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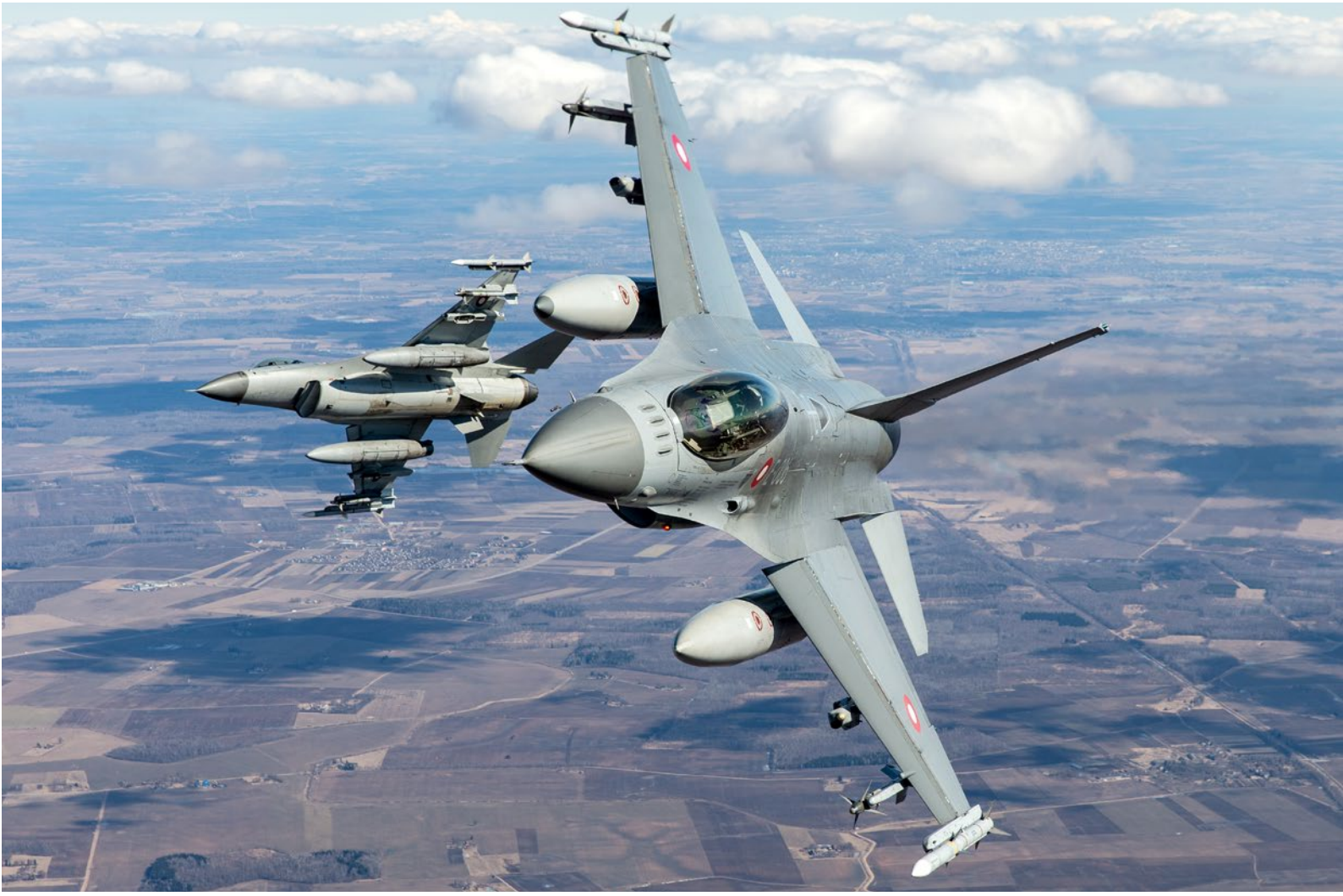

DENMARK POLICING THE BALTICS

On the 8th of January the Royal Danish Air Force (RDAF), deployed four F-16AM to the Lithuanian air base at Siauliai, to take over NATO's Baltic Air Policing (BAP) mission.

EXERCISE INIOHOS 2018

The largest joint medium scale air warfare exercise in Greece, named INIOHOS 2018, took place from March 12 until March 23.

DRAGON TOUR

Shervin Fonooni reports from the Breitling Jet Team Asia tour, a tour that took them through the far east.

117 COMBAT WING

Spencer Wilmot reports from Greece, and the last home of the Rhino.

FLYMAG

SCANDINAVIAN
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Exercise reports and in depth features from around Europe is the theme of this issue. FLYMAG visited the Royal Danish Air Force detachment at Siauliai air base in Lithuania, who had the resposibility to patrol the sky above the Baltic countries.

Enjoy!

THE MAGAZINE

For more info about FLYMAG, please visit: www.flymag.dk / www.facebook.com/flymag.dk
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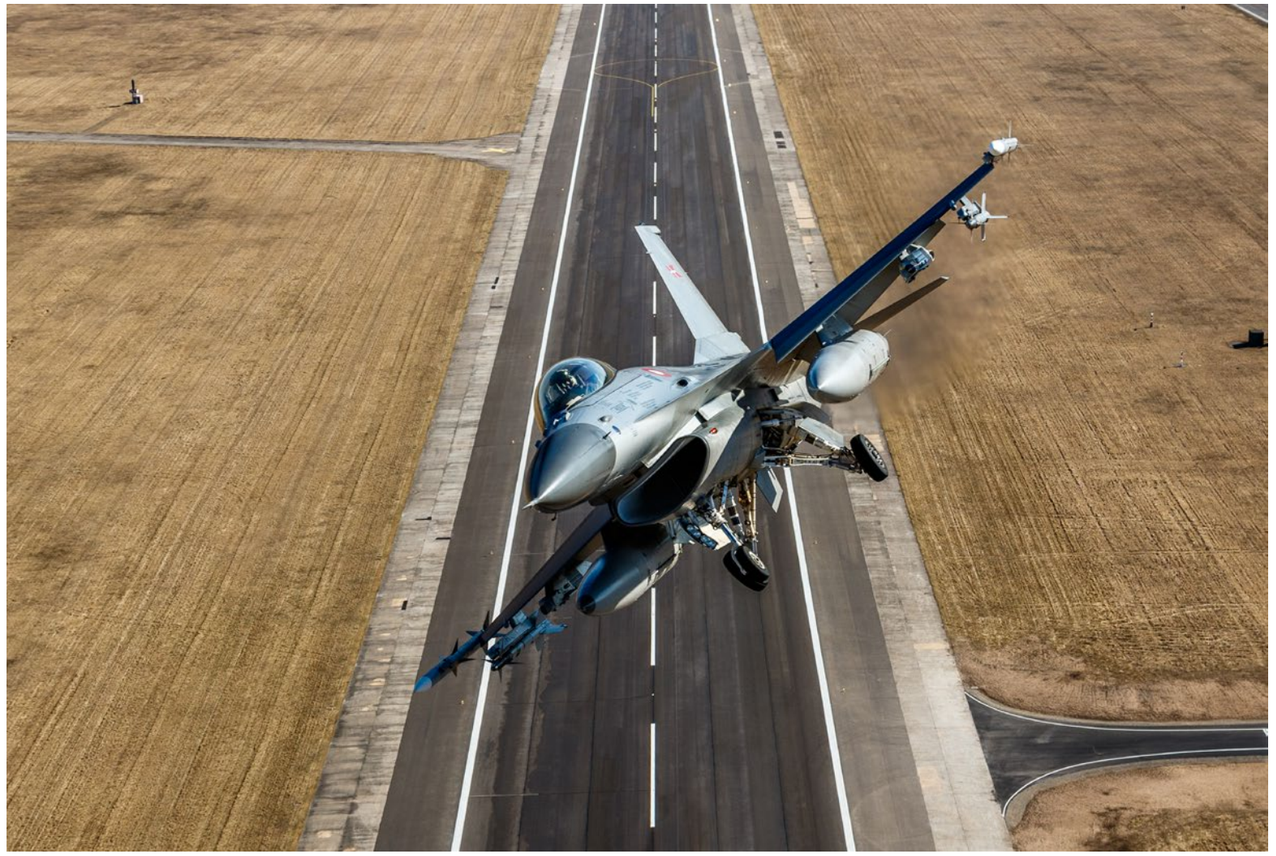
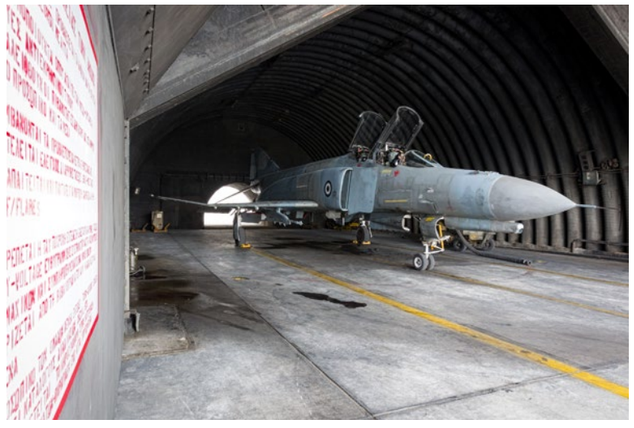
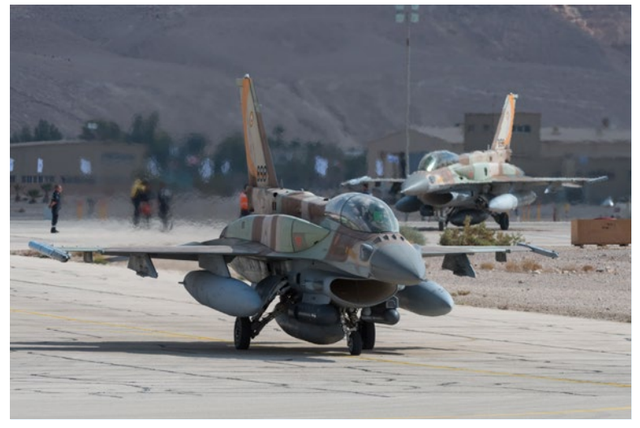
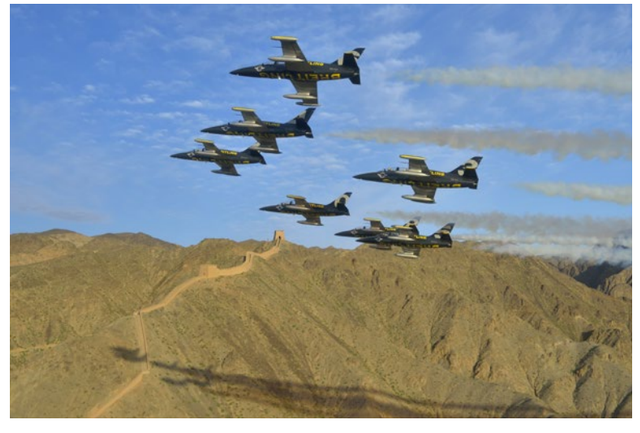








EXERCISE INIOHOS 2018

TEXT & PHOTOS - PAUL VAN DEN HURK AND HANS LOOIJMANS

The largest joint medium scale air warfare exercise in Greece, named INIOHOS 2018, took place from March 12 until March 23.

