

REVISTA ESPAÑOLA DE DEFENSA

**AIR POLICING
MISSION**
Spanish fighter jets
in the Black Sea



**General Tod D. Wolters,
Supreme Allied Commander Europe (SACEUR)**

**“SOLIDARITY AND
COMMITMENT ARE KEY
TO NATO’S SUCCESS”**



REVISTA ESPAÑOLA DE DEFENSA

HABLAMOS de Defensa

30 años de información de calidad

Contribution to INTERNATIONAL SECURITY

SPAIN is a reliable and influential partner of organisations such as the UN, NATO and the EU, and sets a constant example of responsibility with the presence of some 2,500 military personnel on missions abroad, a reflection of our commitment to building a safer world. It has continued to assist them during the pandemic, where the complexity of the situations in the countries in conflict has been compounded by the virulence of the coronavirus.

In the Atlantic Alliance, our country “is a highly valued member and its contribution to all kinds of missions and activities remains crucial”, as General Tod D. Walters, Supreme Allied Commander, Europe (SACEUR), emphasises in an interview included in this issue. The Spanish Armed Forces thus support NATO’s missions in Afghanistan and Iraq and show their solidarity with the allied nations which, due to their geographical location, perceive the instability in Eastern Europe with greater concern.

NATO is a key forum for transatlantic dialogue and a key element for security and stability in Europe. All the more so at a time when collective defence, the main reason for the Alliance’s existence, is gaining prominence alongside the stability projection initiative to enhance security beyond our borders. Spain supports European defense initiatives and considers that European capabilities are and will be supplementary and available, if necessary, to NATO, thus achieving a more cohesive Alliance.

In the European Union, Spain aspires to a leading position in all areas. Our country remains proactive in strengthening Europe’s Defence, and is among the group of nations pushing to develop the level of ambition set and to deepen its industrial and strategic autonomy. It also participates significantly in all the military missions promoted by the EU; our commitment in the Sahel should be highlighted, where General Fernando Luis Gracia has assumed command of EUTM Mali this semester.

Within the United Nations, Spain plays an important role in Lebanon, where since 2006 it has led UNIFIL’s eastern sector. Our country is also one of the promoters of the UN’s Women, Peace and Security Agenda, and applies the gender perspective on a daily basis in the activities and operations carried out on national territory and abroad, with the aim of favouring female empowerment as an opportunity and unavoidable responsibility of the Spanish Armed Forces.

The Armed Forces are the best exponent of Spain’s commitment to building a safer, fairer and freer world; and at the same time, given that today threats can arise thousands of kilometres away, they contribute to national security, which is essential for citizens to enjoy peace and well-being. Only in an environment of security are Spanish interests better protected and our values more freely expressed.

RED



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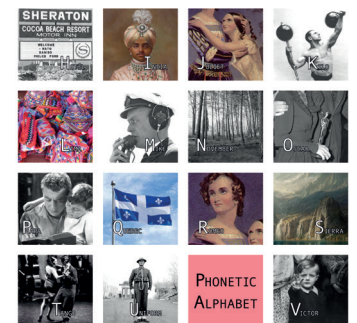
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General Tod D. Wolters, Supreme Allied Commander Europe
(SACEUR)

“SOLIDARITY AND COMMITMENT are key to NATO’s success”

General Wolters stresses that the Armed Forces of all the countries of the Atlantic Alliance “have responded to the complex situation caused by COVID-19”

US Air Force General Tod Daniel Wolters has led NATO’s Allied Command Operations (ACO) since May 2019, from where he has coordinated the efforts of the allied armed forces in assisting the civilian authorities of the member states in their battle against COVID-19. Aware of the enormous challenge faced by all in confronting the pandemic, this pilot with more than 5,000 flying hours is proud of NATO’s capability to respond when required in this health crisis, while continuing with operations and ensuring deterrence and defence against old and new threats.

He highlights disinformation as one of these threats and believes that, to neutralize it, it is essential for all actors involved to work together, “from international organizations and national and local governments to private companies, civilian society and free and independent media, including Allied Command Operations”. As far as Spain is concerned, SACEUR underscores

Spain’s unwavering commitment to NATO and argues that “it is a key actor for an Alliance with a 360-degree approach” to deter every potential threat and defend allies against any adversary.

— **You have coordinated all the Alliance’s military support to counter COVID-19, what did this assistance consist of?**

— Every nation has responded to the crisis, demonstrating the solidarity and

“Our goal in the pandemic has been to strengthen civilian efforts and provide added value”

commitment to one another central to NATO’s success for more than 70 years. Forces across the alliance deployed to their homelands to strengthen civil efforts by providing planners and constructing care facilities. They assisted with the decontamination of the affected areas, and delivered critical resources to those in need. Across the alliance, forces employed military transport capabilities to move medical personnel, equipment, supplies, and treatment facilities under great stress. Our goal throughout has been to facilitate those activities and add value without disrupting national responses.

— **The Allied Hand operations plan has been developed in case there is a new pandemic, what are the general guidelines of this plan?**

— Operation Plan *Allied Hand* ensures that we are ready to provide requested assistance to our Allies and Partners in need. The plan establishes a stockpile of medical equipment and



General Wolters was appointed SACEUR in May 2019.

a fund for the purchase of supplies to deliver critical assistance to soften the impact of COVID-19 on our populations and forces. SHAPE can complement and support national and international efforts in this pandemic, while not impacting the Alliance's core purpose: deterrence and defence of the Euro-Atlantic Area. Our plan is flexible and scalable to both the level of demand and the resources made available by Allies.

—Has the COVID-19 affected ongoing missions and operations?

—The Alliance remains focused on deterrence and defence of our area of operation. Our goal during the pandemic is to ensure this health crisis does not become a security crisis. We sustained a conditions-based approach and prudent measures to preserve the health of personnel and continuity to guarantee effectiveness of our operations, missions and activities. Our forces are resilient and continue to carry out the mission across all domains, air, land, sea, cyber and space; while respecting evolving national regulations because of the pandemic. As a result, Allied Command Operations continues to deliver its core mandate.

—How do you see the future of missions in Afghanistan and Iraq?

—All Allies remain committed to the fight against terrorism. As part of the Global Coalition to Defeat ISIS, we contribute with AWACS intelligence flights and with training for Iraqi forces. The Alliance remains committed to working with Iraq to ensure that ISIS does not return. NATO Defence Ministers recently tasked our military commanders to expand our mission in Iraq. We will continue to consult with the Global Coalition and the Iraqi authorities about the way ahead.

The Alliance also continues to support the Afghan security forces with training and funding. The Afghan peace talks in Doha are fragile, but they are the best chance for peace in a generation. NATO supports the peace process, and as part of it,

we continue to adjust our presence. We decided to go into Afghanistan together; we will make decisions about future adjustments together; and we will leave together, when the time is right. We want to preserve the gains made over the last two decades with so much sacrifice, and to ensure that Afghanistan never again becomes a safe haven for terrorists that can attack our countries.

—What is the Alliance doing to defend itself against new threats such as cyberattacks or disinformation?

—The Alliance is increasing its agility and the ability to respond to Cyber threats at the speed and magnitude in which they happen. This is tested alongside Nations on a regular basis within exercises. Continually developing and practicing our interoperability processes allows us to focus on protecting Allied Command Operations' cyberspace and providing support to Allies, when requested.

Multiple solutions are an imperative to combat disinformation. From international organisations and national and local governments, to private companies, civil society and a free and independent media, all actors, including Allied Command Operations, all have a part to play to conquer this challenge. This is the strength of the international alliance and provides the platform for a strong, unified, fact-based, timely, transparent and coordinated response within a contested information space.

—As far as conventional threats are concerned, what are the current challenges?

—The significant challenges in the Euro-Atlantic Area that we face are increased threat capabilities, diffusion of disruptive technologies, and ambiguous malign activities below the level of armed conflict. The 2019 NATO Military Strategy acknowledges these challenges and clearly articulates the enduring vigilance activities the Alliance must embrace to sustain peace through comprehensive deterrence and defence. Regardless of the threat, Allied Command Operations will



meet these challenges with vigilance and speed across all domains and functions. These efforts ensure the Alliance deters, and if called, defends with victory.

—Last year, Jens Stoltenberg launched the NATO 2030 initiative. Will the military structure be modified to better respond to the new challenges?

—NATO 2030 outlines how we adapt to ensure our Alliance remains fit to face the challenges of the next decade. One of its key themes is keeping NATO strong militarily. Staying strong militarily means continuing to invest in our armed forces and modern



SHAPE

“Spain is a highly valued member of the alliance and its contributions to the full range of NATO missions remain vital”

military capabilities, which have kept us safe for over 70 years. *NATO 2050* also highlights NATO’s role globally, which is based on working even more closely with like-minded partners to defend our values in a world of increased global competition.

—How is the strategic association with the EU developing?

—Cooperation between the EU and NATO is strong. We work together on military mobility, exercises, countering hybrid threats, and most recently the COVID-19 pandemic, complementing our efforts to further strengthen our cooperation and build our resilience in the future.

—The southern flank is becoming increasingly important. What role can NATO play in preserving stability in this area?

—NATO nations have recognised the importance of the southern Flank for Alliance security by implementing the *Framework for the South*, an integral part of NATO’s strengthened deterrence and defence posture, which guides our engagement in the region. The Alliance actively contributes to security and projecting stability in the South, where we maintain formal bilateral relations with 11 countries via our Mediterranean Dialogue and Istanbul Cooperation Initiative, through a range of practical initiatives. Through our partnership formats, we work with partners to enable them to build resilience against security threats and to provide for their own security.

Additionally, we provide training, advising and mentoring activities to partners in the South in sectors including border security, counter terrorism, demining, and preventing illicit trafficking.

Finally, the Alliance supports the international coalition to defeat ISIS, as well as the African Union in its peacekeeping missions on the African continent.

—Finally, what do you think of Spain’s role in NATO?

—Spain is a highly valued member of the alliance and its contributions to the full range of NATO missions and activities remain vital. Spain’s contributions include professional support to the NATO Mission in Iraq and Afghanistan, supporting NATO’s Enhanced Forward Presence multinational battlegroup in Latvia, commanding the Maritime High Readiness Force, providing forces for NATO Air Policing which includes ballistic missile defence and most recently offering specialized national capabilities in support of the wider allied response for COVID-19. Spain remains a key player in our active 360 degree alliance, and their support reflects the comprehensive character of the alliance; ready and capable.

Rosa Ruiz

Admiral General Teodoro López Calderón, NEW CHOD

Former Navy Chief of Staff replaces Air Force General Miguel Ángel Villarroya as Chief of Defence

ON 28 January, the parade ground of the Ministry of Defence hosted the swearing-in ceremony of Admiral General Teodoro López Calderón as Chief of Defence, taking over from Air Force General Miguel Ángel Villarroya. The new head of the Armed Forces operational structure, with the rank of Secretary of State and main advisor to Spain's Prime Minister in the military sphere, was sworn in at a brief ceremony presided by Defence Minister Margarita Robles, after having held the post of Navy Admiral Chief of Staff for almost four years.

The ceremony was attended, among other authorities, by his predecessor; Secretary of State for Defence, Esperanza Castelleiro; Director of the CNI, Paz Esteban; Undersecretary for Defence, Amparo Valcarce; Army and Air Force Chiefs of Staff, Francisco Javier Varela and Javier Salto; and Director General of the Civil Guard, María Gámez.

A mixed company of the Army, Air Force and Navy rendered honours while the National Anthem was played at the beginning of the ceremony. This was followed by the swearing-in ceremony of Admiral López Calderón, which was then formalised by the Minister of Defence, who asked the members of the Armed Forces,

“by order of His Majesty the King”, to recognise him as the new CHOD, “respecting and obeying him in all that he commands concerning service”, as indicated in military protocol.

“We are holding the most important handover ceremony of the Armed Forces”. These were the first words that Admiral López Calderón addressed to those attending his inauguration. “An unexpected handover, caused by an unfortunate circumstance,” he added, alluding to the decision taken by Air Force General Villarroya to voluntarily step down as CHOD. López Calderón expressed his “admiration and respect” for his predecessor for having made this gesture “which honours him, insofar as it is in accordance with the principles and values enshrined in our Royal Ordinances for the Armed Forces”.

With this attitude, “he has shown us his great professional and human qualities”, as well as his “attitude for dialogue and conciliation” at the head of the military operational structure “with which he has undoubtedly achieved harmony in everything that affects joint action, which is not easy to achieve”.

In taking command of the Defence Staff, Admiral General López Calderón assumes “an important and exciting challenge”, aware of the “volatile and uncertain global strategic scenario and the risks and threats hanging over our society and its values, currently threatened by the pandemic that is ravaging us”.

In his opinion, the lines of separation between internal and external security and the lines that differentiate a situation of peace from one of crisis are becoming increasingly blurred, “creating a grey zone in which the legal consideration of armed conflict becomes difficult to determine”.

Against this backdrop, the new CHOD advocated “coordinated action” at political, civilian, economic and military levels “in a multi-domain sphere”, bearing in mind, moreover, that military operations “have increased their multidimensional nature, adding cyber combat to land, maritime, aerospace and special operations”.

Addressing the Minister of Defence, Teodoro López



The Minister of Defence and Admiral General Teodoro López Calderón at the headquarters of the Defence Ministry.



The new Chief of Defence takes the oath of office on the parade ground of the Ministry of Defence, a ceremony presided by Margarita Robles and in the presence of the outgoing CHOD and senior Department officials.

Calderón expressed his commitment to devote all his efforts to his new job, putting “my experience and my skills at the service of the operational structure of the Armed Forces to continue the path of improvement initiated by my predecessors in the post”.

CAREER

Born in Cartagena 66 years ago, the professional career of the new CHOD began “on that now distant 16 July 1978”, he recalled in his speech, when he received his commission as Navy Lieutenant Jr. Grade. He has served for almost 47 years, the last three at the head of the Navy, including Commanding Officer of offshore patrol boat *Villaamil*, frigate *Cataluña*, the 41st Frigates Squadron and the 2nd Minesweepers Squadron.

At multinational level, he was Commander of the Standing NATO Maritime Group Two (SNMG-2), during which time he was responsible for NATO ships in the counter-terrorist Operation *Active Endeavour*, in the Mediterranean Sea. He was also President of the Spanish Section of the U.S-Spanish Permanent

Committee and was posted to the Navy Staff on different occasions. Now, his appointment as CHOD is a “homecoming” as for four years, between 2012 and 2017, he was Chief of the Naval Operational Command, the body that coordinates all operations abroad and permanent operations on national territory, and where he was previously Navy Chief of Staff and Deputy Chief for Operations.

An electronics expert and tactical action officer, he holds 23 national and foreign decorations.

“Admiral, I don’t think I have the words to recognise your CV”, said Defence Minister to the new CHOD after concluding her speech. “One of

Robles described the Admiral as “one of the best military men in Europe”

the best military men in Europe”, she said, going on to recognise his “military and human virtues”, exemplified in his “willingness for service and commitment, and his love for Spain and the Armed Forces”.

The Minister of Defence concluded her speech by referring to a poem by Kavafis, *Ithaca*, whose verses speak of the journey that is life, using as a metaphor the return of Ulysses to his home after ten years fighting in the Trojan War and another ten years of sailing on the way back. “You will understand perfectly well as a seafarer”, said Margarita Robles. “This is a passionate journey, which must be made with enthusiasm, with strength, with desire, in difficult times, in stormy weather (...) to Ithaca, to the Spain we love. I wish you a long journey, may you enjoy all the voyages and may you learn that when we arrive, as late as possible, we will do so with the pride of having contributed to making Spain greater, having served as all the men and women of the Armed Forces have always served its citizens”.

