

# REVISTA ESPAÑOLA DE DEFENSA

**NATO Multinational  
Brigade in Slovakia**

## SPANISH LEADERSHIP ON THE EASTERN FLANK

AIR  
FESTIVAL 25  
40<sup>th</sup> anniversary  
of the Patrulla Águila







REVISTA <sup>ESPAÑOLA</sup> DE DEFENSA

HABLAMOS  
de Defensa

37 años de información de calidad

## A country committed to peace

**S**PAIN continues to make significant strides in modernising and strengthening its deterrence and defence capabilities in order to confront current threats, reduce strategic dependencies and consolidate its industrial sector as a reference in Europe.

A key enabler in this regard is the Spanish Industrial and Technological Plan for Security and Defence, which was presented to both Chambers of Parliament by Minister Margarita Robles in late June 2025. With a budget of over 10 billion euros, it allows Spain to meet the defence investment pledge of 2% of its GDP. This is the percentage Spain needs to provide NATO with the troops, equipment and infrastructure agreed upon in the NATO Capability Targets, and to continue contributing to the protection of Europe's eastern and southern borders.

Increased defence investment does not involve undermining the state welfare policies and is, therefore, compatible with the equally necessary requirement to continue addressing social, economic and environmental challenges. Also noteworthy is the fact that the implementation of the Industrial and Technological Plan will benefit all of Spain's regional governments by creating jobs, opportunities, and businesses. This will be highly beneficial because the new Special Modernisation Programmes alone will create more than 23,000 direct jobs and 60,000 indirect jobs with higher than average levels of qualifications and salaries.

This Plan reaffirms Spain as a constructive force, a responsible actor and a reliable Ally. In addition to having over 4,000 military personnel deployed in missions abroad working for peace, our country is fully integrated into an international security system that focuses on our commitment to NATO, EU and UN Allies, our active leadership in the European Union's security and defence initiatives, and on strengthening our defence diplomacy with some countries, primarily in Africa, with which we have positive bilateral relations.

In recent weeks, Spain, as the lead nation of NATO land forces in Slovakia, has achieved excellence in the Strong Lineage 25 operational activity, carried out under the command of the BRILAT, demonstrating that it can generate, plan and deploy a brigade-size unit capable of taking on the tasks assigned to it. Our Armed Forces have also participated with over 1,400 troops in exercise Defender Europe 25 in Latvia, Greece, and Hungary, where the various NATO nations' capabilities have been pooled and trained under US leadership to ensure the defence of NATO's eastern flank.

This important and supportive contribution to Allied operations, as well as investments to improve our military capabilities, are necessary because, as the Minister of Defence pointed out in Parliament, «Only in this way can we guarantee a future of security, peace and freedom for the next generations of Europeans».

**RED**





#### Managing Editor:

María José Muñoz Estévez.

**Editor in Chief:** Víctor Hernández Martínez.

**Heads of section. International:** Rosa Ruiz Fernández. **Art Director:** Rafael Navarro.

**Opinion:** Santiago Fernández del Vado.

**Culture:** Esther P. Martínez. **Photography:**

Pepe Díaz. **Sections. National:** Elena

Tarilonte. **Armed Forces:** José Luis Expósito

Montero. **Photography and Archive:**

Hélène Gicquel Pasquier. **Layout:** Eduardo

Fernández Salvador. **Featured in this**

**edition:** Eva María Ara, Gabriel Cruz,

Eduardo Matres, José María Millán, Germán

Segura and Amparo Valcarce. **Translators:**

Fuensanta Zaballa Gómez (chief) and

Gráinne Mary Gahan.



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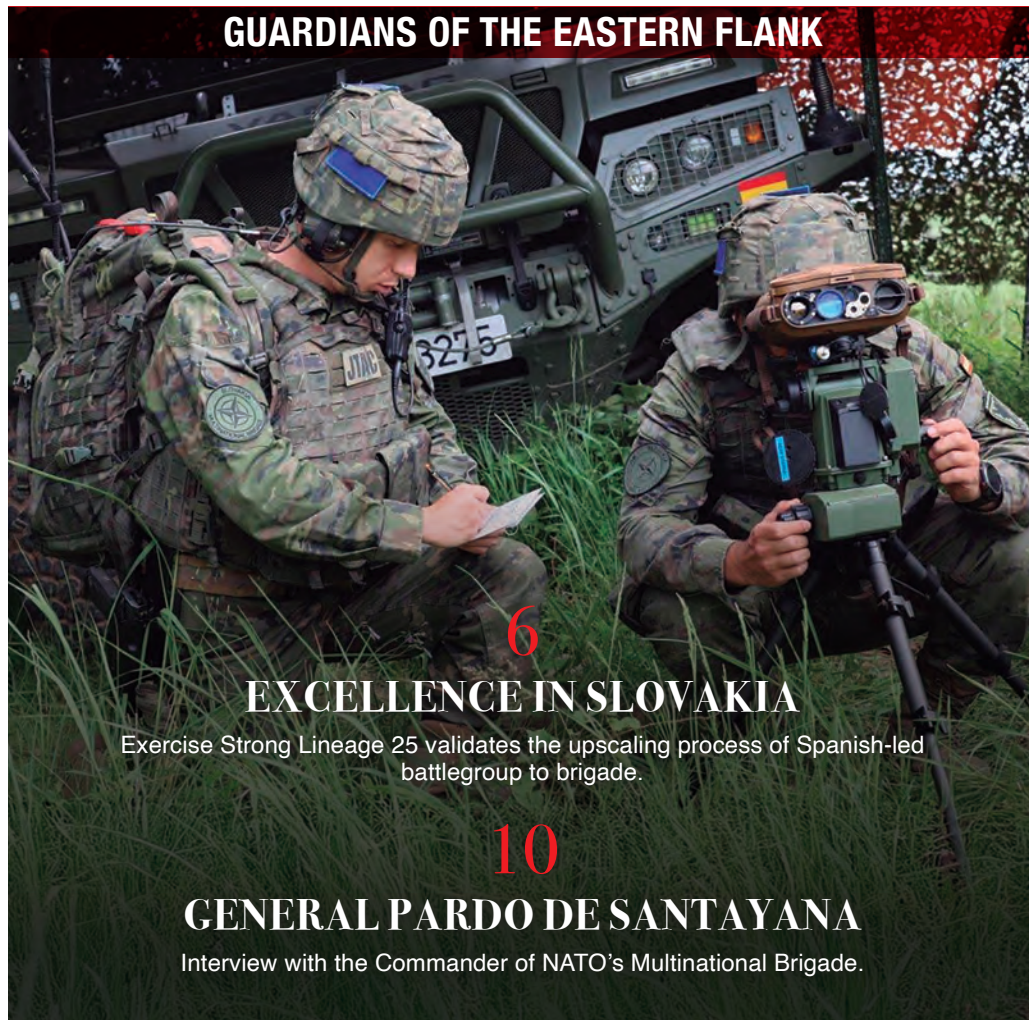
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Exercise Strong Lineage 25 validates the upscaling process of Spanish-led battlegroup to brigade.

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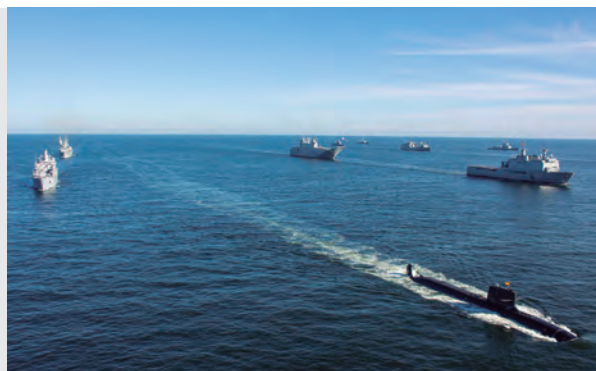
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## ARMED FORCES



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## INTERNATIONAL MISSIONS

# EXCELLENCE in Slovakia

Exercise Strong Lineage 25 validates the upscaling process of Spanish-led battle group to brigade



EWAD

**A**S the lead nation for NATO land forces in Slovakia, Spain has achieved NATO excellence during the Strong Lineage 25 operational activity carried out in Slovakia under the command of the 7th Brigade “Galicia” (BRILAT—airborne light infantry brigade). Spain has demonstrated that it can generate, project and deploy a fully integrated and reliable brigade-size unit capable of taking on the tasks assigned in the defence plans for NATO’s eastern flank.

The implementation of Strong Lineage 25 entailed two distinct phases. First, the integration phase, which required all participating

units to be at Lešť training area by 1 June 2025 for an intensive training programme that ended on 6 June. Second, the verification phase, which verified the battlegroup’s ability to scale up to a brigade-size unit, began immediately afterwards and ended on 9 June with a final report on the excellent results achieved. This phase was conducted by the Capabilities and Force Integration Team (CFIT) and led by the Allied Land Component (LANDCOM).

Verification is defined by NATO standards, which include 580 criteria that evaluate the level of capability, readiness and preparedness of the forces deployed.

These criteria are grouped under different headings, such as command and control—including communications and information systems—, manoeuvre, fire support, air defence, NBC (nuclear, biological and chemical) protection, intelligence, strategic projection, civil-military cooperation, health protection and logistic sustainment capability.

### PREPARATION

As part of a thorough planning process, Strong Lineage 25 started several months earlier by generating the required assets and personnel to enable the battlegroup-size

Strong Lineage 25 demonstrated Spain’s capability to generate, project and deploy a fully integrated and reliable brigade-size unit. Left, members of the NATO evaluation team verifying the unit’s capability to scale up to brigade.







forces permanently stationed in Slovakia to scale up to a brigade-size formation and thus attain NATO validation.

Prior to starting this operational activity, the forces followed an intensive instruction and training programme. On 1 July 2024, Spain assumed the role of framework nation in Slovakia. This involved supplying the majority of combat and support units, and acting as the sole interlocutor with the host nation regarding all of the force's needs. Since then, three battlegroups have successfully passed their NATO Combat Readiness Evaluation (CREVAL), ensuring a solid foundation to scale up the Spanish-led battle

**580 criteria were used to evaluate the capability, readiness and preparedness of the task force**

group permanently stationed in Slovakia to a brigade-size unit.

In order to complete the strategic projection process during Strong Lineage 25, personnel and assets were transported from Spain and the other participating countries (Slovakia, Slovenia, Portugal, the Czech Republic, Romania and Türkiye), at the highest readiness level (0-10 days). Thus, approximately 7,000 tonnes of equipment and materiel (170 vehicles, 60 trailers and 32 containers), 2,000 troops—including nearly 1,500 Spaniards—and 410 combat vehicles were projected to Lešť, as well as the 5 Spanish helicopters operating



## INTERNATIONAL MISSIONS



Handing over of the ensign of Multinational Brigade Slovakia at the HOTO ceremony.

### King Felipe VI visits Spanish troops

**F**OLLOWING the completion of exercise Strong Lineage 25, Felipe VI visited Lešť training area on 11 June 2025. There, after a two-day official visit to Romania and Slovakia to gain first-hand insight into the work of the Spanish troops stationed there, he was briefed on the development of the activity and the different capabilities tested throughout the exercise.

The King arrived at Lešť in a CH47 Chinook helicopter and was received by the President of the Slovak Republic, Peter Pellegrini. Felipe VI attended a presentation on the exercise at the Oremland complex, which is used for training in urban areas. He subsequently visited the Reachback command post facilities and the Shelter building used to receive images from different sensors, as well as other buildings in the training area. The King also visited Tactical Command Post 1 and the Kamení Observatory where he was informed about the live-fire tactical exercise.

The visit came to an end at Camp Riecky's mess hall, where King Felipe met with the Spanish soldiers and told them that he was delighted to have spent the day with them and to see how they performed in high-intensity scenarios. The Head of State described the exercise as "the closest thing to a real scenario" of conflict and thanked them for the support they provided to the Allied countries.

from Malacky air base in Kuchyňa. This is the Slovak air base where the Corps Forward Element (CFE), led by the NATO Rapid Deployable Corps Spain (NRDC\_ESP) in Bétera (Valencia), is located.

This land, sea and air deployment was carried out across several European countries, not only demonstrating the complexity, degree of difficulty in transport coordination and logistical effort required, but also testing the border-crossing procedures between Allied nations.

In the case of Spain, the assets were transported by sea from the Port of Vigo to the Port of Koper (Slovenia), and then crossed three countries until they arrived at Lešť training area. In order to complete the strategic projection, the troops flew from Madrid and Vigo to the area of operations.

Under the direction of the Operations Command, expert personnel from the Army's Land Force headquarters and from every unit involved and taking part in this operational activity participated in the detailed planning that supported the entire logistical effort in terms of projection and deployment, which was necessary to execute Strong Lineage 25.

#### TACTICAL SCENARIO

Although not all of the brigade's capabilities were deployed in this year's edition of Strong Lineage, they were enough to validate the concept. From now on, each contingent will gradually increase its efforts until it is ready to deploy the brigade in 2027 with all its units, materiel and capabilities.

In the integration phase, Spain coordinated the entire planning of the operational activity; unified command and control procedures among all command posts; pooled tactics, techniques and combat procedures under NATO standards; and ensured the interoperability of all the communications systems. This was followed by the central activity of Strong Lineage 25, which was set as a tactical scenario developed to verify the up-scaling process of the battlegroup in Slovakia to a brigade. This stage involved combat, combat support, and medical support units, as well as Spanish Chinook, NH-90 Cayman and Tiger helicopters based in Kuchyňa.

The combat assets of the multinational brigade comprised Leopard 2A6 battle tanks, Centauro combat vehicles, BVP-1 and BVP-2 armoured vehicles, Pandur II and Patria AMVs (armoured modular vehi-





A high mobility tactical vehicle (HMTV) drives around the Lešt training area during the operational activity.

EMAD

## The land, sea and air deployment for Strong Lineage 25 involved crossing several European countries

cles), and ST5 HMTVs (high mobility tactical vehicles) with various weapon and missile systems.

Combat support involved VERT and BPzV reconnaissance vehicles, HMTVs for sappers, explosive ordnance disposal equipment, 105 mm Light Gun howitzers for fire support, electronic warfare and cyber defence systems, Spike missiles for anti-tank defence, Mistral missiles for air defence, Cervus anti-drone systems, and Orbiter and Raven unmanned aerial vehicles.

A ROLE1+ unit was deployed, which was reinforced with personnel and assets with first aid capabilities, specialised first aid, triage, resuscitation, stabilisation and casualty evacuation capabilities.

**Santiago F. del Vado**



Latvia Defence

Troop identification exercise during Strong Lineage 25, which required a wide and complex deployment of materiel, equipment and vehicles from Spain and the other participating countries.



EMAD



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**GENERAL ALFONSO PARDO DE SANTAYANA, COMMANDER OF THE MULTINATIONAL  
BRIGADE IN SLOVAKIA**

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# “OUR GOAL IS TO GROW AS A BRIGADE AND DEMONSTRATE THAT WE ARE READY”

“Time, hard work and dedication” have been essential for the success of Strong  
Lineage 25

**G**ENERAL Alfonso Pardo de Santayana is pleased with the work carried out by the Spanish Armed Forces in Slovakia. In his own words, “We have managed to establish an excellent relationship with the authorities of the host nation and the local population; we have demonstrated our ability to manage the installations at Lešť training area, where we are stationed; and we have made great progress in integrating the different capabilities of the Brigade”.

Born in El Paso (Texas, United States) in 1965 and raised in Cantabria (Spain), the commander of NATO’s Multinational Brigade in Slovakia and the 7th Brigade “Galicia” (BRILAT-airborne light infantry brigade) finds a substantial difference between this mission and the others in which he has participated throughout his career, including Bosnia, Kosovo, Afghanistan and Iraq. “The difference is the purpose”, he explains, “because the goal in those missions was to bring about peace by deploying to an area of operations with a latent conflict. However, this time we are deploying to an Allied nation

that is at peace as proof of our commitment to NATO. Our job is to grow as a brigade in order to send a clear message of capability in the face of any potential aggression and show that we are prepared to meet our commitment to collective defence”.

**—What has been the process so far?**

—In January 2024, Spain started to deploy to Slovakia with the 1st SVK contingent, led by the 29th Regiment “Isabel la Católica”. A great deal has been achieved

**“We can generate  
high-readiness forces  
prepared for rapid  
deployment and  
with the appropriate  
capabilities”**

since then. The Czech Republic was the framework nation when we arrived. However, in July 2024, through diplomacy and hard work, we gradually created the prerequisites for taking on those responsibilities and that crucial role, which comprises coordinating and controlling NATO forces in Slovakia. The Paratroopers Brigade took over in July that year and continued to consolidate this effort. And in December, the BRILAT deployed once more, this time under the command of the 3rd Regiment “Príncipe”.

