection of its aircraft. Next stop: EMBOW 10, Spring of 2004..

Commandant Pascal Lacombe
Trial Manager EMBOW9 / EPIGE

début

GUERRELEC EVENT : La Fayette AOC Chapter meets EW experts of the US Congress

At the Ecole Militaire in Paris, on March 7th, the experts of Guerrelec met their U.S. collegues from the US Congress ; a delegation led by Ken Miller, senior legislative assistant of congressman Joseph R. Pitts, founder of the EW working group of the US Congress. More than 100 members of Guerrelec, military attachés of the U.S. Embassy, gathered to meet this delegation formed by Dennis Lynn, senior international programs Analyst, Christopher Bolkcom, senior national security analyst with the Congressional Research Service and Rod Beard, Program Air Office Manager of the Air National Guard. Visiting France to attend the NATO "EMBOW 9" test campaign, Ken Miller insisted in his speech on the information mission of the Congress EW working group, and its main centers of interest : self-protection, SEAD, improvement of EW in the US forces, and coalition EW.

Photo (from left to right) : Dennis Lynn, Christopher Bolkcom, Ken Miller, Rod Beard, Bruno Berthet (President of Guerrelec) and Pierre Roudaut, general secretary of Guerrelec

Philippe Wodka-Gallien

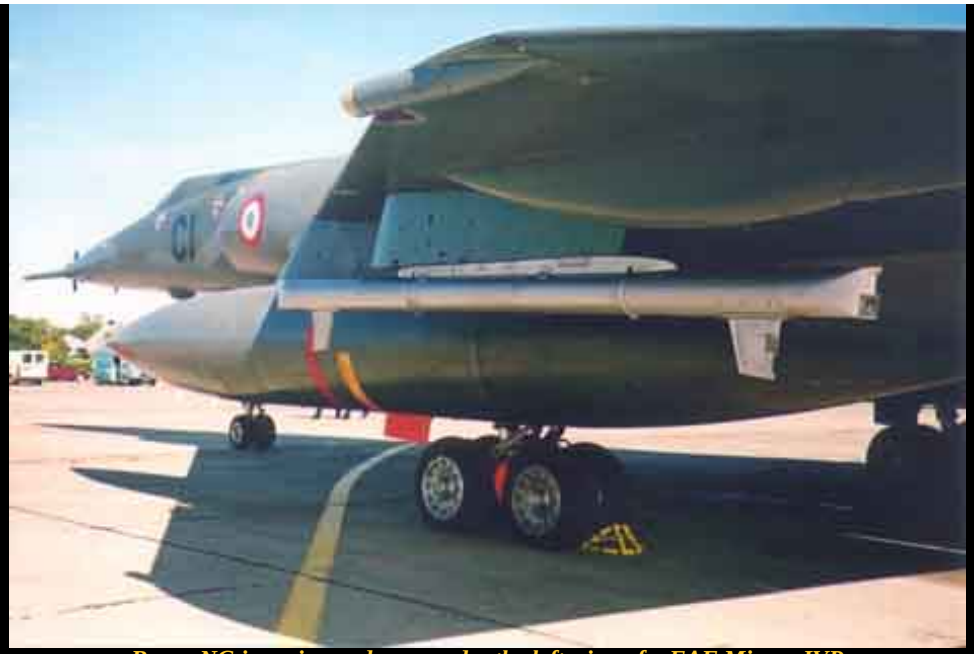
début

The French Air Force draws its own lessons of Enduring Freedom after 6 months of ops over Afghanistan

Feedback from the Afghanistan campaign was naturally one of the key topics addressed at the information days organised by the French Air Force on 18 and 19 September for the Enseignement Militaire Supérieur (French Forces High-ranking Military College) at the Orléans and Cazaux air bases.

In Afghanistan, air transport rose to the challenge posed by the very severe environment created by the local geography and ground-to-air defences : "On reaching Mazar-i-Sharif and Douchambé, the C-160 Transalls landed at night using night vision systems over high peaks under constant threat of anti-aircraft attack", reported General François Beck, commander of the Air Mobility Command. In intelligence, the French Air Force made extensive use of the SAIM (multi-sensor image interpretation and dissemination) system produced by Thales Communications. Deployed in Kirghizistan with the Mirage 2000D, in the UAE with the Mirage IVP, on board the Charles-de-Gaulle, at the allied CAOC (Combined Air Operations Centre) at Al Kharj and in France, the SAIM stations were linked via the Syracuse military satellite and encrypted Inmarsat links. As an integral component central to the OODA – Observation, Orientation, Decision, Action – process throughout the theatre of operations, SAIM stations formed a reliable network in support not only of French forces, but also of US forces as part of the French contribution to Enduring Freedom. Speaking for SIGINT, General Hervé Longuet, Commander of the Air Combat Command, indicated that the 2003-2008 Military Appropriations Law will enable modernisation of the Gabriel SIGINT Transalls. One particularly interesting aspect is that the Mirage IVP was operated for the first time with Thales Airborne Systems' Barax NG self-protection jamming pod in place of the Barracuda system, and it was with this equipment that the aircraft served in Afghanistan. Over and above this experience, the French Air Force's strike assets are also being strengthened further. The Mirage 2000D aircraft has just taken another step forward with the ability to fire MBDA's Apache cruise missile, the only non-US air-to-ground cruise missile operational in NATO. The 2000D's self-protection system have been further enhanced with the installation of MBDA's DDM infra-red missile detection system, which is proving fully effective. Lastly, the Mirage 2000N (nuclear version) may soon be carrying the GBU-12 laser-guided bomb, whose guidance system uses a ground designator or in buddy laser with a Mirage 2000D fitted with an Atlis or PDLCT pod (by Thales Optronics).