José Luis Expósito

Photos: Iñaki Gómez/MDE



Ejército de Tierra

Response Force IN THE BALTIC

The Paratroopers Brigade deploys part of its troops assigned to VJTF 2020 to Lithuania to participate in NATO's exercises *Brilliant Jump* and *Iron Wolf*

BRILLIANT *Jump*, a strategic projection exercise, and *Iron Wolf*, a war-fighting exercise, conducted consecutively and complementarily, have helped the Atlantic Alliance assess the readiness level of NATO's Very High Readiness Joint Task Force (VJTF) 2020 to which Spain is contributing this year with a battlegroup made up of personnel from the 2nd *Roger de Lauria* Battalion of Paratroopers of the 6th

Paratroopers Brigade (BRIPAC) *Almogávares*. The first exercise at the end of October, tested the readiness level of the units that make up the spearhead of NATO's Response Force (NRF), namely, their ability to deploy rapidly from home stations to, on this occasion, the Pabrade training area in Lithuania, and their subsequent withdrawal. *Iron Wolf* was conducted there, close to the border with Belarus, and has tested the integration and interoperability capabilities of

the VJTF's multinational forces. The exercise involved 2,500 troops from Belgium, the Czech Republic, France, Germany, Iceland, Lithuania, Luxembourg, Norway, Poland, Spain, the Netherlands and the United Kingdom, under the leadership of the NATO Joint Force Headquarters in Brunssum (the Netherlands), which holds the command of the NRF and its VJTF in 2020.

Its land component is led by the Polish Army's 21st Mechanized

The BRIPAC provided over 250 service members and 62 vehicles, comprising Lynx, RG-31 and VAMTAC vehicles



Ejército de Tierra



Ejército de Tierra



Fuerza Logística Operativa

BRIPAC's means were deployed by sea to Pabrade, where its members operated under the command of the Polish Brigade during the defensive phase of the exercise, together with French forces.



OTAN



Armée Française

The Spanish battlegroup operated in different phases integrated into the Polish and Lithuanian brigades

Mountain Brigade in command of six battlegroups, three of them from Poland, one from the Czech Republic, one from Lithuania belonging to the Iron Wolf Mechanized Infantry Brigade and the aforementioned Spanish paratroopers brigade (BRIPAC).

During the exercise, between 1 and 17 November, 252 Spanish service members were deployed in Pabrade, together with 63 *Lynx*, *RG-31* and VAMTAC armoured personnel carriers, as well as MAXPRO and VEMPAR recovery vehicles, in addition to various trucks and 19 containers loaded with camp equipment and, above all, logistics materiel, essential for sustaining the operations. The light infantry battlegroup protected by the aforementioned *Roger de Lauria* Battalion of Paratroopers was supported in Lithuanian territory by a National Support Element, with the participation of personnel and means from the 11th Logistics Support Group, the 1st Transportation Group and the 21st Signal Regiment.

“During exercise *Iron Wolf*, a series of offensive and defensive operations were carried out that tested the capabilities of our materiel and, more importantly, our soldiers’ skills”, explains Lieutenant Colonel Juan José González Amezcua, commander of the *Roger de Lauria* Battalion of Paratroopers and of the Task Force deployed in Pabrade. For the Spanish battlegroup, he adds, it has been “quite an experience to be under the command of two Brigades from different countries in the same exercise”, the Polish, during the defensive phase, and the Lithuanian, during the offensive phase.



Ejército de Tierra

Above: Personnel of the 21st Signal Regiment ensured communications between the different echelons of the BRIPAC and those at higher command levels.



Ejército de Tierra



Bundeswehr

The wooded environment in which exercise *Iron Wolf* took place obliged participants to blend in with the terrain, as shown by the sniper in the photo on the bottom left, or the patrols on the bottom right; as well as their means, for example the German armoured infantry combat vehicle in the photo above.



OTAN



OTAN

[armed forces]



Armée Française



Bundeswehr



Ejército de Tierra

Defensive and offensive operations at Pabrade involved, among others, armoured tracked vehicles such as the German *Leopard* and wheeled battle tanks from France (left) and Spain (above), as well as helicopter units, such as helicopter reconnaissance units provided by the British Army.



1REGT AAC



Ejército de Tierra

RG-31 transport vehicles, together with Lynx and VAMTACs, facilitated the mobility of the paratroopers unit.

“These exercises have been closely linked to the mechanized units, which is why it was a great novelty”, says Lieutenant Colonel González Amezcua, “to project, for the first time, a wheeled motorized unit based on Mine-Resistant Ambush-Protected (MRAP) vehicles”, such as the *Lynx*, *RG-31* and VAMTAC.

The presence of the BRIPAC in the Baltic ratifies Spain’s commitment to the security of the region, which has materialized since 2017 with the deployment of 350 service members in Latvia as part of NATO’s Operation *Enhanced Forward Presence*.

DEPLOYMENT AND WITHDRAWAL

The deployment of the Spanish contingent to Pabrade training area in Lithuania and its subsequent withdrawal took place within the framework of exercise *Brilliant Jump 20*, under the responsibility of the Operational Logistics Force (OLF). On 22 October, the motorized road movement of all the vehicles and

equipment began, distributed in four march units organised by the BRIPAC and the AALOG 11 (Logistic Support Group) and reinforced by the 1st Transportation Group and the 21st Signal Regiment, all of which headed toward the Port of Santander, after having spent the night at Araca base (Vitoria), where an intermediate transit point was established towards that port.

There, OLF personnel were involved in loading the Dutch Ro-Ro *Passenger Gute* ship, which arrived at the Lithuanian port of Klaipeda at the

end of October with 62 vehicles and 19 containers of materiel. The bulk of the personnel of the battlegroup deployed and withdrew by air via *Adolfo Suárez-Madrid Barajas* airport.

The Operational Logistics Force established a Movement Control unit in its Logistics Operations Support Centre to telematically monitor the projection of materiel from the national territory until its arrival in Lithuania, and also during its withdrawal. The tool used by OLF personnel to monitor in real time when movements were executed was the LOGFAS (NATO’s Logistics Functional Service), associated with the Spanish Armed Forces Tracking and Tracing Team (ESYL).

For its part, the signal unit of the 21st Signal Regiment deployed a *TLB-50 IP* satellite system, which enabled coverage to be provided during exercises *Brilliant Jump* and *Iron Wolf*, ensuring smooth implementation of command decisions.

José Luis Expósito

The OLF led and coordinated the deployment and withdrawal of the force



The RQ-4D Phoenix unmanned aircraft provides ISR (Intelligence, Surveillance and Reconnaissance) capabilities.

The watchful eyes of THE PHOENIX

Twenty Spanish service members are part of the Allied Ground Surveillance (AGS) Force

AMONG its more than 500 service members from 25 nations, NATO's elite unit for ground surveillance, the so-called AGS (Allied Ground Surveillance) force, has about twenty Spanish soldiers from the three service branches working in all the areas of the unit, whose star feature is the *RQ-4D Phoenix* unmanned aircraft. This figure will rise to 33 over the next two years, making Spain the fourth largest

country in terms of staff contribution, with 5 percent, behind the United States, Germany and Italy. As the fourth nation, Spain has the privilege of holding one of the unit's leading positions, specifically that of Support Wing Commander, who commands 40 percent of the Force and is responsible for the staff and logistic resources that are necessary for sustaining the aircraft and the systems complementing them. This post is currently held by Air Force

Colonel Juan Carlos Raimundo, who emphasizes that Spanish personnel "hold positions of responsibility and enjoy great prestige in the Force because of their training, willingness and expertise". Colonel Raimundo adds that, for Spain, participating in this project means, on the one hand, demonstrating once again its commitment to the Alliance and, on the other, becoming visible in such a strategic capability as the AGS, which

The system, consisting of five aircraft, operates from Sigonella air base in Sicily

consists of producing intelligence data based on the ground data captured by the Phoenix. Manufactured by Northrop Grumman and based on the U.S. Air Force *Global Hawk*, NATO's unmanned aircraft provides advanced range and airborne performance and is equipped with a powerful radar sensor providing a vast quantity of optimal quality data. The Force took delivery of the fifth and final aircraft at its Naval Air Station Sigonella in Sicily on 12 November, marking a new milestone in the Allied programme.

Actually, the importance of the Allied Ground Surveillance (AGS) Force lies precisely in the fact that it has become an organic capability of the Atlantic Alliance in the field of ISR (Intelligence, Surveillance and Reconnaissance) since, until its establishment, NATO depended on the willingness of its member states to provide data collection assets and share their intelligence reports. The AGS system thus complements the AWACS (Airborne Warning and Control System), responsible for monitoring and controlling movements in the airspace.

Furthermore, the AGS system provides the Alliance —and member states requiring it— with great mission versatility. Due to its characteristics and design, it can stay airborne for long periods of time observing and monitoring movements on the ground, and is flexible enough to easily move from place to place, as required at any given time. All this, together with the capacity to analyse real time information, enables this Force to act in support of all decision-making levels, whether strategic, operational or tactical. It can also be employed in military operations and in support of crises, emergencies or natural disasters.

FLYING SQUADRON

The AGS force, besides being a combined unit —with members from

different nations— is also a joint force, since it is made up of military members from all three services. In the case of Spain, of the 20 men and women in uniform stationed at Sigonella, 17 are from the Spanish Air Force, two from the Navy and one from the Army, distributed among the main areas of the Force: flights, communications, ISR, expeditionary capability and sustainment.

Sections of the Force, such as flight safety, tactics and training.

The main mission of the sensor operators is to operate the radar of the unmanned aircraft, but they also have other tasks in the different Sections of the unit. "Pilot and operator make up a close-knit team that has to be perfectly coordinated and synchronised for the success of the mission", says sensor operator, Air Force Sergeant Manuel



Major Álvaro García (pilot) and Sergeant Manuel Campanario (sensor operator) form a perfectly coordinated team for the success of the mission.

The so-called Flying Squadron (FLS) not only comprises pilots but also sensor operators. The Spanish workforce is made up of four pilots — three from the Air Force and one from the Navy— as well as two operators from the Air Force. "We are ready to operate the *RQ-4D Phoenix* at the appropriate level in any of the missions assigned to the unit", says Major Álvaro García, an Air Force fighter pilot and one of the FLS pilots. He also has other tasks related to the different

Campanario. He also adds that there is a continuous conversation in the cockpit between the two of them, in particular in the data collection phase. "The pilot must inform the operator of every turn, every change in flight parameters so that the latter can calculate and operate the radar properly; and, vice versa, the sensor operator must coordinate the data collection plan with the pilot so that the latter can optimize the aircraft's route", explains Sergeant Campanario.



EMAD

Air Force Master Sergeant Jonás Matías works in the Deployment Section, responsible for supporting military operations on the ground.

are, their origin and their destination; and an NCO in the INTEL Cell, in charge of producing the most detailed intelligence reports.

Pre-training for all of them is mainly focused on intelligence, either as imagery analysts or radar operators. “Since there are members from 25 different NATO nations, basic personnel training is very diverse and, thus, the challenge is to benefit from all that knowledge and expertise to form working teams that use the same procedures”, says Navy Master Sergeant María Teresa Acal, a specialist in Tactical Systems.

For Army Staff Sergeant Daniel Castrillo, a specialist in intelligence and security, the other major challenge is that most countries represented in the Force (including Spain) do not have an organic GMTI capability in their Armed Forces, “so virtually the first year of their assignment in the unit is devoted to ongoing aircraft training, in particular in ISR capabilities”.

EXPEDITIONARY CAPABILITY

The AGS Force offers the possibility of projecting the necessary elements to the area of operations in order to

In order to carry out their missions, pilots and sensor operators must attain the *Mission Ready* qualification, which is achieved after having successfully completed —at the unit itself and within approximately six months— two courses: the *Initial Qualification Training* and the *Mission Qualification Training*.

As far as pilots are concerned, their key challenge is to fly an aircraft from a ground station on highly automated missions and with a crew comprising the sensor operator, analysts, communication technicians, etc. In exchange, pilots and operators gain valuable experience in ISR and get the chance to fly a remotely piloted aircraft as advanced as the *Phoenix*.

ISR CAPABILITIES

The peculiarity of the AGS Force is that it is the only ISR unit in which data are captured and analysed simultaneously in real time. Moreover, the data captured are based on radar technology instead of electro-optical cameras, enabling to operate without light or cloud limitations and detect moving ground vehicles, or even low altitude flying helicopters, known as a GMTI (Ground Moving Target Indicator) capability.

Spain is represented in the ISR Squadron by two Mission Director officers who take charge

of coordinating the work of all the analysts and intelligence advisors and interact with the aircraft crew; an Imagery Analyst non-commissioned officer (NCO); an officer and an NCO in the Surveillance area (led by the officer), whose mission is to monitor vehicle movements on the ground and analyse their features in an attempt to identify what kind of vehicles they



EMAD

Navy Master Sergeant María Teresa Acal, a specialist in tactical systems, and two servicemen from the multinational unit analyse data received during a mission.

ensure the Processing and Exploitation of information and Dissemination of intelligence, known as the PED process. According to Air Force Major José Antonio Arrieta, head of the Deployment Section, this capability is basically designed to support a military field operation whose headquarters is deployed in a remote area with limited connectivity, and to act as a backup in the event of a cyberattack on the fixed installations of the NAGSF's Main Operating Base, thereby guaranteeing the operational continuity of the Force.

"It is also designed to promote situational awareness in humanitarian crisis environments, facilitating the decision-making process, and to keep information up-to-date almost in real time in the geographical area of a natural disaster", says Major Arrieta.

In order to perform its tasks, the Section has a Permanent Deployment Core, in charge of advising the Force Commander and leading the planning and execution processes required to project PED capabilities, and two systems: the TGGGS (Transportable General Ground System), more permanent and long-lasting, and the MGGGS (Mobile General Ground System), for greater mobility and tactical use.

The Expeditionary Capability of the AGS Force is unique in the world within its category and, once it attains its Full Operational Capability, it will be permanently ready. "At the tactical level, the MGGGS can be fully operational in two hours and the TGGGS in four", says Air Force Master Sergeant Jonás Matías.

COMMUNICATIONS

Air Force Staff Sergeant Alejandro Villalobos is the only Spaniard assigned to the Communications area of the Force. He is currently the Frequency Manager and is responsible for managing the allocation of all the frequencies for the functioning of the five data links with which the platform operates. He is also part of a Network Management team that manages and maintains these data links and inspects and maintains modems, satellite systems and wireless radios.

The Communications area also has other tasks related to satellite antennas as well as computer, cryptographic and avionic equipment.

This NCO remarks that each mission is different and, therefore, difficulties change, requiring a high level of adaptability. "But the most important challenge for us is to ensure reliable, fast and secure communications, without overlooking the great technological challenge of keeping up with the constant developments in this area", he maintains.

level and to cover those areas that exceed its resources, the unit is supported by two NATO agencies: the NATO Communications and Information Agency (NCIA) and the NATO Support and Procurement Agency (NSPA).

This sustainment is "a delicate task", says Staff Sergeant Gallego "due to the very advanced technology that equips the system, both in the aerial platform and in the communications area". She admits, however, that attaining initial qualification for the maintenance of the system



Staff Sergeant Virginia Gallego, an aeroplane mechanic, is part of the Support area and is the only woman performing this task in the AGS force.

SUSTAINMENT AND LOGISTICS

The AGS Force Sustainment area, in addition to Colonel Raimundo's leadership, has a strong Spanish element, comprising communications technicians, supply and logistics personnel, car mechanics and a female aircraft mechanic, Air Force Staff Sergeant Gallego, who is also the only woman performing this task in the Force. She explains that the responsibility for sustaining the entire AGS system lies with the Force itself, which has enough resources to carry out first-level maintenance. For the second

and obtaining the airworthiness certification in European airspace for an unmanned aircraft of the characteristics of the Phoenix, have both presented significant challenges.

The 20 Spanish service members forming part of the AGS Force had no previous experience in a system like this; however, their discipline, professionalism and constant readiness have made the rest of the members of the Force recognize and appreciate their work at Sigonella.