Each of these task forces has had to complete the difficult and rigorous process of certifying their battlegroups in accordance with NATO’s Combat Readiness Evaluation (CREVAL) standards. Finally, the close coordination between my HQ in Pontevedra (Spain) and the deployed 3rd SVK contingent allowed us to confidently face the verification of the Multinational Brigade during Strong Lineage 25.

**—What results have been achieved in this operation?**





—Time, hard work, and dedication, along with a little help from divine providence are the necessary ingredients for something to go well. And that is what we did to make Strong Lineage 25 a complete success.

Where timing was concerned, it was crucial to get in touch with the Capabilities and Force Integration (CFIT) Team —the verification team of NATO's Land Component Command (LANDCOM)— as soon as possible to learn about the “test” and what

was expected of us. By October 2024, we were already working together.

In terms of verification, it should be noted that many of the 580 criteria are document-based. For example, we had to present in writing which Standard Operating Procedure (SOP) we use in communications management. Therefore, in an initial phase, we progressively submitted all this information for the CFIT to analyse it. At the end of this phase, a report was drafted and then validated by LANDCOM, in which

it was already clear that everything was proceeding smoothly because the fundamental issues had already been resolved. In the meantime, all the capabilities required to overcome this upscaling process to brigade were identified and generated, while deployment was being prepared nearly 3,000 kilometres away.

Finally, we were very strict about the capabilities we had to deploy. Thus, for the first time, assets were deployed to ensure that the Brigade's Air Defence Unit could integrate into the NATO Integrated Air Defence System (NATINAMDS).

The main conclusion is that the result of operations such as Strong Lineage 25, within the new NATO Force Model concept, demonstrates that we can generate high-readiness forces prepared for rapid deployment and with the appropriate capabilities. We have rapidly scaled up from a battlegroup-size unit to a brigade-size formation and changed the concept from “train to prepare” to “deploy to prove”.

#### **—What were the lessons learned from Strong Lineage 25?**

—The first one is that the key to success in this kind of operations lies not so much in force projection, but in the previous planning, preparation and coordination efforts on national territory. Particularly important in this regard is the integration of operational procedures, as it ensures a shared knowledge among all the units generated by the various nations.

The second lesson learned is that the Communications and Information Systems (CIS) structure deployed by the NATO Rapid Deployable Corps (NRDC) Headquarters in Bétera (Spain) has been effective. The Multinational Brigade has been securely and efficiently integrated into the NATO force structure (NFS) under the command of the Multinational Division Centre, with all the necessary command and control tools, which has helped ensure communication with all subordinate units. This is something that few nations can claim.

Third, the NATO New Force Model concept has been successfully tested: we have generated, projected and deployed a brigade-size formation, fully integrated and capable of taking on the tasks that may be assigned to it in the regional plan.

#### **—What difficulties have you encountered in deploying personnel and materiel for this operation?**



—This complex process involves preparing and mobilising the assets, assembling them, loading them onto a ship and sending them to a port, this time in Slovenia. After projecting them to the area of operations, the Reception, Staging and Onward Movement (RSOM) process begins, i.e., receiving these assets and personnel, accommodating them in a suitable facility and sending them to where they are needed.

On 23 May 2025, the assets arrived at the Port of Koper. A team of more than 100 drivers who had flown to Ljubljana took charge of them, driving through three countries to get to Lešć training area. And finally, the rest of the personnel flew to Bratislava to join the operation.

It should be noted that the 7th Brigade “Galicia” has extensive experience in deploying forces to an area of operations, as since the autumn of 2023 we have conducted six operations similar to the one in Slovakia, albeit on a smaller scale.

**—Has the evolution from battle-group to brigade gone according to plan?**

—The upscaling process from battle-group to a brigade-size unit is a prerequisite of NATO’s Regional Plans, since planning is impossible if you do not know what forces you have and this is a critical aspect of NATO’s deterrence concept.

The first challenge we faced during the preparation phase was to understand the “nature” of this operation. This was not a commonly understood exercise or operation, this verification seemed to be “somewhere in between”.

However, our close coordination with LANDCOM HQ allowed us to better understand the effort we were about to undertake. This upscaling process is a real operation in itself, as it is designed to verify that the Brigade can make a strategic movement, deploy and be ready to “fight tonight”.

**—Do you think the Brigade is equipped with all the necessary capabilities to ensure credible deterrence?**

—In order to determine what capabilities were required, we thoroughly examined the assets that had already been deployed and those that needed to be supplemented. Two words were key in this case: sufficiency and integration.

Sufficiency, because there has to be an appropriate range of capabilities to cope with the potential missions assigned; and integration, because it was evident that we needed to focus all of our energy on integrating into NATO’s command and control system, with secure communications at all levels.

Among other things, it was crucial to ensure fire support coordination, a robust intelligence process, integration into the host nation’s air defence system, and adequate logistic capabilities for the endeavour.

As envisaged by the New Force Model concept and as part of our commitment to the Alliance, we have deployed enough of the Brigade’s capabilities in this first edition of Strong Lineage to validate the concept, but not all of them. From now on, in order to be able to deploy the multinational brigade with all its capabilities in 2027, each contingent will gradually step up its efforts.



General Pardo de Santayana accompanies General Christopher Donahue, commander of the Allied Land

**—Has the integration and interoperability of troops from various countries been difficult?**

—We are all North Atlantic Treaty Organization countries, and this means that we all subscribe to a number of common working procedures, so initially we start from a fairly broad common basis. But it is true that we have different assets in all areas, and we therefore need to find ways to work together as effectively as possible.

The key to success is to analyse what we have and to adjust the standard operating procedures (SOPs) so that we all work in the same way.

This is achieved through seminars where we get to know one another and understand what instruction and training activities we need to carry out to ensure a perfect understanding of these procedures and maximum coordination in all activities.





JFCNP

Command (LANDCOM) at Lešť military base.

were invited to an event in June sponsored by this task force. We constantly attend exhibitions, events or sporting activities, and both civilian and military authorities often visit us or request our presence.

**—In order to keep the assets fully operational, a continuous supply and maintenance programme has been required and put in place in coordination with the Spanish Army from our national territory. How is this accomplished?**

—The sustainment chain is very well-oiled. The Operations Division of the Army Headquarters with its two centres —the Army Situational Centre and the Operations Logistic Support Centre—, are in charge of planning, coordinating and controlling the flow of resources to the vanguard. In the area of operations, the task force's Logistic Support Unit focuses on the most immediate or follow-on echelon tasks, while the national support element performs the most complex tasks, and this results in high-readiness capabilities.

**—What possibilities does Lešť training area offer?**

—Extraordinary possibilities. It is an installation that not only belongs to the Slovak Ministry of Defence, but is also used to train different entities, ranging from security forces to civilian emergency elements. Built on a former Soviet base, this centre includes a number of very modern and varied training and instruction facilities. There are all kinds of indoor and outdoor firing ranges used from the training of precision marksmanship to the training of special forces for the assault of aircraft, helicopters or buses. There is a via ferrata (iron path) to practise

mountaineering techniques and even a facility to practise helicopter jumps.

**—How is the coordination with the Spanish Corps Forward Element (CFE) in Kuchyňa working?**

—Great. Due to external constraints, it has been difficult to get started with Kuchyňa's infrastructure. However, the arrival of helicopters in June has opened up extraordinary training opportunities, which also show a rare capability that Spain places at NATO's disposal.

**—In the event of an escalation of tension in the area, what would the Brigade's role be?**

—As soon as the Multinational Brigade in Slovakia gets ready, mobilises and projects, it is transferred to the operational chain at the national level, and to NATO's force structure at the international level. This means that we report to the Multinational Division Centre, which in turn reports to LANDCOM, in this case the NATO Rapid Deployable Corps-Spain Headquarters (HQ NRDC-ESP). In such a situation, we would receive orders in line with the tactical plans of that division, which are always concurrent with NATO's Regional Plan for the area. The tasks could be many and varied because that is the spectrum of operations: from stability and presence operations to high-intensity combat; and we need to be ready for all of them.

**—As the BRILAT continues to lead the force in Slovakia, what remains to be done during the second half of the year?**

—Once the 4th SVK contingent takes over from the 3rd SVK, the new task force must continue to advance in training, and make sure that it operates efficiently integrating all the capabilities and units from Slovakia, Slovenia, Portugal, the Czech Republic, Romania and Spain. The deployed battlegroup will once more need to pass a demanding NATO Combat Readiness Evaluation (CREVAL) to be certified. Furthermore, Spain, as the framework nation, will continue to lead all logistic activities and management efforts, not just of our own units, but of all the other countries stationed at Lešť. And finally, they will have to continue working to create ties with the local population, thus strengthening the necessary cohesion within the Alliance.

**Santiago F. del Vado**

**“In order to be able to deploy the multinational brigade with all its capabilities in 2027, each contingent will gradually step up its efforts”**

**—What does it mean for Spain to provide the majority of the forces deployed, lead the operation, and be the sole interlocutor with the host nation?**

—It is undoubtedly a major effort. Above all, it is necessary to show competence and capability. Competence, by coordinating all the activities and resources in the area of operations, so that all the nations feel they are in good hands; and capability, by putting the assets on the table to demonstrate that this Multinational Brigade is a capable and reliable unit.


**—What is Spain's relationship with the Slovak authorities like?**

—Excellent. We feel very welcome, appreciated and respected. For example, Colonel Jesús Manuel Martínez Victoria, commander of the 3rd SVK contingent, was invited to the main events held by the Slovak Armed Forces. On the other hand, 32 mayors from municipalities close to Lešť



# IMMEDIATE RESPONSE AT SEA

Exercise Dynamic Mariner/Flotex 25 certifies Spain to lead the Maritime Component Command (MCC) of NATO's Allied Reaction Forces (ARF)



**T**HIS tactical exercise was designed to implement the Spanish Navy's capability to exercise Command and Control of a Naval Force far from our coasts in a medium/high intensity scenario. Europe is in the line of fire and several capitals have been attacked with radiological devices. Although the identity of the perpetrators and the manufacturing location of the devices are known, the two Gulf of Guinea nations, where the terrorists have their safe haven, lack sufficient capabilities to combat them. Moreover, some members of their military have abandoned their allegiance to the government and joined the terrorists. In view of this situation, the two nations request support from NATO, which decides to carry out a non-Article 5 operation.

The Allied Joint Force Command (JFC) then deploys its land and air component

commands, while the maritime component ensures that reinforcements arrive and simultaneously prevents terrorists from attacking a large tanker or the auxiliary oiler replenishment (AOR) ships supporting the ground campaign. They also have to intercept potential maritime shipments of radiological devices bound for Europe and hand them over to the national authorities.

This is how exercise Dynamic Mariner/Flotex 25 got underway on 24 March 2025. Manoeuvres lasted until 4 April 2025 and took place in the Gulf of Cadiz and the Alboran Sea. Co-organised by the Spanish Navy and the Allied Maritime Command (MARCOM), this exercise served to certify the Spanish Maritime Forces Headquarters (SPMARFOR) to operate from July 2025 to July 2026 as the Maritime Component Command of NATO's Allied Reaction Force (ARF). It will be the maritime command of this high-readiness force,

ready to respond immediately to any crisis affecting NATO's security. During the same period, the Turkish Amphibious Task Force will assume the role of ARF Commander Amphibious Task Force (CATF) and Commander Landing Force (CLF).

SPMARFOR comes under the Spanish Navy High Readiness Forces (Maritime) Headquarters (CGMAD); a deployable and permanently available Spanish Navy command structure designed to support the commander of a given Operational Naval Force. "It is in Spain's interest to have a headquarters like this, as it is the only one capable of managing the maritime part of a complex campaign", says CGMAD's second-in-command, Rear Admiral Joaquín Ruiz Escagedo. "If Spain had to defend part of its territory on its own, using our forces, we would choose this headquarters to do so, as it can manage all the capabilities required", he adds.



Some of the ships  
participating in the  
exercise in the Gulf of  
Cádiz and the Alboran  
Sea, led by submarine  
*Isaac Peral*.





## ARMED FORCES



Operational Centre, on LPD *Castilla*, from where the movements of all the actors involved in the exercise were coordinated through four main cells: present, future, air and targeting operations.

Dynamic Mariner/Flotex 25 “is one of the largest and most ambitious maritime exercises in recent years, both nationally and internationally”, said Fleet Admiral Eugenio Díaz del Río during the amphibious landing on the beach of the Sierra del Retín training area. “With this exercise”, he added, “Spain proves to be a reliable member of the international security and defence organisations it has joined. Furthermore, the Spanish Navy provides NATO with a deployable command structure, capable of leading the ARF maritime component”.

“Dynamic Mariner is not just an exercise”, said MARCOM Deputy Commander, Vice Admiral Didier Malaterre, “it is a clear demonstration of NATO’s capability to operate as a unified force, integrating cut-

ting-edge technology, multinational naval assets and joint operational planning. In an increasingly complex and ever-changing security environment, our ability to work together is still our greatest strength, demonstrating that we are ready and determined to react to any crisis”.

The exercise involved 5,000 troops from nine Allied countries (Germany, Croatia, Spain, the US, France, Greece, Italy, Portugal and Türkiye), one aircraft carrier — *Juan Carlos I*—, three auxiliary oiler replenishment (AOR) ships — *Patiño*, *Cantabria* and the Turkish *Gungor Durmus*—, and several frigates: five Spanish — *Victoria*, *Numancia*, *Canarias*, *Álvaro de Bazán* and *Almirante Juan de Borbón*—, three Turkish — *Kemal Reis*, *Orucreis* and *Ga-*

*ziantep*—, one German — *Bayern*— and one Portuguese — *Francisco de Almeida*—. Several ships joined them, including amphibious assault ships *Galicia* and *Castilla*; Turkish amphibious landing ships *Sancaktar* and *Bayraktar*; offshore patrol vessels *Vigía* (P-73) and *Furor* (P-46), Spanish minehunters *Segura*, *Tambre* and *Duero*, Turkish minehunter *Ayvalik* and Italian minehunter *Numana*.

Two submarines also played an important role: *Galerna* (S-71); and the Navy’s most modern submarine, *Isaac Peral* (S-81), the first of the S-80 class series, commissioned in November 2023, which made its debut in this international exercise. “Initial feedback on its performance has been quite positive”, says CGMAD

**The exercise involved 5,000 soldiers, 30 ships, two submarines, amphibious units and air assets from nine Allied countries**



commander, Vice Admiral Juan Bautista Pérez Puig, “However, in order to determine whether the decisions made and the actions taken were the right ones, we will need to wait for the subsequent analysis carried out after every exercise”.

In addition to the assets provided by the Spanish Air and Space Force (F-18 fighter jets and Eurofighters), the Spanish Army (electronic warfare equipment and personnel from the 31st Signal Regiment and the 4th Coastal Artillery Regiment), the Joint Cyberspace Command, and the National Institute for Aerospace Technology (INTA), other assets involved in the exercise included US, Portuguese, and French maritime patrol aircraft; Spanish, Turkish, and US helicopters; Predator and Scan Eagle UAVs; aircraft from the Aircraft Flotilla; and electronic warfare equipment.

#### ON-BOARD HEADQUARTERS

Anti-submarine warfare, anti-terrorist, conventional warfare at sea, anti-aircraft, personnel recovery, mine countermeasures, anti-piracy, and supply drills were among the 169 exercises conducted over



From LPD *Castilla*'s navigating bridge, the crew track the movements of a frigate monitoring a ship hijacked by pirates.

the course of twelve days. They were all controlled from the SPMARFOR deployable Headquarters, made up of some 160 people and aboard LPD *Castilla*, which acted as the flagship. “We went from low to high intensity operations”, explains Vice Admiral Pérez Puig. MARCOM was in charge of planning the exercise, “so we didn’t know in advance the problems we would have to face. The whole story line is designed to be trained in the decisions to be made in each situation”. Decisions based on the information provided by the various branches of the Headquarters — personnel, intelligence, operations, planning, logistics, exercises and communications—. “The admiral must be fully aware of what we’re doing, but not of the specifics

of how we are carrying it out”, says the head of the information warfare cell, an area that encompasses actions such as cooperation with the civilian merchant community, CIMIC, the cyber operations cell, electronic warfare and space.