A line of some of the Greek F-16s waiting for the mission to kick in.
Photo by Paul van den Hurk

Exercise INIOHOS 2018

The largest joint medium scale air warfare exercise in Greece, named INIOHOS 2018, took place from March 12 until March 23.

“Act with awareness”

The INIOHOS exercise was first created in the 80s for the Hellenic Forces as a small scale air exercise to provide advanced training in planning and conducting Composite Air Operations (COMAO).

In 2013 the Hellenic Air Force (HAF) opted for a new operational training that suits to the actual security situation which challenges air forces over the entire spectrum of their capabilities. Not only to create interoperability between HAF units and allied Forces, but also to promote integration of tactics, techniques and procedures between air, land and sea forces. Another goal is to develop integration of legacy and modern military assets in the modern battlefield. And finally to prepare aircrews to achieve their objectives and survive in a contested environment.

INIOHOS developed to a medium scale exercise in 2014 on a single base concept. The single base concept urges all participants to communicate, plan, brief, execute, and debrief tactics together in order to learn from each other through exchange of ideas and cooperation.

Since 2015 both NATO allies and partner nations are invited by the HAF to train alongside the Hellenic Forces on different realistic air warfare scenarios in challenging environments. The international exercise is characterized by an intense battle rhythm that is designed to test all aspects of operational capabilities and support to maximize the operational use of limited air assets. The event is hosted and led by the Fighter Weapon School (FWS), which is part of the Air Tactics Center (ATC) based at Andravida airbase, under the supervision of the General Staff of the HAF in Athens.

The ATC is responsible for studying and sharpening modern aviation tactics and provide advanced operational training on complex missions of multiple aircraft in a high threat environment concerning the entire spectrum of air operations dealing with heavy electronic warfare. From that perspective the FWS/ATC is hosting the INIOHOS exercise.

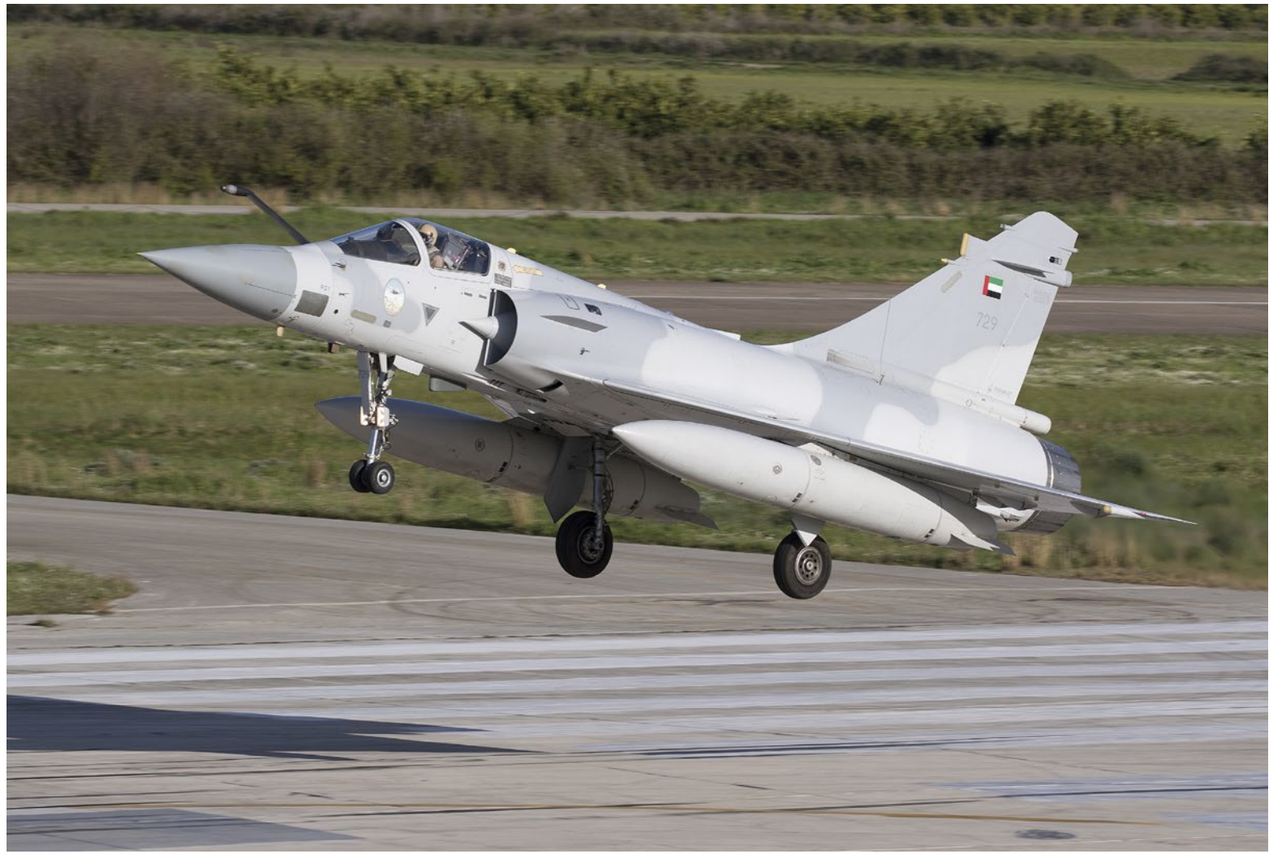
More than just NATO

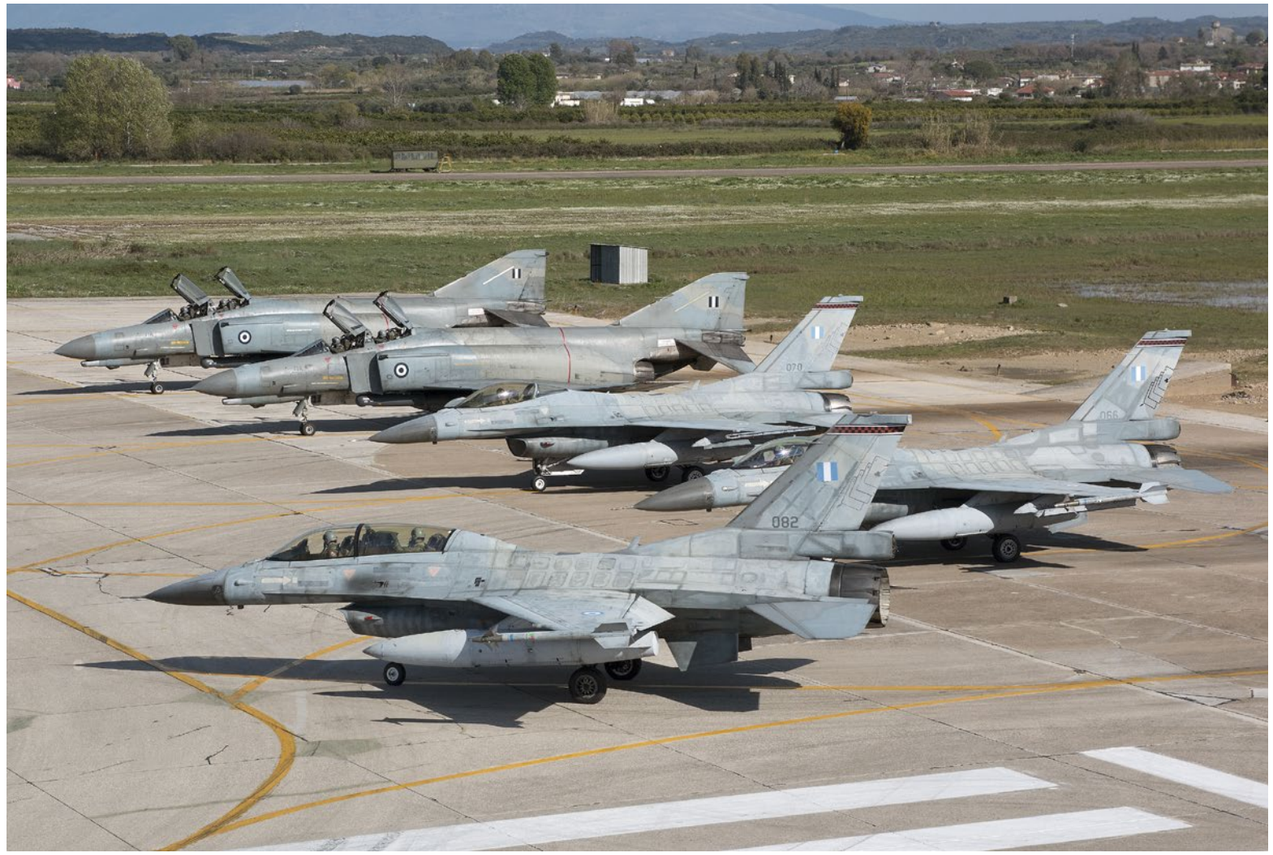
The main goal of INIOHOS 2018 is not only to establish and maintaining joint readiness and good interoperability on air warfare, but also to build a learning curve for all the military involved to improve the effectiveness of international air operations and electronic warfare. Also important is to build better and stronger relationships between the participating nations especially as the geo political theatre and the threat of terrorism can undermine peace and stability in the region.