Nuria Fernández

Handovers in operations

Rotations have taken place in various international scenarios

IN recent months, most service members deployed on international missions have returned to Spain upon completion of their tours of duty in those missions and after transferring their tasks to new contingents. They have all been subjected to a specific health protocol entailing preventive quarantine and PCR tests.

The 15th rotation of the EUTM Mali contingent (EUTM Mali XV), mainly composed of members from the Spanish Legion and Marines, returned home after the handover to the 11th Brigade *Extremadura* (photo above), the incoming unit. Just over 300 soldiers will remain in this African country for the next six months as part of the European force to train local troops.

Military personnel who carry out those same tasks in Mogadishu have also been replaced as part of the European Union training mission EUTM Somalia; in Bangui as part of the EUTM RCA mission in the Central African Republic; and in Kabul, Afghanistan, as part of NATO Operation *Resolute Support*.

Over 30 legionnaires from the 2nd Spanish Legion Tercio *Duke of Alba*, based in Ceuta, have travelled to Baghdad to take part in *NATO Mission Iraq* (NMI). The *Toro* task group has also been deployed in this country. This is a helicopter unit that operates from the Al Asad airbase as part of Operation *Inherent Resolve* to fight *Daesh*.

On the other hand, a new rotation of the *Orion* detachment has arrived in Djibouti to continue with the air surveillance missions assigned to Operation *Atalanta*; and in Senegal,

the handover of the *Marfil* detachment has taken place so that its personnel can continue their logistic transport mission in support of France within Operation *Barkhane* to combat terrorism in the Sahel.

In mid-December, a new contingent joined the United Nations mission in Lebanon, mainly made up of members from the 12th Brigade *Guadarrama*. The Transfer of Authority ceremony, at the *Miguel de Cervantes* base in Marjayoun, was presided over by the head of the Force in UNIFIL, Italian Major General Stefano del Col, and was attended by various Lebanese civilian and military authorities. The formation was comprised of different units from some of the countries that make up, together with Spain, the Eastern Sector (Indonesia, India and Nepal).

EMAD



EMAD



EMAD

Adazi military base in Latvia witnessed the Transfer of Authority (TOA) of the Spanish contingent within NATO's *enhanced Forward Presence* (eFP) mission on 14 January. Thus, the troops of the 7th rotation of NATO eFP passed the baton to the contingent of the 1st Brigade *Aragón* (eFP VIII), based in Zaragoza.

Due to pandemic restrictions, the ceremony was held with a short list of attendees. During this event, Lieutenant Colonel Luis María Galvache received the eFP ensign from the Spanish contingent in Latvia to take over the post. *Enhanced Forward Presence* is a multinational defensive mission in which Spain's contribution demonstrates its solidarity and its commitment to collective defence and shared security with our allies.

EU Military Committee

General Claudio Graziano, in Spain



EMAD

On 4 February, Defence Minister Margarita Robles held a working meeting with the Chairman of the European Union Military Committee (CEUMC), General Claudio Graziano, during his official visit to Spain. The following day, he was received with honours at the Defence Staff Headquarters. After signing the Book of Honour, Graziano and Admiral General López Calderón (CHOD) discussed, among other issues, Spain's contribution to European Union missions.

The Chairman of the Military Committee also delivered a lecture to the students of the Armed Forces Staff Course at the CESEDEN, and visited the Operations Command (MOPS) at the Retamares military base in Pozuelo de Alarcón (Madrid), where he was received by its Commander, Lieutenant General Francisco Braco.

There, General Graziano had a first-hand insight of the planning and conduct of all the joint operations of the Spanish Armed Forces and, more specifically, those carried out within the framework of the European Union. Finally, a videoconference was held with the Spanish contingent in EUTM Mali, the *Marfil* detachment (Senegal), the frigate *Reina Sofía* and the *Orion* detachment, the latter two of which are part of the EUNAVFOR *Atalanta* operation to combat piracy in the Horn of Africa.

EUTM-MALI

General Gracia: new head of the mission

SPANISH Brigadier General Fernando Gracia Herréiz took over command of the European Union Training Mission in Mali (EUTM-Mali) on 12 January, taking over from Czech General František Ridzák.

The mission provides the Malian army with military training and advice on chain of command, logistics and human resource management, as well as international humanitarian law. The Spanish General is head of operations of the Eurocorps, the multinational unit that is acting as the mission's headquarters this year. During his speech at the change of command ceremony in Bamako, General Gracia highlighted his firm commitment to "continue working to maintain the links established with the Malian civilian and military authorities". He also pledged to

continue working closely with the Malian Armed Forces "so that they can provide their country with a secure environment that facilitates Mali's prosperity".

The mission was launched in 2013 and is now in its fifth mandate, which runs until May 2024. This new phase is intended to build on what has been achieved over the past eight years to help the Malian Armed Forces improve their military structure and organisation. This includes an increase in capabilities and the possibility to conduct training not only in Mali, but also temporarily in the other G5 Sahel nations (Burkina Faso, Chad, Mauritania and Niger).

At the Council of Ministers on 22 December, Spain approved a total of 530 troops for this mission in 2021.



EMAD

Alexander the Great Award 2020

Spanish officer wins award in Thessalonica

LIEUTENANT Colonel Juan Carlos Moreno Arenas, member of the Spanish contingent at NATO Rapid Deployable Corps-Greece (NRDC-GR) has won the *Alexander the Great Award 2020*.

This annual prize recognizes the superior performance, professional excellence and significant contribution of Staff Officers and Staff Assistants to the mission of NRDC-GR.

The ceremony was held at NRDC facilities in Thessalonica, following the COVID19 protocols. The Spanish officer received the award from Lieutenant General Dimitrios Koukkos, Commander of NRDC-GR.



NRDC-GR

OVERVIEW



NRDC-ESP

LANDCOM Commander

Visits Headquarters in Bétera

AT the end of January, the head of NATO Allied Land Command (LANDCOM), US Lieutenant General Roger L. Cloutier, visited the facilities of the NATO Rapid Deployment Headquarters (HQ NRDC-ESP) in Bétera (Valencia, Spain), which is in the process of being certified, as of 1 January 2022, as NATO's Warfighting Corps Headquarters for high intensity operations. During his visit, he met with Lieutenant General Fernando García-Vaquero, head of HQ NRDC-ESP, who briefed him on the activities of the HQ to conduct these operations, in accordance with Spain's commitment to its allies for the coming year.

STEADFAST LEDA

Both lieutenant generals shared their views on NATO exercise *Steadfast Leda 2021*, which will take place at the end of the year in several countries simultaneously, including Spain, and will serve to evaluate and certify that the Headquarters in Bétera is in a position to assume the planning and conduct of high-intensity operations, while exercising command and control of up to five multinational divisions, with 80,000 troops.

On 28 January, LANDCOM was received by the Army Chief of Staff (JEME), Army General Francisco J. Varela, who hosted a luncheon at *Buenavista* Palace, the Army Headquarters.

Flagship

Frigate *Cristóbal Colón* rejoins SNMG-2

The F-105 frigate *Cristóbal Colón* departed from Ferrol on 13 January to rejoin the Standing NATO Maritime Group 2 (SNMG-2) as flagship after completing its dispersal that began on 18 December, during which time the crew rotated and ship maintenance was carried out.

From June 2020 until 1 July 2021, Spanish Rear Admiral Manuel Aguirre is commanding the group, who embarked, along with his General Staff, first on Frigate *Álvaro de Bazán*, and since 14 November, on the *Cristóbal Colón*.

"During the second half of my Command, the main focus will be to keep the readiness of the Force at its maximum level, to participate in NATO and international exercises and contribute to showing NATO presence and cohesion among Allies and partners through both exercises at sea and diplomatic visits", said Rear Admiral Manuel Aguirre. Currently, the Turkish Navy frigate F-490 *Gaziantep* and the German Navy replenishment ship *Werra* (A-514) are integrated into the allied group. The *Cristóbal Colón* provides high capability for defence and air detection due to its AEGIS combat system and the SPY-1D(V) multifunction radar. Its crew is made up of more than 240 men and women, with an Operational Security Team (Marines), an *SH-60B* helicopter and the Staff of the Commander of the Group.



SNMG-2



EWAD

Allied cyber defence

NATO tests its capabilities in exercise *Cyber Coalition 20*

“A cyber-attack on one ally can affect all of us. That is why strengthening our cyber defences is a priority for the Alliance”, said NATO spokesperson Oana Lungescu summing up the importance of exercise *Cyber Coalition 20*, held from 16 to 20 November to test defence capabilities and coordination with other partners and allies in a high cyber threat scenario.

Led by NATO's Supreme Allied Commander Transformation, the five-day event simulated real-time responses to incidents, such as attempts to breach classified networks, disruption of communications systems in critical infrastructure and espionage through smartphone applications.

The Joint Cyberspace Command (MCCE), responsible for the defence operations related to the Defence Ministry's networks and Information Systems, led the Spanish component in this allied exercise. *Cyber Coalition 20* was conducted from the MCCE facilities at the Retamares joint base, including the activation of the Cyber Defence Command,

Control and Driving Centre (C4D). “Cyber defence is part of collective defence. *Cyber Coalition 20* has proved NATO's ability to adapt and to counter any cyber threat even during a pandemic like COVID-19”, said Commander Robert Buckles (US Navy), Exercise Director.

About 1,000 people from 25 NATO Allied Nations, four partner nations (Finland, Ireland, Sweden and Switzerland) and the European Union (through the European Union Military Staff and Computer Emergency Response Team for the EU) took part in this 13th edition.

Due to COVID-19 precautionary measures, it was the first time that the exercise was executed entirely in a virtual environment and hosted through Estonia's Cyber Security Training Centre (CR14). “We used the COVID-19 situation as an opportunity to exercise virtual teaming and collaboration tools at every classification level, and has given us many lessons learned we can apply in the future”, said NATO Cyber Security Centre Chief Ian West.

OVERVIEW

Operation *Atalanta*

Admiral Eugenio Díaz del Río is the new Commander

During the change of command ceremony held at the Rota Naval Base (Spain) on February 19, major general (Spanish Marine Corps) Antonio Planells Palau handed over the command to Admiral Eugenio Díaz del Río, as Operation Commander of the EU Naval Force-Somalia Operation *Atalanta*.

Since he took command on 1st October 2019, Major General Planells maintained the operational continuity in order to continue EU NAVFOR Somalia's efforts to deter, prevent and repress piracy in the Southern Red Sea, the Gulf of Aden and The Western Indian Ocean and protect World Food Programme aid deliveries to Somalia as well as other vulnerable



ESP-0HQ

vessels in the Area of Operations. He laid the ground for the operations' extension towards 2022 and the adjustments to the new mandate.

Building on the operation's success of suppressing piracy off the coast of Somalia and taking into account the interconnections of maritime crimes, the new mandate increases Operation *Atalanta* ability to contribute to a rule-

based order at sea and to support the implementation of the UN arms embargo on Somalia, thus contributing to the ongoing fight against terrorist networks and its funding streams.

Over the last 13 years, EU NAVFOR Somalia has become an internationally respected part of the broader regional maritime security architecture, working hand-in-hand with national and multinational military and civilian partners to uphold freedom of navigation.

Atalanta assets have contributed to the drastic reduction of piracy in Somalia, the Horn of Africa and Western Indian Ocean. 171 suspected pirates were detained and transferred into African justice systems. This 'legal finish' has proved to be a powerful deterrent and remains one of the most important achievements in the 13 years of operation *Atalanta*.

Today, although pirate attacks may still occur, commercial shipping can transit the region in relative safety, knowing that naval forces are present and able to assist, if necessary.

Contingent in Latvia

Spanish troops take part in exercise *Wolverine Forger*

SPANISH troops deployed to NATO's eFP (enhanced Forward Presence) in Latvia have taken part in the multinational training exercise *Wolverine Forger*, which was conducted from February 15 to 19 in order to verify the level of integration of the capabilities of NATO multinational battalion battle group.

Throughout the coming months, our men and women of Spanish contingent will continue to work together with NATO allies deployed in Latvia to counter any threat over the Baltic.

Once the contingent reached full operational capability, the members of eFP VIII have developed all sort of activities to get used to cold weather and learn how to combat in an environment so different from the one they are used to.

Operating with tracked and wheeled vehicles, conducting live-fire exercises and fighting in forests are routine activities in Spain, but in this part of Europe, if cold weather conditions are underestimated, vehicles stop working, weapons stop firing because they cannot be fueled and a unit can be rendered



SHAPE

inoperative due to freezing and hypothermia. Following all protocols against the COVID-19 pandemic, Spanish eFP troops successfully completed training with temperatures below 20 degrees Celsius and the Latvian forests covered by a blanket of snow.



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THE LOBO takes off

803rd Squadron begins transformation
of its SAR units to the *NH90* multi-purpose helicopter



Two of the five pilots from the Cuatro Vientos unit certified to fly the new Air Force helicopter in front of the first of the aircraft, received last October.

A cold and rainy dawn in Madrid in December. The wet runway of Cuatro Vientos air base returns the inverted image, like a mirror, of the Air Force's first *NH90* Search and Rescue (SAR) helicopter moments before take-off. Its reflection on the pavement bodes well for the crew, eager to test, for another day, the capabilities of the new multi-purpose aircraft designed and built for all-weather operation.

Inside the cockpit, through the sodden glass, the pilots can see the out-of-focus figure of the mechanic giving them take-off instructions. For almost two hours, Captains Antonio and Jesús of the 803rd SAR Squadron will alternate as aircraft commander and deputy commander, flying over the northwest of the autonomous region of Madrid. They will do this by "cloud-poking" in instrument flight over the Torrelodones area and, on reaching the foothills of the mountain range, over the Valmayor reservoir, they will fly at low-altitude and make

tactical approaches in dense fog, as if they were recovering a downed pilot or the members of a special operations team after an incursion into a hostile area.

"Persistent rain, fog, low clouds, ice...". On the way back to the airfield, Captain Jesús counted the inclement weather that affected the training flight. "Thanks to the difficult weather, we were able to meet many of the training requirements", adds Captain Antonio, "with the peace of mind and safety that this aircraft offers", says the officer, who is enthusiastic about the *NH90's* performance. Far from being a setback, adverse weather

conditions for helicopter flying during the last few weeks of last year were a stimulus for the pilots, mechanics, engineers and computer scientists of the 803rd Squadron selected to launch the new Air Force helicopter. The *HD.29* —its military name— will replace the veteran *AS532 Super Puma (HD.21)* which, since the early 1980s, has operated as a hostile environment SAR, medical evacuation (MEDEVAC), hostile environment personnel recovery (PR) and special air operations (SAO) platform.

The entry into service of the *NH90* at the Madrid-based unit —expected in 2022, when the final operational capacity will be reached— will represent "a qualitative leap in the field of rotary wing systems", stated Air Force Chief of Staff Javier Salto on these same pages, a few days after receiving the first aircraft. The 803rd Squadron is already working with two *NH90s*. The first arrived on 14 October and the second on 4 December. In the coming months, Airbus Helicopters will deliver the

The new aircraft is scheduled to enter service in 2022



The NH90 Lobo is a multi-purpose helicopter designed and built to operate in the most extreme weather conditions as it has had the opportunity to demonstrate during its first test flights.

four aircraft that complete the first series of six helicopters, to be followed by a further half-dozen.

CAPACITY BUILDING

“The NH90 is a very considerable improvement over the Super Puma”, agrees Colonel Gonzalo José Martí, head of the 48th Wing, which includes the 803rd Squadron. “It is also a challenge”, says Commander Débora Gómez, head of the unit, “because we are moving from a second-generation helicopter to a fourth-generation helicopter”.

