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PER ASPERA AD ASTRA



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COVER I: ROMANIAN AND PORTUGUESE F-16 DURING
BALTICA-2023 MISSION. PHOTO BY BOGDAN
MOVILEANU

COVER III: LIVE FIRING WITH PAC-2 ATM MISSILE

COVER IV: DUTCH F-16 FROM EFTC AT 86TH AIR
BASE. PHOTO COURTESY OF 86TH AIR BASE

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COMBINED AIR OPERATIONS CENTRE TORREJÓN - TEN YEARS LEADING NATO AIR OPERATIONS IN THE SOUTH

NATO's Combined Air Operations Centre at Torrejón (CAOC TJ) has completed its first ten years as the unit responsible for the air defence of NATO's southern region in Europe. On November 27, a ceremony was held at Torrejón Air Base to commemorate this anniversary.

The Spanish Chief of Defence, Admiral General Teodoro Sánchez Calderón headed the event giving his appreciation to the work of the personnel from 19 different nations who make up the CAOC TJ staff. Subsequently, Commander of CAOC TJ, Lieutenant General Juan Pablo Sánchez de Lara addressed the attendees,

emphasising the essential mission carried out by the CAOC TJ in the defence of Europe.

"The NATO Integrated Air and Missile Defence System is our core business here at the CAOC, and we feel very proud of this 24-hour, day-to-day mission that shows a capable and credible Alliance that is

permanently determined to defend our territories and to protect our populations and our forces from air risks and threats, demonstrating the unity, cohesion and solidarity that have become the lifeblood of NATO", General Sánchez de Lara said.

He also highlighted that CAOC TJ – the only unit of the NATO command structure located in Spain - as a multinational unit combines not only different weapons systems, but also different mentalities in pursuit of the same mission.

Admiral General Teodoro Sánchez Calderón closed the event by congratulating "all the personnel who have formed part of the CAOC Torrejón in recent years and who have made it possible, through their effort and work, to achieve high standards of quality that allow the CAOC to fulfil its tasks with great efficiency."

"I encourage the current members to continue to maintain the high capabilities achieved through their professionalism and dedication," he concluded.

Impressions from the ceremony at the Spanish Air Base at Torrejón near Madrid, where senior Spanish and Allied representatives observed the tenth anniversary of NATO's southern Combined Air Operations Centre that plans, coordinates, prepares and control NATO air operations in the south including the 24/7/365 Air Policing mission that safeguards the airspace and protects populations and territories. Photo courtesy Spanish Air Force.





ROMANIA'S NATIONAL DAY

December 1st holds significant importance for Romanians as it commemorates the nation's hard-won independence from the Austro-Hungarian Empire during the First World War. The Romanian principalities of Moldova and Wallachia unified at Alba Iulia in 1918, giving rise to the cohesive national state of Greater Romania.

The Alba Iulia Declaration, inked on December 1, 1918, marked the collective decision of representatives from Moldova, Wallachia, Transylvania, Banat, Crisana, and Maramureş to amalgamate these regions with Romania. This historic event realized the long-cherished dream of numerous generations of Romanians for a unified and independent state.



Romanian Air Force detachment was led by Brigadier General (AF) Ioan Mischie



Non Commissioned and Warrant Officers Military School detachment was led by Colonel (AF) Corneliu Mititelu



The 1st SAM Brigade conducted a ceremonial passage under the Arc de Triomphe, showcasing their equipped gear, including the HAWK missile system



The PATRIOT surface-to-air missile system



In a grand display of unity and patriotism, over 1,500 soldiers and specialists from various branches of the Romanian state proudly marched in Bucharest's Arc de Triomphe Square on Romania's National Day, December 1, 2023. Imposing forces from the Ministry of National Defense, the Ministry of Internal Affairs, the Romanian Intelligence Service, the Special Telecommunications Service, and the National Penitentiary Administration formed an impressive tableau of honor and discipline. The event featured approximately 130 technical assets, including 40 aircraft, adding a touch of spectacle.

In a demonstration of solidarity within NATO structures, alongside Romanian soldiers, 150 foreign troops from Belgium, France, North Macedonia, the Republic of Moldova, Luxembourg, Poland, Portugal, the United States of America, and the Netherlands marched with honor. Combat assets, including aircraft, were also on display from Germany, the United States of America, and Türkiye. Throughout the country's military institutions, the national flag was hoisted, and the specific Holiday Flag adorned maritime and river vessels. In Bucharest, near the Arc de Triomphe, a military equipment exhibition was open to the public.

In garrisons with large units and military installations, representatives of the Romanian Army actively participated in preparing, organizing, and conducting parades, military ceremonies, and religious observances, including the laying of wreaths.

To mark the occasion, military aircraft conducted flyovers in various localities, including Sinaia, Constanța, Alba Iulia, Mediaș, Cluj-Napoca, and others. The related training occurred between November 24 and 30, minimizing any impact on local communities. The December 1, 2023, parade stood as a special event, symbolizing not only historical achievements but also Romania's ongoing commitment to unity, solidarity, and national dignity.

Text: Maria Ioniță;

Photo: Adrian Sultănoiu, Alex Bălănescu, Bogdan Pantilimon



The Air Force Academy detachment was under the command of Colonel (AF) Dinu Padurariu; this marked his inaugural passage under the Arc de Triomphe. As a pilot, he conveyed the honor from the air during the National Day celebrations



Brigadier General Bogdan-Nicolae Istrate, led the 1st SAM Brigade detachment



The Romanian Air Force were also present in the static exhibition arranged at the Arc de Triomphe Square



EFTC

European F-16 Training Center

In adherence to the commitments made at the NATO Summit in Vilnius, Romania unequivocally upholds its obligations with utmost dedication and professionalism. Building upon the resolutions established during the NATO Summit in July 2023, Romania proudly serves as the host nation for the European F-16

Training Center situated at the 86th Air Base in Borcea.

Functioning as a pivotal international hub for F-16 pilot training, the center is strategically designed to enhance interoperability among allies. Simultaneously, it plays a crucial role in fostering common operational standards and fortifying the North Atlantic Alliance's capabilities to address the intricate challenges prevalent in the Black Sea region and Eastern Europe. Pursuant to the terms outlined in the collaborative agreement,

the Romanian Ministry of Defense extends its support by providing the 86th Air Base, training facilities, and host nation assistance. The Royal Netherlands Air Force contributes F-16 aircraft, while Lockheed Martin Company assumes responsibility for supplying instructors and maintenance services. The European F-16 Training Center in Romania assumes a vital role in the comprehensive training of Romanian pilots, ensuring that the nation's air force undergoes training of the

highest standards. This collaborative effort underscores Romania's unwavering commitment to the collective defense and security objectives of the NATO alliance.

On November 7, the inaugural set of five Dutch F-16s executed a flawless landing at Air Base 86, marking the commencement of their deployment for pilot training at the center.

"In this facility, we're molding the future cadre of F-16 pilots. It's not just about initiating rookies into the world of F-16s; we're conducting refresher courses for seasoned F-16 pilots as well. This encompasses everything from formation leader courses for two and four aircraft formations to courses leading to the coveted flight instructor qualification. Given

the prevailing geopolitical landscape, especially along NATO's eastern frontier, this center is a welcome addition. We take great pride in Romania and, by extension, the 86th Air Base hosting this critical endeavor. The instructors steering this center are former military pilots hailing from NATO member nations. These are battle-tested, operational aviators boasting extensive flight hours, and there's a wealth of knowledge we can glean from them. We're optimistic that this collaboration will be mutually beneficial for all parties involved," affirmed the head of the European F-16 Training Center.

The initial American instructor arriving in-country from this



The formal inauguration of the European F-16 Training Center was marked by a ceremony graced by the presence of the Minister of National Defense, Angel Tîlvăr, along with the Chief of the Defense Staff, General Daniel Petrescu, and the Chief of the Air Force Staff, Lieutenant General Viorel Pană



center emphasized, "We've assembled a formidable cadre of instructors from the United States of America and other NATO member nations to kick off the training for Romanian recruits. Our initial commitment spans 18 months, and we'll assess the situation thereafter. We'll be taking the reins of the initial 12 Dutch F-16s, with the prospect of additional deployments later on. The Romanian Air Force stands out; they've been operating the F-16 for a considerable duration, and their pilots are exceptionally well-trained. We're honored to contribute to the training of a new cohort of Romanian F-16 pilots, especially as your country welcomes more F-16 aircraft into its arsenal."

Additionally, a young Romanian pilot in the process of transitioning to the F-16 shared his perspective, stating, "This is a unique opportunity for us, something we haven't encountered in a very long time. As former MiG-21 LanceR pilots, the prospect of training on the F-16 fighter jet is immensely exciting. I anticipate that the transition will be challenging; any training program is designed to push you beyond your limits, and that's precisely what we expect as part of the F-16 transition program."

The formal inauguration of the European F-16 Training Center was marked by a ceremony graced by the presence of the Minister of National Defense, Angel Tîlvăr, along with the Chief of the Defense Staff,

General Daniel Petrescu, and the Chief of the Air Force Staff, Lieutenant General Viorel Pană. Also in attendance were ambassadors from Denmark, the Netherlands, the United States, and Ukraine, along with representatives from the American aerospace company Lockheed Martin.

Minister Tîlvăr emphasized, "Our air force is poised to benefit from the pinnacle of training, enhancing its readiness against any potential threat. The center assumes a pivotal role in the training of Romanian F-16 pilots, extending beyond mere operation to encompass the full spectrum of these high-performance aircraft." He elaborated on the training of a "significant number of pilots" and the "intense" pace of training, highlighting the acquisition of "new qualifications for those already operating the F-16 in Romania." Additionally, Minister Tîlvăr disclosed ongoing assessments for the most effective integration methods for the training of Ukrainian pilots. "We are commencing our training with Romanian pilots, but our objective extends to the training of Ukrainian pilots as well. This is imperative as the Netherlands, alongside partner countries Denmark and Norway, is gearing up to deliver F-16s to Ukraine. Urgently bolstering our air force is a top priority, and training initiatives are already underway in Denmark and the USA. I am thrilled that we now have this European center," declared the Dutch Minister of



"Our air force is poised to benefit from the pinnacle of training, enhancing its readiness against any potential threat. The center assumes a pivotal role in the training of Romanian F-16 pilots, extending beyond mere operation to encompass the full spectrum of these high-performance aircraft" – Minister of National Defense, Angel Tîlvăr

Defense, Kajsa Ollongren, who was present at the inaugural event.

The Romanian government has greenlit a memorandum, approving a budget exceeding 450 million lei for "establishing and operating the pilot training facility dedicated to F-16 aircraft operations at the 86th Borcea Air Base." This financial allocation encompasses various necessities such as ammunition, travel expenses for both domestic and international missions, specialized protective and operational gear, security services, maintenance of military equipment, utilities including water, energy, and gas bills, as well as expenditures for

fuels and lubricants essential for the equipment.

This groundbreaking project, a pioneering initiative at the European level, signifies a significant milestone for Romanian-Dutch cooperation and serves as a tangible manifestation of allied solidarity. Concurrently, it promises to expedite the training process for Romanian pilots tasked with operating the F-16 aircraft acquired by Romania from Norway, soon to be integrated into the Romanian Air Force's inventory.

**Text: Ioana-Cristina Teişanu,
Photo: 86th Air Base, Bogdan
Pantilimon**

NATO ASSESSMENT FOR 53RD WARHAWKS ROAF



As part of the NATO Readiness Initiative (NRI), commonly referred to as "30 30 30 30," a detachment of F-16 aircraft garnered attention during a recent evaluation conducted from November 11 to 18. The NATO Readiness Initiative (NRI) emphasizes enhancing rapid response capabilities, reinforcing collective defense, and ensuring effective operationalization within 30 days or less.

Also recognized as "Four Thirty", the initiative aims to train 30 mechanized battalions, 30 air squadrons, and 30 warships to address imminent threats or rapidly intervene in the event of a military crisis. This heightened preparedness effort is grounded in the imperative for a swift and credible response to the multifaceted challenges of the 21st century, whether in territorial defense, bolstering allies, or crisis intervention.

The operationalization of these capabilities is not only a four-year-long process but also a steadfast commitment to excellence. Validation and certification, the final stages of this process, involve a comprehensive

assessment across four key areas: operations, logistics, force protection, and military intelligence. Adherence to these rigorous standards ensures a high degree of interoperability with all other NATO structures. The team of certified NATO specialists, known as TACEVAL evaluators, assumed responsibility for evaluating and certifying the detachment of F-16 aircraft. Consisting of four aircraft, the detachment showcased outstanding performance in all evaluated categories. This commendable success can be largely attributed to the experience gained during their deployment to the Baltic States, where they made significant contributions.

The impressive performance of this F-16 aircraft detachment is not just an individual triumph but also an illustration of NATO's unwavering commitment to maintaining and enhancing its level of readiness. This commitment ensures security and operational effectiveness in the face of contemporary threats.

Text and Photo: Maria Ioniță

COMMANDER OF THE TORREJÓN COMBINED AIR OPERATIONS CENTER (CAOC) VISITED THE AIR FORCE HEADQUARTERS AND THE 86TH AIR FORCE BASE

The Commander of the Torrejón Combined Air Operations Centre (CAOC TJ), Lieutenant General Juan Pablo Sánchez de Lara, made his first official visit to Romania between 16 and 19 October, in the framework of his responsibilities as head of the NATO unit responsible for command and control in the air defence of the southern flank of Europe.

The Romanian Air Force (RoAF), host of this working visit, has organised the activities carried out, providing support at all times so that this trip to Romanian soil has been a success, strengthening the already excellent relations between the two entities.

On Tuesday 17 October, Lieutenant General Sánchez de Lara had the opportunity to learn first-hand about the current situation and the future of the RoAF when he met Lieutenant General Viorel Pană, Chief of Staff of the RoAF. During the briefing, the milestones achieved and the challenges that the Romanian Air Force is facing were described. Afterwards, there was the opportunity to see first-hand the work of the Romanian Air Component Command at its facilities in the capital itself, and then to visit the air traffic controllers who carry out their mission at the Control Reporting Centre Crystal, linked directly with their colleagues

in the CAOC TJ for the air defence mission.

The following day, Wednesday 18, it was the turn to visit the detachments that report directly to the CAOC TJ Commander, which are located in the easternmost part of the country, near the important city of Constanta and just a few kilometres from the Black Sea. In particular, there was the opportunity to see at first hand the good work of the French forces in Capu Midia and their deployment of the MAMBA anti-aircraft system, as well as the work of the Tigru detachment, which the Air and Space Army has sent to the town of Schitu under the auspices of the MOPS. The Spanish personnel stationed there, now in their third rotation, are responsible for providing additional radar coverage in an area very close to the border with Ukraine and also the Black Sea.

The intense day concluded at Fetești Air Base, home to the RoAf's 53rd Fighter Squadron (equipped with F-16s), where several NATO countries, including Spain, carry out Enhanced Air Policing (eAP), thus increasing the Alliance's response capacity on Romanian territory. On this occasion, it is the French Air and Space Army that is carrying out this mission with its Dassault Rafale.

Source: Spanish MoD Press Office



Lieutenant General Sánchez de Lara met Lieutenant General Viorel Pană, Chief of Staff of the Romanian Air Force (photo above). Second day concluded at Fetești Air Base, home to the RoAf's 53rd Fighter Squadron (photo below). Photo credit: Marian Ciopec



ROMANIA RECEIVES FIRST F-16S FROM NORWAY

The initial trio of F-16 Fighting Falcon aircraft procured by Romania from the Kingdom of Norway touched down on Wednesday, November 29, at the 86th Air Base "Lieutenant Aviator Gheorghe Mociorniță" in Borcea. A formal reception ceremony for the fighter planes ensued, graced by the presence of Romanian, Norwegian, and American officials.

The acquisition of this new batch of F-16 Fighting Falcon aircraft, along with the associated package of goods and services, underscores Romania's commitment to enhancing security. These aircraft will play a pivotal role in safeguarding national and NATO airspace during both peacetime and crisis situations, executed through the Permanent Combat Service - Air Police (SLP-PA), under NATO command. Brigadier General Valeriu Roșu, the Deputy Head of the Department for the Relationship with the Parliament and the Quality of Life of the Personnel, emphasized the significance of the "Multirole Aircraft of the Air Force" Program. In the face of a dynamic and complex security

environment, the addition of the second and third squadrons of F-16 aircraft to the Air Force Romania's arsenal is expected to fortify international partnerships, becoming a model of collaboration and solidarity among allies to counter regional challenges.