This Headquarters is called CGMAD for Spain and when Spain provides it to NATO it is called SPMARFOR. Rear Admiral Ruiz Escagedoto explains that the ARF reports to SACEUR, which does not

have an operational headquarters, something that is crucial in the event of war. However, having a permanent structure of this kind is highly costly. Countries are now aware of the need to have a Headquarters capable of managing an entire component command, in this case the maritime component command, which is clearly not going to go to war every day, but needs to be trained on a daily basis to be able to do its job when the time comes.

In the Operational Centre, aboard LPD *Castilla*, activity is frenetic among the components of the four cells into which it is divided: present, future (those that will take place in 72 hours’ time), air and targeting operations. “The Spanish Navy’s targeting capability lies exclusively with this Headquarters”,



LPD *Galicia* and LHD *Juan Carlos I* pass by the bow of LPD *Castilla*, where the embarked Headquarters is located.





Armada

A Spanish-Turkish landing force takes the beaches of the Sierra del Retín training area to assault four enemy positions supported by aircraft, helicopters and minehunters, which have swept the coast before insertion.

points out Navy Lieutenant Gonzalo Vallespín, CGMAD's Public Affairs Officer.

"The joint command assigns to each of the actors of the exercise the targets we need to fight and the assets we are going to need", explains the Headquarters Chief Operations Officer, Commander Miguel Perales. "From the Operational Centre, we oversee that everyone does what they have to do and are where they are supposed to be", he explains. And it's not easy; the naval force is huge and there are many operations taking place simultaneously. For example, at a given time, they have to direct a ship-to-shore movement of the Turkish amphibious force. Up to 500 service personnel and amphibious assault vehicles are disembarking and reembarking, and the frigates must defend them against potential ship or submarine attacks. Previously, minehunters have already swept the coast.

This part of the exercise was carried out on the Retín beach. The objective was to neutralise a terrorist cell. First, the

Harriers of the Aircraft Flotilla made an air support pass so that the reconnaissance teams could then insert themselves and carry out the terminal guidance of the ships arriving on the beach. "The plan was to assault some tents where the enemy was believed to be", says the commander of amphibious operations, Major Fernando Caballero. The Spanish and Turkish marines carried out this operation simultaneously, and two high mobility tactical

**169 exercises were conducted under the control of the international deployable Headquarters**

vehicles (HMTVs) with Spike anti-tank systems covered their withdrawal. "Effective coordination between the naval party from the ship and the marines in the main theatre is crucial for these landings to proceed smoothly", he adds.

This was not the only operation of this kind during Dynamic Mariner/Flotex 25. An amphibious raid was conducted at Rota naval base where reconnaissance teams took up positions the previous night awaiting a major assault by 500 soldiers who disembarked in LCMs and helicopters. The Operational Centre was planning other amphibious assaults during this time, such as the one in which a special operations team was to emerge covertly from submarine Galerna to apprehend a dangerous terrorist and hand him over to the local authorities. In another assault, on Torregorda beach, several soldiers descended from helicopters to retrieve electronic warfare equipment.

At the same time, two incidents took place: a ship was hijacked by pirates and



## ARMED FORCES

had to be tracked by a frigate in case rescue efforts were needed. Meanwhile, in one of the countries that had requested NATO assistance, a merchant ship left port with radioactive material on board. “We performed a night heliborne assault to intercept and recover the cargo”, confirmed the chief operations officer.

### PLANNING

Before the Operations branch started to lead the exercise, the Headquarters Planning branch was the one in charge of designing it. “And, during the execution of the operation, we also analysed how it was being carried out and whether it was going according to plan. If there were any deviations from the plan, we informed them that they were not on the right path and we replanned”, explained the head of the Planning branch, Lt. Col. José María Eraso.

Integrating both exercises, Dynamic Mariner and Flotex 25, was not easy: “We always say that the plan cannot withstand more than one day of combat. After that, we have to rectify it. Operations have to be redirected to adjust to the circumstances and achieve the objective”. “Even though it is an exercise, we are always in the process of learning. We’re not facing real enemies, but it’s as if we were in combat”.

Another Headquarters branch is Logistics, which is responsible for ensuring that the Force has everything it needs, both in an exercise and in a real mission. In order



The Logistics branch of the Headquarters is in charge of ensuring that the Force is supplied with everything it needs to be operational, both in this exercise and in real missions.

to achieve this, it takes into account the sustainability of the units of each of the participating countries, the mutual support they can offer, the support that the nations can provide in the theatre of operations, and the procurement of supplies from regional suppliers.

“If we each brought everything we needed, we would have to use auxiliary ships to transport part of the supplies, as the available space on board is limited”,

adds the head of this branch, Commander Carlos Aragón. During Dynamic Mariner/ Flotex 25, 30 supply drills were carried out, both of fuel —5,000 tonnes— and of heavy cargoes, as well as 114 personnel movements between land and ship.

As for next year, according to Commander Aragón, the first step after taking over the ARF’s maritime component command will be to gain an insight into “the profile of our mission”.

“Our radius of action, distribution of supplies, fuel, spare parts, ammunition, and fortification materiel if the Marines need it... Everything will be conditioned by what we have to do”. The situation in the theatre of operations is also a determining factor. “We study the most suitable locations to bring in the necessary materiel, which would be sent to us from national territory via strategic transport”.

Given the Spanish Navy’s own expeditionary capability, the support of a host nation is not essential. “Unlike other armed forces, which do need it, we are already prepared when we arrive”, concludes the head of the Logistics branch. This is one of the great advantages of the Spanish Navy, its high degree of responsiveness. It takes us very little time to reach full operational capability on a mission, and the time spent in the area can be unlimited.

**Elena Tarilonte**  
**Photos: Pepe Díaz**



The Combat Information Centre keeps track of and processes all data received through various channels in order to give the mission commander the best information possible when deciding an action.



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**VICE ADMIRAL JUAN BAUTISTA PÉREZ PUIG. COMMANDER OF THE SPANISH HIGH READINESS FORCES (MARITIME) HEADQUARTERS (SPMARFOR)**

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# “EVERYTHING WE HAVE IS AT NATO’S DISPOSAL”

SPMARFOR is set to lead the maritime component of the Allied Reaction Force (ARF) in 2026

**A**BOARD LPD *Castilla* —the flagship for exercise Dynamic Mariner/Flotex 25—, Vice Admiral Juan Bautista Pérez Puig emphasises the importance of Spain having a High Readiness Forces (Maritime) Headquarters, and, more importantly, of putting this HQ —Spanish Maritime Forces Headquarters (SPMARFOR)— at NATO’s service to enable Allied maritime forces to effectively respond to emerging security challenges. These exercises have served to certify this HQ as the next ARF maritime component command. “This is one of the few opportunities we have to get feedback from a non-Spanish evaluation team with experience in similar exercises to determine whether we are doing things right or how we can improve”, he says.

**—Why is Dynamic Mariner/Flotex important?**

—The purpose of this exercise is to bring NATO forces together and allow Allied Headquarters to train together, which is quite complicated. There are several ways to do it. One is in a simulated manner, with CPX exercises that allow us to work in what we do: planning. However, we do not have ships, aircraft, men or women. In order for NATO to certify that a Headquarters is capable of dealing with a real crisis, it needs to be sure that it meets

a number of requirements: ships with enough command and control capability, a minimum amount of personnel to cope with a particular operation, knowledge of the different areas and capabilities to carry out a mission, and so on. This first part is easy to verify, but after that we need to work with real situations, and that is precisely what we are doing now with this exercise to assure NATO that we can implement all it has verified and that we can accomplish the mission it is going to assign to us.

**—Does that require a large amount of forces?**

—Yes, and that’s expensive. What NATO usually does with exercises Mariner is to link with exercises from different countries so that the combined efforts of the Allied and national forces result in an

exercise as complex as this one, which requires the participation of numerous countries and forces. It has taken us two years to complete the lengthy planning process, but it is really the only tool NATO has in order to know what to rely on in the event of a crisis.

That is why this type of exercise is so important. At the national level, we carry out Flotex every year, but its scope is far from that of Mariner’s, because in the case of the latter we add that Allied part that enables us to be the ARF maritime component command.

**—Does this Headquarters have its own forces?**

—No. This HQ doesn’t have ships, but when it has to go somewhere, it draws upon its area of expertise, which is crisis management and combat, rather than logistics and personnel. And then, the Joint Force Commander (JFC) informs us of what capabilities we need to carry out the mission and places them at our disposal. He has already made sure that every ship is operating at full capacity, that all crews are complete, and that a support system is in place in case we need anything. There are 156 individuals at this Headquarters; if we had to manage every single breakdown of a ship, we would need 300 people and we would be distracted from our primary mission.

**“These exercises allow us to test our capabilities and see how well we can handle a medium- or high-intensity crisis”**





**—What are Spain and NATO pursuing with these exercises?**

—Spain and the Spanish Navy do not often get the chance to organise exercises of such complexity, which allow us to test our capabilities and see how well we can handle a medium- or high-intensity crisis, if necessary. And also to deter, which is in fact NATO's main tool. If we are unable to demonstrate to our opponents that we have this capability or if they do not perceive it, there is simply no deterrence. Hence the importance of using real forces, so that the enemy watching us can be certain that, if we say we are coming,

we are, and that we have the capability to do so. On the other hand, there are some capabilities in which Flotex cannot provide training or practice.

That is why the Spanish Navy is committed to participating in these types of exercises, as we get a magnificent return from them.

**—What kind of forces does NATO need from its member countries?**

—The Alliance needs countries to build powerful and credible armed forces with deterrence capability to contribute to the objectives of the North Atlantic Trea-

ty, i.e. for all Allied members to defend the country under attack. NATO needs this kind of reaction force, and nations need to contribute to Allied plans. It is not just a question of having the money or resources to build powerful armed forces. It is about making those armed forces available to NATO. Some Allies invest a lot of money in defence but do not put everything they invest in at NATO's disposal, while Spain does the opposite. Everything we have is placed at NATO's disposal. Moreover, not many countries have made maritime or land headquarters available to NATO (only six).

CGMAD/SPMARFOR requires capabilities that are very hard to achieve, not only financially but also in terms of personnel training. Not all Allies have this availability and not all of them are so generous. We only have one High Readiness Forces (Maritime) Headquarters and we have made it available to NATO to turn that defence and deterrence posture into a reality. We want the adversary to realise that NATO, and not just Spain as an isolated country, has capabilities that could cause issues if brought into play. That is why it is important for us to offer such command and control units. Without them, neither regional nor derived plans could be implemented.

**—What would the activation process be like in a crisis?**

—The ARF is a very high readiness force. If there is a crisis and the North Atlantic Council determines that it is necessary to act as NATO, the military authorities will present a variety of options, including the use of the ARF. If it decides to use it, the Supreme Allied Commander Europe (SACEUR) will activate the ARF and, we would have to be capable of producing the mission's effects within 10 days.

During the year that SPMARFOR will be serving as the ARF maritime component command, personnel will not be able to travel to Japan, for example, because they would not have time to return, nor will any scheduled ship maintenance lasting more than five days take place. Precautions have already been made by the Spanish Navy to prevent this from happening and to maintain ships at the highest level of readiness.

**Elena Tarilonte**  
**Photo: Pepe Díaz**



# Rapid projection on the eastern flank

Spanish Army contributes to exercise Defender Europe 25 by deploying 1,400 troops to Latvia, Greece and Hungary



Spanish paratroopers jumping from an A400M over the Latvian training area.

**S**INCE 11 May 2025, more than 25,000 troops from 29 Allied and partner nations have gathered together in exercise Defender Europe 25. This is the US Army's largest annual training opportunity on European soil and is taking place in 18 host nations across Europe. Running until the end of June, this sixth Defender series, led by the US Army Europe and Africa (USAREUR-AF), seeks to test how quickly and effectively US troops can deploy to defend the eastern flank with NATO Allies and partners.

Defender Europe consists of three exercises: Swift Response, Immediate Response and Saber Guardian. The Spanish Armed Forces have been involved in all three of them with more than 1,400 troops and some 200 vehicles deployed in Latvia, Greece and Hungary. A major effort has been required to synchronise the strategic projection by air and sea of personnel and materiel to these three countries' operational bases.

## SWIFT RESPONSE

For the first time, the 6th Paratrooper Brigade (BRIPAC in Spanish) "Almogávares" has led a multinational Joint Forcible Entry (JFE) element abroad. This took place in Latvia, as part of exercise Swift Response 25, the first of the three exercises that make up Defender Europe 25. Led by the US 82nd Airborne Division, some 600 Spanish and American paratroopers jointly planned the airborne operation that was conducted on 15 May 2025 with the aim of quickly positioning themselves on the ground and initiating their land tactical training.

It all started two days earlier when members of the BRIPAC's Forward Reconnaissance Company (CRAV in Spanish) performed a high-altitude jump from a Spanish A400M aircraft and initiated the insertion into the two drop zones near the towns of Daugavpils and Skrunda. They were joined by a team from the Spanish Air Force's Air Deployment Support Squadron (EADA in Spanish), which reconnoitred an unprepared landing zone and assessed its viability.

The rest of the force, around 500 troops, departed from Torrejón air base (Madrid) and, after a four-hour flight, arrived at Riga international airport. About 20





Hellenic Army

A Pizarro Infantry Fighting Vehicle from the 12th Brigade "Guadarrama" at Petrochori training area (Greece) in a combined arms live-fire drill with French, Greek and US forces during exercise Immediate Response.

kilometres away, the logistics unit set up the intermediate support base in the town of Salaspils, where the units were assisted and started to get ready to load personnel and materiel onto two A400M aircraft for airdropping in the two aforementioned zones. "This jump was very special. Latvia is a theatre of operations and, therefore, it is not the same as doing it in Germany or Italy. That is why this parachute raid was a new milestone for us", said Lance Corporal Daniel Rodríguez Paris, from the BRIPAC's communications office.

In addition to the troops, some twenty light vehicles were airdropped, as well as, for the first time, four L-116 Light Gun field artillery pieces. According to Lt. Col. Juan Martínez Pontijas, commander of the 4th Field Artillery Group, this airdrop "has demonstrated that we can quickly deploy

a fire support unit capable of supporting an airborne task group in its manoeuvre, which significantly increases the combat power of the joint forcible entry force". Our Allies have seen that we are capable of projecting combat power. Following the

**The objective is to enhance the interoperability and rapid response capabilities of Allied forces**

air raid, the tactical exercise on Latvian soil began, which lasted until 19 June 2025 in the Mazaine and Adazi training areas. The maintenance unit fine-tuned the tactical assets that were going to be used, and prepared the forward logistics train, in which a US platoon was integrated.

During this phase, a Brigade Headquarters and two airborne task groups with support units were deployed and conducted live-fire exercises. The sapper unit strength provided the capability to react against and manage explosive threats, support the advance of the troops, and built obstacles to consolidate and defend key objectives.

The Spanish company-size task force deployed in Latvia under NATO's multinational brigade, which was led by Canada, and to which Spain contributed more than



## ARMED FORCES

600 troops —primarily from the 10th Brigade “Guzmán el Bueno”—, acted as the opposing force. Furthermore, the deployment took place at the same time as exercise Crystal Arrow, the Latvian forces’ primary exercise, which was being conducted at Adazi with the contribution of the aforementioned multinational brigade.

In addition to the BRI-PAC-led air assault in Latvia, four other airdrops were carried out almost simultaneously in northern and eastern European Union theatres —Finland, Norway, Lithuania and Sweden—, which involved the participation of more than 6,000 soldiers from 14 Allied and partner nations. “This operation shows we have the speed,



Air, land and maritime assets, such as A-06 Ysabel, have been used to transport troops and materiel.

strength, and unity to deploy our forces wherever they are needed and that, together, we are better”, said US Colonel Joshua Gaspard, commander of the 173rd Airborne Brigade.

### IMMEDIATE RESPONSE

The second phase of exercise Defender Europe 25, Immediate Response, started after Swift Response, and took place in Albania, Bulgaria, Croatia, Greece, Kosovo, Montenegro, North Macedonia, and Slovakia from 26 May to 9 June 2025.

In this case, in addition to demonstrating ground deployment capabilities, the main goal was to reinforce cyber security, while continuing with the combined live-fire training of mechanised units and explosive ordnance disposal drills. This exercise also tested the response to an NBC (nuclear, biological and chemical) threat by recreating a decontamination operation.