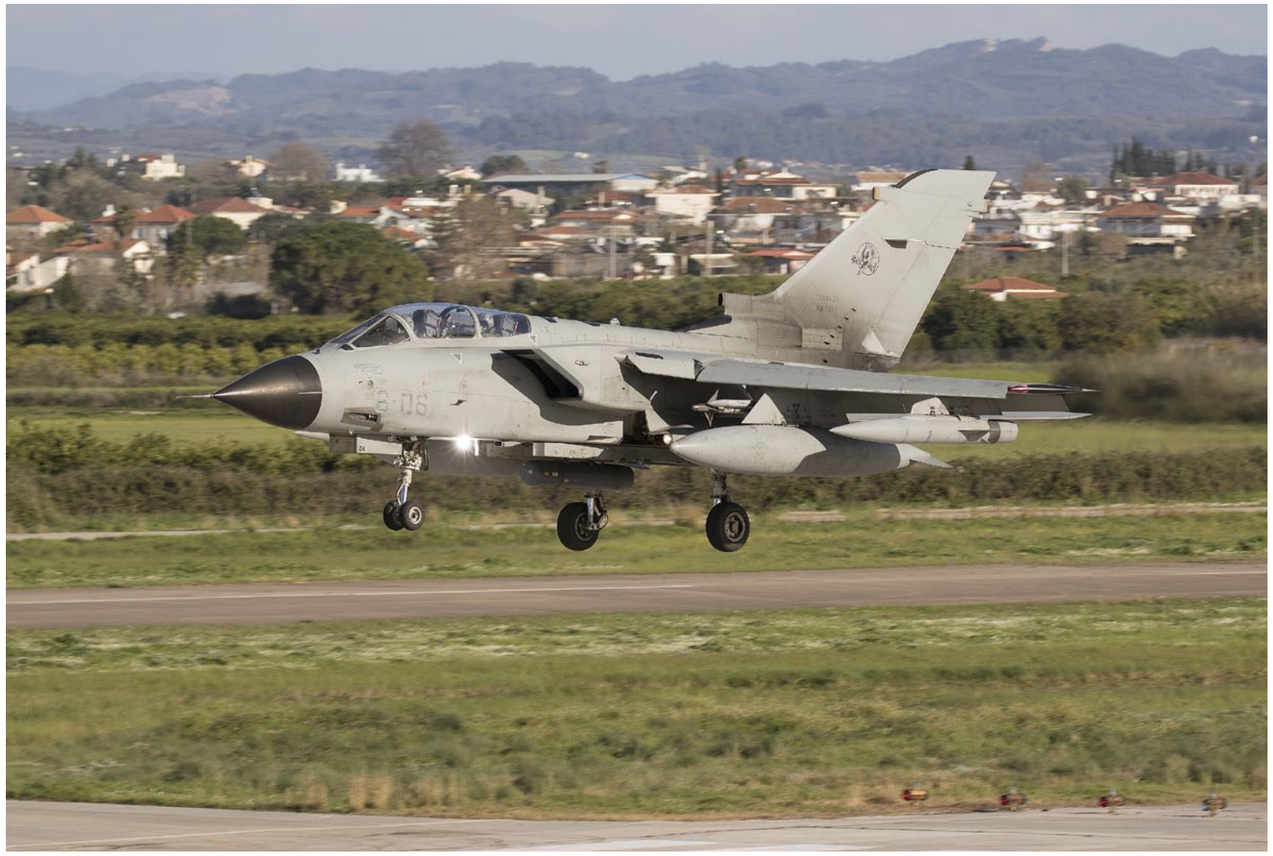
Conducting an international exercise like INIOHOS 2018 is not easy. Good preparation is essential for all involved. It is not only about planning, executing and evaluating air tactics in modern warfare with all kind of weapon systems. As not only NATO allies are involved, it is -for instance- essential to establish common ground for communication (use of English language; use of radio communication, etcetera).

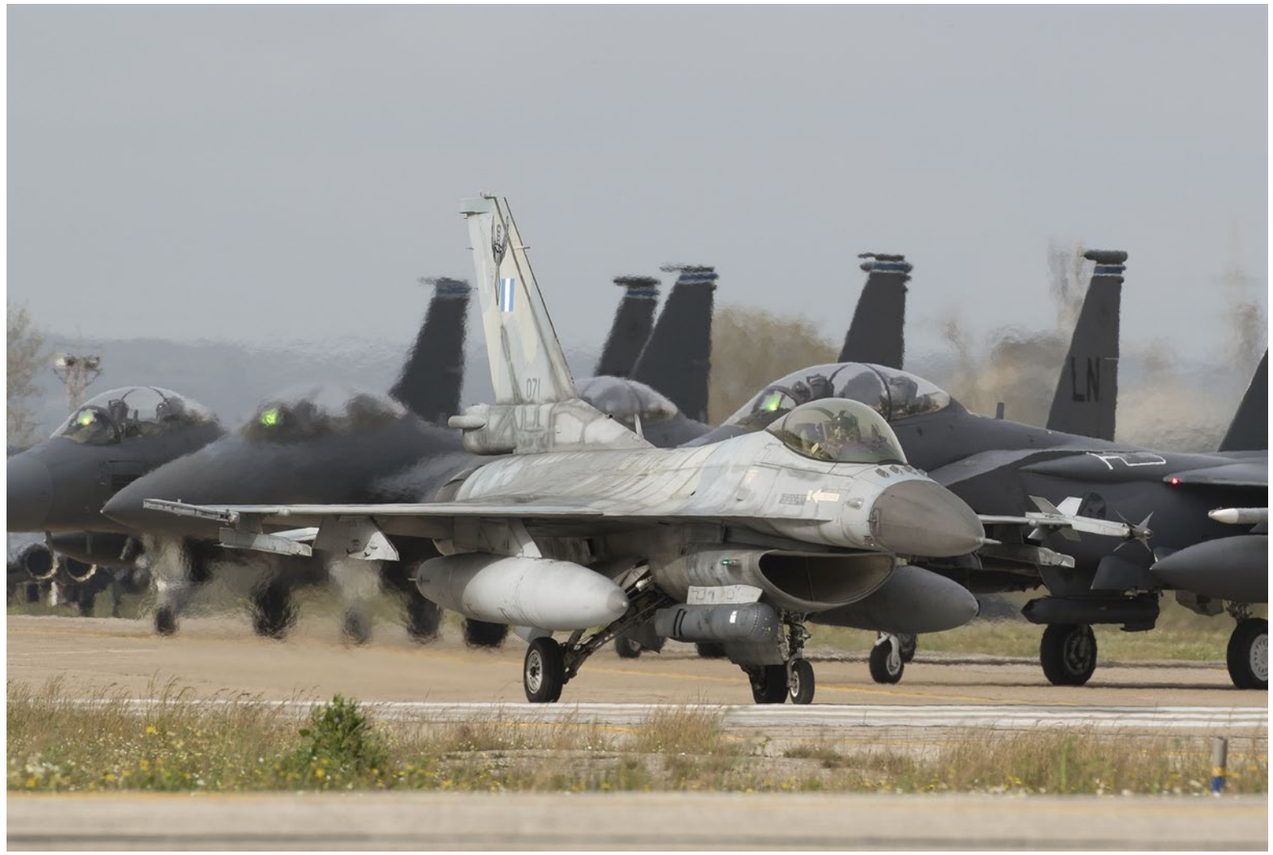
To adapt and integrate all the participating personnel and hardware into the NATO combat doctrine is important. Besides this, the safety of all participants has to be secured both on and off base. After the preparation phase the participating assets and personnel were deployed to Andravida airbase. Than the combined air operations out of Andravida airbase were flown. The exercise ends with the redeployment of the units to their home bases.

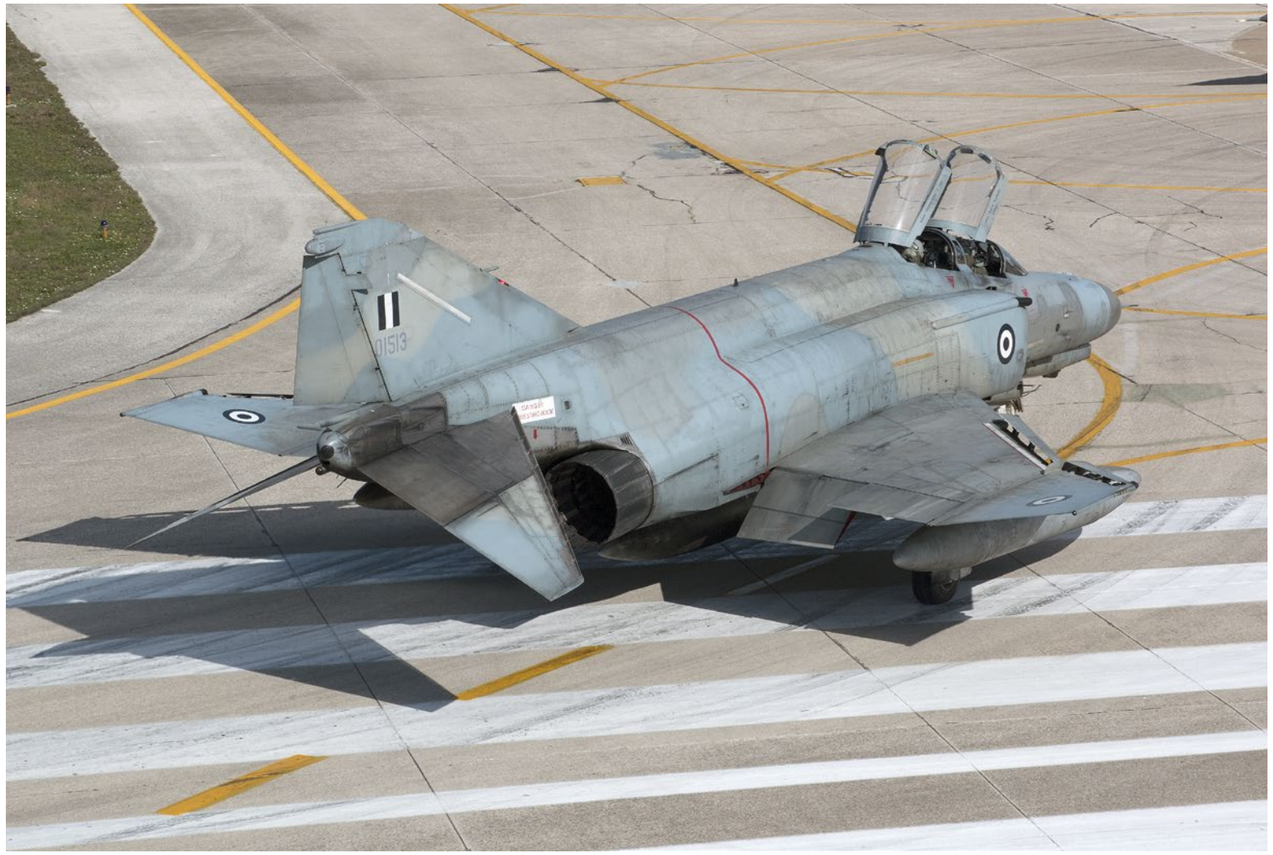
For the INIOHOS 2018 edition forces from Italy, United States of America (USAF Europe), United Arab Emirates, Great Britain and Greece joined forces. Cyprus dispatched a SAR helicopter from 12 till 16 March. Due to operational commitments Israel could only send 4 F-16C’s to INIOHOS 2018, arriving on March 19, flying missions on March 20 and depart on March 21.