"I am honored to welcome Norwegian officials to Romania on behalf of the Minister of National Defense, Angel Tîlvăr, during the National Day. Norway stands as a crucial ally for Romania, and bilateral defense cooperation ensures consistency in our country's extensive modernization and development of defense capabilities," stated Brigadier General Valeriu Roșu. Eivind Vad Petersson, State

Secretary in the Norwegian Ministry of Foreign Affairs, underscored the significance of the day for Norwegian-Romanian cooperation and allied security. "The Norwegian government acknowledges the importance of this program for Romania and remains fully committed to delivering all 32 aircraft, along with necessary support for capability development in the years to come," expressed State Secretary Petersson. Per the Concept for the Gradual Realization of Air Defense Capability within the "Air Force Multirole Aircraft" Program, Romania awarded the Kingdom of Norway the contract for purchasing 32 F-16 aircraft. This included initial logistical support and a package of complementary goods and services from the United States. The aircraft, operational upon delivery, are slated for at least a 10-year transition period until the integration of 5th generation

aircraft, effectively symbolizing a transfer of capability between two allied NATO nations. The aircraft will meet NATO's current requirements, subsequently being incorporated into the modernization program to match the configuration (M6.X) of the F-16 aircraft from the first squadron, already part of the Romanian Air Force's inventory. This approach ensures the engagement of the national defense industry, facilitated through the expertise of AeroStar Bacău, for the maintenance and modernization of the F-16 fleet. At present, the Romanian Air Force operates 17 F-16 aircraft, acquired in accordance with the provisions outlined in the Concept for the Gradual Realization of Air Defense Capability within the "Air Force Multirole Aircraft" Program.

**Source: MoD Press Office
Photo: 53rd Warhawks RoAF**



MAJOR NATO EXERCISE PRACTICES HOW NATO DETERRENCE AND DEFENCE PLANS WILL BE EXECUTED

Exercise STEADFAST JUPITER 23 (STJU23) kicked off on October 9, 2023, in multinational headquarters across Europe – one of them being Allied Air Command at Ramstein, where staff planned, coordinated, and conducted complex air operations for the Joint Force Command over the next ten days.

Under the overall guidance of NATO's Supreme Headquarters Allied Powers Europe (SHAPE), STJU23 was a command-post exercise designed to exercise the executability of the NATO and national defense plans, and to bolster Allied interoperability across 24 multinational headquarters elements, 7000 participants, from strategic to tactical levels of warfighting within NATO.

A major joint exercise encompassing all elements of military capability, STJU 23 contributed to the NATO concept for Deterrence and Defense by confirming critical elements of developed plans endorsed by all Allied nations at the 2023 NATO summit in Vilnius. "At Allied Air Command, we stood up the NATO Command Structure Joint Force Air Component, the JFAC. Our 600-strong staff from 19 nations supported higher headquarters through leading the air domain and providing advice as subject matter experts for Air Power," said General James Hecker, Commander Allied Air Command.

"We could fully concentrate on the exercise because Germany's JFAC ensured our real-world missions continued," General Hecker added. "STJU 23 was an ideal opportunity for our staff to demonstrate and further hone their skills and expertise delivering effective command and control of NATO air forces and to defend against any adversary across Allied territory integrated into the Alliance's multi-domain capability," he concluded.

STJU 23 demonstrated NATO's ability to command forces that would deter, and if required, defend against evolving security threats from any direction, to protect allied territory and collective values.

In preparation for NATO's 2024 flagship exercise – STEADFAST DEFENDER – STJU 23 enhanced NATO's responsiveness within SACEUR's North-Eastern Area of Operations while practicing deployment, reinforcement, and sustainment as well as operational arrangement at the local/regional levels between NATO units and Host Nations.

NATO's largest command post exercise (CPX) in 2023, ended on October 20, after two weeks of enduring work involving 24 NATO Commands, 7000 participants, NATO warfighting operations from strategic to tactical levels across the Alliance.

At Allied Air Command in Ramstein, Germany, more than 700 computers were interconnected during preparation enabling the participating NATO Joint Force Air Component (JFAC) staff to plan and control 2000 air sorties per day supporting Joint operations in a fictitious Article 5 scenario.

STEADFAST JUPITER 2023 (STJU23) has been the most ambitious NATO CPX to date in terms of both exercise complexity and the number of participating NATO Command and Force Structure Headquarters. In a nutshell, it has been a crash test for strengthening low- and high-intensity warfighting skillsets of NATO staffs using a multi-domain, multi joint operational area.

"There is no point in having powerful operational capability, if you are unable to ensure it is employed effectively," said Brigadier General David Morpurgo from NATO Deployable Command and Control Centre, who acted as the JFAC Director during STJU at Ramstein. "In the air domain, this requires an appropriately designed Air Command and

Control systems approach, the need for survivability, redundancy and the ability to operate when we are denied of our communications. With STJU23, we were able to do exactly this and train Commanders and staff, through testing command and control procedures allowing us to orchestrate air operations at scale in an increasingly complicated battlespace," he added.

STJU23 enabled an unprecedented level of interoperability across the NATO enterprise, and contributed to demonstrate and develop integration of multi-domain capabilities that the NATO Command Structure and nations can bring to bear to protect and defend Allied territory, while exploiting the NATO concept for Deterrence and Defence.

"The design of STJU23 was aligned to the new era of collective defence, focusing on NATO's 360-degree security approach in all domains e.g. through the integration of fifth generation jets to maintain the very highest level of readiness," concluded Brigadier General Morpurgo. "We also brought Integrated Air and Missile Defence back to the forefront of the discussion within the Alliance," he added. Completion of this important exercise reaffirmed the Alliance's interoperability across its headquarters demonstrating it is ready to deliver effective command and control and capable of defending and prevailing against any adversary. STJU23 has been a stepping-stone to NATO's 2024 flagship live exercise STEADFAST DEFENDER - in fact, the scale and the scope of STJU23 has set the conditions for all NATO Headquarters to tackle these largest NATO military drills since the end of the Cold War. The live exercise will bring together more than 40,000 troops, stretch from the Baltics region to Germany and once again be a testing ground for practicing intertwined NATO and national defence plans.

The main operations floor at Allied Air Command during exercise Steadfast Jupiter 2023, where elements of the JFAC are at work. Photo by Arnaud Chamberlin

In the JFAC, a 600-strong staff from 19 nations support higher headquarters through leading the air domain during the exercise. Photo by Arnaud Chamberlin.



FUTURE PLANNING IN PERSON - ALLIED AIR COMMAND WELCOMES PARTNER AIR CHIEFS



Chaired by General James B. Hecker, the PACC provided an excellent opportunity for partner countries to exchange views on air power-related matters. Photo by: Arnaud Chamberlin

On November 9, 2023, Partner Air Chiefs and representatives from 14 partner nations arrived at Headquarters Allied Air Command (AIRCOM) and two partner nations via VTC, Ramstein for the 2023 Partner Air Chiefs' Conference (PACC).

Chaired by General James B. Hecker, the PACC provided an excellent opportunity for partner countries to exchange views on air power-related matters. NATO's cooperation with partner nations contributed to shaping policy, improving interoperability, and managing crises. Partnership programs also assisted in the development of national defense and security institutions and forces. "It was my pleasure to host the first in-person Partner Air Chiefs' Conference since 2021 here at Ramstein" said General James B. Hecker. "The conference allowed for unique and beneficial discussions on the opportunities and challenges in the Air and Space domain. The coming together of the Partner Air Chiefs represented a commitment to information sharing critical to future operational planning," he added. Lieutenant General Mykola Oleshchuk, Commander of the Ukraine Air Force, attended the conference via VTC, providing an update on the Ukrainian crisis and how the conflict influenced and shaped Allied air activities. General Hiroaki Uchikura of the Japan Air Self-Defense Force spoke about NATO cooperation from the Indo-Pacific perspective. While an AIRCOM Senior Intelligence Analyst briefed about the changing strategic environment.

Colonel Juan Matinez Esparza from NATO Headquarters spoke on the new strategic concept and partnerships following the Madrid Summit in 2022, and NATO Space Centre gave input on NATO's implementation of the space domain, space capabilities, and enablement, and threats in the space domain.

NATO MILITARY COMMITTEE: ALLIED AIR COMMAND LEADS FORWARD DEPLOYED, AGILE AIR POWER IN MULTI-DOMAIN OPERATIONS

NATO's highest-ranking military representatives from the Military Committee visited Allied Air Command on October 26 and 27, 2023 for discussions and updates on NATO Air Power and AIRCOM's plans to further improve and strengthen our joint commitment towards the Deterrence and Defence of the Euro Atlantic Area (DDA).

General James Hecker, Commander Allied Air Command, welcomed the group of high-level military officials led by the Chair of the NATO Military Committee, Admiral Rob Bauer of the Royal Netherlands Navy.

"It is a great pleasure to welcome you and your colleagues who represent our NATO Nations' armed forces," said General Hecker. "Our staff at Allied Air Command has just successfully completed exercise Steadfast Jupiter and proved their supreme skills in the field of planning, coordinating, tasking and executing Air Command and Control of Allied Air Operations in support of a Joint Force in simulated major combat operation," he added.

General Hecker led the visitors during their tour of Allied Air Command and presented mission updates on how his team implements the Alliance's subordinate strategic plans in the Air and Space domains, specifically NATO's Integrated Air and Missile Defence and current topics such as intelligence, surveillance and reconnaissance and contributing to the Allies' support for Ukraine. Thanking the General for his invite and AIRCOM staff for their relentless work to ensure the Alliance grows ever more agile in times of crisis and/or conflict, Admiral Bauer reflected on the importance of Air and Space Power as a force multiplier and catalyst for NATO multi-domain operations – hence as a critical element of the Alliance's overall deterrence and defence – now and going forward.

"In this new era of collective defence, it is essential that we address the many air and space challenges facing NATO", he stated, adding that "as the world around us continues to evolve rapidly, presenting us with new and complex threats that demand our utmost attention, and as our adversaries seek to undermine the peace and stability we strive to uphold, it is incumbent upon us, as leaders of our free Nations and critical players of our collective defence, to ensure that our capabilities remain robust and unparalleled."

"Besides our leading role in coordinating the Allies' Space activities and maintaining Space awareness for the Alliance, we also enhance our traditional air capabilities in support of multi-domain operations," stated General Hecker. "With our collective AIRCOM effort we ensure the security and strength of the Alliance – working important subjects like counter-anti-access and area denial, continuing to lead NATO Integrated Air and Missile Defence, trailblazing Agile Combat Employment and enhancing cross-border operational procedures of our air forces," he added.

An essential link between the political decision-making process and the military structure of NATO, the NATO Military Committee is the senior military authority in the Alliance and the oldest permanent body in NATO after the North Atlantic Council, both having been formed only months after the Alliance came into being. It

is the primary source of consensus-based military advice to the North Atlantic Council and the Nuclear Planning Group, and gives direction to the two Strategic Commanders – Supreme Allied Commander Europe and Supreme Allied Commander Transformation.



Admiral Rob Bauer, Chair of NATO's Military Committee (centre) and Lieutenant General Janusz Adamczak, Director General of the NATO International Military Staff (right) in discussions with Air Marshal Johnny Stringer, Deputy Commander of Allied Air Command (left). Photos by Arnaud Chamberlin



Admiral Rob Bauer (left) and General James Hecker (right) during a break of the visit

TÜRKIYE DEPLOYS FIGHTER JETS TO ROMANIA FOR NATO AIR POLICING MISSION

On November 30, four Turkish F-16 fighter jets arrived in 86th Borcea Air Base, in Romania to participate in NATO's enhanced Air Policing mission in the south for the first time. They will fly alongside Romanian and German jets to safeguard NATO airspace on the Black Sea shores and deter potential threats from the air.

The long-scheduled deployment demonstrates NATO Allies' commitment to support each other and strengthen the Alliance's collective defence.

"I welcome Germany and Türkiye's deployment of additional fighter jets to NATO's air policing mission in Romania," said acting NATO Spokesperson Dylan White. "These deployments are demonstration of capability and resolve to protect our people and territories. NATO air forces remain ready to respond to any threat from any direction," he added.

The Turkish detachment augments Romanian air force jets and surface-based air defences. They will operate alongside German Eurofighters which arrived at Mihail Kogalniceanu near Constanța on Friday (24 November 2023) and with a French MAMBA surface-based air defence system deployed at Capu Midia. Following Russia's full-fledged invasion of Ukraine, NATO has reinforced its presence in the eastern part of the Alliance, including with more fighter jets and surveillance flights.



In a ceremony at Borcea Air Base, Romania, on December 5, the Turkish F-16 fighter detachment was officially declared mission-ready to conduct enhanced Air Policing over NATO territory along the Black Sea shores firmly embedded in the NATO Integrated Air and Missile Defence System.

Lieutenant General Juan Pablo Sanchez De Lara, Commander of NATO's CAOC Torrejón hands over the mission ready certificate to Turkish F-16 detachment commander Colonel Sedat Kuçaslan.

"I convey my warmest appreciation and gratitude to both air forces from Romania and Türkiye for this high level of commitment that will allow this enhanced Air Policing mission to happen from here during the next four months," concluded Colonel Sedat Kuçaslan.

Photo by Bogdan Pantilimon/ROUAF

GERMANY SUPPORTS DETERRENCE AND DEFENCE WITH DEPLOYMENTS IN NATO'S NORTH AND SOUTH-EAST



In Romania, German Eurofighters collaborated seamlessly with Romanian F-16s, complemented by a deployed French surface-based air defense system that facilitated integrated air defense.

Photo courtesy of Patrick Bransmüller

Luftwaffe Eurofighters returned from flying combined quick reaction alert missions with Spanish Eurofighters, out of Ämari, Estonia, on November 17. More German fighter jets just arrived in Romania on November 22 to fly enhanced Air Policing missions alongside the Romanian Air Force out of Constanta, Romania for several weeks. Both deployments support NATO's deterrence and defence posture along the eastern flank.

During the short deployment of German fighter pilots to Estonia, the focus was on further deepening operational collaboration with their Spanish counterparts under enhanced Air Policing in the Baltic region. The goal was to make a next step in Germany's Plug & Fight programme aimed at taking fighter interoperability to a new dimension. The deployment culminated – on November 15 – in the first mixed Spanish-German quick reaction mission above the Baltic Sea. A confirmation of the level of integration of both Allies' Eurofighter fleets.

Since 2019, Germany has conducted this increased integration with the Eurofighter fleets of the United Kingdom, Italy and Spain, when Luftwaffe jets were joined by Royal Air Force Typhoons in Estonia flying alongside each other and shadowing procedures. The next level was achieved in 2020, when mixed jet formations took off for unarmed training missions and used each other's ground support equipment. In 2021 and 2022 mixed quick reaction alert formations conducted training scrambles with hot weapons and, subsequently, also alarm sorties.

In Romania, four German Eurofighters supported by a 150-strong detachment will be flying under the NATO banner until December 20. The mission is to prevent potential airspace violations above all along the border between Romania and Ukraine. On alert 24/7, they work hand in glove with the F-16s of the Romanian Air Force and a deployed French surface-based air defence system enabling integrated air defence. In the past, violations of the Romanian airspace by small drones have occurred repeatedly.

"After the recent drone incidents, Germany deploys Eurofighters to Constanta. This support for our Romanian friends goes without saying. The German Air Force is wherever it is needed," said the German Air Chief Lieutenant General Ingo Gerhartz.

The two deployments underscore Germany's commitment to collective security under a NATO umbrella. It underlines the advanced interoperability and strong cohesion of Allied air forces.

"The Alliance and its members are capable of swiftly deploying additional assets to the eastern flank to protect people and territory against potential threats. The close integration within NATO Air and Space Power helps us accomplish this mission afforded to us by the Washington treaty almost 75 years ago – collective security," said Group Captain Michael Carver, acting Deputy Chief of Staff Operations at Allied Air Command, Germany.



FRENCH FIGHTER JETS CONDUCT DEPLOYMENT TO ROMANIA SUPPORTING NATO AIR SHIELDING

FETESTI, Romania – Three French Rafale fighter jets have arrived in FETESTI, Romania for an Agile Combat Employment supporting NATO Air Shielding activities.

“At the request of the Romanian and NATO authorities, the French Air and Space Force operated three of its Rafale fighter jets out of Fetesti Air Base from October 16 to 22 to conduct air defense missions in close cooperation with the Romanian Air Force and the French MAMBA surface-based air defense system deployed at Capu Midia,” said Colonel Pierre Gaudilliere, spokesperson of the French joint defense staff.

“Through our support for NATO Air Shielding missions and contribution to enhanced Vigilance Activities, France was fully committed to the security of the Allies,” Colonel Gaudilliere added.

During their stay, the French Rafale conducted a variety of



Three French Air and Space Force Rafale fighter jets at an apron of Fetesti Air Base, Romania, ready to conduct combined flying and training with Romanian Air Force F-16 aircraft showcasing NATO cohesion and interoperability. Photo courtesy Romanian Air Force

advanced training drills with the Romanian F-16 fighters, demonstrating cohesion and interoperability among Allies. The Agile Combat Employment (ACE) of Allied

fighter aircraft was one means of increasing the survivability and operational effectiveness of NATO aircraft and systems. ACE deployments contributed to agility and flexibility and to

avoid being too predictable and easily targeted. The concept allowed NATO air forces to develop speed and responsiveness to deploy and redeploy as required.

CROATIAN AIR FORCE RECEIVE THEIR FIRST RAFALE FIGHTER AIRCRAFT

In a historic ceremony at the French Air Force base of Mont-de-Marsan on October 2, Croatia received its first Rafale multi-purpose fighter jet following the transfer of ownership between the Republic of France and the Republic of Croatia.