Spain deployed different units in Greece, mostly from the 10th Brigade



Getis Indevics

Spain led the airborne operation in Latvia, which was carried out along with US forces. In addition to the troops, some 20 light vehicles were airdropped, as well as, for the first time, four field artillery pieces.



Latvia Defence



Latvia Defence





## DEFENDER EUROPE 2025

→ **3** EXERCISES

→ **25.000** TROOPS FROM 29 ALLIED AND PARTNER NATIONS

→ **1.400** SPAIN'S TROOPS

→ **18** HOST NATIONS

### SWIFT RESPONSE

(11-31 May)

➤ **Participation:** 6,000 troops from 14 countries. Five airdrops in Finland, Norway, Sweden, Latvia and Lithuania to reinforce NATO's rapid deployment capabilities.

🇪🇸 **Spain:** 650 troops, two A400M aircraft and 20 vehicles in Latvia.

### IMMEDIATE RESPONSE

(26 May - 9 June)

➤ **Participation:** 12,000 troops from 19 countries.

Training in ground deployment capabilities, reinforcement of cyber security and combined live-fire training events.

🇪🇸 **Spain:** 240 troops and 55 vehicles deployed in Greece.

### SABER GUARDIAN

(9 - 24 June)

➤ **Participation:** 10,000 troops from 6 countries.

River crossings to demonstrate the ability to move troops and equipment rapidly through challenging terrain and artillery fire support coordination exercise.

🇪🇸 **Spain:** 460 troops and 135 vehicles in Hungary.

“Guadarrama” and the Manoeuvre Support Command: a mechanised company-sized task force, an explosive ordnance disposal platoon, a logistics unit and an NBC reconnaissance team. The exercise involved some 240 troops and 55 tactical vehicles. Personnel and materiel were deployed both by air and by sea, in this case aboard the Army's logistic transport ship A-06 Ysabel.

The explosive ordnance disposal teams practised with the US battalion, while the NBC units —integrated into a French squadron— demonstrated their capabilities in joint sessions and conducted reconnaissance tasks.

The first tactical exercise focused on crossing the Nestos River and the advance towards enemy positions. This was followed by the most demanding phase of the exercise: a coordinated attack at Petrochori training area, in which units from different

countries were integrated into the multinational structure.

### SABER GUARDIAN

Troops were concentrated in the Black Sea region for exercise Saber Guardian 25, which took place from 9 to 24 June 2025. A total of 10,000 soldiers participated in this



Spanish explosive ordnance disposal teams deployed in Greece train with the US battalion.

operation, moving around Germany, Hungary and Romania. The main purpose of this exercise was to enhance the command and control capability of NATO's land component and improve coordination among Allied and partner forces in a dynamic operational environment. During this final phase of exercise Defender Europe, activities included convoys, river crossings, and artillery live-fire events.

Spain —integrated in a Hungarian division— contributed 460 troops and 135 vehicles from the Legion's Brigade, which deployed a tactical headquarters and a battle-group made up of a unit from the 11th Cavalry Regiment “España” and support personnel from the 1st Signal Regiment. A complex logistic operation began in mid-May, which involved transporting materiel by sea aboard A-06 Ysabel from Spain to Zadar (Croatia) and then by land to Hungary. Personnel travelled by air.

**Víctor Hernández**



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## ARMED FORCES

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The *Patrulla Águila* performs its last exhibition flight over the wooden jetty of the Santiago de la Rivera Thermal Spa.



# AIR FESTIVAL 25

The *Patrulla Águila* celebrates its 40<sup>th</sup> anniversary at San Javier air base

**T**HE *Patrulla Águila* ended where it began. On 15 June 2025, with all the C-101 aircraft taking off and landing together at the Air and Space Force Academy at San Javier Air Base, this aerobatic unit of the Spanish Air and Space Force retired, exactly 40 years and 11 days after it first took to the skies on 4 July 1985, flying over the Mar Menor in close and wedge formation. After more than 500 exhibitions —over 170 of them abroad—, and having completed more than 29,000 flights and 38,000 missions, the *Patrulla Águila* bid farewell to the skies of Spain, Europe and the rest of the world at San Javier —its

birthplace and home— cheered on by hundreds of thousands of people who attended Air Festival 25. Many of them also enjoyed the Open Day held on 14 June 2025 at the military educational centre. The following day, around 500,000 people attended a dynamic exhibition that featured this aerobatic unit as its main attraction. The unit led a multinational formation of nearly fifty fixed and rotary wing aircraft, including national and international, historical and next-generation, aerobatic —civilian and military—, training, combat, transport and fire-fighting aircraft, most of which belonged to the Spanish Armed Forces. King Felipe VI presided over the ceremony com-

memorating the 40<sup>th</sup> anniversary of this unit and its official farewell.

The first aerobatic squadron of the *Patrulla Águila* back in 1985 consisted of five C-101s. It was then commanded by Captain Carrizosa —the creator and first leader of the unit— and Captain Polo —in tandem with the former— as well as by Captains Uribarri, Lorenzo, Segura and Ferrer. However, the last squadron, the 794<sup>th</sup>, which was deactivated after the festival, had six aircraft piloted by Majors Abad (leader), Márquez and Sánchez (patrol leader), Captains González and Marín and Lieutenant Sanz, supported on land by Commander Cruz and Captain Verjano. All these pilots form





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## ARMED FORCES

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Above, the Eurofighter breaks the sound barrier shrouded in a cloud of water vapour resulting from air pressure changes; formation flight of the Patrouille Suisse. Right, King Felipe VI and Major Guzmán board the PC-21. Below, the British Red Arrows perform the corkscrew.







Around 80,000 people took part in the Open Day and visited the static display of aircraft and helicopters on Runway 23 Right (23R) of the Air and Space Force Academy.

part of the more than 100 service members who, for almost four decades, have juggled their aerobatic interests and their work as flight instructors at the Academy.

#### OPEN DAY

On 14 June 2025, from early in the morning to late in the evening, over 80,000 people crowded the Academy's Runway 23 Right (23R), where some 30 aircraft were on display. Eager to learn about the capabilities

that these aircraft provide to the Spanish Armed Forces, the steady stream of visitors, arranged in long queues, gathered near the boarding areas of some of the aircraft and helicopters. At the threshold, the visitors boarded the A400M transport aircraft via its cargo ramp to listen to the explanations of the aircrew on this colossus of the Spanish Air and Space Force.

Next, the hosts of the festival, represented by two C-101s that were facing each

other, formed the threshold to the static air show. Behind them, in the foreground, the squadron of historical aircraft emerged from the crowd: the North American F-86 Sabre, the jet of the *Patrulla Ascua* —predecessor of the *Patrulla Águila*—, and the aircraft of the Infante de Orleans Foundation (museum of historical aircraft in flight), such as the Super Saeta A3H training and fighter-ground attack jet, the Beechcraft T-34 Mentor, the North American T-6G Texan and the CASA



The PAPEA performs the "triple mirror" at the start of the dynamic exhibition.



A Bombardier CL-215T drops 6,000 litres of water previously collected from the Mar Menor close to the audience.





Pass of the multinational Lead Flight squadron, made up of the leaders of the French, Spanish, Italian and Swiss aerobatic patrols, along with the F-18 and Eurofighter display fighter jets and the Greek F-16. Below, a T-34 Mentor next to a T-6 Texan.

Bücker Bü-131 Jungmann and Bü-133 Jungmeister trainer, as well as the Dornier 27 liaison aircraft. The vintage formation was completed with another T-6 from the Aeronautic Parc Foundation of Catalunya and a Bü-131 and a Cessna C337 Sky-master observation aircraft from the Antonio Quintana Aeronatic Foundation. Alongside these aircraft were more modern ones: the civilian AISA I-11B trainer or “vespa” from the Aeronautic Foundation of Valencia and the Zivko Edge 540-V2 aerobatic aircraft from the Juan Velarde Team.

Behind these models, different aircraft in service in the Spanish Armed Forces were on display. First, the helicopters of the Spanish Air and Space Force —the EC-120 Colibrí of the *Patrulla Aspa*, the EC-135 for training and the Super Puma for transport, search and rescue—. The helicopters of the Spanish Army included the EC-665 Tiger attack helicopter and the CH47F Chinook heavy transport helicopter; and there was another EC-13 representing the Navy. Next on show were the Northrop F-5M training fighters, Eurofighter and F-18 fighter jets, two more C-101s and their replacement, the Pilatus PC-21, followed by two French Socata TB-30 Epsilon trainers and a Greek F-16 Viper



fighter jet. At the end of the runway, two transport aircraft, a C-295 and a C-212, led by a Bombardier CL-215T firefighter, were displayed in an arrowhead formation.

During his visit to the static air show, King Felipe VI captured the attention of the crowd by arriving at San Javier that afternoon to preside over the commemorative ceremony. Earlier, two flights drew the public's attention to the sky: the aerial exhibition of the

*Patrouille de France* with its Alpha Jets and the pass of the Lead Flight Squadron, made up of the leaders of the French, Spanish, Italian and Swiss aerobatic patrols, along with the F-18 and Eurofighter display fighter jets.

Before visiting the exhibition, King Felipe VI flew in a Pilatus PC-21 piloted by Major Guzmán, commander of the 792<sup>nd</sup> Squadron, the Academy's Basic Flight School. During the visit, the King had the chance to get behind the controls of the aircraft and check the manoeuvrability and versatility of the turboprop trainer in which Princess Leonor will be trained next year.

## AIR SHOW

The dynamic air show was held the following day, presided over by the King along with the Minister of Defence, Margarita Robles, the Air and Space Force Chief of Staff, Air General Francisco Braco, the President of the Region of Murcia, Fernando López Miras, and the Mayor of San Javier, José Miguel Luengo, among other civilian and military authorities.

The first to take to the skies were the members of the Aerobatic Parachuting Patrol (PAPEA) performing different figures, including the CRW (Canopy Relative Work),



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## ARMED FORCES

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the triple mirror and carrying the Spanish flag. The Bombardier fire-fighting seaplane collected 6,000 litres of water from the Mar Menor and released them seconds later very close to the audience. Two helicopters trained on site. A Chinook helicopter performed a hoovering flight that allowed it to hover over the water, and a Tiger performed various tactical attack and evasion manoeuvres flying extremely close to the sailboats. The Spanish F-5, F-18, Eurofighter and AV-8B Harrier II fighter jets and the Greek F-16 broke the sound barrier, performed an inverted flight very close to the sea surface, and then nose-dived and recovered immediately, just like the ZivkoEdge 540-V2 of the Juan Velarde Team. The participation of the “classic” aircraft —the Bücker biplanes, a T-6 Texan, a Mentor and a Saeta— was much more relaxed.

The F-5E Tiger IIs of the *Patrouille Suisse*, the Aermacchi MB-339 PANs of the Italian Frecce Tricolori, the BAE Hawk T1s of the British Red Arrows and the Colibri of the *Patrulla Aspa* added colour to their aerobatics by spreading the colours of their respective national flags across the sky of San Javier.

The *Patrulla Águila* emerged from the horizon led by the Pilatus —which in its previous solo exhibition ventured to perform snap rolls and 6G turns— while, in the slipstream of the C-101s, an F-86 Sabre combined the past and the future of aerobatics in a single flight. The six *Águilas* then performed a set of spectacular manoeuvres for



The Eurofighter of the 14<sup>th</sup> Wing was one of the most popular aircraft at the static air show, which featured over 30 fixed and rotary wing aircraft, including historical and next-generation, civil and military, combat, transport and firefighting aircraft.

over half an hour. Among them, snap rolls, the corkscrew, the heart, the mirror and the flip flap, impossible loopings, crossings such as the French crossing, spectacular breaks—including the stellar one and the Spanish one— and the emblematic Plus Ultra or Poker formations.

The aerobatics of the Silver Arrows were seen for the first time on 4 June 1985, when they left white smoke trails across the sky of San Javier (Murcia). It was during a training day attended only by the teachers and students of the school eleven days before their first air show. Almost forty years later, half

a million people cheered at the final deafening sound of the C-101s “literally drilling through the skies of San Javier”, as Captain Verjano, the unit’s speaker, proclaimed over the loudspeakers. The audience was dazzled by the red and yellow traces, the colours of the Spanish flag, over the beaches of the Mar Menor.

The *Patrulla Águila* has now been deactivated. “The C-101 aerobatic aircraft have celebrated their 40<sup>th</sup> anniversary coinciding with their retirement. That means they have reached milestone 8, the end of an aircraft’s operational life, which entails their decommissioning as a weapons system”, explained Colonel Luis Felipe González Asenjo, commandant of the Academy. The PC-21s will form a new Mirlo formation, the radio call sign of the C-101 training aircraft, replacing the *Patrulla Águila* one used by the aerobatic teams. The Pilatus aircraft are also invited to participate in military parades and commemorative events, such as Spain’s Armed Forces Day and its National Day on 12 October, but so far they are not the generational replacement for the *Patrulla Águila*. Their flights will not be aerobatic; however, they will fly over the presidential box on 12 October, leaving their white smoke trails behind them. That day, the Colibri helicopters of the *Patrulla Aspa* will be the ones in charge of drawing the colours of the Spanish flag across the sky of Madrid.

J.L. Expósito  
Photos: Pepe Díaz



In the foreground, two Socata TB-30 Epsilon trainers occasionally used by the *Patrouille de France*.



Resolution 1325, the cornerstone of the Women, Peace, and Security Agenda, was unanimously adopted by the UN 25 years ago

# The transformative impact of women in defence

**Lieutenant Commander Eva María Ara Montojo**

Coordination Division for Security and Defence Studies

General Secretariat for Defence Policy

**A** GAINST the backdrop of today's armed conflict, protecting the civilian population has become a pressing and essential necessity. Over the years, we have witnessed how warring parties and other armed elements have been increasingly targeting civilians. Sadly, these attacks, far from diminishing, have stepped up. The suffering of the civilian population has reached alarming proportions and is a real tragedy.

The situation is critical and affects millions of people worldwide. According to the Global Peace Index report produced by the Institute for Economics and Peace there were 56 active conflicts in 2024. The pain and despair suffered by the civilian population continue to be one of the main barriers to achieving peace and true stability.

The continued violation of international humanitarian law and human rights is still a sad reality in today's conflicts. We are currently witnessing the flagrant breach of these principles in Ukraine, where the Russian army's indiscriminate use of force has caused massive suffering among the civilian population. Meanwhile, in Gaza, indifference to the living conditions of the population and attacks on civilian infrastructure continue to exacerbate the humanitarian crisis and are further proof of the gross disregard for international norms. This lack of accountability perpetuates the suffering of victims and prolongs violence, preventing societies from rebuilding on a basis of justice and lasting peace.

## WOMEN, PEACE AND SECURITY

In this context of violence, the international community has taken important steps forward to address the protection of civilians through broader policy frameworks and action plans. The Women, Peace, and Security (WPS) agenda serves as an illustration of this, emphasising vulnerable groups, including women and girls, who are perhaps the most vulnerable members of the civilian population.

It is now 25 years since the UNSC unanimously adopted Resolution 1325, which not only highlights the worrying vulnerability of women during armed conflict, particularly with regard to sexual violence, but also seeks to recognise their critical role in peace efforts.

The WPS agenda is made up of Resolution 1325, along with nine other resolutions, some of which have had high impact. For instance, Resolution 1820/2008, together with the international

**Resolution 1325 highlights the vulnerability of women and girls during armed conflict and recognises their critical role in peace efforts**





Martine Perret/ONU

courts and pressure from civil society, played a driving role in the criminalisation of sexual violence in armed conflict, recognising for the first time that sexual violence is used as a tactic of war. The text underlines that such violence can be deliberately used to destabilise communities and disrupt social order to control, humiliate and destroy the enemy. It stresses the need to take appropriate action to prevent and punish these crimes, and reaffirms the international community's commitment to ending impunity in this regard.

Resolution 2122/2013 stands out for firmly demanding that the UN Secretary-General himself submit regular reports on the progress made in the application and implementation of the agenda. It thereby strengthens monitoring, advances accountability within the Security Council and promotes greater transparency and responsibility in the implementation of the WPS agenda. It also emphasises the importance of women's participation in all phases of peacebuilding and calls on member states to strengthen their national legislations.

Resolution 2242/2015 is particularly noteworthy as it was adopted in October 2015 under Spain's presidency of the Security Council. This resolution broadens the WPS agenda to include the prevention of violent extremism and terrorism. It introduces a new way of thinking about the role of women in countering violent extremism by arguing that, as key actors in prevention, women are not only victims of these occurrences, but are also crucial to eradicating extreme ideologies.