This technological leap entails “a radical change in flight philosophy”, says Captain Gonzalo, which implies “a significant reduction in the workload of

the pilots at the controls of the aircraft, who will now be able to focus more on systems management and execute missions with greater precision”, he adds. The unit is assigned a variety of tasks, all of which require expertise and coordination. Colonel Martí cites, for example, the complicated operation of rescuing a shipwrecked person from the water using the “fourth way”, the four-axis autopilot that keeps the helicopter hovering in flight while the crew’s efforts are concentrated on lifting the victim. It is the critical moment of the rescue and they do it with the modern Goodrich double-hook crane incorporated in the new aircraft.

This capability is in addition to that offered by a powerful panoramic

visible and infrared spectra search camera — “the navigation FLIR, housed under the nose”, says Captain Gonzalo — which is ideal for operating in adverse weather conditions and at night. Another new feature is the anti-icing system “which prevents icing of the engines, centre shaft blades and tail stabiliser”, he adds.

Colonel Martí also lists among the “very considerable” improvements offered by the NH90 its *Fly-by-Wire* navigation system, which replaces manual flight controls; SATCOM satellite communications, which uses the Iridium constellation; and tactical radio, with *Have Quick II* jamming protection and *Saturn* wideband. On the other hand, the new aircraft allows

The arrival of the NH90 brings “a radical change in flight philosophy”, says one of its pilots

the Air Force to interoperate with the Navy, as it incorporates the TACAM system (Tactical Air Navigation System) used by ships, and can also be embarked on the LHD *Juan Carlos I* or on the amphibious assault ships *Castilla* and *Galicia*, thanks to “the folding tail rotor and main rotor blades”, says Captain Gonzalo.

TRAINING AND MATURATION

The five 803rd Squadron pilots who have already been certified to fly the new aircraft are joined by a commander from the Armament and Experimentation Logistics Centre (CLAEX). They all had to pass an advanced transformation phase to the *NH90*, which lasted around four months and took place at the Agoncillo base (La Rioja). It is the headquarters of the Manoeuvre Helicopter Battalion (BHELMA) III of the Spanish Army Airmobile Forces (FAMET), a unit equipped since 2016 with the *NH90 Caiman* and, since mid-October, with its simulator, the *Full Mission Simulator*.

“The decision to adapt to the new aircraft with colleagues on the ground who have real experience operating the machine has been a good decision,” says Captain Gonzalo. Two other captains from Cuatro Vientos are currently training at Agoncillo to complete the initial staff of seven instructors for the new 803rd Squadron aircraft.

At BHELMA III, a seven-week theoretical phase is devoted to studying the tactical use of the helicopter, its avionics, mechanics, performance and emergency procedures. Then, over eleven weeks, there is a practical phase “of 20 hours of day and night flying and 30 in the simulator, divided into two more, one basic and one advanced”, explains Captain Gonzalo.

After passing this “very high experience” training plan in FAMET, the officers are certified with the qualification of mission commanders. The first five are already at Cuatro Vientos, immersed in the so-called “maturation period”. This phase covers six months. “This is the time we have given ourselves to consolidate the knowledge acquired in Agoncillo, to familiarise ourselves with the new sensations the aircraft gives



The flight crew checks navigation system operation before taking off towards the mountains north of Madrid.





In addition to the pilots, the NH90 crew includes two rescuer-shooters (above) and a load supervisor (left, on maintenance).

The 48th Wing unit at Cuatro Vientos will have a staff of seven flight instructors

The new helicopters will allow the Air Force to interoperate with the Navy on board its large ships

us and to be in a position to offer the best training to our colleagues in their transformation to the new machine". Most of these instructors were already *Super Puma* pilots and all have at least five years of "first" (aircraft commander) experience in conducting SAR missions. They are also the best trained and best prepared to implement PR and SAO. "That's what we've gained", concludes captain Gonzalo.

As Colonel Marti explains, it is not only a matter of "releasing" the pilots as instructors, but also of "checking the training plans already drawn up by the army, verifying that they correspond to what we consider to be correct and, furthermore, defining the training plans".

The training plan, adapted to the needs of the Spanish Air Force, "will enable *Super Puma* pilots to fly the new aircraft as mission co-pilots", explains Commander Débora Gómez, while the basic training plan "will enable them to progress up the qualification level in order to finally be able to carry out all the missions entrusted to the Squadron as aircraft commanders", adds the head of the 803rd.

"First, we will take over SAR and MEDEVAC tasks", says Colonel Marti. This will be once the maturation period has been completed, the unit's Initial Operational Capability has been defined, the first *Super Puma* pilots have been converted to the *NH90* and the remaining four helicopters from the first delivery have been received. "After that, probably by the end of 2022, we will also be able to carry out special air operations and personnel recovery operations", concludes the 48th Wing commander.

TRADITIONAL CREW

The minimum manning of the *NH90*, according to its flight manual, is one pilot and one crewman. "In our case, due to the complexity of the type of missions we carry out, we will always fly with two pilots", says Captain Gonzalo. They will be joined, as in the

Super Puma, by two rescuer-shooters, who will be lashed to the roof as a safety measure, because, during flight, they remain standing with their eyes peering out into the void with the aircraft's side doors open. In critical approaches, "we are the helicopter's parking sensors", says Private Sergio Santalices, who has been with the 803rd Squadron for two years and specialises in personnel recovery.

The crew will be completed by a load supervisor who also assumes

duties, such as "reading certain flight parameters to relieve the commander and his second in command of work", he says.

"We are very excited, especially the younger captains, the ones who will have the longest career in the unit", says Colonel Marti. "The *Lobo* is, like the *Super Puma*, a very demanding and exacting machine for the pilot and can give you a lot", adds Captain Gonzalo, the most senior of the seven selected to launch the *NH90*. "We asked *HD.21*



Detail of the new aircraft cockpit during a training flight north of Madrid in mid-December.

the role of crane operator in rescue operations. This professional is also a flight mechanic on the *Super Puma*, but in the *NH90* this speciality is not contemplated, because "in this helicopter engine control is automatic", says Sergeant Marc Flores, who is trained to carry out this task manually on the *Lobo's* propellers, which do allow it.

"Now, the helicopter does everything on its own", he says, although he claims his former role as "third chair" inside the aircraft, in the space between the two pilots, as he did in the *Super Puma*. He now has new

for ten out of ten in capabilities and it always gave us ten back, as in the mission in Afghanistan, from which we were all able to return without any problems thanks to it", he recalls, referring to the Air Force helicopter detachment's more than eight-year deployment in the Asian country. "We will also ask the *NH90* for ten, but it will give us 20 back", he predicts, expressing the unit's desire to return to action as soon as possible in exercises and real missions with the new weapon system.

José Luis Expósito
Photos: Pepe Díaz

The Romanian CHOD, Lieutenant General Petrescu, hands over the certificate to the head of the Spanish detachment.



Bogdan Pantilimon

Hernández Medel. Alongside the pilots, mechanics and armourers from the 11th Fighter Wing, security personnel from the Second Air Deployment Support Squadron (SEADA) travelled to complete the assembly of temporary shelters for the aircraft on the runways of the Romanian base.

Led by the Allied Air Command (AIRCOM) in Ramstein, Germany, the operational control of the mission is the responsibility of the Combined Air Operations Centre at Torrejón (CAOC TJ), Madrid, from where the Alliance's southern flank airspace is monitored.

Spain regularly contributes to a similar NATO mission in the Baltic States. First in 2006 and consecutively since 2015, the Spanish Air Force has conducted seven deployments leading and augmenting NATO's Air Policing mission in Estonia and Lithuania, in this case, under the control of CAOC Uedem (Germany). Also in 2021, from 1 May to 31 August, they are scheduled to patrol the Baltic Sea again from Šiauliai (Lithuania), this time with six *Eurofighters* from the 14th Fighter Wing based in Albacete.

DETERRENCE AND DEFENCE

Across Europe, some 40 NATO air surveillance radars and reporting hubs and about 60 NATO jets are on duty around the clock to serve as a quick-response force for potential incursions into its airspace, which is one of the busiest in the world. Last year, fighter jets from allied states took off more than 400 times to intercept unknown aircraft that defied international flying rules. Nearly 90 percent of these missions involved incursions by Russian aircraft near the Alliance's borders.

When an aircraft does not file a flight plan, fails to transmit a transponder code or does not communicate with air traffic controllers, it is reported to one of NATO's two Combined Air Operations Centres, one in Uedem, Germany, which covers northern Europe, and one in Spain, CAOC Torrejón, which covers the south.

It is the commander of the respective CAOC who decides whether or not to launch a Quick Reaction Alert mission

SURVEILLANCE in the Black Sea

For the first time, Spanish fighter jets join Romanian Air Force in NATO's air policing mission in South-Eastern Europe

SIX *Eurofighters* and 130 service members from the 11th Fighter Wing, based in Morón de la Frontera (Seville), make up the new Air Force detachment at *Mihail Kogalniceanu* Air Base, Romania, near Constanța, on the west coast of the Black Sea. From 1 February, they will patrol alongside the Romanian air force for two months as part of NATO's *Enhanced Air Policing* (EAP) mission. This is the first time that Spain has sent its fighters to the

southeast of NATO's territory to support the Alliance's deterrence and defence measures adopted by the Alliance in 2014, following Russia's annexation of Crimea.

The six *Eurofighters* touched down at the Romanian air base on 25 January. Nine days earlier, an *A400M* transport aircraft had arrived to prepare for the deployment of the so-called *Paznic* (Romanian for watchman) detachment, under the command of Lieutenant Colonel José Enrique

Enhanced air policing mission

Since 2014, NATO nations have been working with the Romanian Air Force to support deterrence and defence measures in the southeast of the allied territory. It is the first time that Spanish aircraft join the Romanian fighter jets.



• COMMAND AND CONTROL

Led by the Allied Air Command (AIRCOM), in Ramstein, the operational control is the responsibility of the Combined Air Operations Centre (CAOC) at Torrejón.



to scramble and intercept the unknown aircraft. Once the allied aircraft receive the signal, they take to the air within minutes to establish visual contact with the intruder. If necessary, they can escort them to a nearby airfield for landing or even out of Alliance airspace.

ENHANCED SECURITY

When Estonia, Latvia and Lithuania, which do not have combat aircraft, joined NATO in 2004, the Allies enhanced their air surveillance capability in the three Baltic states. In 2014, following Russia's annexation of the Crimean peninsula, NATO decided to step up surveillance as a deterrent. Thus, a second air policing presence was established in the Baltic (at Amari Air Base, Estonia). At the same time, in the south, NATO agreed to temporarily enhance the air policing capabilities of Romania and Bulgaria by supplementing them with

detachments from allied states. It is within the framework of this mission that Spanish *Eurofighters* have begun to operate with the Romanian air force, which has *F-16AM/BM* aircraft purchased second-hand from Portugal to replace its aging *Mig-21s*. Previously, the US, Italy, Portugal and the UK conducted temporary deployments in Constanța, and so did Canada in the last quarter of last year.

The Paznic detachment will remain deployed at the Romanian air base for two months

SOLIDARITY

NATO provides air-policing coverage for other Allies in the southern flank who do not have fighter jets of their own. In the Western Balkans region, airspace surveillance in Albania and Montenegro is carried out by Italy's *Eurofighters* and Greece's *F-16s*, while Hungary's *Gripen*s and Italy's *Eurofighters* protect the skies over Slovenia, all under the command of CAOC Torrejón.

Extending air policing coverage to North Macedonia is also being considered.

Furthermore, allies also help to police the skies of Iceland with the regular presence of NATO fighter aircraft at Keflavik air station and, since 2017, there has been a special arrangement for the coverage of Luxembourg's airspace with fighter jets from Belgium and The Netherlands.

Victor Hernandez

Lieutenant General Fernando de la Cruz Caravaca,
CAOC TJ commander

“WE PROVIDE SECURITY AND PROSPERITY”

He stresses that the “clear dedication of staff” and the “high level of teamwork” have allowed that air surveillance missions could be carried out despite the pandemic

ANY suspicious or unidentified aircraft in the skies over southern Europe are monitored 24 hours a day on the CAOC Torrejón (Combined Air Operations Centre Torrejón) monitors. Lieutenant General Fernando de la Cruz Caravaca has been in command of this NATO unit for the past seven months. “In such a large area”, he says, “it is inevitable that incidents will occur and you have to be alert and react appropriately”.

General de la Cruz (born in Albacete in 1959) was in charge of the Canary Islands Air Command when he was appointed to one of the most important posts in the Atlantic Alliance. “The fact that CAOC Torrejón is the only NATO Command Structure operational unit under the command of a member of the Spanish Air Force and, moreover, is located in Spain, encourages me to carry out this role with the greatest dedication and

responsibility, being aware of the trust placed in us by the rest of the countries of southern Europe to defend their airspace, thereby providing security and prosperity”.

— **How is the European population protected from this operations centre?**

—CAOC Torrejón is responsible for the surveillance of the airspace of countries in the southern half of Europe. From the Canary Islands and the Azores to Turkey. It is a vast airspace, some eleven million square kilometres, and the way in which NATO nations within this area of responsibility are protected is by being prepared, qualified and alert to any threat that may come from the air, whether from civilian or military aircraft, reacting before incidents occur so that, if necessary, fighter aircraft are sent to intercept the potential threat before it means a risk to any of the Allied nations, thus

ensuring their security and that of their citizens.

— **What is the average daily number of flights controlled from Torrejón?**

—Obviously daily air movements fluctuate in such a large area, because of the different durations of these movements and because of the different routes they take depending on the many destinations to be monitored. But an idea of the scale of our mission is that, on average, around 6,000 flights are being followed at any one time. However, since the pandemic began, this number has been significantly reduced to around 1,000 flights to be monitored at any time, which has meant approximately three million flights in 2020, compared to six million in 2019.

— **Why was it necessary to improve aerial surveillance in Romania and around the Black Sea?**



“We are vigilant in anticipating any threat that may come from the air, both from civilian and military aircraft”

— In 2014, NATO nations approved a series of Assurance Measures aimed primarily at supporting allied nations in Eastern Europe in response to Russia’s annexation of Crimea. These measures included approving increased means of warning and surveillance of airspace for possible threats in this area of Europe, in what was called *enhanced Air Policing*.

As the Black Sea is one of the NATO country borders with others, such as Russia, which has some air and naval activity in the region, it is one of the areas where NATO decided to implement this type of mission in order to have the necessary means available at all times, depending on potential risks. But, taking advantage of this air reinforcement there, other air activities are also carried out to promote deterrence and defence of the area. This is why NATO is organising *enhanced Air Policing* detachments in Romania and Bulgaria.

—What are the tasks of the Spanish aircraft that have joined this mission?

—The Spanish 11th Wing detachment, with *Eurofighter* aircraft, reinforces air defence in Romania by deploying to the *Mihail Kogalniceanu* base, located to the east, close to the Black Sea. From there they effectively carry out the air surveillance mission alongside Romanian interceptor aircraft. It is certainly a proof to the solidarity among NATO countries. In addition, they conduct training missions with them, thereby fostering integration and interoperability between units from different Alliance countries. Its mission is led by CAOC Torrejón, which is responsible for this mission in southern Europe, as it was for the previous detachments that other countries carried out in Romania and Bulgaria (Canadians, Americans, Italians, Portuguese and British).

—Do these missions take place in other areas of Europe?

—Yes. As in the south, such security measures are also carried out in the Baltic countries and Iceland in northern Europe for the same purpose and with the same procedures. This

[interview]

ensures NATO's presence to guarantee air defence and deterrence activities in areas bordering Europe. In the north, responsibility for missions lies with CAOC Uedem (Germany), including *enhanced Air Policing*.

From an aerial point of view, Spain has been participating in missions in the Baltic countries for years with detachments of the various Air Force combat units there, under the command of CAOC Uedem. Now, it is deploying for the first time in the south, depending on CAOC Torrejón.

—Are there many airspace violations over southern Europe?