The ceremony was attended by Minister of Defense Mario Banožić together with the head of the Office of the Prime Minister Zvonimir Frka-Petešić. “We will have a historic day that marks, first of all, the mandate of the Government led by Andrej Plenković when it comes to the defense department - it is the legal takeover of the

first Rafale, which will ultimately be here in Croatia together with the other five at the beginning of the second quarter of 2024” remarked Mr Banožić.

“These will be the fourth + generation aircraft that position us as credible NATO partners, a European member, in a position that we had until now in other branches this new position of ours will bring us new tasks, but also certain new values in that society, which we will further try to develop with our allies and partners through further modernisation and equipping of all three branches” said Commander of the Croatian Air Force, Brigadier General Michael Križanec.

This is the first of 12 Rafale twin-engine aircraft for the Croatian Air Force from the French manufacturer Dassault Aviation, the Rafale is equipped with advanced attack-navigation systems, a new generation electronic radar with high integration of sensors and self-protection systems, as well as the ability to use a wide range of air-to-air and air-to-surface weapons.

In addition, to the 4 + generation aircraft, Croatia has a flight simulator providing a complete range of training along with validation of tactics. This marks a significant milestone in the commitment shown by the Government of the Republic of Croatia to modernise its Armed Forces, ensuring Croatia can protect its own Airspace. Developing defense capabilities will not only contribute to the security and defense of its own country, but also to the NATO Alliance.



This is the first of 12 Rafale twin-engine aircraft for the Croatian Air Force from the French manufacturer Dassault Aviation. Photo courtesy: Croatian Air Force

NATO INTEGRATED AIR AND MISSILE DEFENCE IN ESTONIA – MADE IN SPAIN

Spanish Eurofighters and a Spanish NASAMS (National Advanced Surface to Air Missile System) ground-based air defence system at the Estonian Ämari Air Base safeguard the skies in this part of the Baltic Sea region.

The 100-strong NASAMS unit was joined last August by eight Spanish Eurofighter jets and 130 personnel deployed at Ämari augmenting NATO's Air Policing over the Baltic States.

Air Defence, as its name implies, is the act of safeguarding some protected asset or assets—specifically against threats from the air domain. Long neglected in the low-threat air campaigns that dominated the past two decades of combat operations, it is again in the focus of NATO defence planning after Russia's unprovoked brutal war in Ukraine.

Rather than a single weapon or unit, Air Defence is an amalgamation of elements, organized to minimize aerial threats. The Spanish NASAMS unit and the Eurofighter detachment in Ämari, Estonia, both controlled by Allied control and reporting units are a good microcosm example of this principle. While Spanish Eurofighters have been augmenting NATO's Baltic Air Policing, their colleagues from the Spanish Army employ their NASAMS system to provide ground-based air defence capabilities for the base.

"The deployment of this defensive capability from the southwest of the Alliance to its eastern flank demonstrates the cohesion of NATO allies and the one-for-all, all-for-one



A Spanish Eurofighter twoship flies out of Ämari Air Base, Estonia. Together with Italian Eurofighters stationed at Šiauliai, they conduct NATO Air Policing in the Baltic region. Photo by the Spanish Air Force Detachment

principle in NATO," said Group Captain Michael Carver, acting Deputy Chief of Staff Operations at Allied Air Command, where NATO's air operations are overseen. "In a truly collective effort, the 31 member nations of the Alliance ensure deterrence and defence keeping populations and territories safe," he added.

"These defensive capabilities, such as Eurofighter jets, command and control communication systems, and ground-based air defence batteries are purposely organized into what is termed an integrated air defence system (IADS) across all NATO member countries," Group Captain Carver added. "This approach requires close coordination between air defence missile batteries and fighter jets. The integration of both Spanish assets demonstrates how NATO's cooperative defence works at the local level. The fact that an Ally from the southwest deploys these capabilities to the northeast of Alliance territory shows cohesion and solidarity among our Allies," he concluded.

"The Spanish Eurofighters here at Ämari have secured the skies with their Italian colleagues from . My pilots have conducted well over a dozen alert scrambles, intercepting RUS military aircraft flying close to NATO airspace," said Lieutenant Colonel Luis Borque Torres, Commander of the Spanish Eurofighter detachment. "The Spanish NASAMS unit has maintained a surveillance posture at Ämari and we have been involved in several exercises, among the others Spring Storm, Operation Azotize, Angry Flame, including a readiness verification in June 23," said Lieutenant Colonel Santiago Calleja Blancas, Commanding Officer of the Spanish Army NASAMS battery.

In a nutshell, Integrated Air and Missile Defence in Estonia marries a variety of NATO systems into an efficient defensive enterprise and allows for the three functions of an IADS which are deter – detect – intercept to occur immediately and simultaneously.



A Spanish NASAMS unit has been set up at Ämari in April 2023, providing ground-based air defence capabilities for the base; the unit is part of NATO's Integrated Air and Missile Defence system. Photo by the Spanish Army

TWO RAF TYPHOON SQUADRONS DEPLOY SIMULTANEOUSLY TO OPPOSITE SIDES OF THE WORLD



Four Royal Air Force Typhoon jets deployed over thousands of miles to Malaysia training with regional air forces in an air defence scenario, highlighting Partner cooperation and expeditionary capabilities. Photo by Royal Air Force

Two Typhoon Squadrons have deployed simultaneously to Operation Carson in Poland and Exercise Bersama Lima in Malaysia demonstrating commitment to Alliance Air Power, expeditionary capabilities and cooperation with Partners.

Four Royal Air Force Typhoon jets arrived at Poznan Air Base, Poland, to conduct multiple training exercises with the Polish Air Force and Italian and Spanish Air Force fighter jets supporting NATO's Air Policing mission in the Baltic Region. The British fighter jets and a Globemaster C-17 transport aircraft flew from RAF Akrotiri, where the Typhoons are currently based, to Poznan where they were

welcomed by their Polish counterparts.

The two-week deployment codenamed Op CARSON will involve pilots undertaking combat air training with Poland, Italy and Spain to practice aerial combat manoeuvres against different types of aircraft to develop tactics, techniques and procedures. Close Air Support (CAS) training will also be

conducted with UK and US Joint Terminal Attack Controllers (JTAC) who direct the action of combat aircraft.

"Over the next fortnight, we will be working closely with our Allies practicing engaging targets beyond visual range and simulating various possible combat scenarios with forces both on the ground and in the air over Eastern skies," said Squadron Leader Hunter, Commanding Officer of the Typhoon detachment. "We take our role in European security

seriously and these joint exercises only serve to bolster collective defence across the region," he added

In Malaysia, the Typhoons flew nearly 7000 miles with support of the Voyager aircraft to work together in an air defence scenario with partners from Malaysia, Singapore, Australia and New Zealand. These nations form the Five Powers Defence Arrangements (FPDA), which is a defensive military agreement to help maintain security in the region.

The Royal Netherlands Air Force led Exercise Frisian Flag out of Leeuwarden Air Base with approximately 40 aircraft participating in missions, and it lasted almost two weeks from October 2 - 13.

The US, UK, Belgium, Denmark, Germany, Finland, and the Multinational Multi-Role Tanker Transport Fleet joined the Netherlands for the exercise. The participating pilots were trained to perform complex missions in international cooperation at a higher intensity. Scenarios that occurred during future NATO Response Force deployments were intensively trained.

The aim of the exercise was to practice multinational mixed fighter operations against a wide variety of airborne and ground-based threats. Scenarios included but were not limited to air defense missions, protecting other aircraft, and striking fixed and moving targets on land and at sea. As well as integration with land and maritime forces.

With tensions in Eastern Europe and the war in Ukraine, this was essential training for the participants. The Dutch and Danish Control and Reporting Centre (CRC) had command over the entire exercise area.

FRISIAN FLAG – ALLIES TRAIN TOGETHER



Royal Netherlands Air Force F-35s participated in Exercise Frisian Flag 2023. Photo courtesy of the Royal Netherlands Air Force.

STATE OF THE ART DETERRENCE AT NEPTUNE STRIKE 2023-3



For the third time this year, Naval Striking and Support Forces NATO (STRIKFORNATO) commenced the NATO-led enhanced Vigilance Activity Neptune Strike 23-3 (NEST 23-3) on 30 October until 10 November.

Fighters from the UK, Finland, Sweden and Spain, performed air-to-air and air-to-ground manoeuvres in conjunction with Estonian and Spanish land forces in the area of Saaremaa Island, Estonia. The purpose was to demonstrate NATO's capability to penetrate contested airspace as a part of operations in defence of Alliance territory.

5th Generation aircraft from the HMS Queen Elizabeth Carrier Strike Group have flown more than a hundred hours, integrating with national air forces, Joint Tactical Air Controllers (JTAC) and Special Forces. 20 Allied nations and one partner nation worked together furthering the Alliance's commitment to democracy and freedom which remains just as strong and relevant as ever. Ranging from the Central Mediterranean to the Black Sea region and all the way to the Baltic Sea, STRIKFORNATO's execution displayed how NATO's deterrence and defence posture operates.

"In the air, over the land and at sea, our airmen, soldiers, sailors and marines of the Alliance and partner nations work together demonstrating cohesion and solidarity, to guarantee the sovereignty of Allied populations," says James Morley, Rear Admiral UK Navy and Deputy Commander, STRIKFORNATO.

The activities is based on combining together allied cutting-edge weapons systems and trained forces whilst focusing on this iteration, the specific capabilities and operational reach of our European Allies' Maritime Strike forces. The Neptune series of enhanced Vigilance Activities demonstrates NATO's ability to integrate high-end maritime capabilities to support the Deterrence and Defence of the Euro-Atlantic Area.

Peacetime enhanced Vigilance Activities have become routine operation for STRIKFORNATO's battle staff, generating effects in a broad spectrum of sea, air, and land domains as well as providing deterrence and reassurance, additionally offering powerful opportunities to hone Allied interoperability.

20 Allied nations and one partner nation worked together furthering the Alliance's commitment to democracy and freedom which remains just as strong and relevant as ever. The activities is based on combining together allied cutting-edge weapons systems and trained forces whilst focusing on this iteration, the specific capabilities and operational reach of our European Allies' Maritime Strike forces.

Photo courtesy STRIKFORNATO



In a show of unity and military prowess, the curtains closed on the two-week combined NATO exercise Poggio Dart 23 (PODA23), organized by the Deployable Air Command & Control Centre (Poggio Renatico) from December 4 to 15.

While simulated activities were conducted in-garrison from Poggio Renatico during a computer-assisted exercise, participants conducted live-flying in the airspace of north-eastern Italy. At the heart of PODA23 were nearly 30 Allied aircraft that took to the skies, demonstrating cooperation and coordination of NATO forces. With an average of 35 sorties per day, the exercise not only confirmed the agility of the Alliance's air power, but also its ability to deploy rapidly and effectively.

Designed to simulate a variety of scenarios testing the adaptability and responsiveness of NATO forces, PODA23 presented the participating fighter detachments from Italy, Türkiye and the United States and assets from the Italian Navy and Army with realistic scenarios. Participants from the nation had to ensure seamless communication and cooperation during an air campaign contributing to synchronized air, land and maritime operations. In addition, the DACCC – through the deployment of its mobile radar to Cervia - enhanced situational awareness and facilitated real-time monitoring of different environments for early detection.

The impact of PODA23 extends beyond the training area. The visible demonstration of NATO's capabilities sends a clear message to potential adversaries and acts as a deterrent to those who might challenge the security and stability the Alliance guarantees. The exercise demonstrated NATO's ability to respond rapidly and effectively to any threat, ensuring the collective defence of its members.

POGGIO DART 23: AN ACCOMPLISHMENT OF UNITY AND STRENGTH FOR NATO



While simulated activities were conducted in-garrison from Poggio Renatico during a computer-assisted exercise, participants conducted live-flying in the airspace of north-eastern Italy. Photo courtesy DACCC

NATO JFAC BACK TO REAL-WORLD MISSION; THANKS TO GERMAN COLLEAGUES

The German Joint Force Air Component (JFAC) at Kalkar, Germany, returned the responsibility for real-world air operations to NATO's JFAC at Ramstein on October 27, 2023, after nearly two months successfully overseeing missions, training activities and contingency operations in support of Alliance deterrence and defence on the eastern flank.

"I congratulate my staff for having accomplished the mission so flawlessly and seamlessly," said Lieutenant General Thorsten Poschwatta, Commander of the German JFAC. "Together we have proven that we are ready to lead Allied joint and combined air operations across the European NATO theatre. All missions and sorties that we planned,

coordinated and executed underlined the ability of Air Power and demonstrated the cohesion of the Alliance to protect NATO airspace at all times," he added. "Let me first thank Lieutenant General Thorsten Poschwatta, Commander of the German JFAC, and his team for standing in so professionally. They have risen to the challenge and done so in style,"

said the AIRCOM Deputy Commander, Air Marshal Johnny Stringer. "Thanks to the German JFAC, NATO Air Power simply continued their work commanding and controlling Allied Air Forces which are so essential to NATO's enduring activities, be it along the eastern flank or in support of our 360-degree approach. During the past weeks, my team at Allied Air Command never had to worry about real-world matters because you took care of them. And we could focus on capability building and skill enhancement during exercise Steadfast Jupiter. This has

been key to us," he added.

For crisis response operations, NATO's Air Command and Control structures are based on standing up a JFAC – a command and control centre that plans and executes the delivery of NATO Air Power across the entire spectrum of joint operations. Allied Air Command is responsible for the standing up of the NATO Command Structure's JFAC that will be specifically tailored in size for any NATO operation.

Depending on the size of the operation, the JFAC can be augmented from all Allied Air Command entities or from other NATO Force Structure or national JFACs. Germany, France, Italy, Spain, Türkiye, the United Kingdom and the United States of America have a national JFAC capability. At Allied Air Command, a permanent full-time "Core" team is tasked with the preparation of the NATO Command Structure Joint Force Air Component to undertake the full spectrum of Air Operations and to prosecute Air Operations in accordance with the Commander's intent. They provide a wide variety of Subject Matter Experts from the full spectrum of NATO military and civilian specialist areas that may be routinely called-upon to furnish advice to the Core JFAC.



The German JFAC is a multinational command and control centre that plans and executes the delivery of NATO Air Power across the entire spectrum of joint operations. The picture shows the JFAC at work during Germany-led live-fly exercise Air Defender 23 in the summer. Archive photo by Maurice Hofmann

NEXT GENERATION OF COMMAND AND CONTROL AIRCRAFT



NATO has selected its next generation command and control aircraft as the Alliance’s existing Airborne Warning and Control (AWACS) fleet nears retirement. Production of the six new Boeing’s E-7A Wedgetail aircraft is set to begin in the coming years, with the first aircraft expected to be ready for operational duty by 2031. A consortium of Allies gave their approval to the project, one of NATO’s biggest-ever capability purchases, this month.

“Surveillance and control aircraft are crucial for NATO’s collective defence and I welcome Allies’ commitment to investing in high-end capabilities,” said NATO Secretary General Jens Stoltenberg. “By pooling resources, Allies can buy and operate major assets collectively that would be too expensive for individual countries to purchase. This

investment in state-of-the-art technology shows the strength of transatlantic defence cooperation as we continue to adapt to a more unstable world”.

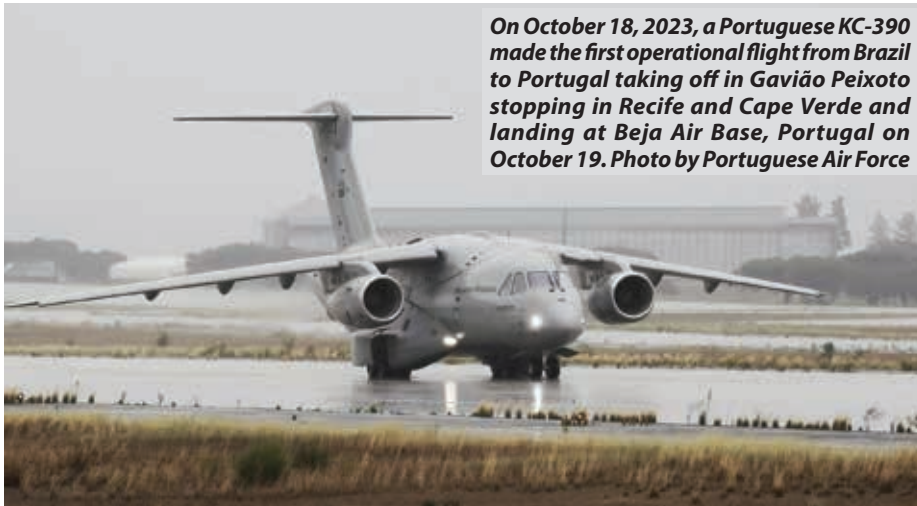
The E-7 Wedgetail is an advanced early warning and control aircraft that provides situational awareness and command and control functions. Equipped with a powerful radar, the aircraft can detect hostile aircraft, missiles and ships at great distances and can direct NATO fighter jets to their targets. The United States, the United Kingdom and Türkiye also either fly the Wedgetail or plan to operate it. It is based on a militarised version of the 737 jetliner.