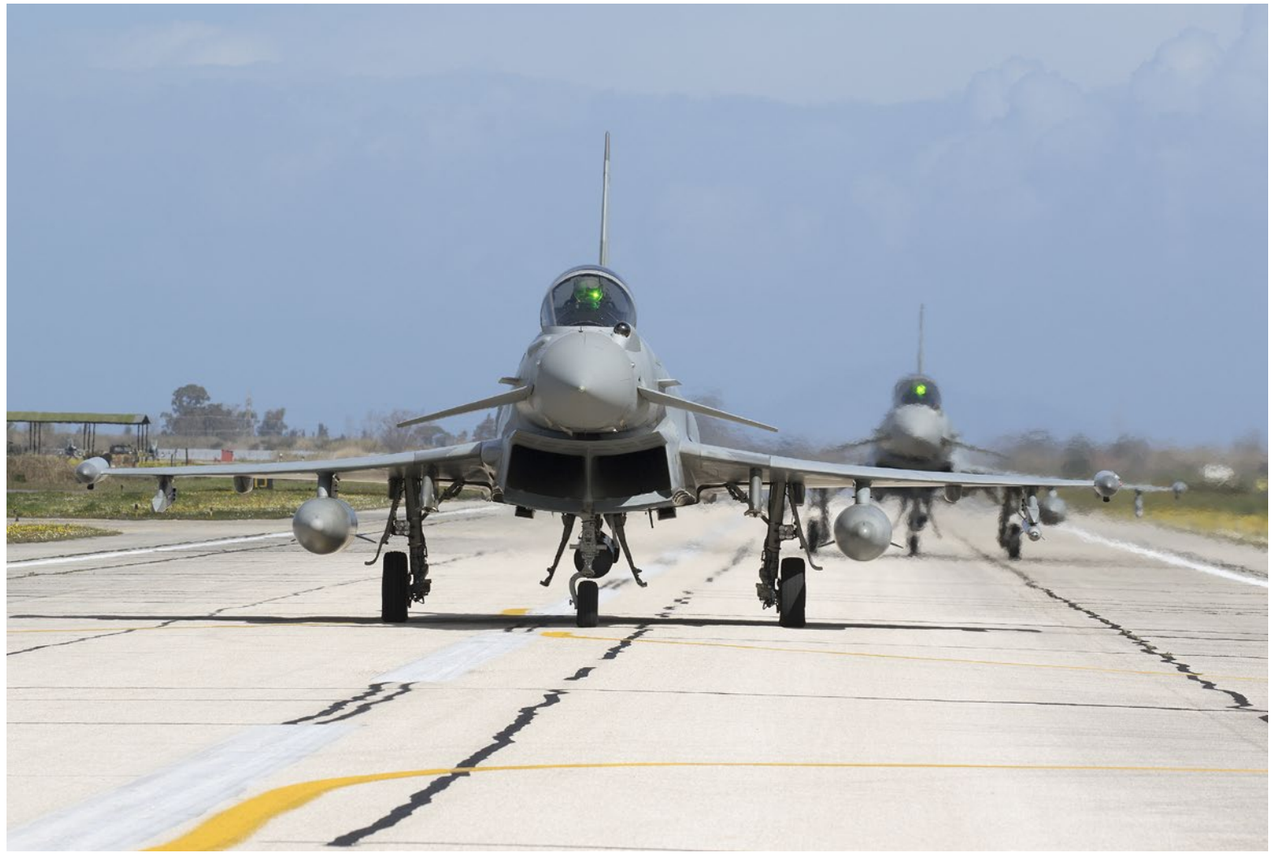


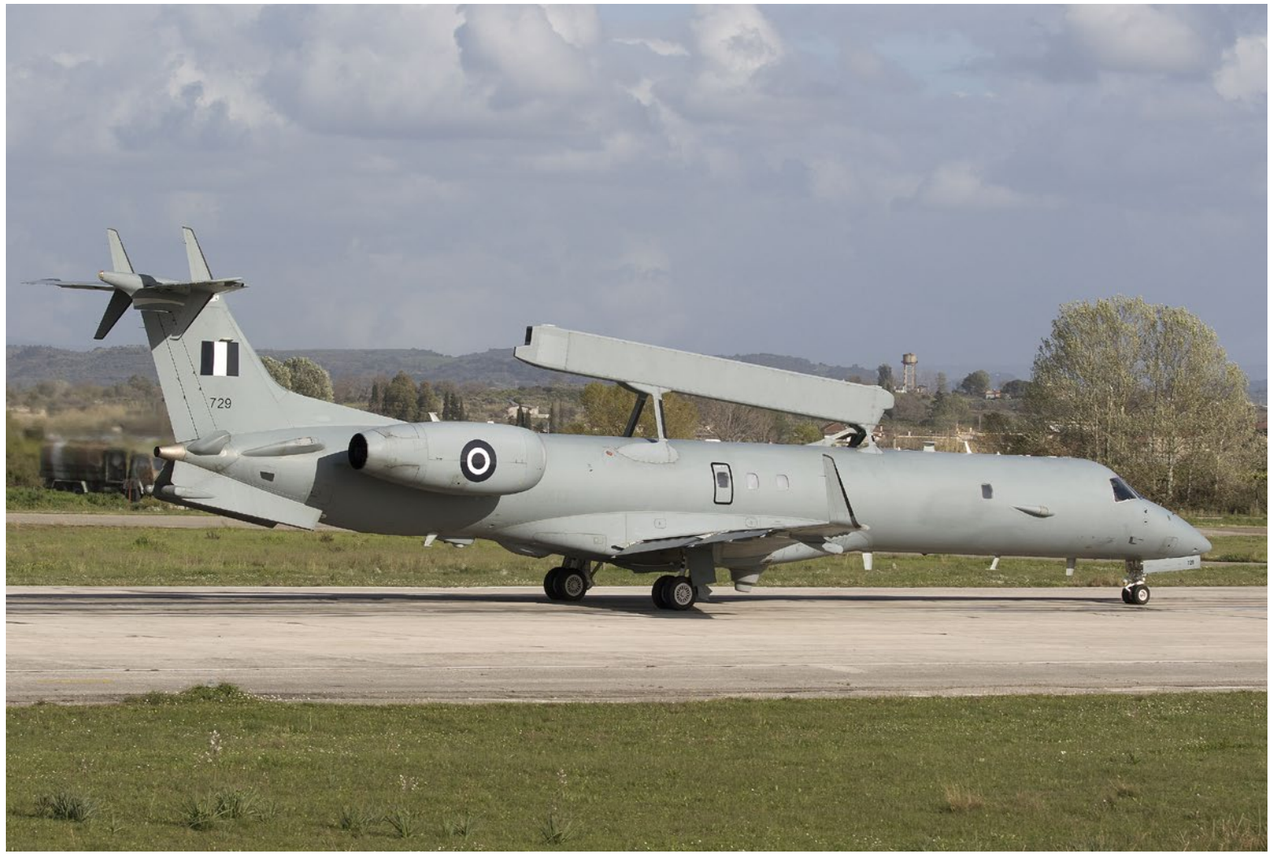


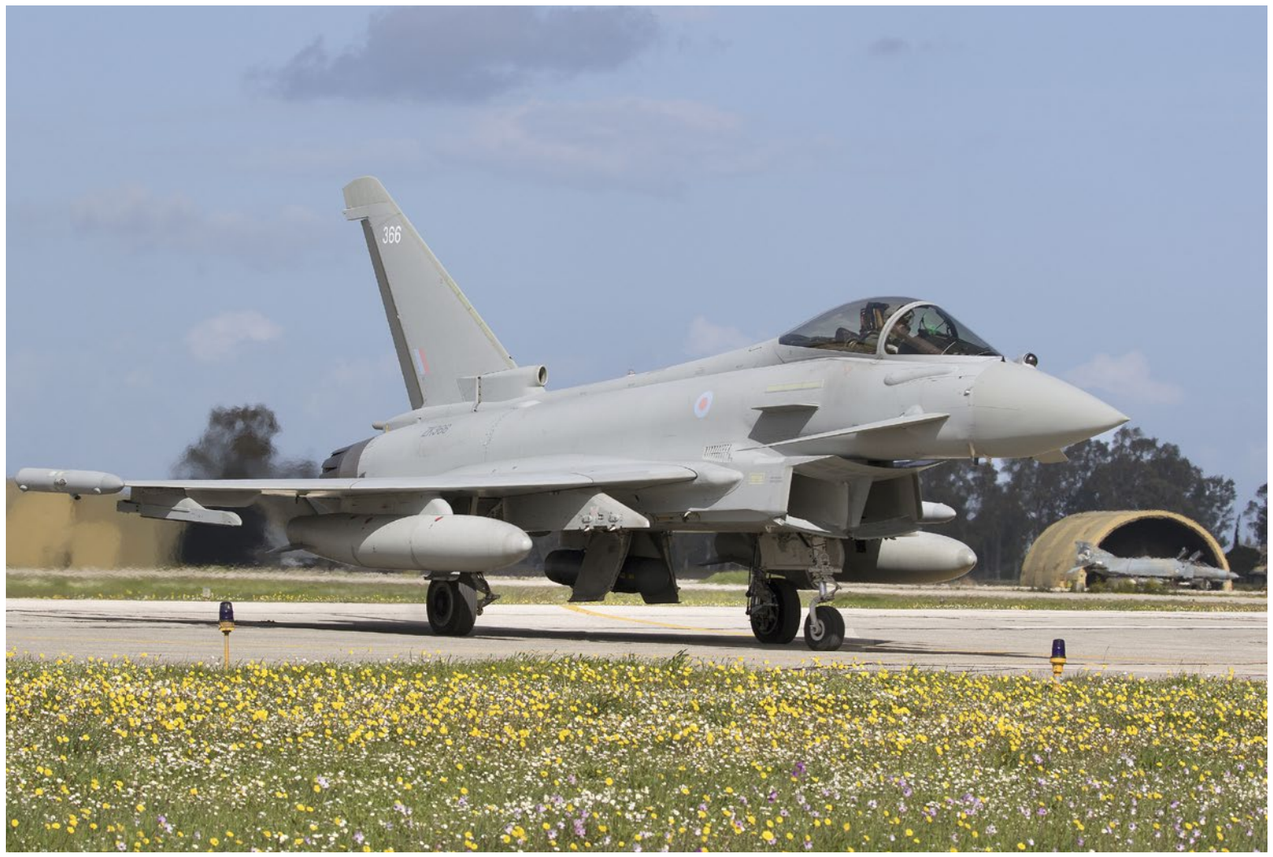












Airborne Early Warning and Control

The exercise scenario begins with a crisis situation that escalates to a full war giving the participants the opportunity to be trained in full scale day and night operations. Crucial aspect is the information flow, that affects every aspect of the mission thus creating a realistic and demanding environment where the air crews tactical flexibility in decision making is challenged.

Geographically Greece is a perfect place for hosting these kind of exercises: Its rough terrain, its mountains, the Aegean Sea and the islands offers a great diversity of landscapes with no densely populated areas. This is ideal to simulate all kinds of air warfare scenarios. Low flying in order to minimize detection by possible threats is part of the exercise. To ensure the quality, tactical relevance and valid results the FWS has the oversight of all technical aspects of the exercise.

During INIOHOS 2018 more than 75 aircraft flew more than 100 missions each day, in different waves. The participants were divided into “Blue Force” (friendly forces) and “Red Force” (counter forces).

Key asset to lead these air operations was the Airborne Early Warning and Control aircraft, in this case an HAF Embraer 145H AEW&C aircraft which can track up multiple targets and control dozen attacks simultaneously. Inside the EMB145H AEW&C aircraft there are “Red” and “Blue” mission controllers, who operate independently from each other, supporting their own force.

The INIOHOS 2018 missions included: air operations to deal with integrated air defense systems; counter air operations, air strikes against high value enemy targets (like airbases, power plants, bridges, industrial compounds, etcetera), maritime attack, dynamic targeting (DT), time sensitive targeting (TST), close air support (CAS), reconnaissance and combat search and rescue (CSAR).