—Of course. With so much air traffic and such a large area, it is inevitable that incidents will occur and you have to be alert and react appropriately. They are generally aircraft that deviate from their flight path for no apparent reason or lose communication with civil control.

Logically, when determining whether to launch the alert aircraft closest to the incident, rigorous protocols and procedures are followed to ensure that the security of the nation where the incident occurs is not at risk at any time. To the extent that visual identification may be necessary to confirm whether it is an error or a threat, and to act accordingly with appropriate measures. In today's world, even civilian aircraft can be a major threat, as on 9/11 in New York. Air defence is therefore the last barrier.

On other occasions, civilian and military aircraft in emergency situations have been helped to land safely. But there are also military flights from other countries approaching NATO country airspace that need to be intercepted and forced to change course, preventing them from entering NATO's area of responsibility.

—How do you deal with drones?

—The protocols and procedures are the same; for us, they are aircraft to be watched in case they could pose a threat. We also consider whether they carry weapons, although this is not normally the case. All these vicissitudes are analysed before action



is taken to ensure that the response is proportionate at all times and always aimed at safeguarding the security of the nation where the incident occurs.

—Is it difficult to manage the wide variety of Allied nation fighter aircraft?

—The key is that the procedures are the same for everyone. This is in the nature of NATO; under Allied command, procedures are standardised so that units from one nation can interact with units from another, supported by interoperable command and control equipment that ensures liaison and communications.

It is therefore of the utmost importance that all elements of a country's air defence system are constantly upgraded to the latest NATO standards.

For example, in the case of Spain, command and control centres must be modernised to maintain their effectiveness, not only for surveillance and control at national level, but also to remain aligned with the rest of the allied nations.

Other countries in the region are also modernising their radars and surveillance and control centres, and even the fighters that provide the warning service, in order to achieve efficiency in this service, which guarantees the security of their airspace.

Within the air force, training flights are conducted to practise these procedures so that when operating on real missions, the response is appropriate and everyone involved functions like a well-oiled machine.

For warning missions, training flights are also conducted in which we all participate: the CAOC as the decision-maker and mission command and control as well as the radar centres and fighters of the various countries that are to carry out the mission.

—What functions would the CAOC assume in a crisis situation requiring the launch of air operations?

—In the case of an operation under NATO responsibility, the Joint Force

Air Component (JFAC) in Ramstein (Germany) would be activated, to which the CAOCs and the Deployable Air Command and Control Centre (DACCC), in Italy, must send part of their personnel to form the JFAC together with AIRCOM's own personnel. In this case, CAOC Torrejón should continue with the permanent mission of surveillance of NATO's southern airspace that we have already discussed.

You see, on a day-to-day basis, these same people have to carry out their activities at CAOC Torrejón, but at the same time, they have to keep themselves trained and ready in case they have to join the NATO JFAC.

Additionally, if a minor operation take place within its area of responsibility and not require the formation of NATO JFAC, CAOC Torrejón is prepared and trained to conduct a small operation, forming a small Air Component

Command appropriate to the operation, while maintaining surveillance over the rest of its airspace.

—How many military personnel from allied countries do you have under your command?

—CAOC Torrejón has 190 assigned posts, which are currently distributed among 18 nationalities, with a very different distribution from one country to another. Clearly, most military personnel is from Spain, which is where it is located and therefore the host nation, with a total of 49 assigned posts.

But this is only the staff that assists me in running the missions from CAOC Torrejón. We would have to add the personnel of all the warning and control centres and fighter warning services that the nations in our area of responsibility place under the direct orders of the CAOC to carry out the mission at any time, 24 hours a day.

—How do you prepare those who come here for the diversity of missions assigned to them?

—Each CAOC post is defined by requirements, so nations select the personnel they send to meet those requirements. So everyone who comes is prepared for his or her position.

Once here, they go through a period of job-specific training, working together with the rest of the staff, so that they achieve, in addition to individual qualification, teamwork. After this initial qualification, they participate in various exercises at different levels, which expand their training so that, at the end of the process, they are all qualified and certified to carry out their duties.

—What is your assessment of these first months at the helm of the CAOC?

—I am very satisfied with the high level of professionalism of all staff at

“Rigorous protocols and procedures are followed to safeguard the security of the nation where the incident occurs”

CAOC Torrejón. I am proud to lead this unit. I would like to highlight the high level of teamwork, which despite the pandemic has allowed us to fulfil our permanent missions, provide training for those who have joined us and successfully carry out all the exercises planned for the second half of 2020.

This has been made possible by the security and health measures that have been put in place to adapt to the situation, together with clear staff dedication, showing once again NATO's ability to adapt to the circumstances and be able to fulfil our mission safely.

For this new year we have new challenges to face and for which we are preparing with enthusiasm and hard work, always counting on the excellent support provided by the Spanish Air Force and, in general, on the support provided by Spain as host nation.

**Victor Hernandez
Photos: Hélène Gicquel**

THE NAVY'S future guardian angel

The BAM-IS will be the first Spanish ship to be certified to rescue crews of distressed submarines



Virtual recreation of the future BAM-IS (Underwater Intervention Maritime Action Vessel).

THE first green light has already been given for the new Underwater Intervention Ship (IS) to become a reality by 2024. On 24 November 2020, the Spanish Council of Ministers allowed the Ministry of Finance to authorize the Defence Ministry to make an investment of 183 million euros.

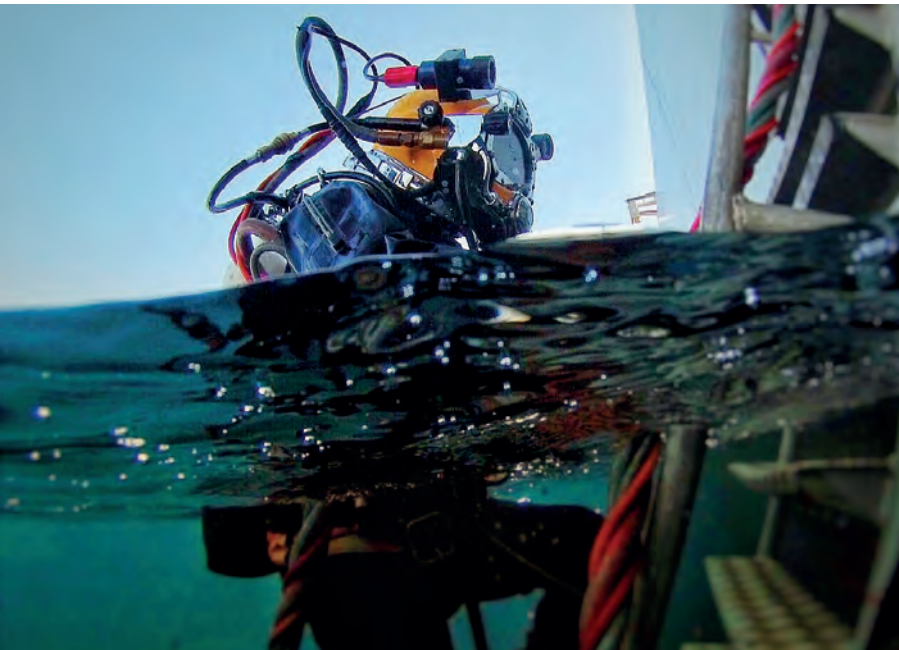
On this occasion, it is not a financial amount to procure a weapons system, but to build and equip the only ship which, upon entry into service, must ensure submarine salvage and rescue capabilities as well as the Navy's underwater interventions. These

include contributing to safeguarding shipwrecks that make up the National Underwater Archaeological Heritage, recovering from the deep sea the remains of aircraft and the bodies of those who lost their lives in accidents at sea, and supporting naval operations to combat piracy and drug trafficking.

This vessel, so far known as the BAM-IS, and which falls within the framework of the Maritime Action Vessel (BAM) programme of the General Directorate for Armament and Materiel, will replace the aging *Neptune A-20*, a ship that has been the guardian angel of Spanish divers for more than three decades.

What will be the name of the BAM-IS? A working group —with the participation of the Institute of Naval History and Culture— that researches names and historical figures related to sustaining human life at sea, will be in charge of making the most suitable proposals for deciding on the ship's name.

The construction of the future vessel will be undertaken by the public shipbuilder Navantia and represents “an enormous qualitative leap”, says Lieutenant Commander David Mínguez, commander of the *Neptune* until two years ago. A specialist in diving technology and a General Staff



The BAM-IS will be certified for rescue operations using mini-submarines, such as NATO's NSRS.

It will have two hyperbaric decompression chambers on board, one more than the *Neptune*.

The developments included in the vessel will improve efficiency and safety at much greater depths.



graduate, he is one of the Navy officers who best knows the capabilities the future ship needs to fulfil the wide range of missions that will be assigned to it. It is no coincidence that since 2008 he has had a direct relationship with the *Neptune* as a diving technician, operations commander and deputy commander, before taking command of this ship in June 2017.

The external appearance of the Spanish Navy's new guardian angel "bears no resemblance to the BAMs", says Lieutenant Commander Mínguez, "except that its conception is also based on a modular design". With a maximum displacement of 5,000 tons,

a length of 84.6 metres and a breadth of 18 metres, this ship is not only much larger than the *Neptune*, but its after deck of at least 500 square metres can accommodate different containers and transportable equipment, impossible in the case of its predecessor.

OPERATING RESCUE SUBMARINES

Such a large surface area makes it easier to create spaces according to the different mission profiles assigned, in particular, for the ever-critical salvage and rescue operations. This is why the main technological developments to be included in the BAM-IS aim at having enhanced capabilities to

include equipment that can improve the efficiency and safety of its activities at much greater depths than is now possible with the *Neptune*, which can descend to 600 metres.

To avoid human activity at great depths or in risky immersions, this vessel will be equipped with two small underwater vehicles that are remotely operated via an umbilical connection. Called a ROV in technical terms, the first one is small-sized and will perform observation tasks as far as 2,000 metres down with the use of cameras. The second one, larger and with a higher performance, is called a "working vehicle" and will be able to descend

The BAM-IS will replace the aging Neptune A-20, in service for more than three decades

to 3,000 metres. Each one will have two articulated arms with different cutting devices. The advantage of these vehicles is that, to keep a submarine crew alive on the seabed at a depth of between 300 and 600 metres, they can both remotely connect ventilation hoses to inject fresh air and extract stale indoor air. The *Neptune* also has two ROVs, but they have less capacity to perform a wide range of tasks.

The ship will also be equipped with a fully automated robotic vehicle similar to the AUV (Autonomous Underwater Vehicle). Shaped like a torpedo and dedicated to performing tracking activities at a minimum depth of 3,000 metres, its on-board computer will be loaded with a software programme to search for and locate the desired objects. The two ROVs and the AUV are complemented by an advanced towed side-scan sonar, which will transmit real-time images to the ship, and by a system attached to the hull based on two echo sounders: one single and one multi-beam.

The ship's second most important mission will be to rescue crews of

distressed submarines that remain on the seabed. In other words, to safely rescue all those who are trapped and isolated hundreds of metres below the water's surface. These are highly complex and high-risk operations, which usually involve the participation of a large naval air task group, often requiring close international coordination.

The major leap forward is that this new vessel will be certified as a "mother ship" to house and use the two main Western manned bathyscaphs capable of conducting submarine rescue operations. They are the US Navy's SRDRS and NATO's NSRS mini-submarines, designed for the extraction and escape of trapped persons as far as 610 metres down.

DYNAMIC POSITIONING

This certification means that the vessel can be equipped with at least one manned bathyscaphe and mini-submarines designed to operate at great depths and resist very high pressures. These special mini-submarines are adapted to "match the damaged

submarine, equalize pressures in both vessels and progressively extract the trapped crew", explains Lieutenant Commander Mínguez.

In fact, rescue operations remain outside the *Neptune*'s scope of action, although it is capable of supporting them. This is due to the very limited dimensions of its deck, which impedes the accommodation of bulky rescue means. It is also limited to a depth of 600 metres.

An important shortcoming of the *Neptune* that will be incorporated into the new ship, and which represents a major technological improvement, will be a dual redundant dynamic positioning system, equipment which must be integrated during the ship's construction phase as it is linked to platform control.

This upgrade means that the BAM-IS will be able to remain automatically stabilised at a fixed point. This is achieved thanks to a sophisticated software loaded into the main on-board computer, hosting a mathematical model, which integrates data from the ship's position sensors and combines them with the effects of the wind, waves, currents and gyrocompasses.

The computer obtains the georeferenced position of the ship in real time and instantly regulates the operation of the propulsion plant and propellers. The result is a force vector that ensures the BAM-IS maintains its position at all times. The main advantage it provides is the capability of conducting operations afloat either when the seabed is too deep for human intervention (90 metres), when there are pipelines or underwater cables or when anchoring is impossible.

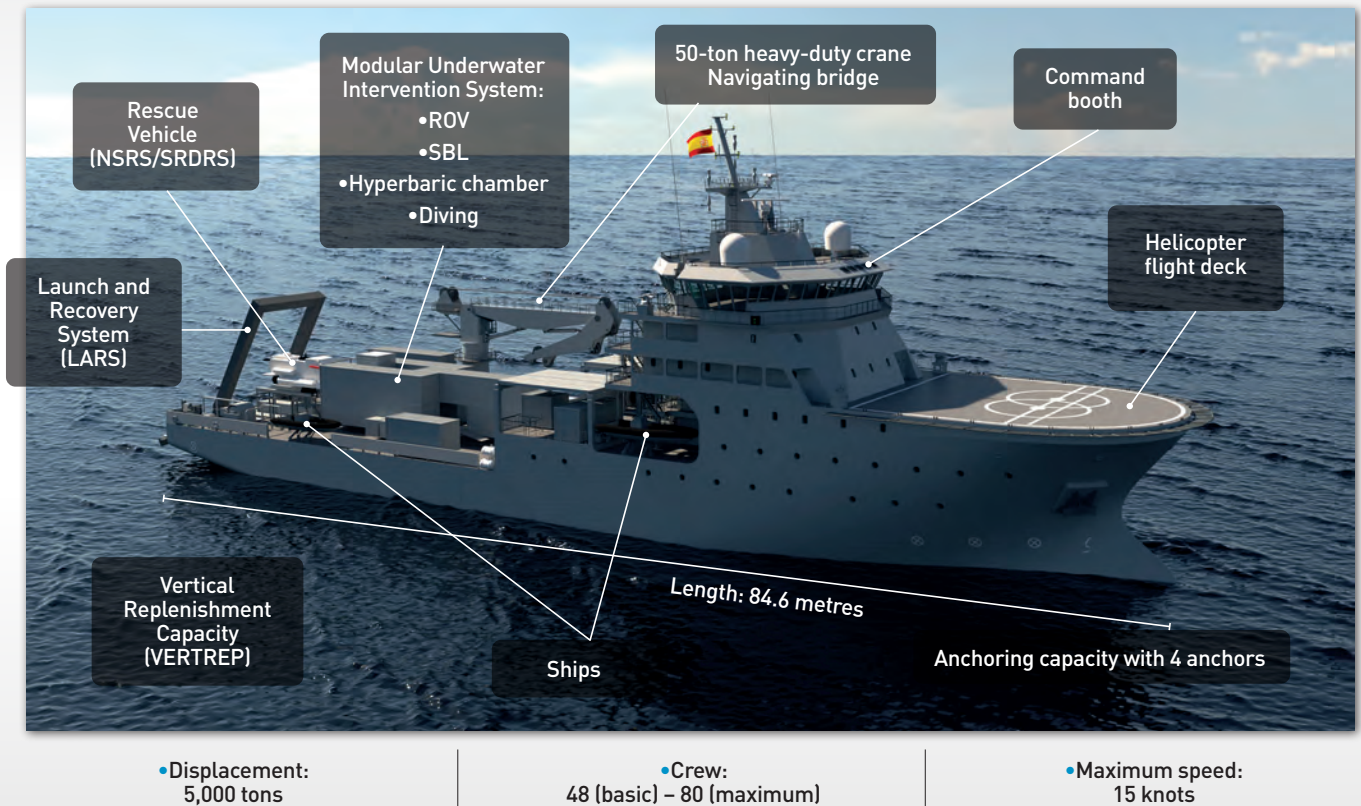
The propulsion plant will feature two axes that will develop the necessary power to reach a minimum sustained speed of 15 knots. Its command and control equipment will have satellite communications fitted with cryptographic systems and cybersecurity technology. It will have a basic 48-strong crew, which can be increased to a total of 80 in the most



Despite its age, the *Neptune A-20* continues to accomplish the missions it was designed for.