NATO has operated a fleet of E-3A Airborne Warning and Control (AWACS) aircraft since the 1980s. Based at Geilenkirchen air base in Germany, the AWACS have flown in every major NATO operation, including the fight against ISIS as well as on NATO’s eastern flank following Russia’s invasion of Ukraine. The E-7 is expected to have its main base at Geilenkirchen and could operate from several forward locations across Europe. The Wedgetail will be part of the Alliance’s future surveillance and control project which will field NATO’s next generation of surveillance systems from the mid-2030s.

NATO has operated a fleet of E-3A Airborne Warning and Control (AWACS) aircraft since the 1980s. Based at Geilenkirchen Air Base, Germany, the AWACS have flown in every major NATO operation e.g. on NATO’s eastern flank following Russia’s invasion of Ukraine. Photo courtesy NATO AWACS



PORTUGAL CONDUCTS FIRST FORCE PROJECTION WITH NEW KC-390 TRANSPORT AIRCRAFT



On October 18, 2023, a Portuguese KC-390 made the first operational flight from Brazil to Portugal taking off in Gavião Peixoto stopping in Recife and Cape Verde and landing at Beja Air Base, Portugal on October 19. Photo by Portuguese Air Force

The Portuguese Air Force conducted its first force projection with their modern Embraer KC-390 transport aircraft on October 22, 2023. It transported military personnel and cargo to the Canary Island, Spain, in support of the multinational Spanish-led exercise Ocean Sky 2023, where Portuguese F-16s participated in multinational drills.

The KC-390 is a transport aircraft with intercontinental reach, capable of executing strategic and tactical, civil and military operations without limitations. Missions could include transport of troops, vehicles, and palletized loads, launch of paratroopers, medical evacuations, search and rescue missions, air-to-air refueling, and firefighting.

“This comprehensive range of capabilities enabled the Portuguese Air Force to accomplish necessary requirements for the participation in military operations under the aegis of alliances Portugal is part of, e.g., the North Atlantic Treaty Organization (NATO),” said Major General Sérgio Roberto Leite da Costa Pereira, Head of the Office of the Air Chief of Staff.

In 2019, Portugal made the decision to acquire five KC-390 aircraft and a flight simulator. On October 18, 2023, a Portuguese KC-390 made the first operational flight from Brazil to Portugal, taking off in Gavião Peixoto, stopping in Recife and Cape Verde, and landing at Beja Air Base, Portugal, on October 19. With this ferry flight, the newly created 506 Squadron dubbed “Rinocerontes” welcomed its first KC-390. Until 2027, the Portuguese Air Force would receive one aircraft each year, and the Rhinoceroses would be complete. The KC-390 transport aircraft is a medium-sized, jet-powered twin-engine utility transport aircraft with a payload of 26 tonnes. It was designed and produced by the Brazilian aerospace manufacturer Embraer. After the first prototype flights in Brazil in 2015 and the start of production in September 2019, the Brazilian Air Force had received its sixth C-390 aircraft. Besides Portugal, several other European air forces had been looking into acquiring C-390s, e.g., Hungary, the Netherlands, the Czech Republic, and Austria. The KC-390 could be compared to a C-130 Hercules. The main difference was the jet-powered twin-engine, which made it faster and allowed it to carry heavier cargo. Moreover, the KC-390 offered air-to-air refueling as a standard feature complementing existing tanker fleets.

A F-16 Fighting Falcon fighter aircraft assigned to the 480th Fighter Squadron departs Spangdahlem Air Base, Germany (U.S. Air Force photo by Staff Sgt. Max J. Daigle)



Four American F-16s, along with approximately 100 U.S. Airmen, were in Keflavik, Iceland, from October 23 to November 12 to conduct an Air Surveillance mission and provide interceptors for NATO Air Policing in the High North.

“The mission demonstrated U.S. commitment to the NATO Alliance, security in Europe, and the strong transatlantic bond among our members,” said U.S. Air Force Major Clifford Peterson, 480th Expeditionary Fighter Squadron detachment commander leading the



A C-130J Super Hercules tactical aircraft carrying F-16 Fighting Falcon fighter aircraft support personnel departs Spangdahlem Air Base (U.S. Air Force photo by Staff Sgt. Max J. Daigle)

U.S. AIR FORCE SECURES NATO AIRSPACE IN ICELAND

F-16s at Keflavik during the NATO mission. “The last time the 52nd came to Iceland was in the summer of 2019, and we were happy to be back to support our Allies and partners in the High North with this critical air surveillance mission,” he added.

The focus of the deployment was to carry out routine flight training and exercises so the Alliance could meet Iceland’s needs to stay prepared to monitor and manage its airspace in peacetime. It usually involved a deployment of around three to four weeks, three times a year of fighter aircraft from Allied nations. These aircraft familiarized themselves with the airspace and were certified by the Combined Air Operations Centre (CAOC) Uedem to execute the NATO mission in Icelandic airspace. This approach allowed the Alliance to conduct full-scale peacetime air policing activities at the shortest possible notice if required by real-world events.

While deployed, the Airmen also conducted aerial training and worked with more than 100 Icelandic Coast Guard personnel who controlled the activities out of the NATO Control and Reporting Centre at Keflavik and ensured search and rescue capabilities were available. The four United States Air Force F-16s were from the 52nd Fighter Wing based at Spangdahlem, Germany.

The United States had routinely deployed fighter assets to Iceland since 2008 to conduct this standing NATO mission, which was specific and unique to this NATO Ally. Given its geographical location, Allies, in conjunction with the Icelandic authorities, had agreed that the appropriate arrangement to help keep Icelandic airspace safe and secure was to maintain a periodic presence of NATO fighter aircraft based at NATO Keflavik Air Base.

NATO TIGERS BACK TO ITALY TO CONDUCT COMBINED SQUADRON-LEVEL FLYING

Fifty years after the traditional NATO Tiger Meet was last first held in Italy, the Italian Air Force’s 36th Wing hosted the 2023 meeting at Gioia del Colle Air Base from October 2 to 13, 2023.

Around 80 aircraft from more than ten NATO and Partner nations met at the military air base located in southern Italy between Bari and Taranto. Air and ground crews participated in complex training drills that aimed to refine cooperation and facilitate the sharing of flying experiences among fighter and helicopter squadrons in a multinational setting. The Tiger Squadron of NATO’s Airborne Early Warning and Control Force flew out of its Forward Operating Base at Trapani, providing airborne control of aerial activities.

The exercise provided daily interoperability training, tactical-level live-fly opportunities for air interdiction missions, Close Air Support (CAS), and search and rescue missions. During Composite Air Operations (COMAOs), the participants refined common tactics, techniques, and procedures, sharing experiences with colleagues from other armed forces, which could be critical in real-world



A Turkish F-16 fighter taking off with NATO Tiger jets parked in the background. Photo by Remo Guidi

scenarios.

According to the NATO Tiger Association – an association of flying squadrons bearing a predator in their unit crest – Tiger Meets evolved into first-class military exercises where the participants flew combined missions encompassing the entire spectrum of military operations.

For countries that could not afford to participate in large-scale Flag-series exercises, a ‘Tiger Meet’ was one of the few multinational exercises available. In view of the changing worldwide security situation, participation

became ever more critical to maintaining operational readiness and flying skills in a combined setting.

Over more than six decades, many air force squadrons marked their calendars for the NATO Tiger Meet. It took place for the first time in Italy in 1973 at Cameri Air Base and returned to the country in 1980 and 1988. Thirty-five years later, Italy again hosted this key international training meeting, also in conjunction with the celebrations for the 100th Anniversary of the Air Force, established as an autonomous branch in 1923.

NATO ALLIANCE GROUND SURVEILLANCE FORCE RENAMED AS NATO INTELLIGENCE, SURVEILLANCE AND RECONNAISSANCE FORCE

Effective September 22, 2023, NATO Alliance Ground Surveillance Force was re-designated NATO Intelligence, Surveillance, and Reconnaissance Force (NISRF). The name change is a logical and clarifying step forward for the Force; it reflects the reality of a mission set that is much broader than mere "Ground Surveillance."



NISRF flies regular missions with its own five RQ-4D Phoenix assets providing "organic" collection capability and support to targeting while enabling and supporting NATO persistent Joint Intelligence, Surveillance, and Reconnaissance (ISR) efforts. However, NISRF is a unique whole-of-effort ISR Unit growing at unprecedented speed; with its formidable analytical capability, it is a critical NATO intelligence node which processes, exploits and disseminates (PED) thousands of ISR products from any intelligence source made

available by member nations. NATO ISR Force Commander, Brigadier General Andrew CLARK, initiated this name change process since he took command of the Unit last year, firmly convinced the new title better explains the full mission of the Force today and in the future. "NISRF 2030+ vision is to become a platform and data-agnostic organization capitalizing on shared data from every domain and providing high-quality intelligence products to NATO decision makers and member nations at the speed of need", he stated.



NEW US BOMBER DEPLOYMENT COMMENCES SHOWCASING COMMITMENT TO COLLECTIVE DEFENCE

US strategic bomber aircraft have deployed to Europe and commence integration training with NATO Allies and Partners continuing of a series of scheduled deployments.

More than 100 Airmen and B-1B Lancer aircraft assigned to the 9th Expeditionary Bomb Squadron from Dyess Air Force Base, Texas, deployed to RAF Fairford, United Kingdom, on October 12 for Bomber Task Force (BTF) Europe 24-1.

The long-planned European BTF deployment provides U.S. and NATO leaders with strategic options to assure Allies and Partners, while also deterring potential adversary aggression throughout Europe and across the globe. "In today's challenging and dynamic security

environment, the significance of these missions cannot be overemphasised," said General James Hecker, commander of U.S. Air Forces in Europe, U.S. Air Forces Africa and NATO Allied Command. "We're not only demonstrating our commitment to collective defence but also strengthening our ability to respond to potential challenges. This underscores the enduring commitment of the United States to our Allies and partners," he added.

"We're excited about building and solidifying critical partnerships throughout the region and demonstrating the ability to hold potential adversaries at risk at anytime, anywhere in the world," said Lieutenant Colonel Philip Atkinson, 9th Expeditionary

Bomb Squadron director of operations. U.S. Air Forces in Europe and Air Forces Africa routinely hosts and supports a variety of U.S. Air Force aircraft and units for training among other with European NATO Allies and Partners. Operating a variety of aircraft and units across Europe helps maintain a ready and postured force prepared to support regional and global operations. For European Allies, such deployments offer training and integration opportunities to refine and enhance common tactics, techniques and procedures. Through these strategic deployments, NATO and the Allies demonstrate cohesion and interoperability and their strong commitment to deterrence and defence.



The moment a U.S. Air Force B-1B strategic bomber touches down at RAF Fairford commencing Bomber Task Force Europe 24-1. Photo by Ryan Hayman / U.S. Air Force

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EXERCISE STEADFAST NOON

Stoltenberg. "It sent a clear message that NATO would protect and defend all Allies." The exercise involved fighter aircraft capable of carrying nuclear warheads but did not involve any live bombs. The exercise was not linked to current world events, and the bulk of the training was held at least 1,000 kilometers from Russia's borders. NATO's Strategic Concept made clear that "the fundamental purpose of NATO's nuclear capability is to preserve peace, prevent coercion, and deter aggression." It stressed that "as long as nuclear weapons exist, NATO will remain a nuclear alliance." The exercise ran until 26 October.

NATO launched its long-planned annual nuclear exercise "Steadfast Noon" on Monday (16 October 2023) with up to 60 aircraft taking part in training flights over southern Europe.

The exercise was a routine training activity that had been conducted annually for over a decade. The maneuvers involved 13 Allied countries and a mix of

aircraft types, including advanced fighter jets and U.S. B-52 bombers that flew in from the United States. Conventional jets and surveillance and refueling aircraft

also took part. A different NATO Ally hosted Steadfast Noon each year. Training flights took place over Italy, Croatia, and the Mediterranean Sea. "Our exercise helped ensure the credibility, effectiveness, and security of our nuclear deterrent," said NATO Secretary-General Jens

U.S. B-52 BOMBER SUPPORTS NATO EXERCISE STEADFAST NOON IN TRANSATLANTIC MISSION

One B-52 Stratofortress bomber from Barksdale Air Force Base, Louisiana arrived in the European Theater to conduct a Continental United States (CONUS) to CONUS mission in support of NATO exercise Steadfast Noon October 24, 2023.

Exercise Steadfast Noon is a routine, annual NATO exercise designed to enhance interoperability, communication, and readiness among member States. The participation of the B-52 exemplifies the U.S. Air Force's crucial role in NATO's mission to safeguard global peace and security.

A total of 13 Allied countries and 60 aircraft participated in Steadfast Noon, conducting training flights over international airspace in Europe. The exercise does not involve any live bombs; it helps to ensure the credibility, effectiveness and security of NATO's nuclear deterrent mission.



NOTE: All the news for which the source is not indicated in the NATO AGENDA section (pages 3, 10 - 21) have as their source the information provided by the Allied Air Command Public Affairs Office.

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"MILEX 23"



The MILEX 2023 exercise showcased significant milestones, including the longest deployment flight of IAR-330M helicopters, covering a distance exceeding 7000 km. Notably, it marked the inaugural LIVEX (Tactical Field Force Exercise) organized by the European Union. These achievements stand out among the many "firsts" attributed to the MILEX 2023 exercise. Taking place from October 16 to 22, 2023, in Cadiz, Spain, the primary objective of MILEX 2023 was to enhance the operational capabilities of trained units for a comprehensive response to external conflicts and crises.



Mission accomplished!

Led by Colonel Daniel Godonoagă, the Romanian detachment from the 90th Air Transport Base, "Airman Colonel (AF) Gheorghe Bănciulescu," comprised 31 soldiers, two IAR-330 M helicopters, and a mixed team. The team included two soldiers with an EOD vehicle from the EOD Group of the Air Force Staff, accompanied by two additional comrades from the Army Staff.

The deployment unfolded in two stages. Initially, the helicopters embarked on a remarkable journey, covering 3,400 kilometers in over 18 hours and 40 minutes, including six technical stops. Subsequently, the remaining members of the detachment, participating in the MILEX 23 exercise, were transported by two C-130H Hercules and C-27J Spartan aircraft.





MILEX 23 represented a groundbreaking event as the European Union's first LIVEX exercise, characterized by tactical field force operations. The overarching goal was to foster the operational capacity of trained units, facilitating an integrated response to external conflicts and crises.

We also caught the helicopter pilots from the 90 Air Transport Base by surprise on the day they were set to depart for Spain. As they finalized their preparations, engaged in a thorough pre-flight briefing, and fine-tuned the last details of the mission, the pilots of the 903 Helicopter Squadron spared a moment to chat with us.

Captain Sofia Enache, a seasoned pilot on the IAR-330M helicopter, graduated in 2014 and currently serves as the chief pilot at the 903 Helicopter Squadron. Since joining the staff of the 90 Air Transport Base in 2017, Captain Enache has accumulated an impressive experience of over 870 flight hours.

"This mission marks my first venture beyond



Lieutenant-Colonel (AF) Ovidiu Nimigeanu, commander of the flight detachment during the MILEX 23 exercise.



Captain Sofia Enache, IAR-330M pilot

our country's borders, presenting the most significant challenge yet—the deployment for the MILEX 23 exercise. We'll traverse Hungary, Slovenia, Italy, France, and the entirety of Spain, aiming for the southern area west of Spain near Portugal. Our journey to Rota spans four days, making it a highly complex flight. The planning phase was intense, but we're all incredibly excited. Post-exercise, the return journey poses an equally lengthy and challenging trek. Every aspect is a formidable challenge, and I'm eager to collaborate with colleagues from other NATO countries. There's always something to glean from each other, making it a rewarding experience. Even though I'll miss those back home, being part of this exercise team brings immense joy," she shared.

Similarly, Captain Ionuț Enache, chief pilot within the 903 Helicopter Squadron, underscored the significance of these missions in shaping the training of a military pilot. Currently, we're in the midst of preparations for our deployment to Spain, gearing up for

participation in the MILEX 23 exercise. This marks the European Union's inaugural exercise involving troops in the field, encompassing a combined effort of naval, air, and ground forces with a notably intricate scenario. Embracing any exercise is valuable, pushing us beyond our comfort zones and demanding higher-level planning for the utilization of helicopters in joint operations. It serves as a crucial platform for advancing our flight training, refining piloting techniques, and honing our planning skills, particularly in collaboration with international entities. Collaborating with participants from seven other countries, we'll adhere to NATO standards, fostering excitement among all involved. This exercise stands as the first international engagement this year, with last year's activities in Greece prompting a rotation to ensure widespread participation in international exercises. Our optimism prevails, aspiring to represent Romania exceptionally well.

Lieutenant-Colonel (AF) Ovidiu Nimigeanu,



the flight detachment commander for MILEX 23, shared insights into the pilots' training and the upcoming mission to Cadiz, Spain, the host city of MILEX 2023.