To provide full scale threat and target array, the Hellenic Army, Navy and Special Forces augmented the HAF.

Israel

Western anti-aircraft systems like Patriot, manpads were put to good training use as they defended key assets that were attacked by aerial forces. Also the FWS can simulate other enemy ground based air defenses (GBADS) like S300 based on known emission frequencies.

The Israeli’s have experienced the importance of dealing with GBADS during air operations over Syria. The knowledge about threats contribute to the learning curve of the involved participants of INIOHOS 2018.

On the media day that was held on March 20 Colonel A. Panidis as Commander of the Hellenic Air Tactics Center held a presentation for the attending Minister of Defense, the Ambassadors of participating countries, the Chief of the Hellenic National Defense General Staff and Generals, observers and other guests.

The conclusion was that it is vital for the HAF and other allied forces to keep developing operational agility that will most effectively counter dynamic and complex threat situations. The INIOHOS exercise is not only focused on this goals, but the set objectives are also realized. INIOHOS is a most competitive INVITEX exercise providing high level training!

The HAF wants to gradually expand the ATC at Andravida airbase during the next five years. Therefore, investments will be necessary. The aim is eventually to increase the number of annual Fighter Weapon graduation courses on one hand and also to provide INIOHOS as the best large scale multinational combined air operations exercise in Europe and the Middle East! Currently, Andravida airbase is also home to the 117th Combat Wing which houses the 338 ‘Aries’ squadron flying the F-4E (AUP) Phantom.

If these aircraft would relocate to another airbase that would create the necessary space to house more fighters that are likely to be based here in order to conduct such large scale COMAO exercises out of one single airbase. However, there is no doubt that the future of the FWS/ATC and the INIOHOS exercises look very promising as it is supported both national and international!

POLICING THE BALTICS

TEXT - SØREN AUGUSTESEN
PHOTOS - SØREN AUGUSTESEN & SØREN NIELSEN

On the 8th of January the Royal Danish Air Force (RDAF), deployed four Lockheed F-16AM Fighting Falcons to the Lithuanian air base at Siauliai, to take over NATO's Baltic Air Policing (BAP) mission, from a detachment of USAF F-15C Eagles.

Flying over the Siauliai Air Base, a pair for RDAF F-16 patrols the skies over the Baltics.
Photo by Søren Augustesen

Baltic Air Policing

On the 29th of March 2004, the three Baltic countries of Estonia, Latvia and Lithuania became members of the NATO alliance, along with four other former Warsaw pact countries. This meant that NATO suddenly had a new long border with Russia. Of the seven countries, the three Baltic nations were ill equipped to police their own airspace, being equipped mainly with old Russian transport and training aircraft.

To help the three Baltic countries, and to protect NATO's new eastern border, NATO established the Baltic Air Policing (BAP) mission on the 30th of March 2004 at Siauliai Air Base, located about 135 miles (217 km) northwest of the Lithuanian capital of Vilnius. The purpose of the mission was to provide Quick Reaction Alert (QRA) over the Baltics, and to provide a deterrent to Russia.

The first nation to deploy fighters to Siauliai was the Belgium Air Component. It deployed four of its F-16 Fighting Falcons on the 30th of March 2004. This was followed on July 1st by the first deployment of the RDAF to Siauliai.

In order to monitor the airspace over the alliance, NATO have established the NATO Integrated Air Defence System (NATINADS). The NATINADS is one of the cornerstones in the NATO alliance, and it provides 24/7, 365 days a year coverage of the airspace of all member nations. The NATINADS are controlled from Izmir in Turkey and Ramstein in Germany, with the Alps making a natural division between the two headquarters areas of responsibilities.

As a response to the Crimean crisis in 2014, NATO decided to establish a second air base in the Baltics, from which to fly the BAP mission.

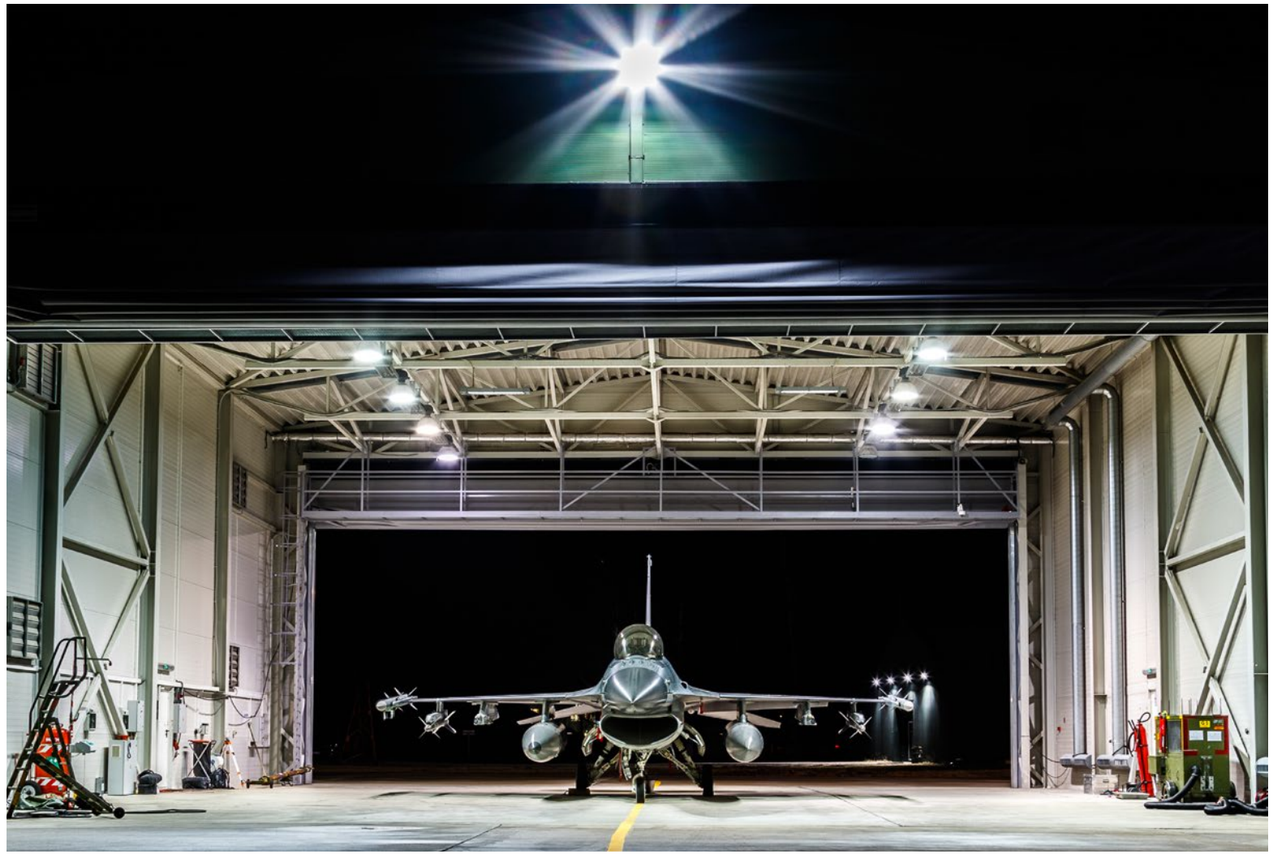
The important mission

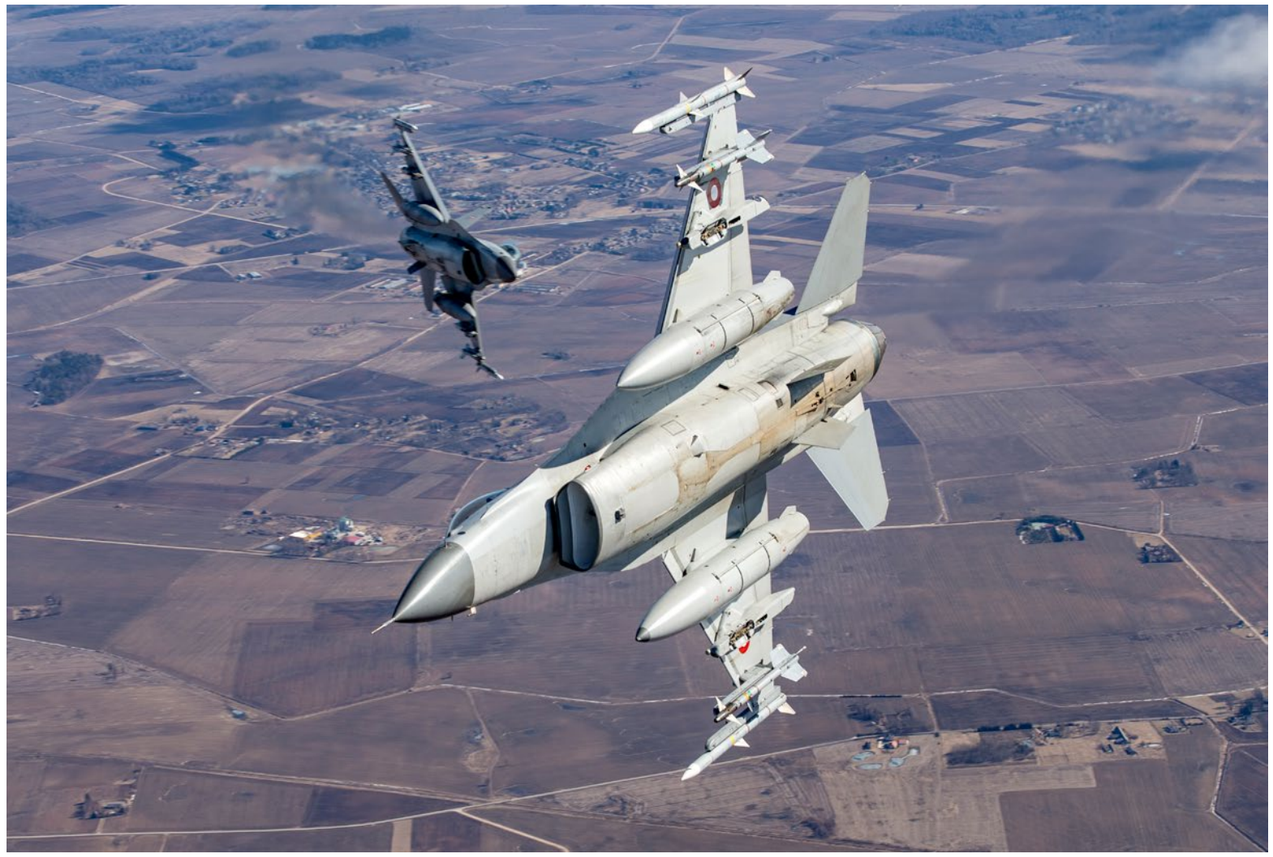
In late April of 2014 a detachment of four RDAF F-16's became the first to deploy to Ämari Air Base near Tallinn in Estonia. Since then, two NATO nations have flown the BAP mission simultaneously from Siauliai and Ämari air bases. The nation flying out of Siauliai acts as the Lead Nation, with the nation flying out of Ämari acts as the Support Nation.