Armada

UNDERWATER INTERVENTION MARITIME ACTION VESSEL (BAM-IS)



demanding missions, such as for instance a submarine rescue operation. The *Neptune* has a crew of 52, which is unlikely to increase.

FLOATING BASE

The BAM-IS can also be used as a floating base for underwater interventions, as far as 50 metres down for divers with conventional autonomous equipment or as far as 80 metres down with CRABE-type gas recirculation equipment. Deck dimensions will facilitate the work of divers with surface supply gas, who through flexible hoses can breathe air or heliox, a mixture of helium and oxygen suitable for operations at depths greater than 50 metres.

In terms of additional capabilities, the BAM-IS will feature two hyperbaric decompression chambers on board —unlike the *Neptune* that has only one— and a state-of-the-art wet bell. This is a kind of elevator to submerge one or two divers to working depths of up to

90 metres and bring them back to the surface. Divers travel with the upper third of their body surrounded by an air bubble, providing additional safety.

The foredeck has been adapted for helicopter landings and take-offs, another upgrade that the *Neptune* does not have, and a crane will be installed astern to move loads of up to 50 tons, far more than the five tons that its predecessor can carry. The BAM-IS will be able to house up to three small

boats on its decks to deploy troops capable of conducting underwater operations.

With an autonomy of about 25-days without replenishment, it will be based at the naval dockyard at Cartagena (Murcia), just like the Submarine Flotilla. Next to the shipyard is the small La Algameca naval station, where the *Neptune* is docked, and where the Military Diving School and the Navy Diving Centre are located.

The BAM-IS is the result of an operational need claimed for years by the Spanish Navy. Its initial Staff requirements (REM document) were defined in 2015 and the Chief of Defence agreed that this ship was a high priority. In May this year, the then Secretary of State for Defence, Ángel Olivares, approved the feasibility document (DDV), setting out the potential procurement options and Navantia finally won the construction contract. With the first annual payment of 53.4 million euros included in the

The new Underwater Intervention Ship (IS) will become a reality by 2024

General State Budget for 2021, the building order will be signed and the contract will be awarded to Navantia for the ship's construction at the Cádiz Shipyard, within the framework of the agreement between the Ministry of Defence and the public company.

LAUNCHED IN 1975

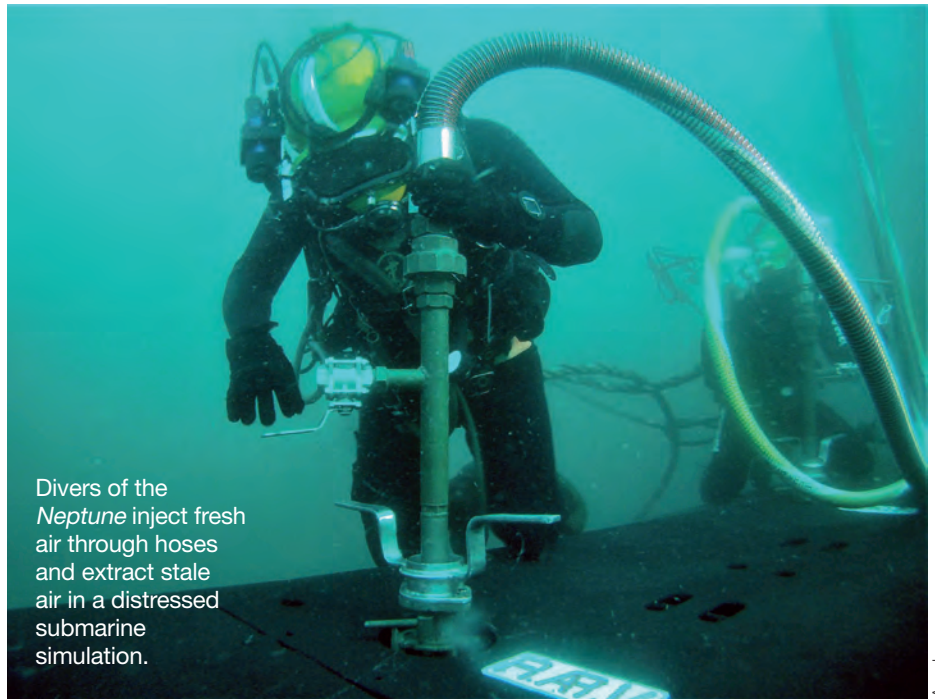
With a construction period of between 36 and 42 months since the signing of the building order, the launching of the BAM-IS is scheduled for the first months of 2024 and entry into service is expected for September of that same year, provided that the intermediate milestones are met.

Since the *Neptune* will soon be decommissioned, it will likely coexist with the BAM-IS for some time. Removal from the Navy's Official List of Vessels is a lengthy process, and in this case it will not be completed until the new ship enters service in four years' time.

The *Neptune A-20* has been in service for 32 years since it was procured, modified and delivered to the Spanish Navy. Its original name was *Amatista* and it was built at the *Duro Felguera* shipyard in Gijón as a deepsea tug. Since the *Neptune's* launching 45 years ago, it remains in service and continues to accomplish the missions for which it was conceived.

At the end of November last year, the vessel located and identified the wreckage of a crashed aircraft which, together with the pilot's body, was sunk at 113 metres in waters close to Castellón, both of which were recovered in a joint operation between the Guardia Civil and SASEMAR.

On 28 February last year, its crew rescued the lifeless body of the pilot of a *C-101* jet aircraft that served in the *Patrulla Águila* (Eagle patrol) and that had crashed the day before in waters of La Manga del Mar Menor (Murcia). In mid-June 2018, the *Neptune* took part in the recovery of the pilot and the *Air Tractor AT-8* aircraft of the



Divers of the *Neptune* inject fresh air through hoses and extract stale air in a distressed submarine simulation.

Armada

Submarine salvage and rescue

AFTER contacting crew members by all possible means of communication, the first step is to bring in fresh air to maintain the right atmosphere inside the submarine. At the same time, stale air must be removed to maintain a balanced pressure and not create overpressure in the mini-submarine.

Rescue teams must also bring in watertight cylindrical containers with life-saving supplies. If necessary, food, medicines, candles to generate oxygen chemically, and escape suits are brought in through the deck hatch. Depending on the depth, these interventions can be carried out by teams of divers or submariners. The final step is the intervention of small submarines specialised in extracting people trapped inside a submarine.

Balearic Institute of Nature, which had crashed on the 12th of that same month in Mediterranean waters, two miles off the coast of Pollensa (Mallorca). An operation involving minehunters located and identified the aircraft 62 metres underwater, after which the divers brought up the body and the remains of the aircraft's structure.

As a veteran Spanish Navy ship, the *Neptune* and one or two submarines conduct the national training exercise *Cartago* on an annual basis. During

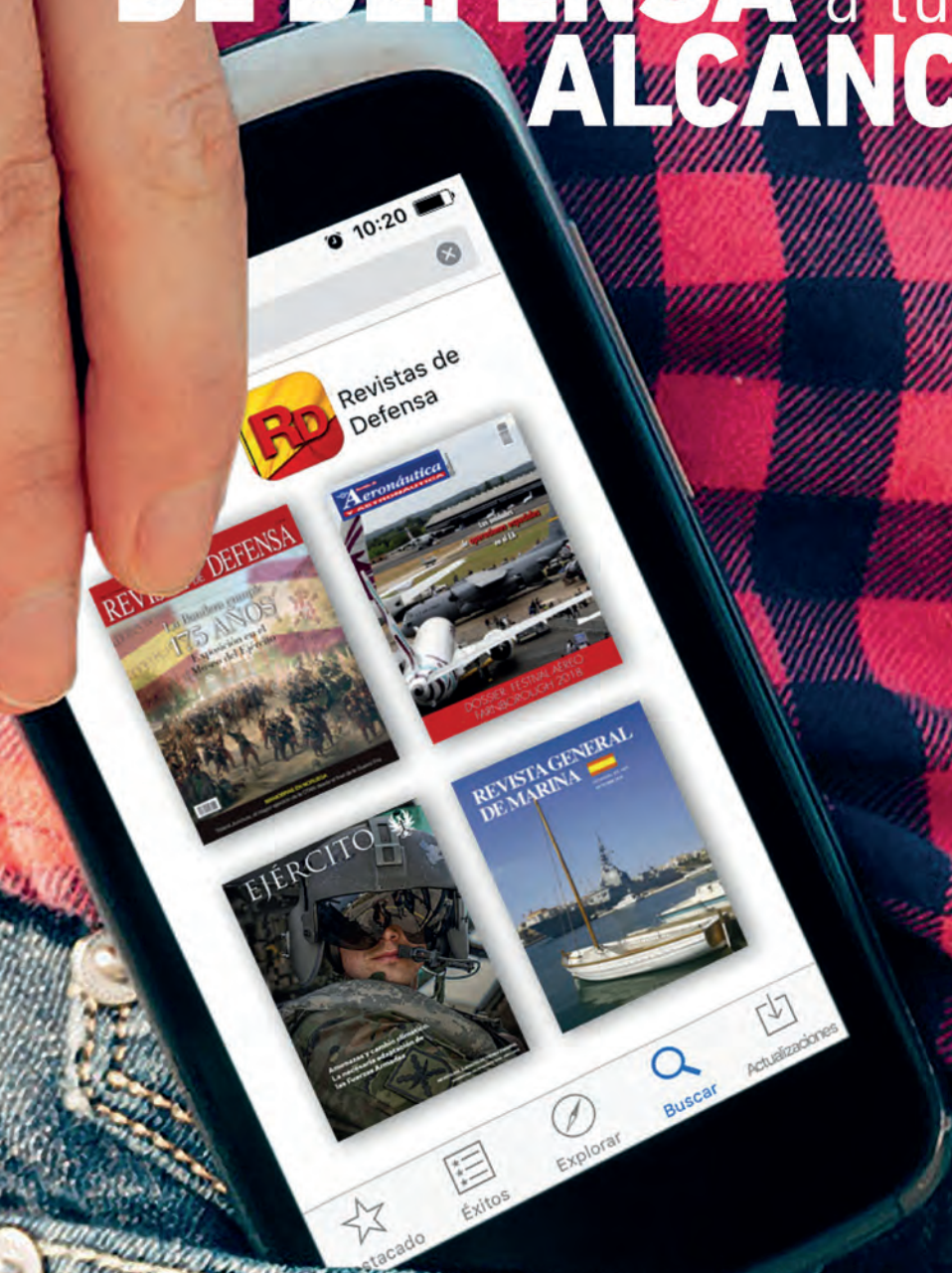
these exercises, all the participants have to prove the operability of human and technological means for safeguarding the lives of submarine crews.

The *Neptune* also takes part in international salvage and rescue exercises of the Atlantic Alliance and the community of NATO and non-NATO countries, which regularly coordinate their training to respond in an expeditious manner to critical submarine situations.

Juan Pons


Technological advances of the BAM-IS will allow it to operate at much greater depths than the Neptune

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A common strategic CULTURE

European Defence Ministers analyse lessons learned and Spain offers to host the first EU Congress on Military Medicine

KEEPING its citizens safe and exporting stability, responding in real time to an unprecedented situation such as the COVID-19 pandemic and, at the same time, ensuring the capabilities and mechanisms that would help maintain and promote a Europe of Defence, are all ambitious objectives. However, Defence Ministers agreed that the European Union has proved capable of taking them on. But now the focus must be on further progress. “We know what we are facing and what is ahead of us. Now we need to put into concrete objectives what needs to be done to respond to the growing threats and challenges that the EU will be facing in the coming decade”, summed up Mr. Josep Borrell, the High Representative of the European Union for Foreign Affairs and Security Policy, after the video conference of EU Defence Ministers held on 20 November 2020. Among other issues, Ministers took note of the threat analysis with the aim of making progress on the Strategic Compass (a project launched by the German Presidency

seeking to unify Member States’ threat perceptions and create a common strategic culture); approved conclusions on Permanent Structured Cooperation (PESCO) in which they assess progress made, define the criteria for the next phase (2021-2025) and set up mechanisms for third country participation; agreed on the progress made in the funding of the European Peace Facility; and discussed how to maximize the lessons learned during

the pandemic for the common good. In this respect, Margarita Robles proposed that Spain, in collaboration with the European External Action Service, host and organize the first EU Congress on Military Medicine in order to ensure a military health link between European countries.

Minister Robles, aware and proud of the crucial role played by the Military Medical Corps in the fight against the coronavirus, stressed that “this role should be extended to the European level”, and recalled that the Spanish Armed Forces continue to be “very involved in this fight, in support of civilian actors, while continuing with all their defence tasks and overseas missions”. For all these reasons, and thanks to the lessons learned, the Minister made other proposals to her EU counterparts: on the one hand, and in order to keep our commitments and ensure the health of the troops deployed, “a protocol model will be presented for the training, deployment and withdrawal of military forces in the COVID-19 environment”, which could also be useful for the Atlantic Alliance.



Defence Minister Margarita Robles highlighted the Armed Forces’ effort to support civilian authorities in the fight against COVID-19.

Rubén Somonte/MDE



Josep Borrell chairs the meeting of the European Foreign and Defence Council in Brussels on 20 November, 2020.

Robles also recalled that, in the field of capabilities, “the pandemic has compelled us to innovate in real time, in close cooperation with the private sector, which offers many opportunities, and work must continue along these lines”. In this regard, she gave the example of the *Attila* robot, an ultraviolet disinfection system used by the Spanish Armed Forces in sensitive facilities, either because they house dependent persons or specific equipment. Finally, the Minister considered paramount that “military healthcare initiatives —led by the German proposal for a European Medical Command— promoted common resilience and were a reference in PESCO projects”.

The need to reinforce European healthcare as much as possible in order to provide a joint and coordinated response to any crisis, emergency or when a country goes through a complicated health situation was described by Robles after a meeting last September with her French counterpart, Florence Parly, and was explained to NATO defence ministers during the Atlantic Council on 22 October. As the Spanish Defence Minister explained, the project, which

is already supported by Germany and other European countries, is built on lessons learned, because “the virus has shown that there is a lack of personnel, which has been overcome thanks to the Armed Forces’ effort and dedication”. Therefore, at the joint press conference held by the Spanish and French Ministers in June, Robles stated that “one of the major pending issues of the Europe of Defence is the need for European military medical corps”, with the required capabilities and professionals. The Spanish Armed Forces currently have just over 3,200 military health workers, distributed between the military hospitals in Madrid and

Robles also proposed a protocol model for the training in the COVID-19 environment

Zaragoza and other facilities such as the Military Pharmacy Centre and the Military Veterinary Centre. Almost all of them, including half a thousand in the reserve, were activated during Operation Balmis, and during the worst moments of the pandemic there were up to 3,154 military medical staff deployed, including students from the Military Medical School.