"Our pilots are notably young, with the average age at the 903 Helicopter Squadron being quite low. As the eldest at 42 years old, I lead a diverse team comprising middle-class and beginner pilots. All armament pilots are mission-ready, serving as crew commanders. The observers are in training and rank among the best, selected for their extensive aviation knowledge. Taking them on the mission is deliberate, allowing them to experience the distinctions between civil and military flights. Departing from Timișoara, we adhere to civil aircraft rules initially, where regulations differ from military protocols. Flight logic varies, emphasizing adherence to designated paths, maintaining a five-kilometer buffer left or right, and following strict guidelines on altitude changes without approval. Flying at low altitudes, around 3,000 feet (1,000 meters) above ground level, some areas will lack radio





Lieutenant Engineer Cristina Sava, Head of Objective Control and Airfield Management Formation.



coverage. Regarding planning, collaboration with my colleagues began six months ago, with tasks distributed and everyone impressively fulfilling their responsibilities." Upon reaching the exercise site, the detachment's soldiers executed transport and CASEVAC missions, adeptly inserting and extracting troops at designated locations throughout the exercise. A crucial component of the training involved collaboration with military counterparts from other participating European Union countries. The Romanian detachment's participation in this exercise was geared towards enhancing the military's training for fulfilling national missions and serving as the EU's response force. Additionally, it sought to facilitate the exchange of experience concerning specific techniques, tactics, and procedures. The focus was particularly on planning and executing operations in challenging environments fraught with hybrid threats, aiming to operationalize the EU Rapid Deployment Capacity (RDC) — the Rapid Reaction Capacity of the European Union.

The Romanian military showcased a commendable level of professionalism, executing assigned missions during the exercise with precision and efficiency. The endeavor demanded significant adaptability and flexibility in procedures, which were continuously adjusted. Lieutenant Engineer Cristina Sava, a 2018 graduate and the head of the objective control and airfield management formation, joined the 90th Airlift Base in September 2019. She remarked, "International missions present an opportunity to step out of our comfort zones, proving the attainability of new, daring goals. Managing a deployment of this scale involves considerable logistical efforts. With a professionally and technically adept team, we safely navigate flights over thousands of kilometers from home. Extracting maximum lessons from this experience is crucial to identifying strengths and areas for improvement. The satisfaction of a job well done began with the helicopters touching down on Spanish soil and continues with every successfully completed mission. The passion

for flying, especially with the IAR-330 aircraft, radiates through our smiles – those of us fortunate enough to be part of the longest helicopter deployment to date." Senior Military Foreman Dumitru Gondor, serving as an on-board technician on the IAR-330 helicopter, graduated in 1992 and boasts over 4,000 flight hours, contributing his extensive expertise to the team. "After learning that I would be part of the Romanian Air Force helicopters' longest deployment, I considered it a monumental challenge in my career. As the exercise concludes, I can affirm that it tested our limits, standing as one of the most complex missions, and I take pride in being a member of an exceptionally professional team." "From traversing Europe from East to West in two helicopters to flying over the ocean, transporting foreign troops to a Spanish training ground, and executing night CASEVAC missions, this exercise consistently presented awe-inspiring challenges. Witnessing a mission involving soldiers of diverse nationalities allowed me to appreciate the distinctions





The objective of the multinational exercise was to enhance the training of the detachment's crews, enabling them to effectively carry out their missions within the national framework and as part of the EU response force. Additionally, the exercise aimed to facilitate the exchange of experience in specific techniques, tactics, and procedures.



among us and how they brought us closer. The professionalism exhibited by all participants, irrespective of weapon or nationality, and their collaborative efforts toward a common goal transcended cultural and language barriers, ensuring the successful completion of all missions," remarked Captain Sofia Enache upon returning to the country. In conclusion, it can be affirmed that the Romanian military showcased an exceptional level of professionalism, executing assigned missions with precision and efficiency throughout the exercise. This endeavor demanded a substantial collective effort, showcasing great adaptability and flexibility—an undoubtedly valuable experience for the pilots of the 203 Helicopter Squadron.

**Text: Ioana-Cristina Teişanu,
Viorel Bucur;
Photo: Viorel Bucur**



A NEW C-130 HERCULES FOR THE ROMANIAN AIR FORCE



Dan ȘTEFAN



Through the Excess Defense Articles Program, the Romanian Air Force received a third C-130H2 Hercules military transport aircraft at no cost. This program enables the United States to donate or transfer surplus military equipment to allied or friendly nations with minimal or no financial burden.

The donation of the C-130H Hercules aircraft signifies a manifestation of solidarity and enduring collaboration in the realm of security between Romania and the United States. It underscores their shared commitment to regional stability and security, emphasizing the U.S. recognition of Romania as a strategic partner and a key ally within NATO. This initiative supports Romania's ongoing efforts to modernize its defense capabilities. The second C-130H Hercules aircraft was delivered on September 15, followed by the third in November. An American mobile training team conducted training sessions at the 90th Airlift Base, collaborating with the Romanian crew to acquaint them with the new onboard equipment. Currently, the Romanian Air Force operates four C-130B transport aircraft and three C-130H aircraft.

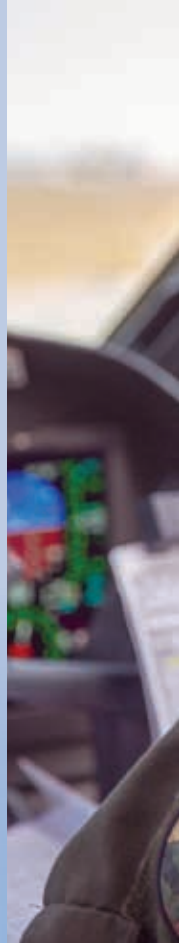
The C-130H Hercules is a versatile and dependable transport aircraft with the capability to execute various missions, including airlift, medical evacuation, humanitarian assistance, and disaster response. The incorporation of this aircraft will enhance Romania's air transport capabilities and bolster interoperability with NATO allies, with a specific focus on the Eastern flank of the Alliance.

Text and photo: Maria IONIȚA



Colonel (AF) Emil-Florian Tecuceanu, commander of 90th Air Transport Base, stated in his address, "The C-130 Hercules military aircraft serves as an ambassador for the Romanian Air Force through its diverse roles in multinational exercises. It also provides crucial air logistic support for troops in theaters of operations, carries out medical evacuation, and executes extraction missions for civilians facing difficulties in conflict zones. In this context, the induction of the third C-130H aircraft into service will significantly enhance the strategic transport capacity of the Romanian Air Force and the 90th Air Transport Base."







EUROPEAN Spartan 2023

The European Spartan 2023 tactical exercise, designed for joint training of C-27J Spartan aircraft users, occurred from October 2 to October 13, 2023, at the 90th Air Transport Base in Otopeni.

This exercise held a distinctive status within the European Air Transport Fleet (EATF) program. The current edition featured the participation of three countries—Romania, Bulgaria, and Italy—bringing together aircraft, flight crews, and technical personnel. Additionally, two countries, Lithuania and Greece, contributed military observers to enhance interoperability in tactical operations and maintenance procedures.



The European Spartan 2023 exercise was structured around a simulated scenario, featuring the emulation of a theater of war. Missions encompassed the deployment of paratroopers, the release of containers, insertion of special forces into combat within the theater of operations, and medical evacuations. Predominantly, approximately eighty percent of the exercise focused on medical evacuation missions.

Lieutenant Colonel (AF) Mihai Virdol, Chief Pilot of the 902nd Aviation Transport Squadron and Commander of the Romanian detachment, highlighted the multinational nature of the exercise. He stated, "This exercise is a multinational endeavor, involving the majority of countries utilizing the C-27J Spartan platform. Its aim is to foster shared experiences and lessons learned among pilots, military personnel, engineers, and paratroopers – essentially all personnel associated with this aircraft."

Furthermore, Lieutenant Colonel (AF) Virdol provided insights into how the Romanian soldiers executed their assigned tasks during the exercise and shared lessons learned from the experience.

"The entire squad performed exceptionally well. We formed a detachment comprising predominantly young individuals, which is advantageous for the air force. Despite being in the early stages of their careers, everyone mobilized effectively, resulting in a highly successful exercise. Lessons were learned, naturally. Throughout the scenario, we encountered the enemy and were detected by radar on several occasions. The launches were executed proficiently, contributing to our preparation for a real combat scenario."

An additional noteworthy aspect of the exercise was the collaboration with foreign military participants. "We collaborated seamlessly; all participants were fluent in English, eliminating any language barrier. We forged friendships, engaged in social activities on weekends, and jointly prepared missions—each compartment comprised soldiers from different countries. In INTEL, for instance, there was military representation from Lithuania and Romania. The White Cell, a component

Last checks before the flight



aiding INTEL in mission preparation, included personnel from all participating countries. The shared experience culminated in an extraordinary exercise," emphasized Lieutenant Colonel (AF) Mihai Virdol.

Continuous training at Spartan constitutes a pivotal process, with each exercise serving as a significant stage in the preparation of pilots and techniques. While this year's exercise took place in familiar territory, usually, it occurs in foreign terrain, presenting a unique challenge, particularly in terms of demanding low-altitude flying.

The exchange of experience among pilots, even when adhering to the same standards and exercises, remains crucial in the training of military aviators.

Lieutenant Colonel (AF) Simona Laza, the chief pilot within the squadron and a Spartan pilot since 2012, fully qualified as a co-pilot, expressed her perspective. "I believe there are always areas for improvement. Our collaboration with foreign pilots has consistently been excellent. We share a common language, understand each other, and operate on the same wavelength despite any language

Informal briefing



The technical team



barriers. Our current focus is on implementing Crew Resource Management (CRM), addressing collaboration within the crew, which varies from country to country. They have synthesized everything into one manual, while we are still categorized concerning tactical flying and missions. Every flight, regardless of qualifications or experience, is important, contributing to our collective experience. We encounter new situations, conduct post-analysis, evaluate our reactions, and identify ways to improve for future encounters with similar situations."

The European Spartan 2023 exercise unfolded as part of the European Air Transport Fleet (EATF) program.

"Mission accomplished. The European C-27J crews are now better trained, better prepared, and will depart Romania with enhanced skills and experience that will contribute to their primary military roles, fostering personal and professional growth. The exercise achieved a heightened level of multinational interoperability support and

increased readiness for future operational challenges. Additionally, I am confident that many of you have forged new professional and personal relationships in recent weeks, strengthening the robust network of European C-27J operators. Over the past few weeks, a total of 21 missions, including medical evacuations, were executed and completed. In total, 52 flight hours were logged under simulated enemy threats. Behind these numbers lies numerous hours of dedicated and hard professional work by all involved. This recognition extends to aircrews, MEDEVAC teams, maintenance personnel, operations personnel, mission planners, logisticians, communications officers, intelligence officers, combat control teams, public relations personnel, air traffic controllers, weather office, and other units in the ROAF and other nations. Without their contributions, EUSPARTAN 2023 would not have been possible," declared EDA (European Defense Agency) representative Javier Francisco at the conclusion of the exercise.

In 2015, Romania initiated its involvement in EDA programs pertaining to military transport aviation.

"We've witnessed the advantages of EDA participation through these exercises, showcasing experienced crews capable of executing challenging missions and successfully meeting various national and international assessments. Therefore, I urge all C-27J Spartan users in Europe to actively engage and expand opportunities for quality training within this collaborative environment. Lastly, I extend my congratulations to our crews, technical and medical teams. I appreciate the hard work of the planners and project officers who played an active role in making this endeavor a success," stated Colonel (AF) Tecuceanu.

"I extend my gratitude to Romania and the Romanian Air Force for hosting European Spartan 2023. It is an honor to be here and convey my greetings to the head of the Italian Air Force. We've worked diligently to organize this exercise, a unique opportunity to unite the entire European C-27J community, exchange views, and train together—an essential step toward readiness for real operations. Thanks to all the participating pilots for their efforts during these two weeks. I trust this exercise was truly beneficial, and we eagerly anticipate your future performances to identify areas for improvement and enhance our training skills with the C-27J Spartan. As I mentioned, this is a unique opportunity, and we must continue to work hard to sustain it," emphasized Major General Enrico Degni, Air Mobility Command Italian Commander.

"In today's security environment, marked by rapid changes, collective defense proves to be a crucial driver of security and stability. Therefore, it's imperative for the military to engage in extensive multinational training, thoroughly understanding and practicing techniques, tactics, procedures, and operating standards. Exercises like European Spartan 2023 provide the necessary framework for military training to prevent and manage crisis situations," highlighted Lieutenant General Viorel Pană, Air Force Chief of Staff, addressing participants.

"Your presence here today underscores the importance of collective defense and cooperation. Together, we've demonstrated our commitment to safety and security in accomplishing missions, recognizing that there is always room for improvement. The lessons learned during this exercise are crucial for our future collaboration. We are here to learn from each other, find ways to adapt, overcome challenges, and enhance our standards of mission planning and execution," concluded Lieutenant General Viorel Pană.

Special medical procedures presented by the Italian military team



Presentation of the Romanian Air Force aircraft equipped for aeromedical transport missions

Text: Ioana-Cristina Teişanu, Maria Ioniță

Photo: Adrian Sultănoiu, Maria Ioniță, Bogdan Pantilimon

ON BOARD THE FRENCH A330 MRTT



The Baltic Horse III under the command of Col. Federico Sacco Maino concluded its mandate (at the Lithuanian base of Siaulai) on November 30th, as usual the Italian TFA, which we remember, in this BLK 63 was unable to count on any support nation had a very high efficiency rate, almost equal to 100% and notable numerical results, with a high number of activations, 35, in Alpha Scamble, 60 “non-cooperating” aircraft intercepted and over 80 flight hours achieved.

Generally the nation, or the nations that rotate their contingents in the NATO Air Policing mission, send qualified personnel in the weeks preceding the rotation to verify that all the conditions suitable for the rotation exist, and if they are optimal the rotation will take place on the date indicated by NATO.

In this particular context, NATO organized with the Armée de l'air et de l'Espace a media tour dedicated to the sector's newspapers and in this context Panorama Difesa was thus able to participate in the training activities and exercises conducted on the Baltic Sea during the Mirage trade.

The authorized mission in fact includes a rejoint with the French Mirages which will be

accompanied on their transfer leg, an interception followed by an interception followed in turn by an in-flight refueling of 4 Finnish F/A-18 Hornets, followed in turn by a further intercept of two Italian Eurofighters based in Lithuania returning from a training mission.

The activity began on the morning of November 28th at 8.00 am, when an A330 MRTT (Multi Role Tanker Transport) tanker took off from its base in Istrès with destination Baltic Sea/Lithuania/Siaulai,

Panorama Difesa, the only Italian newspaper involved in this activity, was able to document with its correspondents this exercise conducted primarily to refine cooperation and

coordination in refueling and interception maneuvers in international airspace.

A few minutes after take-off the A-330 was joined by French Mirage 2000-5s (configured with three auxiliary tanks) coming from their base in Luxeuil, north-east of Dijon, aircraft which accompanied the tanker for most of the route, practicing interception maneuvers several times, refueling only once during the route, the French pilots, aware of the media activity, often positioned themselves in favor of the cameras and cameras of the envoys present on board the tanker.

After approximately three hours of flight, the Mirages make a turn and leave the MRTT which begins to orbit awaiting the next activity.

After a break of about an hour the training activity resumes with the involvement of four Finnish F/A-18 fighters coming from the Rissala air base, Karelia Air Wing, about 400 nautical miles away from the training area, after a initial

DURING JOINT NATO ACTIVITIES



interception support, they begin in-flight refueling operations.

Separately we then learn that the 4 Finnish fighters, thanks to in-flight refueling, carried out training activities with Swedish JAS-39 Gripen jets

for more than an hour after disengagement from the refueling aircraft.

Finnish and Swedish fighters regularly fly with allied fighters deployed in international spaces, to further improve cooperation and exploit synergies during joint flight exercises. Once the activity in favor of the Finnish F/A 18s was completed, the MRTT headed for Lithuania, but in the vicinity of the Siaulai base, it "suffered" a further interception, this time they were two Italian Eurofighters, who following the procedures, come together and proceed with "identification" as usual.

The training activity ends after this operation and we proceed to the landing.

In this particular context where the French tanker lent itself to being used in multiple

roles, the beneficiaries, namely the Mirage 2000-5, the Finnish F/A18s and the Italian Eurofighters added a certain complexity to a "trivial" training mission of in-flight refueling, this type of activity is always very useful for establishing and standardizing common routine tactics, techniques and interoperability procedures and for refining the experiential exchange between crews.

After landing we had the opportunity to visit the Italian contingent again and subsequently to meet the personnel of the AWACS (E-3A coming from the German base of GeilenKirchen) present on the Lithuanian base for constant monitoring of the skies (and not only) of the Eastern Europe.

The French and Belgian contingent then took over "the keys to the Baltic" in a formal ceremony and began their BAP activity on behalf of NATO which will see them operate in the area for a period of 4 months.