Networked information systems, new precision weapons, electronic warfare and special operations: in these two days, the Air Force demonstrated visibly that its action strategy is increasingly integrated into today's concept of Revolution in Military Affairs. Philippe Wodka-Gallien



Barax NG jamming pod seen under the left wing of a FAF Mirage IVP at Cazaux Air Base last September 2002.

Philippe Wodka-Gallien

début

THE MEMBERS OF GUERRELEC TODAY AND THEIR MAIN EW PROGRAMMES

AIRCO : Specializes in the training of EW experts of French and foreign forces, AIRCO provides technical and operationnal expertise that is necessary for the use of the French EW systems sold internationaly. Since 2001, AIRCO has been the business group of Défense Conseil International. www.groupedci.com

ALKAN : Subsidiary of MBDA, Alkan develops new generation decoy systems for all types of aircraft. Current programmes : ALK-5081 decoy launcher of Super-Etendard Modernisés, Spirit–NG (on C-130 and C-160) and Elips-NG for helicopters, light aircraft and maritime patrol aircraft. www.alkan.fr

AVDEF : Subsidiary of EADS, AVdef is specialized in EW Training and Simulation. For this activity, AVdef offers its own fleet of 2 Falcon 20 equiped with up to 4 pods each. These pods are either ALQ-167 jammers, AST-6 simulators and / or ALE-43 chaffs dispensers. www.avdef.com

CORIS : Subsidiary of INEO group, Coris is focused on integrator of information and communication systems intregration, COMINT centers, tracking, ionospheric sounding, antenna and distribution systems. Operational

support. Main programmes : CGE of Mutzig, Corsaire, DAT. www.coris-telecom.com

EADS S&DE Naval & Ground. Company of EADS, with more than 30 years of activities in EW, EADS S&DE Naval & Ground is specialized in self-protection systems for ground and naval platforms. Main programmes : LIRE jammer for armoured vehicles and DAGAIE, SAGAIE, NGDS launcher decoys for the French Navy. www.sysde.eads.com

ELG. ELG presents 30 years of activities in system integration. ELG has been involved in all important command, communication & EW programs. ELG has achieved TAMARIS, the new mobile EW COMINT system of the French Air Force. www.elg.fr

ENERTEC. Enertec designs and produces high-end data storage, acquisition and processing systems for aerospace, defense and derived markets. Main programmes : ATARS of US Marines F-18, Nimrod MR-4 (RAF), French Sarigue, P-3 of Royal Australian Air Force. www.enertec.avicore.com

KALIMA. Founded by Thales and IBM France, Kalima is specialized in information-mining, acquisition, extraction, text-mining and data-mining, in order to give to information systems a global and optimized cover of the intelligence cycle. www.kalimagroup.com

LACROIX : European leader in pyrotechnics, Lacroix develops a product line of airborne EW products : IR decoy, electro-optic, chaffs, naval EW ammunitions (Philax, Dagaie, Sagaie, NGDS) et EW ammo (Galix) for ground applications. www.étienne-lacroix.com

MBDA : European leader in missile systems, MBDA has focused its counter-measures activities on missile protection : missiles detection and decoying. Main programmes : Spirale and DDM (Mirage 2000), Spectra (Rafale), Saphir decoy launchers for helicopters (Cougar, Tigre, NH90). www.mbda.net

SEEE-AM. Created in 1987, SEEE develops networks antennas with beam computation and jammer annulation, propagation and interception simulators. Main contractor of RHEA and Tram-Brass. www.seee-am.com

SIDEF. Contracting for important corporates of the defense sector, Sidef is a consulting and technical support company. Its know-how is relied on teams composed by several high level experts knowing well operational requirements and EW.

Thales Airborne Systems. European first in EW systems (intelligence, self-protection, jamming, subsystems as well as turnkey complete high level systems taylored to customers requirements), TAS has main contractor activities in France and Worldwide for land, air, sea ad space applications. Main programmes : EWS (Tiger & NH90), Spectra on Rafale, ICMS on Mirage 2000, SIGINT aircraft (Gabriel and Sarigue), SGEA Valo, MINREM. www.thales-airbornesystems.com

Thales Communications. European leader in communications and information systems, and secured C4ISR solutions. Main programmes : COMINT component Lynx of SGEA, SIGINT MINREM ship, ESM of Horizon frigates, advanced warning COMINT H/V/UHF systems. www.thales-communications.com

Thales Omega S.A. Subsidiary of Thales, specialised in EW simulators, radar & communication electromagnetic environment generation, frequency synthesis, as well as fast prototyping including high technology content. www.omega-tech.com

Thales Optronics. European leader in optronics warfare systems (warning, selfprotection, jamming). Main programmes : Laser jammer (Flash) for transport aircraft, warning laser of Rafale, decoy launcher. www.thalesgroup-optronics.com

début