It also focuses on the need to increase women's participation in peace missions, claiming that they help to improve the effectiveness of such missions and contribute to greater protection of women and girls in conflict situations. It is true that women's participation has slightly increased since then, but the rate of change has been extremely slow. The UN Department of Peace Operations subsequently issued the document entitled *Uniformed Gender Parity Strategy 2018-2028* to ensure an increase in the number of participants.

International organisations such as NATO, the EU, the OSCE and the African Union have adopted action plans to implement the agenda in their respective structures and operations. In particular, NATO views the WPS agenda as a reflection of its core values and a critical component for achieving sustainable peace. Additionally, it is strongly linked to NATO's Human Security agenda, which focuses on the protection of the individual in the broadest sense.

The efforts of both agendas to protect the civilian population also have an impact on the defence of the right to education, which is essential to human development and is formally expressed in the Safe Schools Declaration.

There is no doubt that the destruction and militarisation of schools have been and continue to be recurring practices in many armed conflicts. Once again, girls suffer the most, as they are typically the targets of sexual violence or mass kidnapping in order to prevent them from receiving an education.

### ACTION PLAN

Over the past 25 years, the WPS agenda has furthered many initiatives. For instance, 112 nations —representing 56% of UN Member States— have already adopted a national action plan to implement the agenda. Spain is firmly committed to equality and the protection of women's rights. With this goal in mind, it adopted its first National Action Plan for Women, Peace and Security in 2007, followed by its second in 2017, while its third is still pending approval.

The ultimate goal of the 2nd National Action Plan for Women, Peace and Security 2017-2023, which is currently in force, is to “contribute to ensuring the protection of the human rights of women and girls, and their substantive participation in conflict prevention, as well as achieving and consolidating peace”.

The document stresses the importance of combating sexual violence in armed conflict through training, policies and the participation of women in the spheres of justice, security and defence. It emphasises the need for reparations for victims and the eradication of stigmatisation. It also addresses the helplessness and fragility of refugee women and girls, the violent radicalisation of women in terrorism and the fight against trafficking in women, emphasising both national and international policies for its eradication and the protection of victims. The plan builds on two pillars, one aimed at promoting gender equality in security institutions and the other focused on gender mainstreaming in operations.

### SPAIN'S COMMITMENT

Spain's National Defence Directive 2020 establishes as an operational guideline that the Armed Forces will pay “special attention to the protection of vulnerable groups in their operations abroad, particularly women and children, supporting the implementation of the Women, Peace and Security agenda (...)”. It adds that “the promotion of women as effective actors in mediation and conflict resolution will also be enhanced”.

As a result, the Defence Policy Directive 2020 includes this guideline and gives top priority to the promotion of women as enablers in armed conflict resolution. This directive promotes “Human Security as a means of conflict prevention and resolution” and highlights the contribution of the Safe Schools Declaration. Therefore, it strongly recommends that deployed contingents receive specialised training in each of these aspects.

The Spanish Ministry of Defence has launched a number of initiatives to discuss issues related to the WPS agenda and its implementation, and to analyse the possible ways forward. In November 2024, the Minister of Defence chaired the Women, Peace and

Security Seminar, where participants discussed the armed conflict from a gender perspective, emphasising the challenges encountered by women in such conflicts and their role in preventing and resolving them pursuant to Security Council Resolution 1325.

In 2011, the Chief of Defence Staff signed the Directive for the Implementation of UN Resolution 1325/2000 on Women, Peace and Security in the Spanish Armed Forces for Operations, which covers the measures to implement this directive and the subsequent four resolutions that comprised the agenda at the time. The directive urges the Army, Navy and Air Force to introduce the concept of “gender perspective in operations” in all teaching processes, training plans and instruction and training programmes. The concept should also be taken into account in joint force preparation and incorporated into the planning and execution of the operational concept.

The Ministry of Defence is at the forefront when it comes to promoting gender equality policies in the military. These include gender awareness training, the promotion of equal opportunities and the fight against any kind of discrimination or harassment.

Currently, female military personnel represent 13% of the total number of troops. Since women first joined the military more than 35 years ago, they have had the opportunity to rise through the ranks and become officers, reaching the rank of general, thus currently accounting for 4.5% of the senior ranks.

Many years have also passed since Law 17/1999 on the Armed Forces Personnel Regime, which allowed the unlimited access of women to all military units and positions, whether administrative, operational or logistical.

The Ministry of Defence has adopted a number of initiatives, including a number of regulations to help balance work and family life. These regulations benefit all members of the Armed Forces, but they have particularly helped women to integrate effectively and ensure that, as women, there are no barriers in the development of their military career, which has been crucial to their retention and promotion in the military.

### ACHIEVEMENTS AND CHALLENGES

There is no doubt that the WPS agenda has made important progress and has highlighted sexual violence as a specific form of violence used as a strategy in conflict situations, placing particular emphasis on the protection of women and girls.

International legal frameworks have been reinforced to sanction sexual violence in armed conflict, highlighting the importance of jus-

## Spain promotes the role of women as effective actors in mediation and conflict resolution



tice for victims. Thanks to the impetus given by the agenda, many countries and international organisations have increased female representation in their peace teams.

The Spanish Ministry of Defence has fostered equal opportunity policies, incorporated the agenda into military regulations in order to apply the gender perspective in operations and missions abroad, and promoted awareness-raising and training in this regard.

It is clear that Resolution 1325 has succeeded in bringing previously neglected issues to the Security Council's table by highlighting the relationship between respect for human rights —especially those of women and girls, which are often forgotten— and peace and security.

Even so, progress on the Human Security and the WPS agendas is slow and the challenges are great. Civilians, particularly women and children, continue to be targets of systematic human rights violations, without sufficient protection from the devastating effects of conflict.

The protection of civilians during times of crisis and armed conflict, and the future of the WPS agenda in particular, involve strengthening legal frameworks and using sanctions to enforce respect for human rights and international humanitarian law. Accountability and ending the impunity for perpetrators of war crimes is of utmost importance.

As mentioned above, a great deal of nations have adopted at least one national action plan to implement the WPS agenda. However, the states' commitments and responsibilities still need to be translated into concrete action, and financial and human resources must be allocated to make them sustainable.

Whether as a matter of human rights or as a matter of practical efficiency, governments must show a sincere commitment to supporting and strengthening women's role in conflict prevention and peacebuilding. The Spanish Ministry of Defence can explore other avenues to increase the participation of women in missions and operations. This entails continuing to portray the military profession as

an appealing, accessible and challenging career option for women, thereby encouraging more women to join the armed forces.

### NO EFFORT SHOULD BE SPARED

Adopted in 2000, Resolution 1325 not only recognised women as key actors in conflict prevention and peacebuilding, but also established a roadmap for gender mainstreaming at all levels of conflict resolution.

The agenda has raised the awareness of sexual violence, particularly against women and girls, pointing out that it is used as a war strategy. Thanks to the WPS agenda, the concept of human security, which takes into account the security of the state and the security of people in their daily lives, was greatly expanded.



Pepe Diaz

Twenty-five years on, the WPS agenda has been instrumental in recognising and promoting women's rights and roles in armed conflict and post-conflict contexts. However, the progress of the Agenda has been uneven, especially in contexts of protracted conflict. Without a doubt, the implementation of the Agenda is still a challenge that encounters strong opposition.

Spain is one of the countries that has consistently demonstrated its commitment to the WPS agenda, supporting key resolutions and promoting the inclusion of the gender perspective in international security policies.

The Spanish Ministry of Defence strives to draw attention to the particular vulnerability of women and girls who are victims of armed conflict, often forgotten in both prevention and rebuilding processes. In order to make the Armed Forces an appealing life choice for both men and women, it also advocates for policies that ensure equal opportunities in their access to and promotion within the military profession.

In an uncertain and ever-changing global environment with a future that is worrying, to put it mildly, Spain must continue its efforts within the international community to uphold and improve both the Human Security and the Women, Peace and Security agendas, two fundamental pillars that are essential for a lasting peace.

# CLEARING WAR TO BUILD PEACE

The International Demining Centre has become a world leader in the detection and neutralisation of landmines and explosive ordnance

**W**HERE can you see two soldiers who, until recently served in opposing armies, learning together how to build peace? At the International Demining Centre of the Spanish Army's Engineer School located in Hoyo de Manzanares (Madrid). Edgar Saúl Moreno is a captain of the Peruvian Army, while Roberto Moncayo is a captain of the Ecuadorian Army. From January to February 1995, their two countries were at war over a territory in the Cordillera del Cóndor (Condor mountain range) and the Cenepa River. The area was mined: some 279,388 m<sup>2</sup>, almost 40 soccer pitches. Demining began in 1999 and continues to this day. This is how they are building peace, giving this land free of landmines back to the farmers or indigenous people so that they can walk without fear of being killed or injured. Like them, 14 other students from various Ibero-American armies have come to be trained at this Centre. Since its certification as a national reference centre in 2002, 65 training courses have been held for 1,400 students from 30 different countries. In recent years, mainly OAS (Organization of American States) countries have requested these courses, including Colombia, the fourth country in the world with the most mines scattered throughout its territory.

Spain leads the world in the fight against the use of anti-personnel mines and similar explosives in conflicts. Since the law of 6 October 1998, updated in 2015, our country has banned the use and manufacture of this kind of devices and cluster munitions. However, some of them are stockpiled to train deminers.

On a global scale, the ban on the use of anti-personnel mines was endorsed in the 1997 Ottawa Treaty. Even though 165 countries have signed it thus far, some have yet to do so, including China, Russia, Morocco, and the United States. In fact, one of the reasons why the Ibero-American soldiers have chosen Madrid for their training is precisely because the United States has not signed the Ottawa agreement and, therefore, lacks experience in humanitarian demining, which is an extremely demanding and exacting task in comparison to combat demining. Furthermore, according to Ecuadorian captain Roberto Moncayo, the teaching staff are excellent and being able to converse in Spanish on such a technical subject is very important.

Unexploded landmines and bombs used in conflicts result in years of suffering —most importantly, civilian suffering— after wars end. Lt. Col. Roberto Martínez Moneo, head of the International Demining Centre, provides a piece of information that highlights the extent of the problem. “At an international meeting I once attended, a representative from Vietnam told me that

he estimated it would take 300 years to completely clear his country of mines”. In fact, last year alone, unexploded ordnance (UXO) killed 5,757 people worldwide, 80% of them civilians, compared to 4,710 victims in 2022, according to the annual report of the International Campaign to Ban Landmines.

### WORLD LEADER

Ukrainian soldiers are also trained at the International Demining Centre. A hundred of them have already attended this school. “They tell me it's their favourite school because of the way they are treated and the training they receive”, says the head of the Centre. They have a lot of work ahead of them. Ukraine currently has the highest number of unexploded landmines and explosive devices in the world, given that a quarter of its surface area —around 156,000 km<sup>2</sup>—is contaminated.

Students attend the school as boarders and have access to sports facilities and leisure rooms, as well as all the necessary facilities for the most demanding training, such as the Perkele area that has plenty of tests and traps for deactivators to use. An additional advantage is the Centre's proximity to the city of Madrid, which is 35 kilometres away and boasts a wide range of tourist attractions, not to mention its worldwide flight connections.

Lt. Col. Martínez Moneo warns against confusing the International Demining Centre, which he runs, with the Counter-Improvised Explosive Devices Centre of Excellence (C-IED COE). Both are located within the grounds of the Army's Engineer School and

**Last year,  
unexploded  
ordnance killed  
5,757 people  
worldwide**



Sixteen Ibero-American soldiers are participating in the current humanitarian demining course.



The training includes the use of personal protective equipment, such as bomb suits.

Students are trained in the different types of mines and their activation systems.

**Since 2002, the Centre has provided 65 training courses for around 1,400 students from 30 different countries**







Specialists at the Centre provide their expertise on techniques to safely and effectively neutralise landmines.

maintain close ties. However, the C-IED COE is a NATO centre of excellence that provides expertise in counter-improvised explosive devices (IEDs) and, at the national level, reports to the Defence Staff. "As far as we are concerned", adds the head of the International Demining Centre, "we report organically to the Army's Engineer School, and our international humanitarian demining courses are coordinated with the Directorate General for Defence Policy (DI-GENPOL), like the one we are running now, with 16 Ibero-American students".

Although the Centre dates back to 1976, its current organisation and structure was regulated in 2002. It has three areas of work: training; equipment; and analysis and technical information on defusing and mine clearance.

Lt. Col. Martínez Moneo highlights an outlook that characterises the Centre: "We cannot work with what has already happened; instead, we must keep an open mind to ascertain what future devices will look like. We have been testing with drones to detect mines and explosive ordnance for more than 20 years. Now, we are trying to apply artificial intelligence to improve our results. For instance, even if the explosives are airtight they emanate gases that can be detected". He believes that training and

equipment are pivotal in order to reduce the 10 percent luck factor affecting an explosive ordnance disposal to a minimum.

#### DEACTIVATOR COURSE

In the training area, Staff Sergeant Alberto Metola explains to a group of students how a cable detector works. They are trying to find the metal parts—no matter how tiny—contained in the device. Engineer Major Jesús Cuenca explains that landmines are made of bakelite (a plastic that is resistant to heat and moisture), an explosive, and a small metal part that is the firing pin. "This is precisely the part that is detected". When it comes to recognising an explosive, "time and experience are of the essence", says Corporal De la Mata, an expert in explosive ordnance reconnaissance (EOR), who is in charge of marking the object or the area. Behind him is the explosive ordnance disposal (EOD) deactivator.

The Centre's quality of teaching is one of its hallmarks. "The EOD course for officers and NCOs lasts between 12 and 14 months", explains Lt. Col. Martínez Moneo. The first part is a distance learning course and only successful candidates advance to the classroom course. The tests are very demanding. In fact, of the approximately 40 students who take the distance learning

course, only about ten pass and go on to the classroom phase. "If you only get 5 out of 10, you don't pass; there can be no mistakes here", stresses the head of the Centre.

Next are the humanitarian demining courses, conducted in a conflict zone after the cease-fire. Shorter than the previous course, they are taught at the three levels established by the United Nations: EOD Level 1-Basic Explosive Ordnance Disposal—; EOD Level 2-Intermediate Explosive Ordnance Disposal; and EOD Level 3-Advanced Explosive Ordnance Disposal.

The Centre also trains in counter-IED. As Lt. Col. Martínez Moneo points out, "No matter how similar they may seem, no two IEDs are the same". Before going on a mission abroad, the EOD teams from the various units spend a week at the Centre being assessed and updated and, after the mission, they return to exchange the knowledge they have gained. This is not only done with these teams, but also with the deactivators of the National Police (TEDAX) and the Civil Guard (SEDEX). Furthermore, the Centre conducts awareness-raising courses for Red Cross personnel and war reporters. The recurring question asked by journalists is: Does a landmine explode when you step on it, or when you take your foot off it like in the movies? "A mine



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## ARMED FORCES

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explodes when you step on it”, is the emphatic conclusion of this lieutenant colonel.

Another course that focuses on counter-IED is the Level 1 Technical Exploitation course, for the collection of evidence in the event of an incident involving this kind of explosives. As Lt. Col. Martínez Moneo points out, “a good collection of uncontaminated evidence can help reconstruct the attack and provide information for intelligence gathering, such as, for instance, the kind of cell phone used by the terrorists”.

### HUMANITARIAN DEMINING

In battle area clearance operations during armed conflict, the urgency to clear a path is critical, whereas in humanitarian demining, which is typically limited to landmines and unexploded ordnance, staff security is vital. So why not use heavy machinery for demining? Numerous civilian companies carry out humanitarian demining with heavy machinery and military working dog teams, or even rats. However, in some cases it is difficult not to leave any metal residues or explosive material behind.

The areas have to be completely cleared before handing them over to the new inhabitants. As Major Jesús Cuenca points out, “Humanitarian demining certification is very demanding. It is approved by an external audit team, which performs several random checks in, for example, the 500 m<sup>2</sup> that have been cleared, and if



Students receive a comprehensive overview of the different types of hand grenades and other ammunition that may remain unexploded.

## Spain leads the world in the fight against the use of anti-personnel landmines in conflicts

it finds any minimal residue, depending on the level to be accredited, it does not grant the corresponding certification. Therefore, in order for the team to return and certify, the entire area must be cleared again”. Even though maps of the mined areas are used, the actual location of these areas can vary considerably, as they may have been moved due to rain or animals.