STRATEGIC COMPASS

The virtual ministerial meeting was also useful to make further progress and meet the deadlines set for defining the content of the Strategic Compass. In particular, the 27 Member States took note of the threat analysis based on contributions made by the intelligence services of the Member States and the European External Action Service (EEAS), which will give rise to a common comprehensive strategy. In other words, the aim is to coordinate perceptions, analyse and assess data and reports, and set common criteria enabling the EU not only to confront threats with strategic autonomy but also to become a stronger international actor. Hence, the first step is to define a common strategic culture, a joint way of looking at the



Several countries are committed to a European healthcare system that can provide a joint and coordinated response to any crisis or emergency.

world with a 360-degree perception, and to determine what the risks are as a basis to counter them together. Also, to define exactly what role the EU wishes to play in security and defence and what capabilities it wishes to have to maintain the momentum and inject coherence into the Europe of Defence. The Spanish Minister stressed that it is time for “our citizens to perceive results and to feel that the European Union is a fundamental actor in ensuring their security and defending their values and interests”, and added that “the magnitude of the challenges we are facing compels us to act together to safeguard our democracies”.

From the outset, after taking over the presidency of the European Union last June, Germany announced that one of the flagships of its presidency would be to consolidate the path towards a true Europe of Defence. To this end, it started an ambitious project —the Strategic Compass— launched in June at an EU Foreign Affairs Ministerial Meeting and agreed upon by the Defence Ministers at an informal meeting held in August in Berlin. The Compass (which is expected to be definitively adopted by the Heads of State and Government at a Council to be held during the French Presidency

in the first half of 2022) will not replace the 2016 Global Strategy developed by the then High Representative for Foreign Policy, Federica Mogherini, which will continue to set the guidelines for EU foreign and security policy, but rather will complement and adapt it to an ever-changing international landscape with increasingly hybrid threats. A fundamental basis for its development is the clear idea that the security and defence policy must be built on a broad consensus and a strong political will to act.

Therefore, the Compass sets objectives, means and deadlines to be met. The first goal was to prepare the threat analysis, which had to be ready

*Ministers
discussed risk
and threat reports
in order to agree
on a common
analysis*

before the end of November 2020. And the deadline has been met. The document submitted to the ministers on 20 November focuses on four kinds of risks and threats: global and regional threats; conflicts in our neighbouring countries; challenges from state actors; and threats from non-state actors.

On this basis, intelligence reports have identified situations worldwide, such as the slowdown in globalization, the growing economic rivalry between powers, climate change, increased competition for resources, migratory pressures and threats against multilateralism. At regional level, they have detected instability, conflicts, fragile states, inter-state tensions, external influences and a destabilizing impact of non-state actors. And as specific threats to Europe, the report concludes that state and non-state actors target the EU using hybrid tools (including disruptive technologies, disinformation and other non-military methods of influence) and the terrorist threat.

After this analysis, it was determined to take the following two steps: the Strategic Dialogue between Member States should be defined in the first half of 2021; and in the second half of the year, the goal is to finalize the

Third states wishing to participate in an individual PESCO project must fulfil a number of common requirements and values

development of the Compass in order for it to be approved and adopted by the European Council. The Strategic Compass will be applied in four interconnected key areas of EU action: missions and operations, resilience, capabilities and means, and relations with other countries.

CAPABILITIES

Another major issue addressed by the Defence Ministers was the Permanent Structured Cooperation (PESCO) Strategic Review and, once this had been defined, they approved some conclusions that assess the progress made and provide guidance for the next phase (2021-2025) on the overall aim, projects, strategic goals and incentives to give PESCO greater political momentum and increase the degree of transparency between Member States.

The review highlights a list of 26 projects that will deliver concrete results or reach full operational capability before the end of 2025 (including Military Mobility, European Medical Command and the Spanish-led Strategic Command and Control for CSDP Missions and Operations).

To date 25 EU Member States have undertaken binding commitments that form the basis of PESCO. There are currently 46 collaborative projects in various areas: training facilities, land formation systems, maritime and air systems, cybersecurity, and enabling joint multiple services or space projects.

Spain participates in 24 projects and ranks third, only behind France and Italy, in terms of the participation of its companies and institutions in projects of military interest financed by the European

Union (EU). In addition to the Command and Control project, it is leading another one on Airborne Electronic Attack.

The Review approved by the ministers asserts that "PESCO is a powerful tool which, acknowledging the single set of forces principle, can make a difference in increasing defence investments, enhancing the joint development of capabilities and improving the availability of deployable and interoperable forces". In this regard, the document approved by the ministers also points out that the objectives set will enable PESCO to "contribute to the fulfilment of the EU's Level of Ambition defined by

Member States in the context of the Strategic Compass". Another new aspect of the Review suggests that it should "explore ways to improve the financing of military missions and operations in the context of the EPF Council Decision, in particular regarding the deployment of EU Battlegroups and, in due course, of the deployment of critical capabilities, based on lessons learned from ongoing missions and operations".

Finally, the conclusions of the PESCO Strategic Review also approve the general conditions under which non-EU countries may exceptionally be invited to participate in individual PESCO projects, and which were defined a few days earlier at the meeting of the EU Military Committee held on 5 November. According to the agreed requirements, non-EU states may be invited to participate if they meet a number of political, substantive and legal conditions. For instance, the country applying for a project must share the values on which the EU is founded, must not contravene the security and defence interests of the EU or its Member States, and must sign an agreement on the exchange of classified information with the EU.

In practice, after a third state submits a request to participate in a specific PESCO project, EU countries will need to agree by unanimity whether the request complies with all conditions and notify the Council and the High Representative accordingly. It is the Council's ultimate responsibility to take the final decision as to whether the participation of the third state in the project meets the necessary conditions.



The Strategic Compass will address four interconnected areas, including EU missions and operations.

Rosa Ruiz



Ricardo Pérez/MDE

The Rector of the UNED, the Minister of Defence and the Chairperson of the *Women for Africa* Foundation open the round table held in Madrid on 23 November.

for Equality and Personnel Social Support of the Ministry of Defence; Alicia Alted Vigil, Director of the *General Gutiérrez Mellado* University Institute; Alicia Cebada Romero, Project Coordinator of the Women for Africa Foundation and Professor at the Carlos III University; Ana Helena Chacón Echevarría, Ambassador of Costa Rica to Spain and former Vice-President of her country; Canadian Lieutenant Colonel Llani Kennealy, UN Liaison Officer at *UN Women*; and Lieutenant Colonel Alvaro Martínez-Villalobos Castillo, Vice-chairman of NATO's Committee on Gender Perspectives (NCGP). The panel was moderated by María Angustias Caracuel, Technical Advisor to the Office of the Defence Undersecretary for Political Affairs (Ministry of Defence), and closed by Clare Hutchinson, Special Representative of NATO's Secretary General for Women, Peace and Security, and Admiral Juan Francisco Martínez Núñez, Defence Undersecretary for Political Affairs.

ACTORS INVOLVED

The Agenda is already very ambitious and deals with very complex challenges, to which COVID-19 must now be added, but, as the Defence Minister insisted, "in no way can we let our guard down on the issue of peace, freedom and security". She recalled that "there are people around the world suffering terrible situations: there are currently 25 declared wars, and more than 70 million refugees —in particular women and girls— who are fleeing from war, violence, hunger, persecution and sexual assault. We cannot remain indifferent to their plight. When people say that we spend too much on defence, they should understand that it is a matter of solidarity, because the men and women of our Military can always be found where there is human suffering, in places as complex and harsh as Mali, Lebanon, Afghanistan or Iraq.

These are places where it is imperative to implement the WPS Agenda. "The only way to build long-lasting peace", said the Defence Minister, "is when there is a direct relation to the real problems of those

“WE CAN'T LET our guard down”

Scholars, activists, politicians and military personnel discuss the future of the Women, Peace and Security Agenda

THERE was absolutely no doubt among participants: the Women, Peace and Security Agenda has changed the perception of women, who are no longer just victims, but also essential agents of peace. This is undeniable; however, it is also true that women and girls continue to be sexually abused in conflicts and that there are very few processes in which women peacebuilders have a real capacity for action. Twenty years after its adoption, Resolution 1325 and the entire legal system that underpins it cannot be allowed to languish. And it was precisely for that reason, to exchange ideas between representatives from the academic, political, institutional and

military worlds and give new impetus to Resolution 1325, that the General Gutiérrez Mellado University Institute, the Women for Africa Foundation and the General Secretariat for Defence Policy organized the round table on *The Future of the Women, Peace and Security Agenda* which was held on 23 November, 2020 in Madrid.

The meeting was jointly opened by Defence Minister Margarita Robles; the Chairperson of the Women for Africa Foundation, María Teresa Fernández de la Vega, and the Rector of the National University of Distance Education, Ricardo Mairal Usón. Participants in the round table included Lieutenant Colonel Mercedes Alba Rodríguez, Head of the Division

Participants highlighted the need for more funding and the appropriateness of linking the Agenda to human rights

countries. And only women have that relationship”. And she insisted that Article 1 of the UN Charter speaks of peace, security and freedom. “This will never be possible without the involvement of women and all of us, in our own spheres, have a responsibility to achieve this”. To this end, the Ministry of Defence is working on two courses of action: on the one hand, to consolidate and increase the presence of women in the Armed Forces — which currently stands at 12.8 percent, “a percentage that gives us hope”, said Robles—, and, on the other, to promote the participation of women in peace missions (currently 266 Spanish service women are deployed in operations, representing 8.4 percent of our troops).

In the same vein, Admiral Martínez Núñez reiterated that the Defence Department remains “fully open to incorporating ideas because our commitment to the WPS Agenda is not going to languish”.

Canadian Air Force officer Liani Kennealy, who is convinced that this 20th anniversary “is a natural time to identify mistakes and look to the future”, admits that there are not enough women in UN contingents (a mere 6 percent in May 2020) and that some policies need to be reviewed. “Mission-specific gender strategies should be much more than just having a woman on the planning team or playing a quota role. They should seek to involve women at all levels of the mission, in different training and coaching roles. They should also play a key role in intelligence gathering and in patrolling in contact with the local population”.

PRIORITIES

Lieutenant Colonel Martínez-Villalobos explained that gender equality and the

defence of women’s rights has been a constant in the Atlantic Alliance since even before the adoption of Resolution 1325, and its implementation is a priority and will continue to be so. Right now”, he added, “we are working on a five-year strategic plan to turn the gender issue into another NATO capability”.

However, the newly appointed Vice-chairman of NATO’s Committee on Gender Perspectives admitted that a recent report to mark the 20th anniversary of the WPS Agenda estimates that, at the current rate, it will be 100 years before women



The UN representative stressed the need to further involve women in all aspects of peace missions.

reach equality in security and defence organizations or positions in Europe and the G20.

Clare Hutchinson said that “greater empowerment and more effective protection of women is not only a benefit for them, but for everyone”.

As a representative of civil society and a fundamental actor in the WPS Agenda, María Teresa Fernández de la Vega stressed the importance of ensuring that peace forces, NGOs and local activists work even closer on the ground: “The problem is that women who are on the ground, where conflicts are taking place, are not being treated as mediators, they are not even called

to the negotiating tables, and although we have tried on many occasions, in practice, that does not happen. And this is something we should be insisting upon”. This idea was also emphasized by Alicia Cebada, who pointed out that, in her opinion, there are two issues that have triggered a certain slowdown and fatigue among those involved in implementing the Agenda: first of all, the lack of funding and, second, the excessive legal load of resolutions that are subsequently very complex to enforce on the ground. The project coordinator of the *Women for Africa* Foundation believes that a good

solution to this stalemate is precisely an idea promoted by Spain: to link the Agenda to human rights, so that “it is at the heart of collective security”.

In this regard, Alicia Cebada placed a premium on the resolution submitted by Spain and approved last November by the UN General Assembly, which acknowledges the disproportionate impact of the pandemic on women, and urges response and recovery policies to specifically address the suffering and the role of women and girls.

In fact, the importance of emphasizing how all

crises, regardless of their nature, disproportionately affect women and girls, was the issue underscored by both the Director of the *General Gutiérrez Mellado* Institute and the Costa Rican Ambassador. They both agreed on the importance of education, training, equal opportunities, and of providing societies with security and development mechanisms that, according to Ana Helena Chacón, “enable girls to be empowered and become women capable of denouncing the abuse perpetrated against them inside and outside their homes and of leading and changing their own societies”.

Rosa Ruiz

The Nuclear Non-Proliferation Treaty has maintained the balance between the powers and promoted bilateral agreements such as the recently extended New START

DISARMAMENT AND NON-PROLIFERATION

on the 50th anniversary of the NPT

Commander Ricardo Valdés Fernández

Division for Security and Defense Studies and Coordination

SINCE its creation, the United Nations (UN) has aspired to work towards multilateral disarmament and limitation of the arms race as necessary elements for peacekeeping and world security. The UN Charter gives the General Assembly powers for disarmament and arms control. The UN's structure includes an office in Geneva, the UNODA (UN Office for Disarmament Affairs), which supports—in addition to other tasks—the Conference on Disarmament.

This Conference is the only multilateral negotiating body for disarmament issues, and is independent from the UN structure, reporting on its progress annually and voluntarily to the General Assembly. It has a fixed agenda—known as the “Decalogue” because of the ten issues to be discussed—and has 65 permanent members structured into four groups (Western Europe, Eastern Europe, Non-Aligned Countries and China). The Conference has managed—not without difficulties and after long negotiations—to advance multilateralism with the approval of various Treaties and Agreements as well as to establish negotiations that have defined the current framework for disarmament and arms control. In the field of nuclear weapons, the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) stands out as the only multilateral agreement representing a binding commitment for the nuclear-weapon States with respect to the goal of disarmament.

Likewise, the Organization for Security and Co-operation in Europe (OSCE) has made parallel efforts to those of the Conference on Disarmament in the field of conventional weapons. It is a multilateral forum for dialogue that works to reach agreements promoting

predictability, transparency and military stability to reduce the risk of a major conflict occurring on European territory. The main agreements reached are the Treaty on Conventional Armed Forces in Europe (CFE), the Vienna Document and the Treaty on Open Skies.

The latter—that of Open Skies—suffered a severe setback when the United States withdrew last year and Russia recently. The withdrawal will be effective in six months once it is officially notified, a process that has already taken place in the American case. This decision leaves European allies with little chance of monitoring Russian activities, mainly on their border. At this stage, the accession of the United States to the Treaty would be difficult because it requires the mandatory process of approval by the Senate, and the current Administration, although it looks favorably on accession, lacks sufficient support.

PREVENTING THE SPREAD

The NPT is a key international treaty that aims to prevent the spread of nuclear weapons and arms technology, promote cooperation in the peaceful use of nuclear energy, and advance the goal of achieving comprehensive and complete nuclear disarmament. Verification of compliance with the Treaty is entrusted to the International Atomic Energy Agency (IAEA) which, without being a party to the Treaty, concludes Global Safeguards Agreements (information and inspection activities carried out with the Member States). Its most important achievements to date are having greatly limited the number of countries with nuclear weapons and having overseen the peaceful use of nuclear energy.

Celebrating the 50th anniversary of the NPT at UN headquarters in March 2020.



Eskinder Debebe/UN

The Treaty defines “Nuclear Weapon States” as those that have tested a nuclear explosive device before 1967 (United States, Russia, France, the United Kingdom and China), and it commits them to disarmament policies, being the multilateral disarmament agreement that has been concluded with the greatest number of accessions. This recognition clause, which allows these five countries to possess nuclear weapons, caused others to question the validity of the agreement and to develop their own nuclear program. The exception to the signatories is constituted by three countries with atomic weapons —Israel, India and Pakistan— that have never signed the agreement, while North Korea withdrew in 2003.

India and Pakistan demand that the international community recognize them as fully-fledged nuclear powers under the Treaty. Israel —not recognized as a Nuclear State because it has not conducted nuclear tests— maintains a policy of neither confirming nor denying the existence of its nuclear program. North Korea justifies its nuclear program by claiming that the United States poses a threat to the survival of the regime.