The author would like to thank AIRCOM, NATO, AM, the Armée de L'air et de l'Espace and the A-330 personnel

Author text: Gian Carlo Vecchi

Photos: Gian Carlo Vecchi/Pier Paolo Lazzarin



*The creation of the Air Force Staff
and its activity
between 1990 and 2023*





THE CREATION OF THE AIR FORCE STAFF AND ITS ACTIVITY BETWEEN 1990 AND 2023

THE FIRST STRUCTURES FOUNDED IN ORDER TO REBUILD "THE AIR SERVICE", 1990-2000

On 30 November 1993, due to the Army reorganization process, seen as a necessity of the alignment with Western standards, the Aviation and Antiaircraft Artillery Staff was founded through the unification of the Military Aviation Command and the Territorial Antiaircraft Artillery Command; on the strength of Ministry of Defense Order no. 24/30 August 1993, this newly-created structure was meant to comprise aviation, antiaircraft artillery, and radiolocation.

On 1 June 1995, the 71st Fighter Regiment was divided into the "General Emanoil Ionescu" 71st Fighter And Fighter-Bombardment Base and the 71st Fighter Group.

As from 1997, a squadron within the 86th Fighter Regiment started an intensive training in order to be able to perform joint missions with NATO forces. This special training program led to high-level interoperability and the fighter squadron was completely endowed with MiG-21 LanceR aircraft. On 15 December 2000, the "Lt. Gheorghe Mociorniță" 86th Air Force Base was founded and endowed with IAR-330L helicopters. This fact increased the range of missions the 86th Air Force Base was authorized to execute.

In 1996, the "Cdor. Gheorghe Bănculescu" 90th Airlift Base was set up, endowed with the following types of aircraft: AN-24, AN-26, AN-30, and the helicopters: IAR-330, Mi-8, Mi-17, SA-365. A first step in complying with NATO interoperability standards was taken on

25 October 1996, when the base was endowed with two C-130 aircraft (afterwards with another three) which doubled the airlift capacity and operating range.

The "Capt. Alexandru Șerbănescu" 95th Fighter and Fighter-Bombardment Air Force Base was set up in Bacău on 25 August 1995. It was assigned to ensure the training and combat missions of the 95th Fighter Group. Furthermore, the aerodrome provided logistic support for the MiG-21 LanceR aircraft, as well as their exploration and tests at the "Aerostar" company in Bacău. Almost all Romanian fighter pilots were trained here in order to become eligible for the MiG-21 LanceR flights.

In 1995, by taking control over four antiaircraft missile battalions and one technical "Neva" battalion, the brigade became the 1st SAM Mixed Brigade and was named "General Nicolae Dăscălescu", being subordinated to the 1st Air and Air Defense Corps. From 1 August 1998 on, the 1st Mixed SAM Brigade became the "General Nicolae Dăscălescu" 1st Antiaircraft Missile Brigade, the "Neva"-missile battalions being removed from the brigade structure.

In 1998, by reorganizing the 46th Radio-Technical Brigade (in Ploiești) and the 41st Radio-Technical Brigade (in Timișoara), Radar Centers were created in order to increase the operability, versatility, and efficiency of the decisional act, to optimize the information flow about the aerial activity and to create the conditions for the integrated air space management system.

Premises were created for the transfer from analogical to digital radiolocation in order to make it compatible with the military and civilian aviation, as well as with the one pertaining to NATO.

The 70th Aviation Engineers' Regiment carried on the activity of the Aeronautical Engineers' Regiment founded on 1 November 1938 by High Decree no. 3758, that was endowed with special equipment for the repairing, maintenance, and construction of airfields and roads, and for works meant for the protection of personnel, aircraft, and machinery (excavators, bulldozers, cranes, dump trucks, front loaders, compactors etc.).

After the creation of the Aviation and Antiaircraft Artillery Staff, the 85th Signals Regiment was reorganized on 1 May 1995, under General Order no. 7 of 4 February 1995, issued by the Ministry of National Defense; on 1 December 1995, the "Gheorghe Robescu" 85th Signals Regiment was handed the battle flag in a special ceremony.

In 1991, the "Brigadier General Ion Bungescu" Training Camp and Surface-to-Air Firing Range in Capu Midia created and used for firing exercises the target-plane ATM-03; in 1996, a new system for firing assessment (EOTS-F) came into service. In 1997, the unmanned radio-guided missile system FOX-TS1 came into service and in 1998 firings were undertaken for the testing and acceptance of antiaircraft systems 2x35 mm Oerlikon.



One of the first missions within the Partnership for Peace took place in Türkiye. As soon as they landed on the Akinci airfield in Ankara, Capt. cdr. Liviu Burhală and Major Victor Strimbeanu are welcomed by the Exercise Directors (1998)



The decision to produce the new IAR-99 "Șoim" ("Hawk") aircraft was made at the end of 1996. Since the IAR-99 standard version fulfilled the requirements of an advanced jet trainer capable of performing close air support, all efforts were turned on the cockpit which was equipped with an upgraded avionics package

THE ROMANIAN AIR FORCE MODERNIZATION PROGRAMS

In order to become full member of the Euro-Atlantic military community, Romania firmly started out to modernize its Army. Thus, the Romanian Air Force initiated programs of endowment of its armaments and specialties, both before becoming a member of the "Partnership for Peace" program, and after joining NATO.

The "Partnership for Peace" program

On 26 January 1994, Romania signed the Partnership for Peace (PfP) document. This represented a great opportunity for the Romanian Air Force to plan and develop the interoperability with NATO structures in order to take part in missions that were supposed to attest the good training of non-flying officers (staff officers, navigators, and meteorologists), flying and technical personnel.

An important phase consisted in the assessment, establishment, and achievement of the infrastructure projects regarding the air space management and the modernization of the airfields in Bucharest-Otopeni, Timișoara, Mihail Kogălniceanu, and Craiova, as well as of the firing range at Capu Midia.

The Romanian Air Force Staff participated with forces and capabilities in operations within the Partnership for Peace program (exchange of experience, reunions, visits, courses, and military exercises). The Romanian airmen gave proof of their training, airmanship, and bravery, being equal to their partners during this program; moreover, they broke records not only with MiG 21 LanceR aircraft, but also with IAR-330 helicopters.

The starting-point within the PfP program was the Main Planning Conference of a real aerial exercise, "Cooperative Chance '96", in which the Romanian Air Force was to take part with two aircraft and staff personnel. Then, Romania organized the "Cooperative Key '96" exercise on the Otopeni military air base, under the command of the Allied Air Forces in Southern Europe. 12 NATO member states and partner countries participated in the exercise. Through professionalism, expertise, seriousness, and responsibility, the Romanian Air Force represented an important component of the Romanian Army within the Partnership for Peace program. Its efforts were always remarkably appreciated by the allied nations and partners and the Romanian Air Force remained a long-expected presence, being highly respected on the European air bases.

The IAR-99 "Șoim" Program

The "Șoim" project was structured in two phases. The first phase regarded the approval and manufacturing of the advanced jet trainer aircraft and the second phase concerned the approval and manufacturing of the close air support version. In the final endowment version, the aircraft was provided with both air-to-ground and air-to-air weapon systems (of "Eastern" or "Western" production) and with identification and electronic countermeasure systems.

The process of modernization of the aircraft began in 1990, when two machines (numbers 708 and 709) were modified by installing Honeywell avionics; their first flights occurred on 9 and, respectively, 22 August 1990. The following version of the aircraft was number 712, which was equipped with a "Collins" avionics package and performed its first flight on 6 November 1991.

Due to the experience gained through gradual upgrades, a new type of IAR-99 "Șoim" was manufactured, which performed its first flight on 22 May 1997. This aircraft was produced by INCAS Bucharest (project conception), I.R.Av.Craiova and IAR Brașov (structure), AeroStar Bacău (landing gear), Turbomecanica Bucharest (engine), Aerofina Bucharest (electrical equipment and electronics) and Elbit Systems Ltd. (avionics).

The LanceR Program

The modernization program for the MiG-21 fighter aircraft followed the global direction of improving the technical and tactical characteristics of the existent aircraft by upgrading the equipment and installing new weapon systems.

In 1992, the Ministry of Defense decided to modernize the MiG-21 M, MF, and UM aircraft, which had already been introduced into service and had sufficient resources in flight to justify their modernization.



Air-to-ground version first flight of the LanceR prototype 21 August 1996

In June 1993, the modernization contract was perfected and thus Aerostar, with a 25-year experience on the MiG-21, became the main contractor together with Elbit Ltd. from Israel.

The purposes regarding the modernization were to increase the fighting capability through a modern avionics package compatible with that used by 5th generation fighter aircraft, the firing precision with both "West" and "East" weapon systems, and the survival capability in a hostile environment.

The detailed planning of this project of modernization was performed by a mixed Romanian-Israeli team within Aerostar, which used modern programs of computer-aided design.

The newly-modernized aircraft was called LanceR and was designed in three configurations:

- air-to-ground solo flight, or LanceR A, whose prototype (number 9809) performed its first flight on 22 August 1995;
- air-to-ground dual control, or LanceR B, whose prototype (number 327) performed its first flight on 6 May 1996;
- air-to-air solo flight, or LanceR C, equipped with a Doppler multimode radar, whose prototype (number 6607) performed its first flight on 6 November 1996.

The first serially produced LanceR A (number 714) was displayed at the September 1996 Farnborough (Great Britain) Air Show and the first serially produced LanceR C (number 6721) was displayed at the Le Bourget (France) Air Show in June 1997.

The first deliveries to the Military Aviation started in 1996; on 8 May 1997, the first squadron was fully endowed with modernized MiG-21 aircraft (within the 95th Air Fighter Group).

The SOCAT Program

The endowment of the Romanian Air Force with IAR-330 "Puma" helicopters represented an event, the product corresponding to a great extent to some of the combat requirements of the time.



On May 15, 2023, the MiG-21 LanceR soared into the skies for its farewell flight for the Romanian Air Force. Departing from both the 71st and 86th Air Force Bases, the iconic aircraft made its way to the 95th Air Force Base, marking the conclusion of over 60 years of dedicated service to the Romanian Air Force

The IAR-330 "Puma" SOCAT has become a reality. The agreed project developed normally, with each phase a real success, which made it possible for the helicopter to come into use



Time passed by and all types of aircraft, including helicopters, have been given a more and more important role within the organization and delivery of combat missions, air-to-air and air-to-ground missions becoming ever more difficult and complex. Therefore, combat helicopters became small flying fortresses with the pilot benefitting from better protection, efficient and diverse weapon systems, and most sophisticated navigational systems.

Romania found the solution to modernize an aircraft already existing within the air bases – the IAR-330 "Puma". Thus, the Ministry of Defense, IAR S.A. Braşov and Elbit Systems Ltd. began a process of cooperation, the result of which being a special one: the SOCAT project. Helicopters were equipped with modular integrated display-and-sight pilot helmets (MIDASH) for the identification of enemy forces (by day or by night) and an integrated system for navigation, armament, and attack.

The first prototype, which was displayed on 26 May 1998, executed more than 70 test flights. The results were the expected ones, thus the electronic navigational and armament systems being validated for production

The second prototype of an IAR-330 "Puma" helicopter modernized with a SOCAT system was officially displayed on 23 October 1999. The test pilots in Braşov showed the capabilities of the new aircraft which were more than edifying. Its presentation brought about the final phase of the development of the program: the integration of the modern avionics and armament systems, as well as the latest generation of MIDASH pilot helmets.

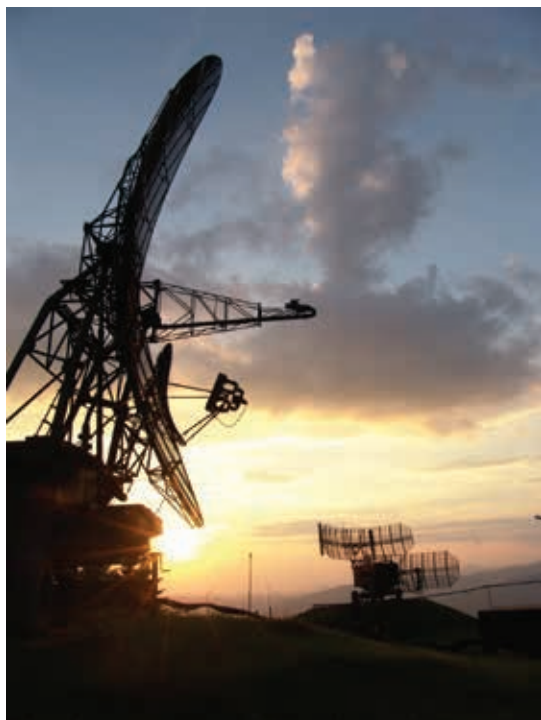
The efficiency of the SOCAT system was certified in the theater of operations in the Balkans.

The FPS-117 Program

The necessity to modernize the air space surveillance system was generated by the fact that the capacity of the operating radar systems was exhausted by more than 60%. According to studies undertaken in cooperation with NATO specialized

In 1995, Romtehnica S.A. and the Lockheed Martin Corporation signed a contract for the acquisition of five FPS-117 radar systems, which were to be installed and put into operation in the interval 1998-1999





structures, it was concluded that an entire radar system can be developed on a modern technical structure.

In 1995, Romtehnica S.A. and the Lockheed Martin Corporation signed a contract for the acquisition of five FPS-117 radar systems, which were to be installed and put into operation in the interval 1998-1999.

The three-dimensional AN/FPS-117 radar is an air surveillance system produced by Lockheed Martin, with Solid-State technology. A network of antennas performs electronic elevation search, at the same time with the continuous azimuth revolution movement, to provide three-dimensional data in real time about each target of the searched area. The liability ensured by the Solid-State technology is augmented by automatic orientation, calibration, and reconfiguration as well as the monitoring of operability and location of troubleshoots controlled by computer.

The AN/FPS-117 systems are the first long-range three-dimensional radars employed by the Romanian Air Force. They comply with NATO standards and are also employed by the USA, Great Britain, Germany, Italy, Belgium, Türkiye, Iceland etc. There are 80 such systems in the world.

The AN/FPS-117 is designed for air space search and for the location, tracking, and identification of any air means operating at distances up to 450 km, as well as for the provision of three-dimensional data concerning those means.

The radar system executes radar surveillance, air traffic control, the coordination of one's aircraft for the interception and target location for surface-to-air missiles.

The AN/FPS-117 radar is protected against electronic countermeasures and automatically transmits radio data into the command network of the Air Force, with the capability of being remotely controlled.

The system was first employed by the Air Force in 1998.

The ASOC equipment

In 1998 and 1999, five three-dimensional radars purchased from the Lockheed Martin Corporation were set up and put into service. In 1999, ASOC (Air Sovereignty Operations Center) equipment was installed, which ensured the providing of recognized unique aerial images. In the same year, secondary radars were installed. In August 2000, the interlinking to ASOC was established. Communication with the civilian surveillance system was also ensured at ASOC level.

The system comprising ASOC, the Command and Reporting Center (C.R.C.) and the three-dimensional radars is completely automatic, being one of the most up-to-date in Europe.

The implementation of the Air Activity Transmission and Display System (STASA)

In 1986, a series of studies and researches mainly targeted the implementation of a radar integrated information system, the zonal information integration regarding the air activity, as well as the transference of the activities from command posts and radar operators onto microcomputers. The first experiment took place in 1992: it consisted in the manual input of data within a radiolocation company and the automatic transmission of data hierarchically up to the main command post. In 1993, the system was certified by a professional commission and has been improved upon and put to work yearly within the formation ever since.

The implementation of the Air Activity Transmission and Display System (STASA) was recorded in 1999. This is one ASOC component whose mission is to automatically recover and distribute air activity data by integrating information from complementary and digital distribution information sources, from ASOC to large military bases and bases within the Air Force, to headquarters and units belonging to other military forces, as well as to other entities that use the data for making decisions and taking strategic action. The system permanently provides the functional integration of all these and operates online in order to transfer radiolocation data adapted to every radar type.

The "Ghidul" program

Being part of the Romanian Army efforts to accomplish its objectives after having joined the North-Atlantic Alliance, the "Ghidul" ("Guide") program was designed as a starting point for obtaining high-standard capabilities, dedicated to the achievement of future missions assigned to the Air Force in peacetime, in a state of crisis, or in war to ensure navigation.

The service life of the existing equipment at the start of the program had been exceeded, they were outworn and obsolete (belonging to the generation of the years 1960s-1980s), not reliable, too costly for still maintaining them in service without spares and consumables.

The implementation of this program appeared to be due to the necessity of aligning with the ground navigation aid systems in order to ensure the interoperability with similar equipment, in order to meet NATO standards and ICAO regulations. It also provided the ground-to-air stations with approach control systems, instrumental landing systems, as well as secure flights, day or night, in all weather conditions.

Started in July 1999, the project had several implementation phases: auctioning (1999), contracting (2001-2004), the modernization of the Fetești airfield (2000-2001), the modernization of the Câmpia Turzii airfield (2005-2006), the modernization of



For a duration, the Romanian Air Force employed a combination of analog radars and integrated digital radars to generate a comprehensive aerial picture within the STASA system





"Gap Filler" provide air space surveillance at medium and low altitudes and automatically feed data into the Air Force command-and-control system



the Boboc airfield (2006-2007).