The UN establishes three levels of humanitarian EOD. Level 1 involves the destruction of individual landmines or unexploded ordnance in situ, one by one, within a controlled environment. Level 2 implies moving a landmine to a location where it can be exploded or destroying many landmines in situ at the same time. Level 3 entails neutralising landmines in situ for safety reasons rather than destroying them.

The Centre provides courses both in Spain and abroad. Major Alexia Lázaro provided training in Lebanon and Afghanistan. “As a woman, I assumed that the Afghan soldiers might be wary of me, but they were actually excellent pupils”. The results speak for themselves. In 2006, Afghanistan had 1,200 landmine casualties, the second highest in the world. Now, it has dropped to the sixth highest, with 100 deaths per year. This is how, as in so many other countries, peace is being built at the International Demining Centre.

**Gabriel Cruz**  
**Photos: Pepe Díaz**



Classroom session during the EOD Level 3 course, focused on demining and explosive ordnance disposal.

The Spanish Ministry of Defence's digital transformation

# My tech-savvy friend Nico



**Lieutenant General José María Millán Martínez (Spanish Army)**  
Director General of the Centre for Information and Communication  
Systems and Technologies (CESTIC)

**Y**ESTERDAY, I saw my friend Nico, the techie. We call him that because he is very enthusiastic about technology. In his opinion, failing to understand technology would be like not knowing how to drive. "You get your driver's licence and then you decide if you still want to take the bus. The same thing happens with technology: you need to understand it before deciding whether you want to use it or not".

We also spent a long time chatting about football. I simply can't get over the penalty that was disallowed just because, apparently, the striker kicked the ball with both feet. But Nico was more interested in something else. "You know what?" he said. "The funny thing about football matches is that, while they are happening, there is no congestion on the communications network. When you think about all the fans who go to the stadium, doesn't it surprise you that there is no interference?" Although my friend asks techie questions like these, he is very likeable.

Then I think about my daughters, who gave their all in a football stadium that turned into a pop shrine. Taylor Swift performed at Madrid's Santiago Bernabéu stadium, bringing more than 77,000 fans together, each with at least one smartphone.

Millions of calls, videos, photos and instant messages travelled through cyberspace when the artist appeared on stage like

a blonde goddess incarnate. And each one reached its destination right on time. No loss of information, no interference. Once again, this magic eludes us.

Each time we use our smartphones to send WhatsApp messages, emails, or watch TikTok videos, a long chain of increasingly complex technology is set in motion that we don't even notice: radio links, from our devices to the antennas that crown the roofs of so many buildings, signal converters that encrypt our messages and those of millions of other users, feeding them into fibre optic cables, laid underground and under the oceans, until they reach one data processing centre, and then another, and another, and so on until each message is received by its intended recipient.

It all happens at the speed of light, and the impatience typical of teenagers is becoming increasingly common: if the two little ticks don't show up immediately, they begin to panic, whether they are in the stadium watching their idol, Taylor Swift, or communicating with

**In the future, civilian and military communications networks will be dominated by 5G mobile technology**





their father (who used to be their idol), who happens to be on the other side of the Atlantic.

The way people interact is being defined by technology, which we only value when it fails. We communicate with one another using WhatsApp or other messaging services, while there also seems to be an online service or app to suit every user. Thanks to unprecedented mobile connectivity, we do business online, we fall in love online, and we fight online.

#### **NICO IS 5G-SAVVY TOO!**

Mobile phones enabling analogue voice communication came out long before my daughters were even born. Sending SMS messages seemed like science fiction back then, but these messages managed to reach their destination in a matter of minutes.

Now, fifth-generation (5G) mobile communications surpass the capabilities of previous technologies, although we still seem to think this is not enough. 5G allows a vast number of terminals to be connected to the network (up to one million devices per square kilometre!).

This technology can be used on the battlefield, in sensors, drone swarms, surveillance cameras, and in unmanned ground, air and naval platforms. 5G technology will be essential for the modernisa-

tion of our armed forces' capabilities in areas like telecommunications, force training simulation, unmanned vehicle performance and cybersecurity.

It is 100 times faster than 4G. It significantly reduces response time, known as "latency", down to a millisecond. Thanks to the almost instantaneous nature of 5G, a surgeon in Europe can operate on a patient in Beijing using a robot that faithfully carries out the doctor's orders, or a boat moored in the port of Valencia can be controlled from Barcelona.

Thanks to 5G technology, many specific meshes with different functions can be established within a single network without interfering with one another. This constitutes a major improvement in security, speed and connectivity, and boosts the transformation of many sectors, including communications, medicine, industry and entertainment.

Nico enthusiastically explains that the greatest advantage of 5G is probably its capability to manage data at the edge of the cloud. Nico, please don't exaggerate! But actually, he's right: 5G increases the speed of data transfer, and edge computing reduces the round-trip time between the device and the cloud or the data centre, which also reduces traffic. That's how technologies complement each other in today's world.



### SPAIN IS ON BOARD

Nico is worried we might miss the boat. He believes it's vital to be up to speed because 5G and its communication protocols will play a big part in the future and our country cannot afford to arrive late to the party.

I reassure him: the Spanish Ministry of Defence has become a benchmark in the development and use of this technology in the military field. In 2025, Spain is spearheading the Multinational Collaboration on 5G (MN5G) initiative, which began in 2021 under the auspices of NATO's Communications and Information Agency (NCIA). This time, Spain is consolidating a key position in the evolution of NATO's communications infrastructure.

Spain, Italy, and Türkiye signed a memorandum of understanding in 2024, pledging to work together to further develop 5G-based military capabilities and their future applications.

The initiative has attracted the interest of other Allied countries, which initially plan to join as observers. Other partners are requesting more detailed information on the initial agreement.

This multinational initiative, which is being developed with the support of the NCIA, should help us overcome some of the obstacles to the military use of this technology. One of these challenges is the fragmentation of 5G research, development and innovation, which hinders cooperation in the pursuit of a single unified market for military products and applications.

Nico emphasises the need to ensure interoperability of developments so that NATO armed forces can act as true allies, sharing data between sensors and platforms. He also highlights the need for radio spectrum in military missions.

It is accurate to say that adapting 5G technology to the specific requirements of the military environment will involve a significant amount of research, development, and innovation in order to guarantee that the necessary requirements meet the objectives of military operations.

### THE MN5G INITIATIVE

This NATO initiative aims to harness 5G technologies for military applications, seeking to make them compatible, at a reasonable cost, among the various NATO armed forces. The work will be organised in three main areas, as follows:

Awareness and influence: promoting 5G standardisation to ensure military requirements are aligned with future 5G standards through the monitoring of technological developments and international cooperation.



Capability development: developing 5G-based military communication systems and applications that can be used by national and multinational forces. 5G security: ensuring that 5G networks and systems used in the military field are secure and ready to protect information in different usage scenarios.

The project will focus on the standardisation of NATO wireless communications, the development of target architectures, the implementation of reference systems for testing, and the development of consolidated use cases for the military application of this technology. And of course, cybersecurity in the field of 5G.

### WHAT HAS OUR MINISTRY DONE IN 5G?

In coordination with the Spanish Army, Navy, Air and Space Force, and Defence Staff, the Centre for Information and Communications Systems and Technologies (CESTIC) evaluates how new and





disruptive information processing technologies affect the Ministry of Defence's digital services and the capabilities of the Armed Forces.

Realising the potential of 5G technology to transform the functioning of this department, CESTIC promoted "The Defence Ministry's Strategy on 5th Generation Mobile Communications", which was released in 2021. This document establishes the principles, objectives, guidelines and strategic lines of action for the implemen-

## **In 2025, Spain is spearheading NATO's Multinational Collaboration on 5G (MN5G) initiative**

tation of this technology in the Ministry of Defence's information and communications services.

Since then, and as part of this strategy, the Armed Forces have implemented 5G projects aimed at improving communications, security and efficiency in various scenarios: operational, logistics management and training, contributing to the digital transformation of the Ministry of Defence and the modernisation of its capabilities.

Some of these projects have been funded by NextGenerationEU, such as the Military Emergency Unit (UME) one, which is developing a private deployable 5G network for emergency use that will provide a high capacity for transferring images, videos and data from the area of operations.

In addition, in conjunction with the Joint Cyberspace Command, Spain is equipping itself with 5G cyber defence capabilities with the aim of improving the Armed Forces' responses in cyberspace; countering threats and vulnerabilities in military systems that use 5G; and training and instructing military units in the cyber environment.

The National Institute for Aerospace Technology (INTA) will use this technology extensively in the development and testing of anti-drone warfare and unmanned vehicle deployment at its centre of excellence, CETDEX (Technological Centre for Development and Experimentation), in Jaén.

### **SPAIN, ON THE RIGHT TRACK**

In the future, both military and civilian communications networks will be dominated by 5G mobile technologies. The Spanish Ministry of Defence deems it essential to foster collaboration among Allies in order to develop military 5G applications within NATO.

The MN5G initiative will allow Spain to lead the collaborative efforts among Allied countries, facilitate knowledge sharing, and develop innovative solutions.

Through the projects already underway, the Ministry of Defence aims to be at the forefront in the adoption of 5G technology, improve the operational capability of our Armed Forces, and provide NATO with the knowledge and experience gained in the military use of this technology.

My techie friend Nico is adamant that we have a responsibility to understand the technology that surrounds us, as it is transforming our lives. And it is also changing combat: techies like him are becoming increasingly necessary so that, together, we can win the battle of the future.

# MADRID, WORLD CAPITAL OF THE DEFENCE INDUSTRY

Over 600 companies participate in Spain's International Defence and Security Exhibition

**F** EINDEF 2025 took place from 12 to 14 May 2025 at Madrid's international trade fair centre (IFEMA). Institutionally supported by the Spanish Ministry of Defence, the exhibition brought together small, medium, and large enterprises — 400 from Spain and 200 from 60 different countries—. As Minister Robles noted on the first day of this international event, "This is an ambitious space of strategic interest, open to the world, from which, among other objectives, we aim to show the strength, values, and potential of our defence and security industry".

### ATTENDANCE AND PARTICIPATION

FEINDEF is held every two years, and this fourth edition reached record numbers in terms of space and attendance compared to the three previous editions: 187 international exhibitors in four halls covering almost 77,000 square metres and more than 44,000 professional visitors, including representatives of 92 delegations from 49 countries. Some of the delegations were headed at the highest level by their Defence Ministers, such as Angola, Bolivia, Gabon, Guatemala, Mauritania, and Senegal, while Ukraine was represented by its Minister of Strategic Industries and several foreign nations by their Chiefs of Staff. With these figures and results, FEINDEF is currently among the top 10 multi-domain exhibitions

worldwide and is getting closer to matching the big European events, such as the UK's Defence and Security Equipment International (DSEI) and France's Eurosatory.

The exhibition was attended by a significant number of foreign institutional representatives. Nine international organisations were present, including the European Commission's Directorate-General for Defence Industry and Space (DEFIS) and Directorate-General for Communications Networks (CNECT); the European Defence Agency (EDA); the Organisation for Joint Armament Cooperation (OCCAR); Europol; NATO; and the United Nations.

At national level, the Ministries of Defence; Interior; Industry and Tourism; Economy; Trade and Enterprise; and Science, Innovation and Universities participated in FEINDEF as the main supporters of the Special Programmes for the Modernisa-

tion of the Armed Forces, which are being actively developed by an extensive industrial fabric that employs over 200,000 people and exports technology to over 80 countries. Some 500 companies are already getting ready to do the same with another 20 new programmes included, along with the existing ones, in the Industrial and Technological Plan for Security and Defence recently approved by the Spanish Administration. For example, the Spanish Army's new tactical radio (SCRT), the MC3 command and control system, Paz 2 satellites, the future electronic warfare ship, the modernisation of F100 class frigates, the new combat support ship, the sixth-generation FCAS (future combat air system), the VAC tracked armoured vehicle, the new ATP self-propelled howitzer, the Spanish Air and Space Force training fighter jet and seven amphibious fire-fighting aircraft.

### COMMON INTERESTS

This event brought together the national and international security and defence industry against the backdrop of the European Union's decision to increase spending in this field in order to boost its capabilities. On 12 May 2025, coinciding with the opening of the exhibition, the President of the European Commission, Ursula von der Leyen, met in Brussels with representatives of Navantia and Indra. Together they analysed the EU's

**FEINDEF has consolidated its position as a leading platform in the sector**





The event featured  
187 international  
exhibitors in four  
halls.





The Minister of Defence, the Minister of Industry and Tourism, the Chief of Defence Staff, the Chief of Staff of the Navy and the President of the FEINDEF Foundation visiting Navantia's stand.



Air Force General Francisco Braco in the Eurofighter training simulator.

The Army showcased its Alano autonomous vehicle and the Barracuda camouflage system.

**Defence innovation, international cooperation and dual technologies were the focus of the exhibition**





## SPANISH CHIEFS OF STAFF ANALYSE TECHNOLOGICAL CHALLENGES

support for the sector, which has materialised in an investment of 800,000 million euros that is necessary “to safeguard European security in a fast-changing geopolitical landscape”, said the EU president.

Precisely, one of the three fundamental axes of this year’s exhibition was international cooperation, “the engine of progress and security”, as pointed out on the opening day by Gerardo Sánchez Revenga, president of AESMIDE and vice-president of the FEINDEF Foundation. The other two axes were “the integration of small and medium-sized enterprises in the entire supply chain and the commitment to innovation, dual technologies and young talent as a guarantee of continuity and competitiveness”, stated Sánchez Revenga, who shares the vice-presidency of the Foundation with Ricardo Martí Fluxá, president of TEDAE. Both associations are made up of the main Spanish companies in a sector with over half a thousand companies. Martí Fluxá also highlighted the importance of “strategic autonomy”, pointing out that “Spain, as part of Europe, knows that multilateral cooperation and alliances are essential, but at the same time our country is increasingly aware that its security can never depend exclusively on the will of third parties”, adding that “We need an autonomous, credible, interoperable defence with sufficient means of our own to protect our strategic interests in an increasingly unpredictable environment”.

### INSTITUTIONAL SUPPORT

After the opening ceremony, the Minister of Defence and the Minister of Industry and Tourism, Jordi Hereu, visited the stands of the main national and international companies in the sector, accompanied, among other high-ranking officials, by the Chief of Defence Staff, Admiral General Teodoro López Calderón, the Secretary of State for Defence, Amparo Valcarce, and the Director of the National Intelligence Centre (CNI), Esperanza Casteleiro.

On her first full day at FEINDEF, Margarita Robles showed a keen interest in Navantia’s contribution to improving the capabilities of the Armed Forces through, for example, the S-80 submarine and the F-110 frigate programmes; Urovesa’s High Mobility Tactical Vehicles (HMTV); Escribano’s Ferox 6x6 armoured vehicles; Indra’s new Valero multipurpose drone; GMV’s



Journalist Carlos Franganillo moderating the round table with the participation of the Chiefs of Staff of the Army, General Enseñat; the Navy, Admiral Piñeiro; and the Air and Space Force, General Braco.

ONE of the highlights of the first day of the exhibition was a round table with the Chiefs of Staff of the Army, Amador Enseñat; the Navy, Antonio Piñeiro; and the Air and Space Force, Francisco Braco, where participants discussed the challenges faced by the Armed Forces in their adaptation to the new operational environments and the role of innovation as the backbone of 21st-century defence. The event was moderated by Carlos Franganillo, news director of Telecinco.

“My concern is to take the digital transformation of the office to the battlefield”, said Enseñat, who stressed the importance of being “open-minded to technological change”. The Chief of the Army Staff explained that the land defence industry has two singularities: there are numerous systems in use, all of which need to be integrated in order to share the same technology; and there are many start-ups fighting among themselves for small contracts without the ability to compete abroad. He noted that both public and private investments are necessary, and that the latter must rest assured that the current state of national and international defence investments will continue over time.

“We are witnessing a real revolution in military affairs”, said Piñeiro. The Chief of Staff of the Navy claimed that the conflicts in Gaza and Ukraine are characterised by the rapid evolution of technologies and a strong stretching of the supply chain, and stressed the need for Spain to “have strategic autonomy as soon as possible”. In his opinion, to achieve this, it is paramount to convey to our industry “the research avenues and where to focus its efforts”, and to continue with a combined approach by cooperating with the navies of other countries.