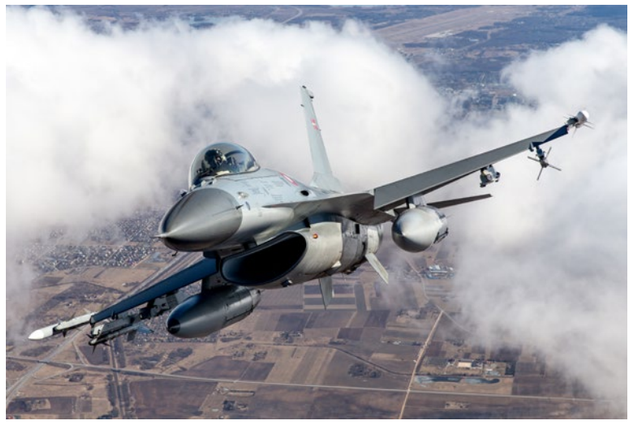
Speaking about the importance of NATO and the BAP mission to the Baltic countries, Detachment commander, and 730 squadron commander Lieutenant Colonel STI remarked: "*NATO and the BAP mission is very important to the three Baltic nations. Although they spend 2% of their GDP on defence, the air forces are not given high priority. With no current fighter capability – a situation not likely to change any time soon - the nations will be relying on NATO for many years to come*".

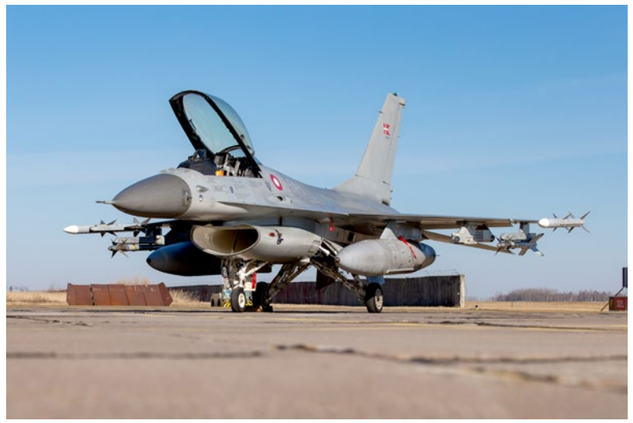
NATO and the Lithuanian Government have invested heavily in the infrastructure of the Siauliai base. In 2012, NATO invested 7 million Euros in modernizing Siauliai Air Base. The money was, among other things, spend on four new modern QRA shelters, new aprons and in 2013 a brand new headquarter building were opened inside the Quick Reaction Area, where pilots, technicians and support staff can work during their deployment.

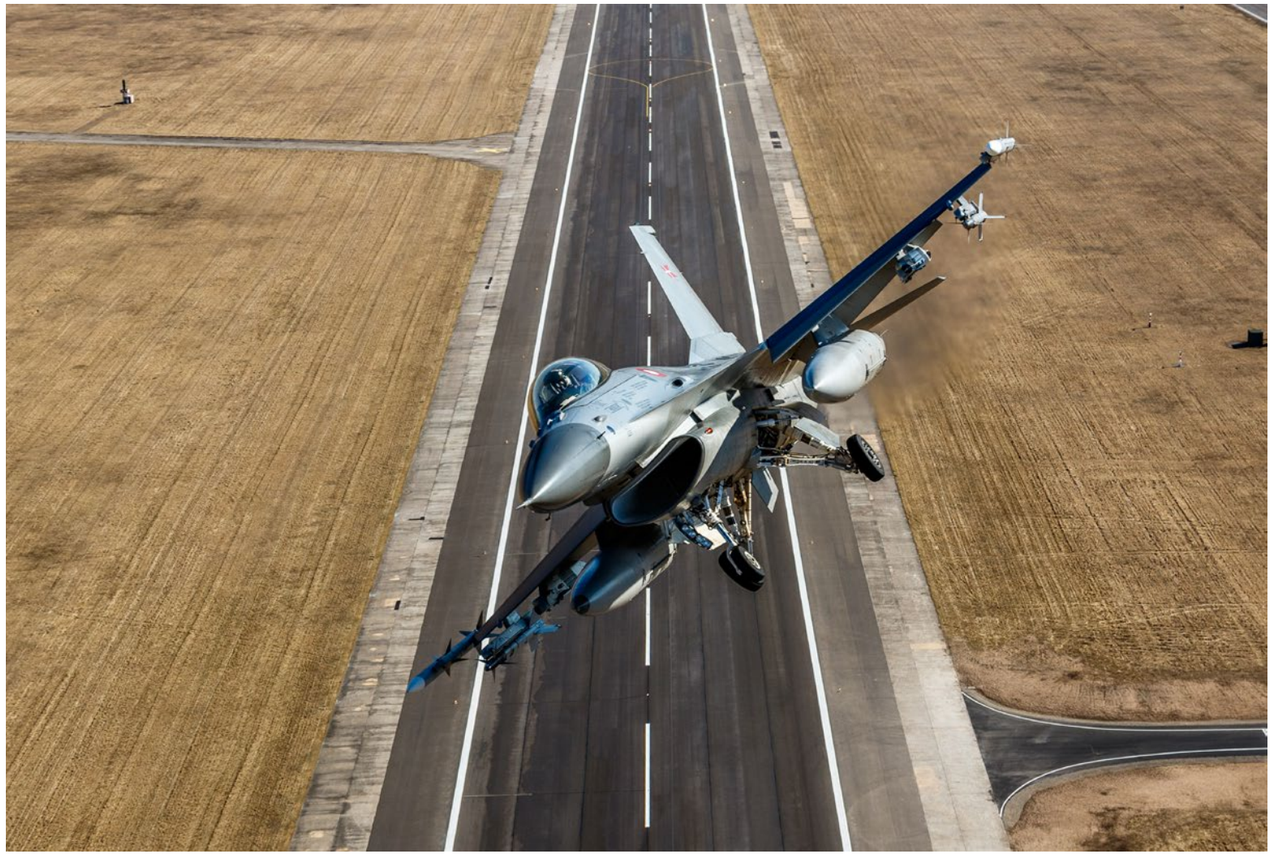
Investments have also been made in other areas such as a munition storehouse, fire-fighting and show-clearing equipment. To help cover the running cost of maintaining the airbases, and the expenses associated with the deployments, each for the Baltic countries pay €3,5 million a year.