In this complex activity that covered a timespan of eight years, many structures within both civilian and military companies were involved: Intelcan (Canada) – for radio navigation and landing systems, as well as for providing the management of the radio navigation project; Thorn (France) – for beaconing systems; Topex (Romania) – for the switch-over of vocal communication equipment; Interactiv (Romania) – for the integration of ground-to-air stations; Teleelectron (Romania) – for the optic fibre communications; Aerostar (Romania) – for the IFF radar – as a subcontractor of Intelcan for radio navigation equipment.

The main technical guidelines of the "Guide" program are: the radio bearing and landing guidance (the GCA 2000-ITT radar); the instrument landing system shown by the LLZ direction radiomarker and the GP gradient radiomarker; the fixed light marking electric wiring; the VCSS reversing vocal communication system; the Harris radio communication system; the reframing and modernization of some infrastructure elements (the Control Tower, different electrical supplies).

The "Gap Filler" radars

In 2003, an agreement between the Romanian Ministry of Defense, represented by the National Company Romtehnica S.A., and the Lockheed Martin Corporation was perfected in Bucharest, regarding the acquisition of medium- and low-altitude radars. According to this contract, at the beginning of 2004, several radiolocation units were endowed with the first two "Gap Filler" radars manufactured by the American company. The Romanian Air Force has 19 "Gap Filler" radar systems at its disposal since 2008. These radars provide air space surveillance at medium and low altitudes and automatically feed data into the Air Force command-and-control system.

The "Gap Filler" system is designed for the search of the air space, for the location, tracking and identification of air targets operating at short and medium distances, for the providing of three-dimensional data about the target's location and for the transmission of data to the beneficiaries.

The "Hawk XXI" program

Beginning with 2006, within the 1st SAM Brigade, a modern "Hawk" battalion was created, the first component of a third millennium-level surface-to-air missiles system. This is meant to become operational and able to be integrated in any NATO



The integration of the HAWK and GapFiller systems was executed through collaborative exercises involving the Air Force and various army units on national territory



The inaugural live-fire training exercises utilizing the HAWK system occurred in 2012 at the Capu Midia Range.



Execution of the acceptance documents for the initial two C-27J Spartan aircraft.

air defense structure in 2015. The battalion has been endowed with the third modernized version, capable of reaching the performance of HAWK XXI version, as a result of a coherent development process of all its components (operation, maintenance, and tactics).

It is an extremely mobile system, which can easily be transported with wheeled-vehicles, by railway or air. Its deployment to a designated area needs a small formation, up to eight cars, taking four hours to get to the firing range and no more than two hours to be installed.

The basic components of the system are following:

- a fire distribution center – FDC;
- a high power illuminator together with an electronic-optical AN/MPQ-61 plus HEOS tracking device;
- a low-to-medium altitude continuous 3D AN/MPQ 64 Sentinel wave-acquisition radar;
- a system with six M192MI launchers
- MIM-23 missiles in various configurations: CAP, EOB, IFM, MBJ, ILM.

C-27J Spartan Program

On April 12, 2010, a significant event unfolded as the first two C-27J SPARTAN short-to-medium range courier transport aircraft touched down at Base 90 Air Transport. These aircraft were generously provided by Alenia Aeronautica SpA



**12 April, 2010:
The arrival of the
first Romanian Air
Force C-27J
Spartan airplanes**

Company, initially in a configuration that served to elevate the training standards of military pilots. This facilitated the commencement of operationalization processes in parallel with the gradual transfer of responsibilities related to aircraft operation.



The acquisition of C-27J Spartan aircraft would finalize Romania's air transport fleet, incorporating NATO-compatible aircraft.



The final configuration of these two aircraft, in accordance with the purchase contract's specifications, was expected before their official induction into the Romanian Air Force.

In a joint effort between the Romanian Air Force, the Armaments Department, and the Flight Research and Test Center, a team of specialists conducted thorough testing and technical evaluations of the C-27J Spartan aircraft. These evaluations encompassed ground assessments and in-flight trials and took place within the manufacturing facilities of the aircraft's producer from March 18 to April 1, 2010.

The acquisition of the Spartan aircraft represents a strategic move aligned with the provisions laid out in the Strategy for the Romanian Army's equipment plan for the period 2005-2012, extending into the year 2025. It aimed at enhancing and modernizing the operational transport capabilities of the Romanian Air Force, particularly in the context of replacing the aging Antonov-26 aircraft.

Notably, one of the C-27J Spartan aircraft was showcased at the BSDA 2010 exhibition, held at ROMAERO - Băneasa, underscoring Romania's commitment to strengthening its air transport capabilities.

Multirole Aircraft Program

The inception of the multirole aircraft program dates back to 2014, driven by the imperative to bolster the national defense system. This initiative aimed at enhancing our air power capabilities, ushering in a generational shift across multiple dimensions within the Air Force: technological advancement, infrastructure development, human resource empowerment, and a paradigm shift in our mindset.

From a technological perspective, the transition from the 3rd generation to the 4th generation aircraft catapulted Romania into the league of nations with a formidable air prowess. Moreover, it has set the stage for our potential transition to the 5th generation of combat aircraft. This technological leap was a pivotal and obligatory stride for the Romanian Air Force, given the recent wave of technical innovations that have rapidly transformed the air defense landscape. The digital revolution, the evolution of communication systems, and the development of fighter aircraft have precipitated a seismic shift in air force interoperability. Our overarching goal now revolves around shifting the central axis of Air Power from merely securing and sustaining air superiority to establishing information dominance and capitalizing on it.

In September 2014, the Air Force initiated an intensive training program at Monte Real Air Base in Portugal, marking the beginning of an arduous yet promising journey for our dedicated personnel.

Fast forward to September 29, 2016, when six F-16 aircraft took off from the 5th Monte Real Air Base, destined for Romania.

On March 14, 2019, a significant milestone was reached at the 86th Air Force Base "Lieutenant Aviator Gheorghe Mociorniță" as the F-16 Fighting Falcon multirole aircraft officially commenced Air Police missions.



The initial six F-16 Fighting Falcon aircraft were inducted into the inventory of the 53rd Squadron, known as the "Warhawkswww"



The initial F-16 aircraft to touch down at 86th Air Force Base was the dual-command plane registered with the number 1610



TPS-77 (photo above) radar systems belong to the AN/FPS-117 radar family, which is already in the endowment of the Air Force. The two radar variants share similar configurations, thus facilitating the establishment of a unified logistical support structure while the incorporation of the PATRIOT system (photo below) represents a crucial enhancement to our defensive capabilities, designed to make a substantial contribution to collective defense efforts within NATO



The recent acquisition of a new batch comprising five F-16 Fighting Falcon aircraft, along with the associated goods and services, serves as a cornerstone in fortifying Romania's security posture. These assets will facilitate the continuous safeguarding of our national and NATO airspace, both during peacetime and in crisis scenarios, through the Combat Service Permanent - Air Police, operating under NATO command. The procurement of these five aircraft aligns with the provisions of Law 237/2019, which is geared towards perpetuating the development of aerial operational capabilities envisioned in the initial stages of the "Multirole Aircraft of the Air Force" program.

Acquisition of TPS-77 Radar Systems

During the closing months of 2017, the Romanian Air Force saw the integration of the first TPS-77 radar systems, a product of the esteemed American firm Lockheed Martin Overseas, headquartered in Syracuse, New York. These advanced radar systems underwent an intricate testing regimen, commencing with Factory Acceptance Testing (FAT) at the supplier's facility and culminating in Site Acceptance Testing (SAT) at their designated installation sites. The rigorous tests served as a practical validation of the specifications mandated when the procurement was initiated two years prior.

The TPS-77 radar represents a cutting-edge, solid-state, three-dimensional, long-range radar system, boasting the latest technological advancements. Notably, it incorporates Gallium Nitride (GaN) technology in both its transmitters and receivers, ensuring exceptional reliability and minimizing energy consumption.

These TPS-77 radar systems belong to the AN/FPS-117 radar family, which is already in the possession of the Air Force. The two radar variants share similar configurations, thus facilitating the establishment of a unified logistical support structure. This harmonization leads to significant cost reductions in maintenance and logistical assurance.

The TPS-77 radar systems combine the proven technical and tactical prowess of the FPS-117 radar, which has demonstrated its capabilities over two decades of service, with high mobility. This mobility enables swift deployment of the radar on unprepared sites, enhancing operational flexibility.

The introduction of these radar systems marked the commencement of an exhaustive operational testing and evaluation phase.

The operationalization of the TPS-77 radar systems plays a pivotal role in the substantial expansion of the integrated air surveillance system, serving the surveillance needs of both national airspace and NATO, and significantly augmenting our defense capabilities.

PATRIOT Surface-to-Air Missile System:

The year 2020 marks a significant milestone in Romania's anti-aircraft and anti-missile defense capabilities with the introduction of the first components of the long-range PATRIOT surface-to-air missile system into the Romanian Air Force arsenal. This acquisition, facilitated through a bilateral agreement with the United States government, encompasses the cutting-edge PATRIOT PAC 3+ system, a battle-proven model actively employed by the U.S. Army. The incorporation of the PATRIOT system represents a crucial enhancement to our defensive capabilities, designed to make a substantial contribution to collective defense efforts within NATO. It underscores a paramount security interest, as it not only bolsters our ground-based air defense capabilities but also fortifies both national and allied security. This strategic move significantly reinforces the enduring Strategic Partnership with the United States of America.

The acquisition of the PATRIOT systems by Romania in 2018 led to the establishment of the 74th PATRIOT Regiment under the Air Force General Staff. This represents a pivotal chapter in the annals of Romania's national anti-aircraft and anti-missile defense apparatus. The procured PATRIOT surface-to-air missile systems include PAC-2 GEM-T, designed for engaging aircraft and helicopter targets, and PAC-3 MSE, engineered for anti-missile engagements. Romania has acquired the latest battle-proven PATRIOT systems, capable of engaging a wide spectrum of contemporary air threats. As a result, the Romanian Air Force fortifies its defensive and deterrence capabilities, thereby ensuring enhanced protection of the national airspace, an integral component of the broader NATO airspace defense network.

THE AIR FORCE IN THE CONTEXT OF ROMANIA'S INTEGRATION IN THE NORTH-ATLANTIC ALLIANCE

On 2 April 2004, after a long and difficult decade-long process, the Romanian flag could be hoisted before the NATO Headquarters, a paramount moment for the Romanian state and for the development of the Romanian Army, since NATO was, is, and will be the most powerful political and military alliance. As allies, we are protected against any threat to our national security, whatever its source may be. Our territory, population, and military infrastructure are under NATO protection, which is being reinforced through our contribution.

The Romanian Army has made a huge effort, together with the governmental institutions, to accomplish this goal, intensively supported by the population and the political parties.

As a member of this alliance, the Romanian Air Force assumed responsibilities within the national and adjacent airspace, in the Southern part of NATO's flank, performing surveillance missions by air policing. They are ready to deploy forces, at any moment, to the theaters of operations, for complex battle, airlift, or humanitarian missions.

THE AIR FORCE STAFF

On 1 June 2000, the directive establishing the transformation of the Aviation and Air Defense Staff into the Air Force Staff was enacted, hereby stating its organizational structure.

The Air Force is the planning, command, and execution military component that ensures the coordination of the Air Force in peacetime, in situations of crisis, and in war, in order to accomplish, maintain, and increase the operational capability of its subordinated military units and to put them under the authority of the structures responsible with the planning and coordination of the military actions.

The main objective of the Air Force is to generate, activate, organize, endow, deploy, and renew the aerial component of the national defense system, to provide the logistic support necessary during military actions, and, when ordered, to command the joint air component and the independent air actions of the joint operations, through the Air Operational Command.

The missions of the Romanian Air Force in peacetime are designed to maintain the integrity of the national air space and to protect significant locations against air attacks; they are carried out through air surveillance and air policing functions, in order to maintain the security of the national air space.

In situations of crisis and war, the Romanian Air Force intensify its actions to protect the population, the vital locations, and troops against air attacks, seriously damaging the enemy air force by weariness of their means and taking part in the creation of a favorable air status.

The air service includes the totality of structures qualified to perform air defense missions, with the purpose to locate, track, and identify air means, as well as to intercept and engage hostile air means.

THE MILITARY AERONAUTICAL EDUCATION SYSTEM

The events of December 1989 represented a major step forward for the aviation school located in Buzău. On 15 December 1989, this school took over the "Traian Vuia" Military School for Aviation Warrant Officers in Mediaș and was renamed the "Aurel Vlaicu" Military Aviation School. Moreover, in 1991, according to Government Decision no. 190/1991, forwarded by the Great General Staff under no. S/133/949



Professional forming and development of commissioned, non-commissioned and warrant officers for the three basic branches of the Air Force is carried out according to the current regulations based on various educational programs specific to each category of personnel within the military educational institutions belonging to the Air Force Staff and as a part of the national education system



Graduate university education takes place at the Air Force Academy "Henri Coanda" in Brasov, in the undergraduate degree "Military Sciences and Intelligence"



from 9 April 1991, the "Aurel Vlaicu" Military Aviation School became the "Aurel Vlaicu" Military Aviation Institute. Having a specific structure and organization, the institute has trained aviation officers with special polytechnical knowledge, as follows: pilots with a schooling term of five years, staff officers, navigators, and meteorologists with a schooling term of four years.

An important feature of the period following the events of December 1989 was the end of the interference of politics with the educational process and the increase of specialty classes. After a period of instruction of five years and by introducing new subjects such as: the bases of electro-technics, the theory of mechanisms, machine components and electrical machines, aircraft design, special mathematics, as well as the thorough study of the already existing ones, the graduates were able to face the challenges of the modernization period which began in 1993 for the MiG-21 LanceR aircraft, the IAR-330 SOCAT helicopters, the ASOC and SCCAN systems etc.

From 1 June 1997 on, according to Law no. 41 /1990 regarding the organization of the Ministry of National Defense, to the Education Law no. 84/1995 republished in 1996, and to the Order of the Minister of National Defense no. M12 from 12 February 1997, the "Aurel Vlaicu" Military Aviation Institute became the "Aurel Vlaicu" Aviation Training School, which offered a postgraduate basic training level and career courses for civilian, military, and reservists of the Aviation (who managed, after hard exams,



The National Military College „Mihai Viteazul" Alba Iulia carries on the traditions of the military high school established in 1919 in Târgu-Mureș. With a history of 103 years, the high school study programs within the college are of a military profile, the vocational stream, the mathematics-informatics specialization, with intensive teaching in English



to become officers or non-commissioned officers in the army, police or national security services), for the conscripts and professional soldiers.

On 16 November 2005 and 8 December 2007, respectively, the L-29 and L-39 aircraft performed their last flights and thus joined the history of Romanian Aviation as some of the most remarkable planes which served as training aircraft for pilots, technical personnel, and navigators who employed these airplanes trustfully. The fame of the military aviation school was taken to numerous air shows by these types of aircraft that obeyed the pilots and created a marvelous man-machine entity.

In 2002 and 2003, the "Aurel Vlaicu" Aviation Training School was endowed with IAR-99 Standard and "Șoim" ("Hawk") aircraft, which prepared the passage to a new generation of aviators.

The institution was also enriched with the chapel of Saint Elias, created by the contribution of the employees in 1997, the first such accomplishment after the Second World War, within the Air Force.

INTERNATIONAL OPERATIONS

"Althea 2005" – the first mission of the Romanian Air Force in a theater of operations after World War II

In 2005, the Romanian Air Force, represented by two detachments, "ALPHA" (commanded by Capt.cdr. Eugen Suciuc) and "BRAVO" (commanded by Capt.cdr. Valerică Vrăjescu), participated in a series of unconventional military operations, over a territory disputed by many ethnic groups, the cause of possible perils, very often not so clearly defined. The country was affected by the horrors of war, present everywhere: in infrastructure, in the environment, and in human relationships.

Under these circumstances, maintaining security and stability represented the core mission of the EUFOR forces, placed under EU mandate in Bosnia and Herzegovina. The IAR-330 "Puma" SOCAT helicopters belonging to the 90th Airlift Base) were seen as a sign of credibility specific to the "Althea" operation.

The "Althea" operation certified the individual and team capabilities of the forces, proved in over 1,200 flight hours, over 600 missions, active interventions for establishing a relationship with the population in the area, by means of properly employing the concept of "peacekeeping", by elaborating strategies concerning the interoperability with similar structures and by thoroughly assessing the logistic support capabilities.

The KAIA - 2006 mission

In April 2006, Romania took over the command of the International Airport in Kabul, as leading nation (the colonel (AF) of the detachment was Colonel Adrian Marinescu).

For a period of four months, the Romanian forces accomplished the task of managing the airport activity, the daily air operations, the analysis and forecasting of the weather conditions to ensure flight safety, the communication system and the logistic support for the cargo and passengers processing.

The mission of the Romanian detachment deployed to KAIA was to support the command and control of the airport, in an active and efficient manner, by ensuring the coordination between the headquarters and the logistic support, working for the development of the airport management activities.