Braco insisted that “digital transformation is not an option for the Air and Space Force; it is a necessity and a combat capability”. As examples of digitalisation, he cited the Titán project, to guarantee the operability of the units, and BACSI (Connected, Sustainable and Intelligent Air Base), to transform air bases into technologically advanced installations.

The three Chiefs of Staff agreed that people will always be behind any technology. Enseñat emphasised the double challenge posed by artificial intelligence: the ethical one, stating that when lethal force is applied there must be a human decision behind it; and the legal one, to ensure that the conventions of International Humanitarian Law are updated with regard to the new forms of combat.

**Participants  
analysed the  
adaptation of the  
Armed Forces to  
the new operational  
environments**

# Reflecting the future of Spanish and global defence



**Amparo Valcarce**  
Secretary of State  
for Defence

THE fourth edition of the International Defence and Security Exhibition, FEINDEF 25, held from 12 to 14 May in Madrid, has once again highlighted the strategic importance of our defence industry, at a time when Europe is defining itself not only geopolitically, but also as a community with shared values and responsibilities.

With the historic presence of 601 exhibitors, 90 international delegations, 10 international organisations, and more than 44,000 visitors, FEINDEF has established itself as one of the most important meeting points of this sector because, in addition to showcasing the most advanced technological systems and next generation equipment, it has become a space of reference where international relations and defence cooperation have reinforced Spain's role as a member committed to collective security.

This edition's most notable feature has been our defence industry's remarkable capacity for innovation. FEINDEF has served as a platform for showcasing the very best of our industrial and technological capabilities in key areas such as cybersecurity, artificial intelligence, robotics and the latest developments in security. The Women, Engineering and Defence round table also highlighted the role of female talent in the evolution and transformation of the sector.

These developments, which are redefining the traditional concept of defence, are crucial to adapt to the new challenges of the 21st century, where phenomena such as cyber-attacks, transnational terrorism and hybrid threats require rapid, adaptable and, above all, technologically advanced responses.

One of the greatest achievements of FEINDEF 25 is its ability to establish a fruitful and closer cooperation between the public and private sectors. The Ministry of Defence is fully aware that, in such an ever-changing and competitive global context, support for the business fabric is critical in order to strengthen our strategic position as a nation and achieve the much-needed technological autonomy in a Europe that is capable of defending its interests with its own sovereign means.

Moreover, this symbiosis not only has a direct impact on our security, but also contributes to the creation of highly skilled jobs, fosters the development of dual-use technologies, promotes the creation of critical infrastructure and lays the foundations for a sustainable defence industry that looks to the future.

The international sphere has been another central axis of FEINDEF 25. An important fact

is that 34 bilateral meetings have been held between high-ranking officials of the Ministry of Defence and foreign delegations, which have been fundamental in opening up new opportunities for cooperation. The ten cooperation conventions and agreements signed, including the Memorandum of Understanding (MoU) between 16 Spanish companies and Turkish company TAI for the future advanced training aircraft of the Spanish Air and Space Force, are proof of the commitment of the national industry to advance in projects that reinforce its presence beyond our borders.

FEINDEF 25 has also been a starting point for strategic alliances and industrial cooperation. MoUs have been initiated with countries such as the Philippines, Jordan, Slovenia, Guatemala, Chile, Vietnam, Latvia and Cyprus, in addition to ongoing agreements with Finland, Sweden and Oman. This constant flow of pacts and negotiations reflects an outlook of expansion and consolidation of our defence companies in the international market, showcasing our technological and operational capabilities to countries looking for reliable and committed strategic partners.

In this edition of FEINDEF, the role of sustainability in the defence sector has gained particular attention. This edition has witnessed important advances in the integration of renewable energy solutions and techniques that optimise the use of resources without compromising the effectiveness of our operational capabilities.

The energy transition and the promotion of clean and efficient technologies are essential not only to ensure the energy autonomy of our defence systems, but also to preserve the environment and build a greener and more sustainable future.

FEINDEF 25 leaves us with a profound reflection on the direction that our defence industry should take as it continues to advance steadily in a globalised world. In light of this, I cannot help but mention the Spanish Government's Industrial and Technological Plan for Security and Defence as a tool that will enable Spain to boost a new phase of industrial and technological development, a wave of innovation, while upholding its commitment to security, the Welfare State, ecological transition, and the promotion of global peace and development.

As Secretary of State for Defence, I would like to express my most sincere gratitude to all those who, through their participation, have contributed to the outstanding success of this edition of FEINDEF.



## INDUSTRY AND TECHNOLOGY

space dimension; as well as other developments presented by Airbus, Hisdesat, Oesía and SAPA Placencia, among others.

Robles held meetings with delegations from Angola, Congo, Gabon, Guatemala and Senegal at the Defence Ministry's stand. Her Department was represented at the exhibition by the Directorate-General for Strategy and Innovation of the Defence Industry, ISDEFE (a state-owned engineering and consulting company), the Inspectorate-General for Defence Health, the Permanent Secretariat for Equality between Men and Women in the Armed Forces, the Deputy Directorate-General for Publications and Cultural Heritage and the SAPROMIL platform which, through the Directorate-General for Recruitment and Military Education, manages career opportunities for active military personnel and reservists with special availability.

The following day, during her second visit to FEINDEF, Margarita Robles met with the Ukrainian Minister of Strategic Industries, Herman Smetain, to whom she reiterated Spain's support through the supply of defensive and humanitarian material and the training of combatants. She also visited Hispasat's stand and, once again, Indra's chalet to meet with the company's executive chairman and CEO, with whom she then moved on to Hall 4, where Tess Defence, in which Indra holds a majority stake, was showcasing an 8x8 Dragon VCR (wheeled combat vehicle). She also held a brief meeting with Turkish ambassador Nüket Kúçükel Ezberci at the stand of Turkish Aerospace Industries (TAI), manufacturer of the Hürjet, one of the candidate aircraft to replace the older F-5 fighter jets of the 23<sup>rd</sup> Wing belonging to the Fighter and Attack Training School in Talavera la Real (Badajoz).

As end users of industrial developments, the Spanish Defence, Army, Navy, and Air and Space Force Staffs, as well as the National Institute for Aerospace Technology (INTA) also displayed their capabilities.

The Joint Cyberspace Command, for its part, organized various conferences and activities, including a virtual reality game open to visitors interested in learning more



Among other assets, the UME displayed different drone models used in emergency management, including the Alpha 800 rotary-wing drone.

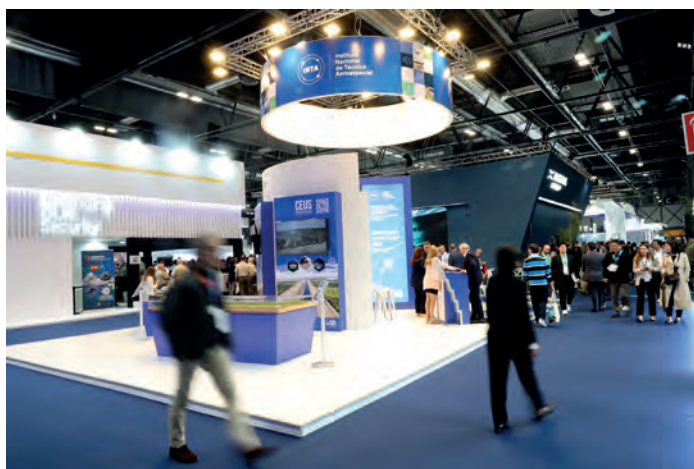
about cyber defence and a recruitment booth aimed at providing advice to specialists considering working for the Armed Forces. For its part, the Centre for Information and Communications Systems and Technologies (CESTIC) took advantage of the opportunity provided by the exhibition to publicise the innovation and digital transformation being promoted by the Ministry of Defence.

Several strategic and industrial cooperation agreements were also reached during FEINDEF. For instance, the Mem-

orandum of Understanding signed by the German company Rheinmetall and Indra to strengthen their strategic cooperation in projects related to armoured vehicles, and a second MoU signed by both companies, along with Spanish company SAPA, to improve the capabilities of air defence systems. Airbus and Turkish Aerospace also signed agreements with the aim of collaborating on the new advanced jet trainer programme for fighter pilots. In addition, the Ministry of Defence and Airbus Helicopters signed a new National Helicopter Plan to expand the NH90 and H135 fleets.

A few days later, on 19 May 2025, Minister Robles held a meeting at the Ministry with a large group of executives from the sector, whom she thanked for their presence at the exhibition. "All the participants have made an incredible effort. It has been a great success and we should all congratulate ourselves on this as it is Spain's image that we are portraying; the Spanish industry has definitely been greatly strengthened".

**J.L. Expósito**  
**Photos: Pepe Díaz**



The National Institute for Aerospace Technology (INTA) presented the capabilities of its new technological centres in Huelva and Jaén.

Environmental security is integrated in NATO's three core tasks: deterrence and defence, crisis prevention and management, and cooperative security

# NATO faces the threat of climate change

**Captain Eduardo Matres Manso (Spanish Navy)**

Coordination Division for Security and Defence Studies

(General Secretariat for Defence Policy: SEGENPOL)

Analyst of the Geopolitical Analysis Branch

**T**HE effects of climate change are being felt in numerous ways in NATO's own territory. We experienced intense heat waves in Europe in 2022, which may have contributed to the rise in deaths around the world. In 2023, devastating fires occurred in Greece, Canada and Hawaii, displacing hundreds of thousands of people. Flash floods in Slovenia in 2023 caused irreparable losses, estimated at more than 15% of its Gross Domestic Product. Furthermore, we cannot forget the torrential rains of October 2024 that devastated large areas of Valencia, Spain, at a staggering human cost.

The armed forces of the affected countries have been involved in many of these tragedies, demonstrating their high readiness and preparedness. Aside from disaster response, NATO has also been making the necessary changes to implement the energy transition in its structures without limiting its capabilities, and increasing the training of its operational units in the most extreme weather conditions.

### ON NATO'S RADAR

NATO's concern over environmental issues dates back to 1969, when a Committee on the Challenges of Modern Society (CMS) was created to address issues such as pollution and the treatment of hazardous waste. In 2006, this Committee joined forces with the Science Committee to create the Science for Peace and Security (SPS) Programme, which developed initiatives for effi-

cient water management and the prevention of natural disasters. As early as 2021, the Alliance adopted an ambitious Climate Change and Security Action Plan, which laid the foundation for firmly placing climate change and security on the Alliance's political-military agenda. The Plan includes four key areas of action: build Allied awareness of the impacts of climate change on security; adapt Allied military capabilities and societal resilience to ensure the continued effectiveness of the military response; reduce the greenhouse gas footprint of the NATO enterprise; and integrate NATO's outreach efforts with its wide network of partners.

As a result, in June 2022, a new Strategic Concept was approved in Madrid. This document is crucial for outlining the Alliance's guidelines and has a long time horizon. The Concept attaches particular importance to climate change, pointing out the need to integrate it into NATO's three core tasks: deterrence and defence, crisis prevention and management, and cooperative security. In defining

**For decades, NATO has been training its units in extreme weather conditions and implementing energy transition in its structures**





OTAN

the new strategic environment, it recognises that climate change is “a defining challenge of our time, with a profound impact on Allied security”, which can act as a conflict multiplier, especially in North Africa and the Sahel, as well as in the Middle East. It also warns us of all kinds of extreme effects (wildfires, floods, rising sea levels, etc.) that have the potential to seriously disrupt our societies. It is therefore clear that the new scenarios will affect the way our armed forces operate.

In all NATO core tasks, and in particular in the first and most demanding one —deterrence and defence—, operational units must be able to operate in the most extreme weather conditions, for which NATO must be specifically prepared. As for the second core task —crisis prevention and management—, the Concept calls for the development of the Alliance’s ability to assist in disaster relief and prepare for the possible effects of climate change. With regard to the third core task —cooperative security—, it advocates increased collaboration with the European Union, as NATO’s “unique and essential partner”. Essentially, the goal is to establish NATO as “the leading international organisation when it comes to understanding and adapting to the impact of climate change on security”, while ensuring the Alliance’s commitment to transition and energy efficiency improvement, without compromising military effectiveness.

However, not everything ends with the Strategic Concept. Based on this document, the various objectives are defined and specified

every year in the successive Summits of Heads of State and Government. For instance, in 2023, in the Lithuanian capital of Vilnius, the Allies agreed to create a NATO Centre of Excellence for climate change in Montreal, Canada, which was finally accredited in 2024. In 2025, however, new challenges lie ahead and the Alliance as a whole will have to be prepared to work with a US administration that is more reluctant to commit to the climate agenda.

#### THE ARCTIC SCENARIO

The Arctic is a key territory for the Alliance, as seven NATO member countries —Canada, Denmark, Finland, Iceland, Norway, Sweden, and the US— border the region. The Arctic Ocean is suffering severely from the effects of climate change; temperatures are rising up to four times higher than in other oceans and, consequently, there is a significant decline in the ice cap. In Greenland, for example, ice loss is estimated at 30 tonnes per hour, which represents 20% more than initially predicted. Thus, the effects of melting are spreading to the rest of the world, as, according to the most recent NASA data, the average sea level is rising by just under one centimetre per year. And there is also the fact that the Arctic territories are home to some four million people. Abrupt shifts in the ecosystem and weather patterns, coastal erosion and biodiversity loss are significantly impacting the daily lives of many local communities.

The third edition of NATO Climate Change and Security Impact Assessment was published in 2024 by former Norwegian NATO





Markus Heine/BEE

Secretary General Jens Stoltenberg. One of the case studies in this report analysed the maritime environment in the Arctic, where melting is leading to a significant increase in maritime traffic (including for touristic and fishing purposes). Difficult and often unpredictable sea and wind conditions, low temperatures and vast distances pose a major challenge to naval forces in emergency situations, such as search and rescue or natural disaster response. However, the Arctic is also essential to NATO's deterrence and defence, and thus the Secretary General's report analysed other operational aspects, such as the impact on the detection capability of the various sensors, which is of great importance in providing an appropriate early warning for any kind of threat.

Another issue of concern within NATO is freedom of navigation, which is enshrined in the 1982 United Nations Convention on the Law of the Sea (UNCLOS). The so-called Northern Sea Route, where Russia is imposing strict controls to authorise navigation, is in fact becoming more accessible due to melting ice. This new sea route could potentially disrupt international trade because it would reduce the time it takes for a cargo ship to travel from China to the North Sea by about 30-40%. It would also help to resolve the strategic "Malacca dilemma", a term coined by Chinese President Hu

Jintao in 2003 in response to concerns that a blockade of the Strait of Malacca would cripple China's economy.

Finally, it is essential to highlight the importance of the Arctic Council, an intergovernmental cooperation forum created in 1996 with sustainable development and environmental protection as its primary goals. It has no links to NATO but includes the seven Arctic nations of the Alliance plus Russia.

Prior to the invasion of Ukraine, geopolitical tensions never prevented cooperation within the Council, underscoring the importance of the slogan "High North, Low Tension" —popularised by Norway, currently holding the Council's presidency—, which aims to build bridges of understanding with Russia.

### THE MIDDLE EAST, NORTH AFRICA AND THE SAHEL

The effects of climate change are particularly worrying in these regions, which make up NATO's Southern Neighbourhood, and an example of this is the average annual increase in the number of days on which temperatures reach above 40 degrees Celsius. Morocco has suffered from an agonising drought in recent years, affecting the drinking water supply of entire cities. Libya suffered severe flooding



in 2023, leaving thousands of people dead or missing. In 2024, torrential rains in the Sahel caused hundreds of deaths. Climate change also affects the delicate balance of the water-energy-food nexus, which is so important in these territories and is in itself a source of conflict. A direct consequence of the break-up of the nexus is what is known as “climate displacement”, a problem that directly affects these regions, particularly the Sahel.

In the Middle East, Yemen is the country with the worst water situation, as its resources depend almost exclusively on scarce rainfall and underground aquifers, two-thirds of its population having no direct access to safe drinking water. Worst of all, water is being used as a weapon of conflict, deliberate damage being caused to water supply infrastructure. Another country hard hit is Iraq, which depends on the flow of the Tigris and Euphrates rivers that originate in Türkiye. Fortunately, Türkiye and Iraq signed a Memorandum of Understanding in 2024 to improve water resource management.

It is obvious that the present and future scenario in these regions is indeed problematic, and NATO is fully aware of the profound security implications that result from this. In 2017, what is commonly referred to as NATO’s Hub for the South<sup>1</sup> was created in Naples, focusing on concerns such as radicalisation, terrorism, migration and environmental issues. Today it is undoubtedly a very valuable tool to increase NATO’s understanding of the regional dynamics of North Africa ([www.thesouthernhub.com](http://www.thesouthernhub.com)).