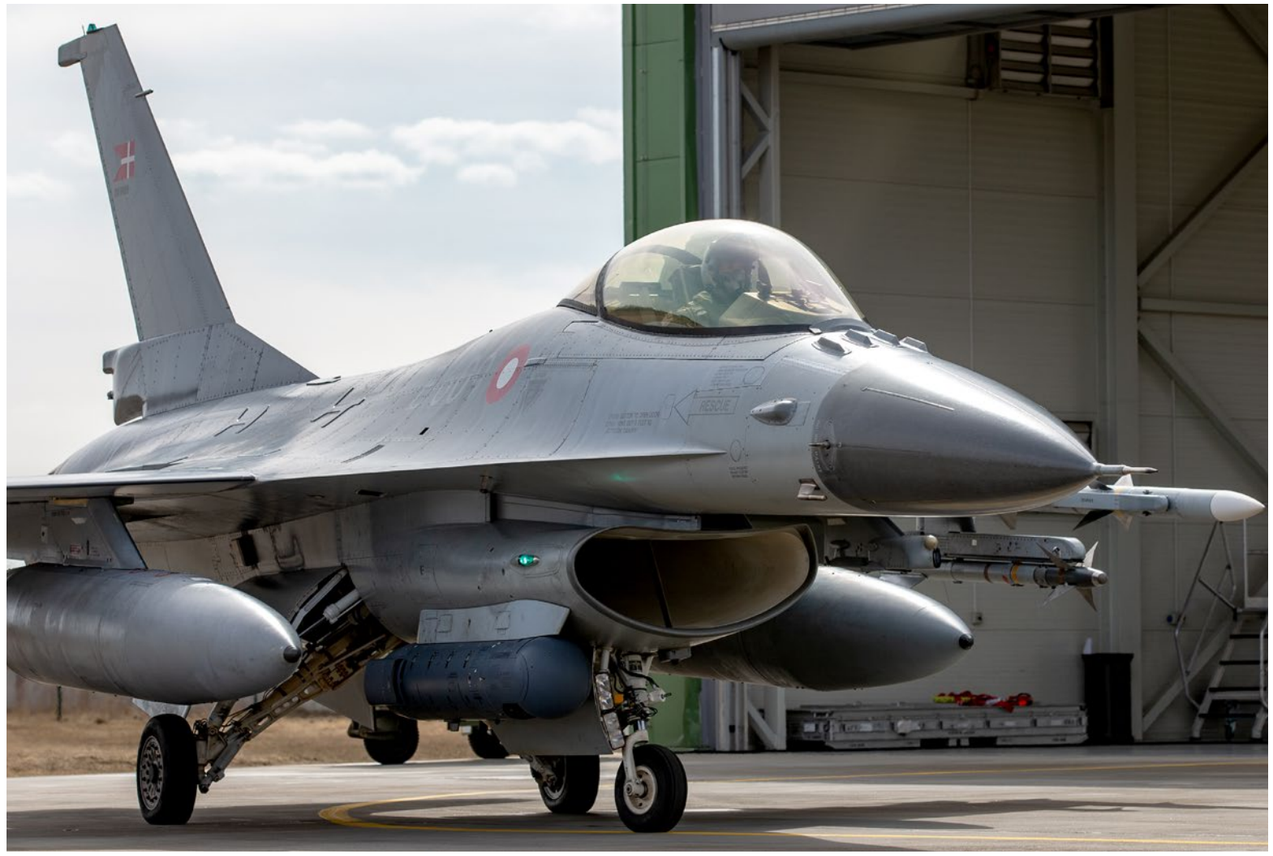


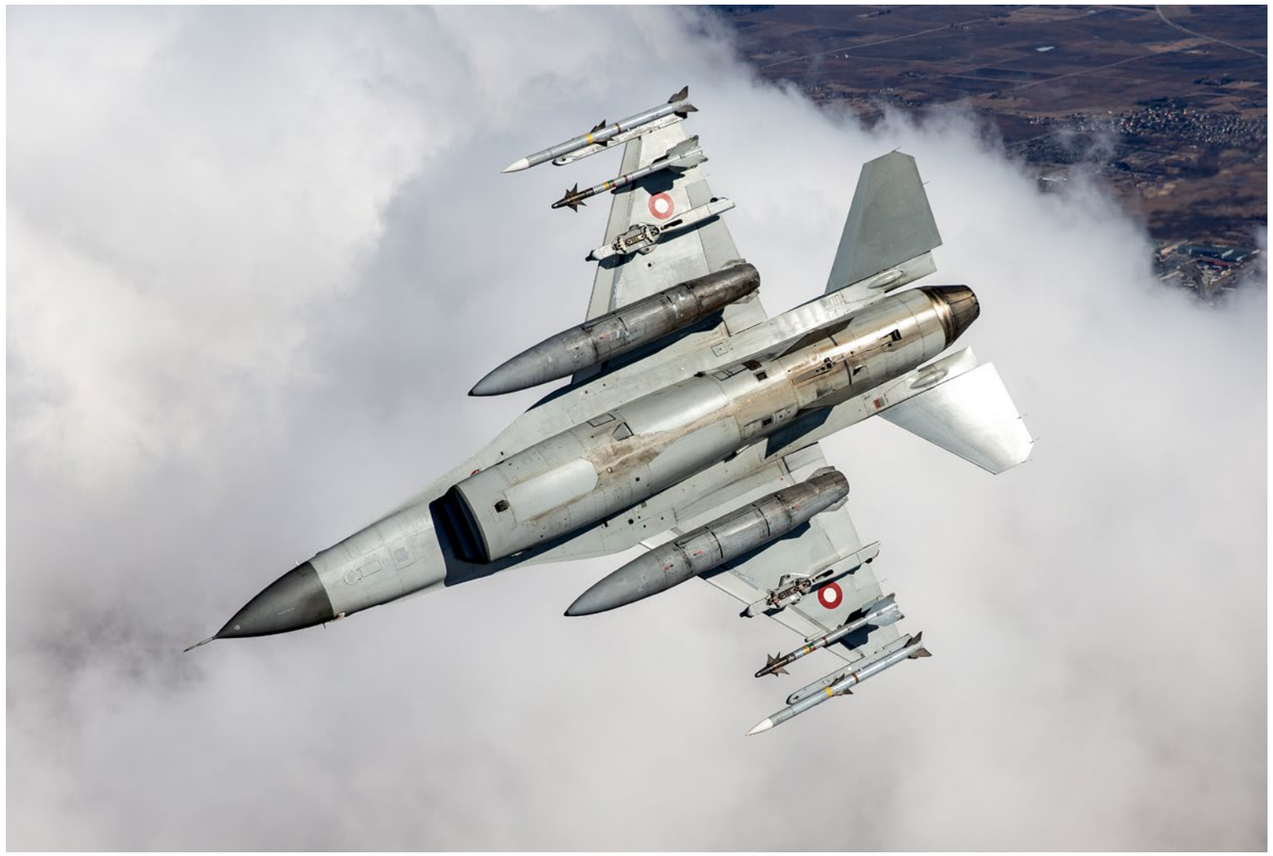


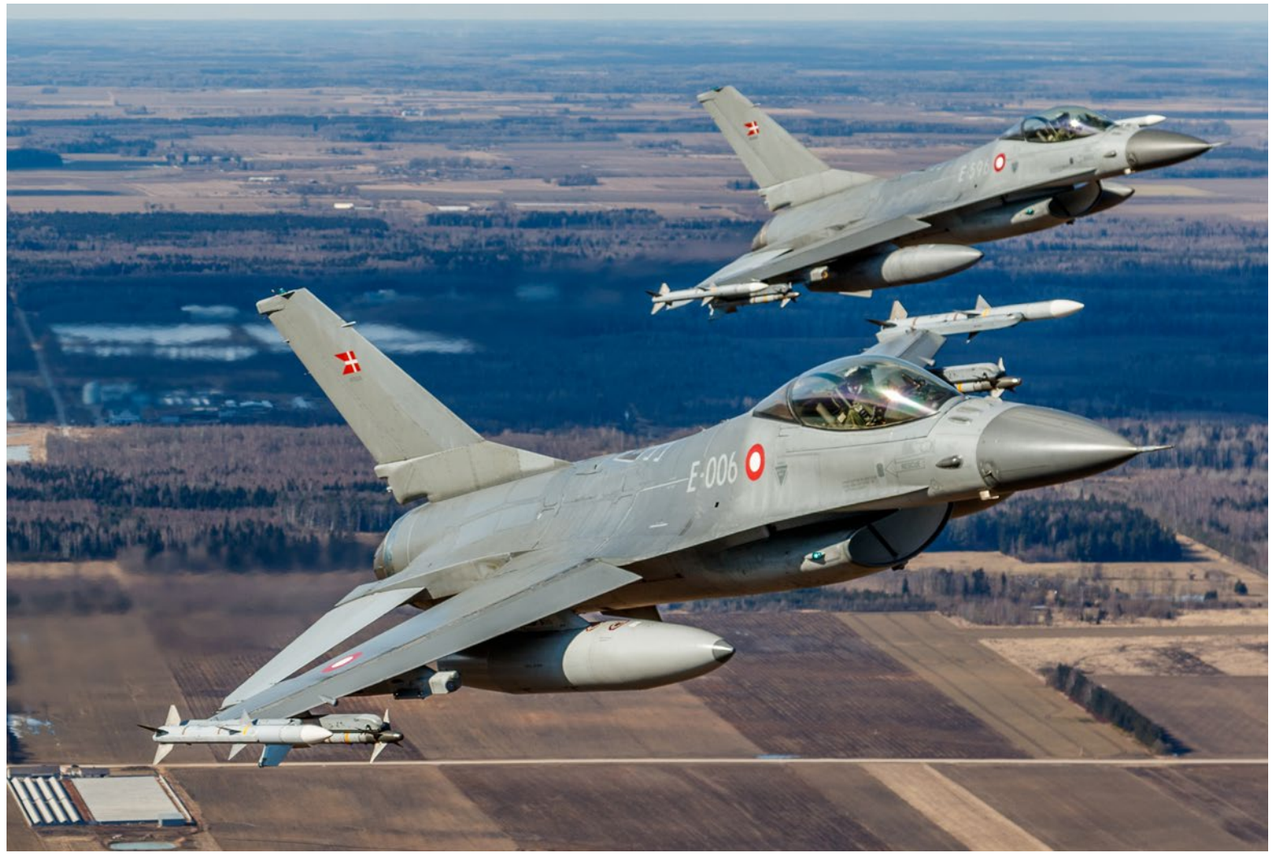








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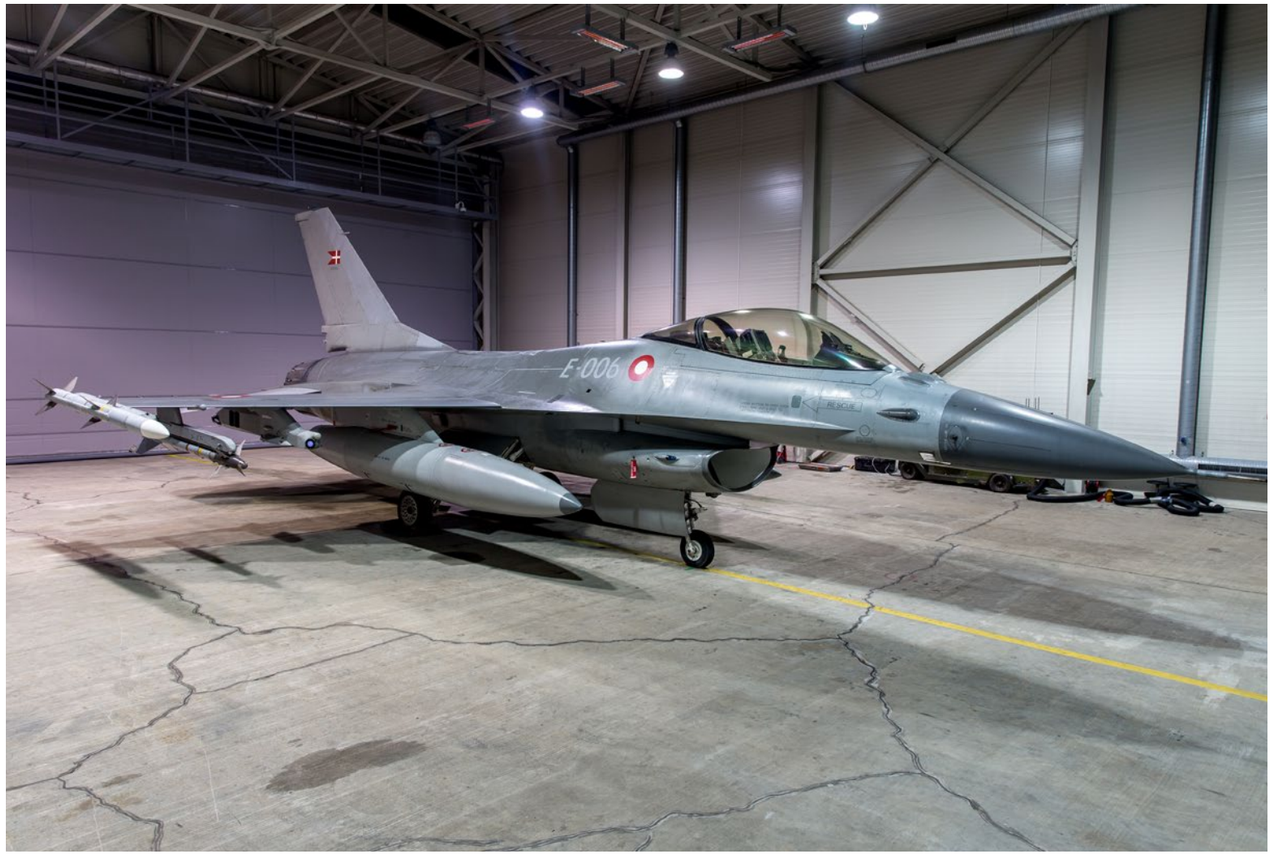
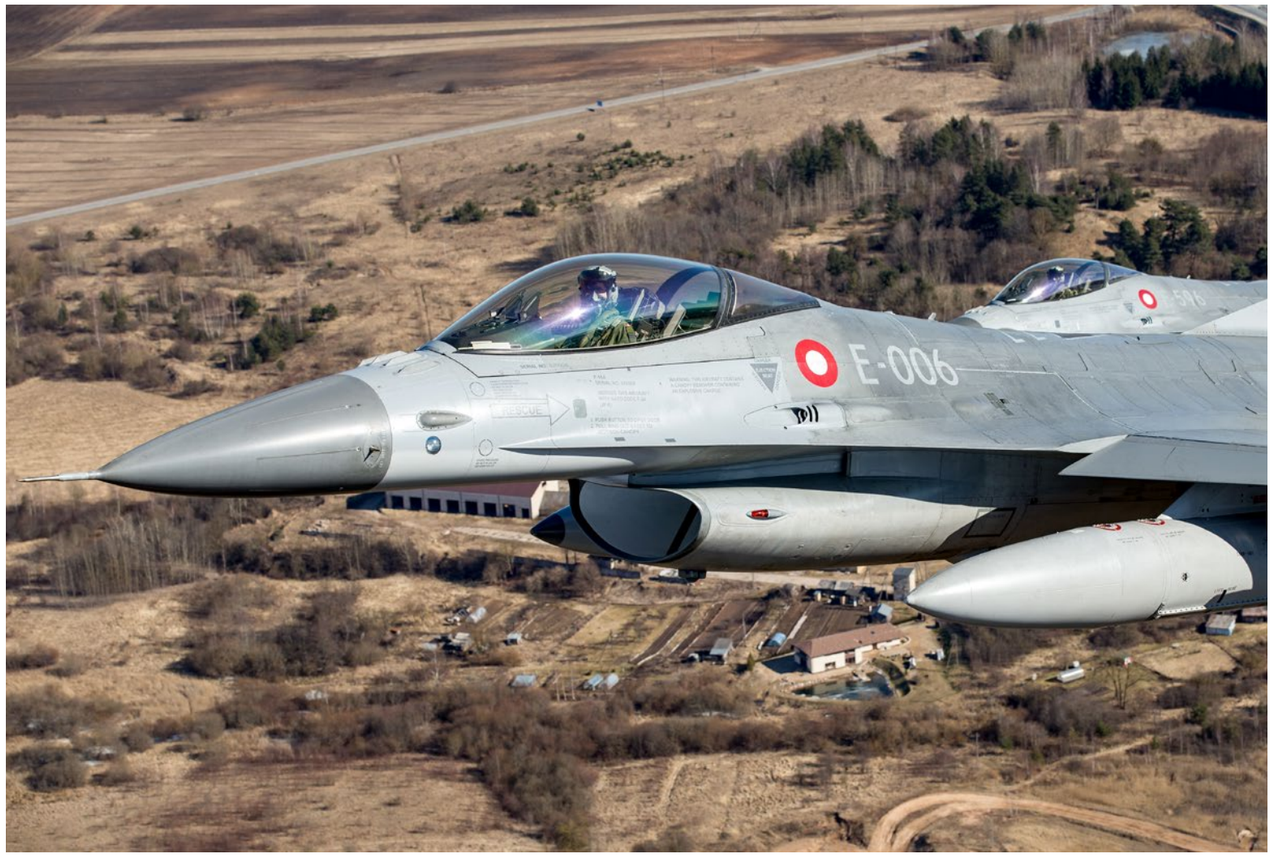