The main objectives of the mission focused on the following aspects: ensuring command and control to comply with the requirements of air operations; efficiency and development of operational control; employment of management methods to positively influence the ability of facing difficult tasks and intensive missions; compliance with, and implementation of, Standard and Local Operating Procedures; ensuring sustainability, according to the KAIA plan, until 2007; coordination of the acquisition plan on a medium term; completion of the plan for transition in the Northern part of the airport.

The priority was represented by the endeavor to create a good environment for maintaining flight safety, considered a crucial factor for the success of the ISAF missions and organizing and applying the human resource management principles, characterized by team work.

The achievement of these objectives was based on their coherence, applicability, sustenance, and measurable characteristics, within an area where KAIA is considered the Gravity Center of IFSAF and where there were no problems, only solutions.

The "Baltica 07" mission

Due to the purpose and missions of NATO, Romania, as a full member of the Alliance, offered its forces and equipment for the proper execution of Air Policing missions within the airspace of the Baltic countries. As a certification for the Romanian forces, NATO accepted our country's proposal and for a period of three months, in 2007, all Air Police missions in Lithuania, Estonia, and Latvia were performed by four MiG-21 LanceR aircraft, belonging to the Romanian Air Force (commander of the detachment, Capt.Cdr Laurențiu Chiriță).

This mission consisted in defending the integrity of the air space within the Baltic countries in peacetime, everyday, with aircraft capable of taking off and intervening in case an enemy airplane broke, intentionally or by accident, the flight regime of that air space.



The forces that performed Air Police in the Baltic countries were tactically commanded by the CAOC, in UEDEM, Germany. The commander of the air force detachment cooperated with the Lithuanian commanders of the bases in Siauliai and Karmelava. In order to carry out the Air Policing missions, the personnel was organized in three shifts, each consisting of two pilots, eight technicians, an officer inside the Operation Center, and a weather officer.

The operational control was the task of the COAP throughout the entire operation. During the mission, two aircraft were ready for flight at any moment and the other two were standing by.

All four MiGs were armed and ready to perform specific missions. The Romanian pilots had to execute eight flights per week, according to the orders given by SHAPE, with two airplanes which meant training of deployable forces and air traffic controllers in CRC Karmelava.

Performing Air Policing missions under the command of NATO, in peacetime, as a component of the combined air defense, in order to maintain the integrity of the designated air space – the Baltic countries – became the most important mission assigned to the Romanian military aviation since the joining of NATO.

The air space security during the NATO Summit Bucharest, 2008

During the unfolding of the NATO Summit in Bucharest (2-4 April 2008), the Ministry of National Defense, through the Air Force Staff, had the mission to ensure the air space security for the reunion, in cooperation with NATO and USAF capabilities.

The Alliance combined operations executed during the summit were meant to reach and maintain the necessary control level of the air space and proved once more the command and control capability of combined forces, the role of the centralized C2 by COMAJF (Combined Allied Joint Forces) and the decentralized command by CC Air Izmir, CAOC 7, and COAP.

Strategic airlifts

The requirements of warfare determined the armies involved in conflict to have mobility, which proved to be, in most cases, a decisive factor in winning the battle. During the recent conflicts, airlift was one of the most important missions carried out in support of the detachments deployed in the theaters of operations.

Concerning our country, the execution of airlift missions for the national forces deployed in the theaters of operations in the Balkans, in Iraq, and Afghanistan, as well as to rapidly accomplish other external and internal missions, represents a permanent mission for the 90th Airlift Base. These missions are mainly executed with C-130 and, depending on the traits specific to the theater of operations, with C-27 "Spartan" aircraft.

KAIA Lead Nation: April 2011 – April 2012

Romania acts together with its allies within a general coRomania acts together with its allies within a general context created in order to assist the Government of the Islamic Republic of Afghanistan to maintain the effects, enforcement, and amplification of authority and to develop the capability of the governmental, local, and regional institutions, at the same time supporting the efforts to bring social life back to normal and to help rebuild the infrastructure.

The assessment of the theater of operations in Afghanistan, done by COMISAF, emphasized the necessity to make several changes regarding the course of action undertaken in fighting against the insurgency and supporting the employment in operations of local Afghan security forces. These concepts, approved by NATO, led to the apparition of changes related to military strategies within the theater of operations, taking into consideration the amount of time necessary to be successful, the rethinking of methods, as well as the fundamental alterations necessary in order to properly select and train the troops that should participate in missions within this area.

The Air Force Staff deployed an operational detachment named "KAIA Lead nation" (KLN), consisting of 2 groups of 75 people each (corresponding to the six-month



In compliance with the commitments made by Romania, our forces ensured the management of KAIA activity as a leading nation in the assigned area of operations between 1 April 2011 and 1 April 2012; Romania made history as the first nation to assume command of Kabul International Airport for a duration of one year



rotation principle) and the reserve forces “ready to be employed” in the theater of operations in Afghanistan, beginning with the first term of 2011.

This detachment permanently ensured, together with the other military forces belonging to NATO member states and to NATO partners, the execution of the following missions/activities:

- command, staff and liaison activities
- air operations (planning and control of air missions, civilian and military air traffic control, weather services, airport processing of passengers and cargo, fire protection, and salvation in case of accident, air space safety)
- support for air operations and for logistics (fuel check, engineering, garrison issues, environmental protection, accommodation, equipment and food ratios, personnel, communication and information, medical services – ROL1)
- force protection (airport security, access granting, military police, communication and intelligence, identification and inactivation of EODs, campaigns for the civilian population) within the air base and in the designated area of terrestrial protection;
- cooperation with, and support of, the population and the local authorities;
- handing over of airport functions to the Afghan authorities.

The mission, a real success, was very important for the Romanian Air Force, due to its complex character (a fact proved by the multiple missions presented above) and to the responsibilities assigned to the KLN, to coordinate the activity on an airport employed daily by 450-500 different flights, within an area permanently under the menace of possible missile attacks initiated by the insurgents.

Mali 2019-2020

Romania supported international peacekeeping efforts by participating in MINUSMA - the UN Integrated Multidimensional Stabilization Mission in the Republic of Mali, with an Air Force detachment consisting of 120 military personnel and 4 IAR-330 L-RM helicopters, during October 2019- October 2020.

With a mid-term personnel rotation, the „Carpathian Pumas” Detachment fulfilled all the operational missions requested by the UN, accumulating over 380 combat missions, of which 17 were MEDEVAC, with a total of approximately 1250 flight hours in the sub-Saharan area, of which over 200 at night.

Baltica 2023

Allied Air Policing detachments, deployed on a four-month rotational basis, to Ämari, Estonia and Šiauliai, Lithuania are ready to be launched by NATO's Combined Air Operations Centre Uedem, if required. The Air Forces of Estonia, Latvia and Lithuania contribute to the mission with host nation support in the form of air command and control, infrastructure and personnel.

When the three Baltic States joined NATO in 2004, a NATO Air Policing capability was established at Šiauliai Air Base, Lithuania. In 2014, after Russia's illegal and illegitimate annexation of Crimea, a second Air Policing presence was established at Ämari Air Base, Estonia under NATO's Assurance Measures to its Eastern Allies.

Honoring the commitment to the concept of collective defense, Romania participates in 2023 with F-16 Fighting Falcon fighters, to the Air Police mission in the Baltic countries.

Aeronautical non-governmental organizations

After the events of December 1989, the aeronautical associations and foundations existing in the interwar period were reestablished or some new ones appeared. These organizations arose the interest of numerous military, reserve or retiring personnel, since their purpose is to promote military aeronautics, to inform or enrich our knowledge about the national and international aviation (by sustaining the writers, the artists, the aeronautics thematic philately, co-operating with and supporting museums and aeronautics departments, by displays, as well as encouraging the creation of monuments), promotion and organization of events related to the history, traditions, culture, and art of flying, preserving the memory of the great aviation personalities, professional guidance, and involvement of the young, consolidating the image of the Romanian Air Force, representing and socially protecting their members in order to provide moral, medical, material, and financial support.

Another paramount objective of these organizations is to align the Romanian aeronautics to the international ones, to their accomplishments and modern characteristics. Therefore, air shows are organized (meetings, demonstrations, sport competitions etc.) at home or abroad.

Apart from the joint achievements of these non-governmental organizations and the Romanian Air Force, we can also notice their permanent co-operation based on the warm, friendly relationships of their members with the air service personnel, due to the fact that they pursue the same human goal – FLYING.



CONCLUSIONS

Our research, dedicated to the Romanian Military Aeronautics, from its beginnings until today, sprang from the ascertainment that our national military historiography does not possess a work intended to directly and systematically approach this subject. Hence, we have hereby accomplished this objective, under the form of an open endeavor, meaning that it was not meant as an exhaustive monograph of the Romanian Air Force – which could only be the offspring of a future collective research effort, extremely imperative nowadays–, but a historical album, graphically illustrated in order to suggestively emphasize the important moments related to the transformation of this military service.

Therefore, the general overview of the Romanian Military Aeronautics system – foundation, structure, doctrine-roles, instruction (education – training – practice), as well as equipment, command and execution staff – was the central objective of the study, which allowed us to draw several conclusions and learn some lessons whose timely character is unquestionable. The Romanian Air Force, which, over the years, has comprised all branches and specialties of today's Romanian Military Aeronautics, has taken part from the very beginning in all national military actions, during extremely valuable political, military, and moral events, executing strategic, operational, and tactic air missions (the Second Balkan War – 1913; the First World War – 1916/1918; the struggle for National Union – 1919; the Second World War – 1941-1945). During these battles, the Aeronautics promptly involved the entire forces of its military

capability, overcoming the unexpected hardships of the time, due to a powerful leadership and to an ingenious performance, characterized by perfect aerial geometry, of the thoroughly trained and disciplined personnel who patriotically wrote the glorious history of the Romanian Air Force, fighting with passion and determination.

Thus, all the steps of the military aeronautical art have been taken, since the first doctrine tenets, to Douhet's Doctrine, the French interwar doctrine policy, the German classic Blitzkrieg (during the Eastern Air Battles, 22 June 1941 – 23 August 1944), of the Soviet Military Doctrine (during the Western Air Battles, 23 August 1944 – 9 May 1945) and afterwards combined with the national military doctrine called "The war of the entire people for homeland security", until December 1989, reestablishing the modern pattern represented by the Western doctrine principles, in order to efficiently valorize the air power following air space coordinates. The warfare experience of the aeronautical personnel, the professionalism of the commanders and the mobility of the units often sustained the accomplishment of the great number of objectives, given the low amount of battle equipment; thus, the Romanian Air Force proved its efficiency and operability, showing, by military actions and human sacrifice during these conflicts that it is a successful model to be followed in terms of management, a slender pattern adapted to the social, economic, and political facts, with aviation personnel appreciated even by the enemies for their exceptional qualities.

After December 1989, by taking part in the national and international missions that honor our country, the Romanian Air Force is a priceless provider of national and international security, of education and modern culture, part of the deeds and facts of the country.

On the whole, owing to the grand financial and organizational effort made by Romania and its military staff, the Romanian Military Aeronautics has always depended on structures and means necessary for it to be placed among the first within the Armed Forces, together with the Army and Navy.

Finally, we should duly express our gratitude to the institutions that supported us in our endeavor: (the Romanian Academy Library, the National Military Museum, the National Military Aviation Museum, the CER SENIN editorial office) and: Dan Antoniu, Research Professor Valeriu Avram, PhD, eng. Cristian Crăciunoiu, Colonel (r) Professor Aurel Pentelescu, PhD, Navy Cdr. (r) Professor Jipa Rotaru, corresponding member of the Romanian Academy, Paratroopers' Col. Mircea Tănase, PhD, Prof. Vasile Tudor, valuable researchers of the Romanian Aeronautics history, for the works they made available to us and for allowing us to publish photographs from their personal collections, without any charge.

The Authors

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Positive Psychological Capital (PsyCap): A Personal Resource for Every Military Employee

Positive Psychological Capital (PsyCap) is defined as a positive psychological state characterized by four personal attributes, namely: self-efficacy, optimism, hope, and resilience (Luthans et al., 2007).

Self-efficacy refers to a sense of confidence that one can accomplish a specific task or operational objective, significantly and consistently influencing the life of a military employee. Military personnel with high self-efficacy are more likely to set ambitious goals, tackle challenging tasks, and demonstrate increased resilience in the face of difficulties. Conversely, military personnel with low self-efficacy tend to focus on personal shortcomings, exhibit lower self-esteem, find obstacles more challenging to overcome, and experience a higher failure rate in achieving their objectives (Avey et al., 2006).

Optimism is the perspective through which we assess everything in our surroundings in a positive light, including people, events, and facts. Optimistic military personnel are those who anticipate favorable outcomes. This trait is positively correlated with increased life satisfaction, elevated levels of positive emotions, and heightened psychological well-being, and is negatively associated with anxiety, depression, occupational stress, and general negative affectivity (Rajandram et al., 2017).

Hope is marked by the belief that a personal goal can be achieved, relying on our capability to instigate change in the situations or events we encounter. It encompasses the goal (the objective to be achieved), action (motivation and energy directed toward the goal), and the means of achievement (the plan/strategy to attain the objectives). Research has emphasized that individuals with a high level of hope are more engaged in operational tasks and exhibit superior work performance. They are characterized as responsible, conscientious, and more satisfied in their professional roles (Peterson & Luthans, 2003).

Psychological resilience is the capacity of military personnel to grow stronger following emotionally challenging life events, including stressful work situations. In essence, it reflects the speed at which individuals recover from personal and professional setbacks (Luthans et al., 2007). Resilience entails a steadfast acceptance of reality, a belief that life and work hold meaning and significance, and the ability to improvise and adapt to significant changes. **How are military personnel characterized when they exhibit these four attributes? What do empirical research reveal?**

Military organizations with personnel who demonstrate optimism, resilience, a high level of hope, and confidence in achieving objectives and operational tasks set by their supervisors tend to exhibit higher levels of workplace satisfaction and organizational commitment. Additionally, such personnel show a lower inclination to leave the institution or their current job (Bakker & Schaufeli, 2008).



Consequently, for military organizations to achieve their operational objectives and procedures, they require dedicated and energetic employees who actively engage in their work.

Specialized research underscores that employees possessing these personal attributes are more likely to stay committed to tasks outlined by supervisors, successfully confront challenges and difficulties, and demonstrate pro-social behaviors. These include aiding colleagues, minimizing workplace conflict, participating in behaviors beyond their job description, having lower absenteeism, and engaging in fewer counterproductive behaviors (e.g., leaving work early, taking fewer breaks, avoiding verbal aggression, sabotage, purposeless absenteeism, etc.; Xiaodan & Xiaotong, 2015). Moreover, research indicates that employees with high Psychological Capital (PsyCap) receive better evaluations from supervisors, as their tasks require fewer corrections (Luthans et al., 2005). Lastly, a study focused on military participants (Rus & Telecan, 2021) revealed the potential benefits of PsyCap on job satisfaction, positive emotions, and control over leisure activities as a recovery experience after the work schedule. In other words, military employees with high PsyCap were found to be more satisfied at work, experienced more positive emotions compared to negative ones, and efficiently managed their free time activities, recovering effectively after work hours.

What can military supervisors and subordinates do to develop PsyCap in the workplace?

The development of Psychological Capital (PsyCap) is crucial for supervisors as it contributes to fostering a resilient and positive organizational culture. It empowers subordinates to overcome challenges,

embrace change, and perform at their best, ultimately leading to the success of missions, tasks, and operational objectives in every military unit. There are simple steps supervisors can take to increase PsyCap in the military workplace:

- encourage and support personal and professional development - supervisors should actively encourage the continuous growth and development of their subordinates, both personally and professionally;
- provide opportunities for upskilling, training, and growth - offering avenues for skill enhancement, training programs, and opportunities for personal and professional growth can contribute to the development of PsyCap;

- authentically recognize and celebrate employee achievements - acknowledging and celebrating the accomplishments and contributions of employees goes a long way in enhancing their PsyCap;

- grant employees more autonomy and reasonable flexibility - allowing subordinates a degree of autonomy and flexibility in their roles can positively impact their PsyCap;

- lead by example and model hope, self-efficacy, resilience, and optimism - supervisors should embody and exemplify qualities such as hope, self-efficacy, resilience, and optimism to inspire and instill these attributes in their subordinates.

Subordinates, in turn, can employ successful PsyCap development strategies:

- when faced with stressful events, identify control and take action - subordinates should assess what aspects are within their control during stressful situations, identify available options, and take action. This involves looking for opportunities for growth, development, and learning from failures;

- build and maintain a strong support network - cultivating a robust emotional and instrumental support network comprising colleagues, mentors, friends, or family members can significantly contribute to PsyCap's development;

- engage in post-work recovery experiences - subordinates should participate in activities after work hours that allow them to gain and maintain control over their schedule and content. This aids in effective recovery after the workday ends.

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From November 2-17, the troops of the 74th PATRIOT Regiment conducted training at Capu Midia range, focusing on executing the initial live firing exercise. The objective was to identify, track, and neutralize aerial targets using the PATRIOT surface-to-air missile system, simulating various drone types and utilizing PAC-2 ATM missiles.
Photo: Bogdan Pantilimon