Continuing along this path, in 2023, and with Spain’s decisive drive, NATO launched a Reflection Process on the Southern Neighbourhood. The corresponding report was released in 2024 and included a special chapter on climate change along with a number of short-, medium-, and long-term recommendations. In the short term, these included establishing a specific agenda with the Mediterranean Dialogue and the Istanbul Cooperation Initiative countries and, in the medium term, setting up a centre in North Africa for climate change.

All of these efforts culminated in the 2024 Washington Summit, which marked NATO’s 75th anniversary. There, the Allied members adopted the Southern Neighbourhood Action Plan and agreed to appoint Spanish diplomat Javier Colomina as special representative for the Southern Neighbourhood. Subsequently, in January 2025, NATO implemented a specific agenda to materialise the Plan, detailing the different lines of action. In a recent article published in the *Revista Española de Defensa*, Ambassador Javier Colomina explained the many challenges faced by the Middle East, North Af-

rica and the Sahel (demographic, economic, political and security), pointing out that they are all exacerbated by the negative impact of climate change. He concluded with a call to further strengthen dialogue and engagement with countries in the region, using a comprehensive approach to enable cooperation in a number of areas, including resilience and civil preparedness.

#### **SPAIN’S COMMITMENT**

As mentioned, NATO’s Climate Change and Security Action Plan was adopted in 2021. In 2023, NATO released a “Compendium of Best Practices”, which identified the measures nations were putting into practice in response to the Action Plan. The Spanish Ministry of Defence then provided an update on several projects and activities, including the study of the effects of climate change in numerous scenarios, from forest fires to migratory movements, to name just a few, or the analysis of the implications for preventive medicine.

Likewise, in July 2023, Defence Minister Margarita Robles sanctioned the first Ministry of Defence’s Strategy on the challenge of Climate Change, which fully adheres to Law 7/2021 on Climate Change and Energy Transition. The Strategy defines the appropriate framework for the military institution as a whole to adapt to climate change, guaranteeing its capabilities and military effectiveness, while, where practicable, contributing to mitigate its effects.

Thus, a series of principles are defined under the dual purpose of adapting and contributing, one of which is precisely active international cooperation with organisations such as the United Nations, NATO and the European Union. Subsequently, up to twelve different lines of action are detailed, grouped into two main areas: preparation of the force in national territory; and scope of operations. In order to obtain a thorough understanding of the actions involved, a Working Group headed by the General Secretariat for Defence Policy was established. As Admiral Juan Francisco Martínez Núñez, the current Undersecretary of Defence for Political Affairs, explained in an article published in this magazine in October 2023, the Strategy “provides the department with a global approach to a challenge that, due to its causes and effects, needs to be faced from a cross-cutting and multidisciplinary perspective”.

In short, as the Strategy concludes, “climate change is a factor that increases and multiplies the risks and threats to international security, stability and peace”. NATO’s agenda, and in particular that of Spain, are well aware of this reality and put a lot of effort into addressing the numerous tasks involved in the pursuit of a better and safer future for all.

## **The effects of climate change as an instability enhancer are particularly severe in the Southern Neighbourhood**

# ALCUBIERRE, the discoverer of Pompeii

The now famous archaeological site, which today continues to reveal its secrets, was rescued from oblivion by a Spanish military engineer

**V**ISITED daily by thousands from all over the world, the Italian archaeological park of Pompeii in Naples made headlines in February 2025. News broke of a particularly valuable new finding, the umpteenth since the city was discovered in 1748 by Roque Joaquín de Alcubierre, a Spanish military engineer.

Researchers currently working at the site have found a large fresco depicting the god of wine — Dionysus in Greek mythology and Bacchus in Roman mythology — followed by a large entourage of dancers, huntresses and satyrs.

Aside from its aesthetic and decorative qualities, the painting found has also contributed to our understanding of the Roman world, as was the case during the excavations conducted by Alcubierre.

Specifically, the fresco depicts the relationship between hunting and the rites of initiation to the cult of Dionysus. This connection was present in classical writings but was later reinterpreted until it was only seen as a metaphor for a lifestyle of debauchery.

This will not be the last scene recovered from ashes and oblivion to become a first-hand source that will expand or clarify what we already know about Rome and the thriving Pompeii, buried by the eruption of the volcano Vesuvius in 79 AD.

Even though Pompeii is the most emblematic archaeological site in the area, it is not the only one. The volcanic fury also buried all sorts of life in Stabiae and Herculaneum, the latter being the

first enclave that would come to light in 1738 thanks to the research efforts of Alcubierre and the support of Charles III when he was King of Naples.

At the time, this discovery represented an unparalleled milestone in both archaeology and our understanding of the Roman world. However, un-



The military engineer Roque Joaquín de Alcubierre was the first to discover Herculaneum and then to locate the ruins of Pompeii and Stabiae.

like the cities Alcubierre rescued from oblivion, few people really know who discovered them, although this seems to be changing.

Thus, on 25 April 2025, this military engineer was the star of the opening session of the Saraqusta International History Film Festival, held in Zaragoza, the capital where he was born.

Some sources suggest that he was born on Saint Roch's day, 16 August 1702, but others claim that this may have been the day of his baptism, as his first name (Roque: Roch) is that of the aforementioned saint.

Little is known about his life before coming to Naples as part of the Spanish court of Prince Charles, who first became King of Naples and subsequently of Spain.

### IN SERVICE TO THE CROWN

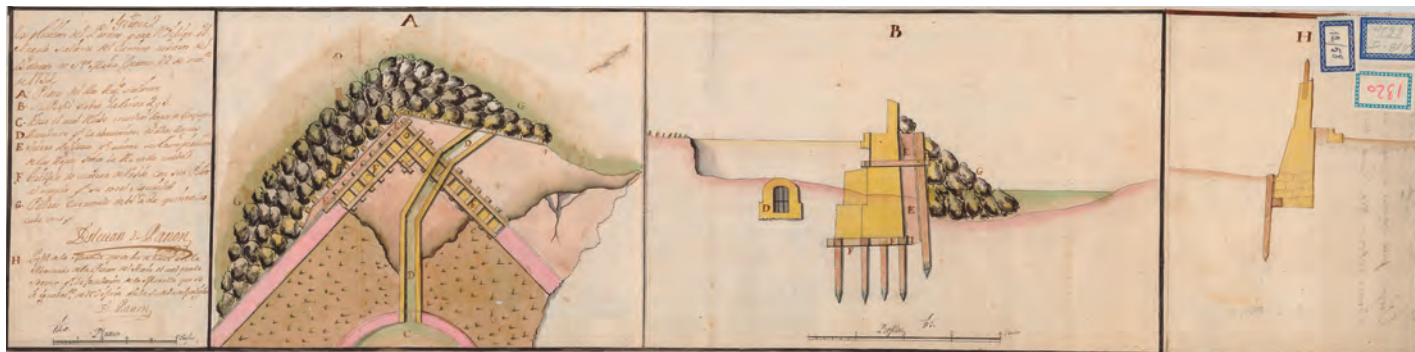
We do know, however, that he was a protégé of the Counts of Bureta and an army engineer. In his article *Roque Joaquín de Alcubierre, discoverer of Pompeii and Herculaneum*, the specialist Miguel Beltrán Llorís claims that he was assigned to Girona in 1731 as a "volunteer engineer".

José Antonio Hernández, Ph.D. in History, notes in his analysis Roque Joaquín de Alcubierre and the Conquest of Antiquity, that Girona was one of the several Catalan cities in which our protagonist served under the command of Esteban Pañón and Andrés de los Cobos.

He participated in important military projects on rivers, fortifications and other works. Among these works, Hernández mentions the Bastion of Santa María in Girona, under the leadership of Cobos, with whom he was to arrive in the Royal City of La Granja de San Ildefonso (Segovia) and later in Madrid in 1733.

Sources differ as to whether Alcubierre went to Italy with Prince Charles as a result of the conflict with Austria





"Project to rebuild the protruding corner of the covered walkway of the Bastion of Santa María", in Girona, signed by the military engineer Andrés de los Cobos in 1732 and in which Alcubierre is believed to have participated before going to Naples. Below, a miniature dressed in the uniform of the king's servants, which was probably worn by Alcubierre.



The Aragonese worked and investigated in different places in the Gulf of Naples (work Le Antichità di Ercolano Esposte), such as Portici, Herculaneum, Cività (Pompeii) and Stabia, as well as Pozzuoli or Sorrento, on the left and right ends of the map.



18th-century recreation of the Palace of Portici, purchased by Charles III while he was King of Naples and, which Alcubierre was working on when he discovered Herculaneum. Right, a painting of Prince Charles de Bourbon in the battle of Gaeta, a Spanish victory that was essential to gain the Neapolitan crown.



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## HISTORY

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### The antiquities in Herculaneum

**I**N addition to encouraging and pursuing the archaeological work at Herculaneum, Pompeii, and Stabiae, which had been buried in 79 AD by the volcano Vesuvius and forgotten for centuries, Charles III of Spain—VII of Naples until he inherited the Spanish throne—also promoted the study and conservation of the remains found in the excavations led by the Spanish military engineer Roque Joaquín de Alcubierre.

These discoveries paved the way for the opening of the Herculaneum Museum and the Royal Herculaneum Academy of Archaeology. For the latter, renowned scholars of the time analysed and presented the exhibits of that classical world that was finally being unburied. Much of that work was published in *Le Antichità di Ercolano Esposte* (*Antiquities of Herculaneum Exposed*), also sponsored by the “archaeologist king”.

In accordance with the enlightened standards of the time, the historical-artistic nature of the discovery was prioritised and, despite its flaws when compared to modern archaeological criteria, it represented a before and after for this science.

Forty volumes were planned, but only eight were published. It was the first major detailed study of Alcubierre’s archaeological finds and today it is also a bibliographical gem due to its quality and beautiful workmanship. Among the copies that have survived to this day, the Central Military Library displays a series of its first six volumes, to which these pictures belong.



for the Crown of Naples or later, after the victory of this Bourbon prince at the Siege of Gaeta (1734), which would eventually win him the Neapolitan crown.

There is no doubt, however, that in 1738 he was working on the renovation of the Royal Palace of Portici, purchased by the sovereign, which led him to discover Herculaneum, Pompeii and Stabiae.

All three cities, located in the Gulf of Naples, were the focus of most of his archaeological work, but he also researched other parts of the bay, including Pozzuoli, the westernmost enclave, Sorrento, and Capri, at the opposite end.

#### HERCULANEUM PAVED THE WAY

The discovery of Herculaneum was the first success of Alcubierre’s research. Locals often told him that classical remains were being found in the area, in particular near the so-called Nocerino well and, thus, he asked for permission to search the area with two or three workers.

He began working as soon as he was given the royal approval and quickly found what he thought was a temple. It was actually the city’s theatre, as a commemorative tablet would later reveal. Even an inscription bearing the name of its architect, Publius Numisius was found.

In order to advance the excavations, Alcubierre built a system of galleries similar to that of a mine.

The project led by Alcubierre gained momentum due to the quality of the items found and the frequency with which they were discovered, leading him to increase the number of personnel. He organised his men according to specific tasks and always kept a detailed record of the antiquities extracted and located.

Although it was a challenging task due to the difficulty of removing the finds and the ventilation issues inside the archaeological site, the flow of remains was constant, to the delight of everyone, including the monarch, who requested to be informed of the activities on a daily basis.

This interest, which he would bring to Spain after inheriting his crown, led to the discovery of Pompeii and Stabiae, the creation of a museum, an academy,



and the ambitious publication of *Le Antichità di Ercolano Esposte*. As a result of all this, he was nicknamed the “archaeologist king”.

Only a year later, as Professor Hernández recalls in Alcubierre’s own words, “he had gone down Herculaneum caves more than 200 times”, which seriously damaged his health and forced him to ask for a leave of absence from 1741 to 1745.

Upon his return, Alcubierre was already a lieutenant colonel and a member of the Archconfraternity of the Spanish Nobles of Santiago. Herculaneum was the focus of frenzied attention, even beyond the Neapolitan borders, and thus



Fresco painting found in Stabiae.

Alcubierre decided to embark on new investigations. These included one at Civit  (1748), where he found the now famous Pompeii, and another at Gragnano (1749), the location under which Stabiae was hiding. These milestones were not confirmed until 1763 when a Pom-

peian stone stele identified the sites under study. Alcubierre’s work was methodical and thorough; he ensured the extraction of antiquities under strict control and harsh sanctions for offenders; he followed the guidelines of the enlightened knowledge of the time, which prioritised historical-artistic knowledge, and, above all, he marked a before and after in archaeology.

After a lifetime of service, Roque Joaqu n de Alcubierre died on 4 March 1780. He was brigadier, Chief Engineer of the Armies of the King of Naples and Governor of the Carmen Castle, where he was buried.

Esther P. Mart nez/Photos: H l ne Gicquel



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Esther P. Mart nez

Left, a space that can be visited at Herculaneum. Next to it, a view of the Pompeii site with the volcano Vesuvius in the background. Below, an illustration depicting the 18th-century discovery and excavation of the Pompeian temple of Isis, an easier undertaking than the one conducted at the Herculaneum site as it was not so deep.



Pietro Fabris





The famous painting *The Surrender of Breda*, also known as *The Lances*, Velázquez's iconic image of the emblematic victory.

## 400<sup>th</sup> anniversary

# The surrender of Breda

## One of the greatest triumphs of the Spanish Tercios in the Eighty Years' War

**O**N 5 June 1625, after nine months under siege, the city of Breda capitulated to the army commanded by Ambrosio Spinola, Marquis of Los Balbases, marking one of the greatest triumphs of the Spanish Tercios during the Eighty Years' War.

The conflict between the Spanish monarchy and the United Provinces of the Netherlands had been reignited four years earlier, in 1621, when the Twelve Years' Truce concluded. After the death of Philip III and of Archduke Albert, ruler of the Spanish Netherlands, the newly crowned Philip IV was in favour of resuming the war and restoring the prestige of the monarchy. In 1624, Spinola, in command of the Spanish troops in Flanders, considered laying siege to Breda, a strategic city owned by Maurice of Nassau, Prince of Orange.

Many viewed the attempt as risky due to the fortitude of the city, its gar-

risson, and the difficulty of resupplying an army from such a great distance. However, with the consent of Infanta Isabella Clara Eugenia, sovereign of the Spanish Netherlands, Spinola launched the siege in July 1624, mobilising some 18,000 men.



Portrait of Ambrosio de Spinola, leader of the Spanish forces in Breda.

The siege began with the occupation of strategic villages such as Ginneken and Terheijden, and continued with the construction of a complex system of fortifications. In just 17 days, the engineers built a double line of circumvallation of more than 40 km, with redoubts and trenches, to completely isolate Breda. Spinola's men built a causeway, the Black Dike, between Terheijden and Teteringen to prevent supplies from reaching the enemy by river.

Winter turned the siege into a war of attrition. Thanks to impeccable logistics, the besiegers were regularly supplied from Lier, 70 km away, while the defenders endured hunger, diseases such as scurvy, and complete isolation. Spinola even prevented the evacuation of civilians, forcing an early depletion of reserves.

Dutch efforts to break the siege failed. Although they managed to flood the surrounding area to facilitate the entry of supplies by ship, Spinola ordered the construction of counter-dikes. In the spring, reinforced with 38,000 men, he extended the line of circumvallation to more than 70 km, with a total of 178 fortifications.

After Maurice of Nassau's death, his brother Frederick Henry made the last serious attempt to break the siege. On 15 May 1625, he launched an attack with 6,000 men on Terheijden. Although they managed to take some redoubts, they were repulsed by the Spaniards, who killed some 500 people. Due to Breda's lack of provisions, Spinola proposed an honourable capitulation, which was accepted on 2 June 1625. Surrender was formalised on 5 June and, banners and weapons in hand, the 3,000 defenders left Breda. Spinola forbade his soldiers to make fun of them, demonstrating a great sense of chivalry.

The surrender of Breda brought an end to what proved to be a model siege in terms of organisation, logistics and humanity. The victory consolidated Spinola's reputation as an exemplary leader, admired even by his enemies. Pope Urban VIII praised the siege as a lesson in military prowess for posterity, and it was immortalised, among other works, in Velázquez's famous painting *The Surrender of Breda*.

**Germán Segura García**





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