Iran is a signatory to the Treaty and, through the IAEA, demands that Israel unconditionally adhere to it so that all its nuclear facilities and arsenals may be inspected. Meanwhile, its nuclear program is part of a Joint Comprehensive Plan of Action (JCPOA), approved by the Security Council and supervised by the IAEA (responsible for verifying the peaceful use of its nuclear energy production). The plan was signed between Iran, the P5+1 (the five permanent members of the Council and Germany) and the European Union. Although the United States withdrew

from the agreement, reinstating sanctions on Iran, the new US Administration advocates its reincorporation.

The NPT has been the driving force behind two important bilateral Treaties: INF (Intermediate-Range Nuclear Forces) and New START (Strategic Arms Reduction Treaty). Last year, the INF was suspended, with no possibility of return and under mutual accusations of non-compliance between the United States and Russia. It would be convenient if a new one could be negotiated within the framework of the NPT that would encompass it, as it was a crucial agreement for European security. The New START, which keeps the arsenals of the United States and Russia below their Cold War levels, was set to expire on February 5th, 2021, but the new US Administration decided to extend it to allow more time for future negotiations with Russia. Moscow accepted the proposal and, on February 3rd, the Treaty was extended for five years, this being good news in the area of disarmament and the limitation of nuclear weapons after several years of disappointment.

The Stockholm Initiative, in which Spain participates together with fifteen other countries, aims to promote the NPT through decisive advances in the control and reduction of nuclear weapons. Its main features (known as the six Cs) are: Common ground (generate political support), Compatibility (do not replace other existing initiatives), Composition (different perspectives), Collaboration (inclusive), Concept (action-oriented methodology) and Confidence-building (build trust). Last year, the Initiative countries adopted the Berlin Declaration, containing 22 specific steps (stepping stones) to mobilize the international community in

ANALYSIS

support of the non-proliferation and disarmament architecture. In January of this year, the Initiative countries met at the highest level and approved a roadmap for the coming months. Spain has offered to hold a meeting in Madrid in late spring or early summer to take stock and coordinate the actions to be carried out in the final stretch prior to the NPT Review Conference scheduled for August. At this Conference, the Member States will negotiate new measures contributing to achieving a world without nuclear weapons under an international monitoring regime.

Also last January, on the 22nd, the Treaty on the Prohibition of Nuclear Weapons (TPNW) entered into force. Unlike the NPT, this Treaty does prohibit the signatory countries from developing, producing, buying or using nuclear weapons. However, its entry into force is symbolic since, despite its ratification, the main atomic powers in the world are not signatories of the text. To this must be added that the Atlantic Alliance—with no fault lines

among its member states—opposes the document for four main reasons: it considers that the Treaty lacks any rigorous or clear monitoring mechanism; it has not been signed by any state that has nuclear weapons; it does not reflect the challenges faced by the international security environment; and it threatens to undermine the global non-proliferation and disarmament architecture that upholds the NPT as the only credible path to nuclear disarmament.

THE SPANISH POSITION

Spain has reiterated its commitment to multilateralism, which is one of the pillars of Spanish foreign policy. Our goal, as stated in the National Security Strategy (2017), is to “prevent proliferation, impede terrorists or criminals from gaining access to dangerous substances, and protect the population”. In addition, Spain promotes and strengthens compliance with the commitments,

NOT JUST BOMBS

THREE elements must be considered in nuclear deterrence. In addition to the nuclear warheads themselves, the platforms from which they can be launched are equally important, as well as the vectors—usually missiles—that carry them to their target. In fact, this is one of the American—and, indirectly, Israeli—complaints regarding the Iran nuclear deal (Joint Comprehensive Plan of Action, or JCPOA): we must consider not only the uranium-enrichment capacity and weapons-manufacturing technology, but missiles and their capabilities also should be included among the limitations that are imposed.

Within the platforms, we again find a second triad that increases attackers’ resilience and, therefore, their real possibilities of action. Having the ability to launch one’s missiles from silos on land, from airplanes in flight, or from ships—or, better yet, submarines—ensures the survival of enough warheads against a surprise attack. It is the balance of opportunity between offense and defense that keeps deterrence alive, the fundamental *raison d’être* of nuclear weapons.

This balance was once threatened by the famous “Star Wars” project, which the then-President Reagan threatened to put into orbit to create an impenetrable shield that would render

the Soviet arsenal useless. Other efforts in this regard, this time contemporary, are the *Aegis* combat system or the THAAD (Terminal High Altitude Area Defense) that the United States has deployed, for example, in South Korea.

The response of the attacking party was introduced by high-performance missiles. Hypersonic missiles such as HGVs (Hypersonic Glide Vehicles), or HCMs (Hypersonic Cruise Missiles). Both normally exceed speeds five times the speed of sound. At that speed, these missiles often contribute enormous precision and maneuverability that make them very difficult to detect and intercept.

The great powers have already begun a race to develop these vectors. The Russian Federation has the RS-28 *Sarmat* system in place (also known as *Satan II*), a cruise missile that could host up to 24 HGV-type warheads. The American replica is the *Tactical Boost Glide* (TBG), a vehicle that uses rockets to propel itself to great heights and speeds before gliding to its target. As for hypersonic cruise missiles, Russia has commissioned the *Kinzhal* (Dagger), while the Pentagon has the HAWC. China and other countries are also developing their own hypersonic vectors.



regulations and organization of the international regime for the non-proliferation of weapons of mass destruction. Nuclear activity in Spain is fully subject to international monitoring by EURATOM (European Atomic Energy Commission) and the IAEA (each body conducts its inspections independently).

In the field of disarmament, the goal is to maintain a balance between the military capabilities necessary for national security, based on the principle of legitimate defense, and the creation of a framework of peace and stability in which mutual trust prevails. The principles that inspire Spanish policy on non-proliferation and disarmament are the protection of peace and stability, the promotion of human rights and the creation of the necessary security conditions for the development of people, institutions and States.

Spain has signed and ratified the main non-proliferation and disarmament agreements, and participates actively and constructively in relevant organizations and forums. Specifically: the NPT (as a signatory country, Spain continues to believe in its full validity and enormous potential); the Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or other Gases, and of Bacteriological Methods of Warfare; the Biological and Toxin Weapons Convention (BTWC); the Chemical Weapons Convention (CWC); and the Comprehensive Nuclear-Test-Ban Treaty (CTBT) (signed in 1996 but still pending entry into force).

Spain is also in favor of convening a Conference on the Middle East Weapons of Mass Destruction Free Zone. Regarding the operational initiatives in which our country participates, the Proliferation Security Initiative (PSI) and the Global Initiative to Combat Nuclear Terrorism (GICNT) stand out. Our country also participates in all international conventional disarmament efforts and is party to the core treaties: the Convention on Certain Conventional Weapons (CCW); the Antipersonnel Mine Ban Convention; the Convention on Cluster Munitions; the Treaty on Conventional Armed Forces in Europe (CFE); the Treaty of Open Skies; and the Vienna Document.



EFE

In the Ministry of Defense, and organically located in the Defense Staff Headquarters (EMAD), it is important to highlight the work carried out by the Spanish Monitoring Unit (Unidad de Verificación Española or UVE), created on October 8th, 1991, in view of the need to have a permanent military unit specialized in disarmament and arms control.

CONCLUSION

We only have to look back to ask ourselves what would have happened if the validity of the NPT had not been extended indefinitely since 1995. Having to renegotiate the extensions would have been a very complicated task and not without friction given the differing intentions and approaches. Although it has obvious limitations, the NPT remains today one of the most useful tools to contain the proliferation of nuclear weapons. The upcoming Review Conference in the summer of 2021 will again

generate demands and controversies but, at least, some of the stepping stones of the Berlin Declaration are already partly beginning to be reached, such as the extension of the New START Treaty (this agreement's stepping stone would be fully reached if other countries also acceded).

The world in which disarmament—nuclear or conventional—operates is extremely complex, entailing many difficulties in conducting diplomatic negotiations and many positions with differing political ends. After a few dark years where the crucial agreements between the United States and Russia have been practically broken, a new stage is underway that envisions future negotiations contributing some consensus and generating confidence in the international and especially European community.

Traditionally, Spain has been and continues to be a country with a broad capacity for dialogue, with strong ties with Latin America, the Mediterranean, Africa, the Arab countries and a member of NATO and the EU. To this end, we cooperate in the field of Defense Diplomacy with a wide network of bilateral relations. This situation allows us to be well disposed to generate positive dialogue and contribute to fruitful negotiations in an area as difficult as the non-proliferation of nuclear and conventional weapons. ■

AN ALPHABET that unites us

The armed forces of the 30 countries of the Atlantic Alliance use the same phonetic code to spell words regardless of the language they use

Juan José Crespo Esbert
Lieutenant Colonel of the Signal Corps

NO matter how well trained and cohesive a military force may be, it will always require clear instructions to carry out the necessary manoeuvre at the right time in order to achieve its objectives.

We could go back to the Macedonian phalanxes or the Roman legions to find examples of how orders were given to the armies in the heat of battle. One of the great military leaders who understood the importance of communications was Gonzalo Fernández de Córdoba who, at the beginning of the 16th century, introduced a system of drumbeats to lead his Tercios (Spanish pike and shot infantry unit). That tool of “command and control” over his army was so important for the *Gran Capitán* (Great Captain) that he issued an order prohibiting the wounded fallen during the battle from complaining or screaming in pain, as those cries prevented his troops from hearing the drumbeats clearly. Communications necessarily require clarity.

COMMON PHONETIC ALPHABET

In 1865, 20 countries —including Spain— met in Paris to coordinate at international level various aspects of



The need for clarity in radio messages led to the adoption of the first alphabets for spelling out words.

telegraphy. It was a time when cable transmission was predominant; however the lack of legislation and coordination between countries hindered the development of this new science: cable lines had to cross borders and oceans, requiring common standards and clear objectives.

That first meeting underlined the importance of international regulation and was the genesis of the “International Telecommunications Union”, established that same year with its headquarters in Switzerland.

This organization began to grow, not only in member countries, but above all in terms of standardization

of procedures, initially in telegraphy and subsequently in radiotelegraphy, in line with the progress of this science. In 1920, it took one of its most emblematic and important decisions as evidenced later on: to establish a common phonetic alphabet, a specific and unique way to refer to each letter. This way, when communicating by radio and regardless of the language, there would be no hesitation whatsoever in spelling a name or giving the coordinates of a map.

The work lasted several years until it was decided in 1927 to use names of well-known countries and cities:

Amsterdam, Baltimore, Casablanca, Denmark, Edison, Florida, Gallipoli, Havana, Italy, Jerusalem, Kilogramme, Liverpool, Madagascar, New York, Oslo, Paris, Quebec, Rome, Santiago, Tripoli, Uppsala, Valencia, Washington, Xanthippe, Yokohama, Zurich.

At the end of 1941, when the US was thrown into World War II after the attack on Pearl Harbour, the US Navy and Army established a common phonetic alphabet. Coordination between ships and ground forces —key to landing operations— soon improved with this new shared alphabet, called



OTAN

Able Baker, in reference to the pronunciation of its first two letters:

Able, Baker, Charlie, Dog, Easy, Fox, George, How, Item, Jig, King, Love, Mike, Nan, Oboe, Peter, Queen, Roger, Sugar, Tare, Uncle, Victor, William, X-Ray, Yoke, Zebra.

US allies soon understood that in order to fight together they needed to use the same radio codes. Therefore, in 1943, the Armed Forces of the United Kingdom adopted the American alphabet.

After the Second World War it looked as if the *Able Baker* alphabet was going to be imposed throughout the Western world; however many of the words that defined each letter were difficult for Spanish speakers to pronounce, so another alphabet began to become popular in South America, the *Ana Brazil*, as these were its first two words.

AERONAUTICAL ALPHABET

But soon transoceanic flights commenced, in which South American countries were acquiring more and more weight, so the International Air Transport Agency (IATA) created a new phonetic alphabet, mainly based on the *Able Baker*, but replacing some phonemes by words with sounds in French or Spanish so as to win over more countries. Finally, in 1951, IATA adopted the following phonetic code:

Alfa, Bravo, Coca, Delta, Echo, Foxtrot, Gold, Hotel, India, Juliett, Kilo, Lima, Metro, Nectar, Oscar, Papa, Quebec, Romeo, Sierra, Tango, Union, Victor, Whiskey, Extra, Yankee, Zulu.

At the beginning of the 1950s, there were two more or less consolidated alphabets in their respective fields: the *Able Baker* in the Anglo-Saxon military world and the more global IATA alphabet for commercial flight communications. One of the main reasons for having a single alphabet was to avoid confusion and mistakes. Just like there are explosions on



British soldiers from the *Durham Light Infantry* operate a radio near Bayeux, Normandy, on 11 June 1944.

a battlefield that make it hard to accurately understand words, interference in communications was a constant in the air communications of the 1950s. Moreover, several armed forces that were already starting to use the *Able Baker* were also members of IATA (the US and the UK, to give two clear examples).

This situation was not only incoherent but also dangerous, since confusion could cost lives in military operations and in civilian transport.

NATO STANDARDIZATION

In 1949, the signing of the Washington Treaty led to the founding of the Atlantic Alliance. This organization, then made up of ten allies, immediately understood the need to unify procedures in military operations and the daily running of the Alliance. The Military Standardization Agency was established in 1951 and one of its first

*The NATO
alphabet is used
in all civilian and
military radio
communications*

tasks was to address the unification of the phonetic alphabet.

A study was conducted to try to standardize the two most widespread alphabets (the *Able Baker* and that of the IATA). There were discussions about each and every letter, but the situation came to a standstill in some of them. The ones that gave the most problems were C, M, N, U and X. The “battle for the N” —between *Nectar* and *November*— was the last to be fought and, finally, on 21 February 1956, the NATO phonetic alphabet was adopted and

entered into force on 1 March of that same year:

Alfa, Bravo, Charlie, Delta, Echo, Foxtrot, Golf, Hotel, India, Juliett, Kilo, Lima, Mike, November, Oscar, Papa, Quebec, Romeo, Sierra, Tango, Uniform, Victor, Whiskey, X-Ray, Yankee, Zulu.

Since that day, NATO countries have used this same phonetic alphabet in the civilian and the military spheres. This effort to eliminate the more Anglo-Saxon sounds has also ensured its use by many countries (and many organizations) that are non-NATO members.

The Military Standardization Agency remains in place within the Atlantic Alliance. In military communications, it is necessary not only to define the phonetic alphabet, but also crucial are the programming protocols, the compatibility of the software of the different radios and the use of the same frequency range, shared technology, same language, same procedures and common cyber defence policies.

In 1951, NATO made, and continues to make, an effort to share challenges and solutions. The phonetic alphabet is a clear example of how the Alliance can implement measures in the civilian and military fields that can assist the progress and understanding of all people. With common values and goodwill, it is easy (*Echo, Alfa, Sierra, Yankee*).

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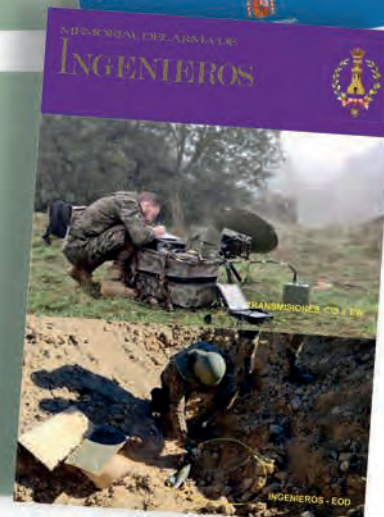
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Mejora la cualificación profesional y la formación del personal militar.

Apoya al personal militar que desee iniciar un proyecto alternativo a la carrera militar o a la trayectoria profesional que esté desempeñando.

Pone a disposición de las empresas y administraciones la experiencia, capacitación y valores del personal militar.

<https://www.defensa.gob.es/sapromil>

Nuestro valor es formar profesionales con talento y compromiso para su futuro.



MUCHO MÁS DE LO QUE CREES



SUBDIRECCIÓN GENERAL DE RECLUTAMIENTO Y ORIENTACIÓN LABORAL