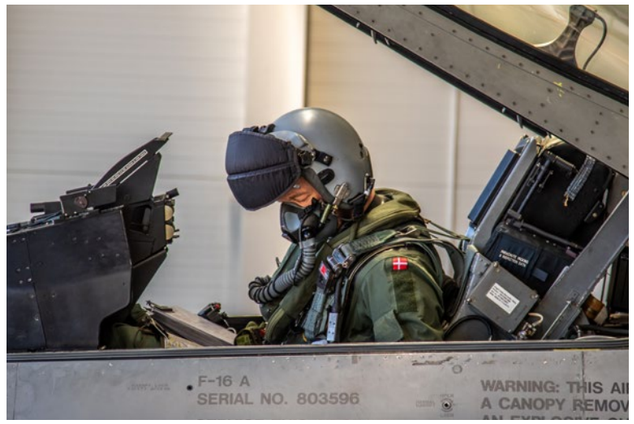


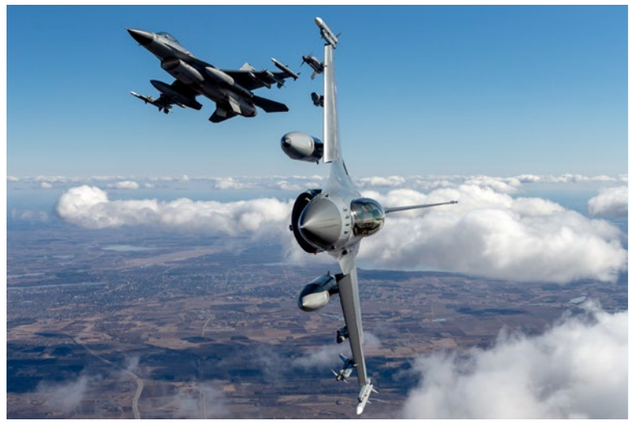
Ramstein Alloy

To ensure a safe and professional conducted of the Baltic Air Policing mission, continues training is necessary, as member countries deploy air assets to Siauliai on a rotational basis. To standardize training across member nations deploying to Siauliai or Amari Air Bases, Headquarters Allied Air Command Ramstein introduced a series of training exercises called Baltic Region Training Events.

There are now know as Ramstein Alloy. The purpose of these exercises is to not only to ensure that experienced pilots deploy to Siauliai and Amari, but also to provide superior training for Estonian, Lithuanian and Latvian air forces and control facilities.

To determine which NATO nation should be deployed to fly the BAP mission, each member nation submits periods to NATO when they will be able to deploy air assets. The NATO headquarters them allocates periods to each member nation to ensure a continuous coverage of the Baltic air space.





RDAF Deployments

The RDAF has been an active player in the BAP mission from the very start, having deployed fighters and personnel to both Siauliai and Ämari Air Base. The RDAF deployment to Siauliai from the 8th of January to the 30th of April, marks the fifth deployment to the Lithuanian base, and adding to this is one deployment to the base at Ämari. The RDAF will take the role as “Lead Nation”, with the Italian Air Force Deploying four Eurofighters to Amari airbase, where they will act as Support Nation to the Danish F-16, covering the northern part of the Baltic countries.

The RDAF detachment consisted of approximately 55 people, which included pilots, ground crews, administrative staff, security personnel and other support personnel. This is a very small detachment compared to some of the other NATO countries who deploy upwards of 100+ personnel. The reason the RDAF detachment is so comparatively small, is that most of the deployed personnel perform more than one task, thus reducing the manpower needed to run the BAP mission. Of the 55 personnel, five were pilots, one of which acted as detachment commander.

As with most nations, the RDAF brought over most of the support equipment needed to operate out of Siauliai Air Base. This included not only spare parts, but also fuel trucks and other vehicles. Mission critical parts were flown in, while the rest were driven from Denmark to Siauliai by truck. Larger vehicles like fuel trucks where sailed to Lithuania.

The RDAF have operated out of Siauliai many times now, and the working relationships with the Lithuanians are very good. Speaking about this, Lieutenant Colonel STI said: “*The Lithuanians are a very friendly and decent people. A word is a word, and there is no limits for what they will do to assist*.” He added: “*There is a huge amount of experience at the base, and everything would have been ‘business as usual’ if it wasn’t for the major reconstruction of the base at the moment, which means everyone has to be on their toes to avoid FOD damage to taxiing aircraft.*”

When the Danish detachment ends their deployment to Siauliai on the 30th of April 2018, a detachment of four Portuguese Air Force F-16’s will take over the BAP mission.

A pair of Danish F-16's breaks formation high over the Lithuanian landscape. Photos by Søren Nielsen

Flying over the Baltics

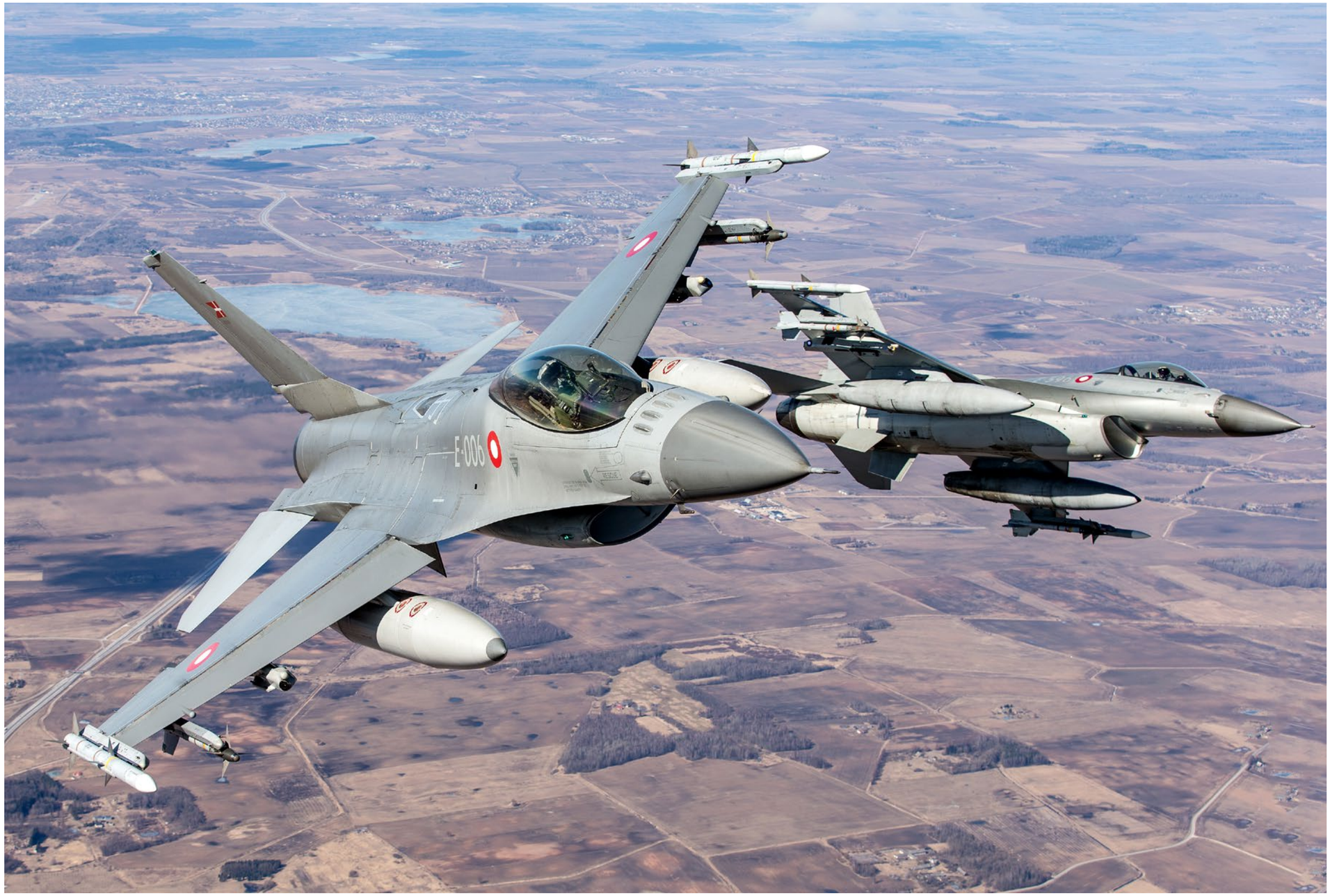
While stationed at Siauliai Air Base, the four F-16s are parked in the new shelters, and they are kept on a 24/7 alert status, with two aircraft acting as primary aircraft, and two as spares. In buildings close by, the maintenance crew have they facilities and they are able to reach the shelters within minutes of the alarm sounding. Two pilots are on constant alert inside the headquarters building, always wearing their flight suit, and in winter times their rubber suit as well, ready to run to the van, which will take them to the aircraft, when the alarm sounds.

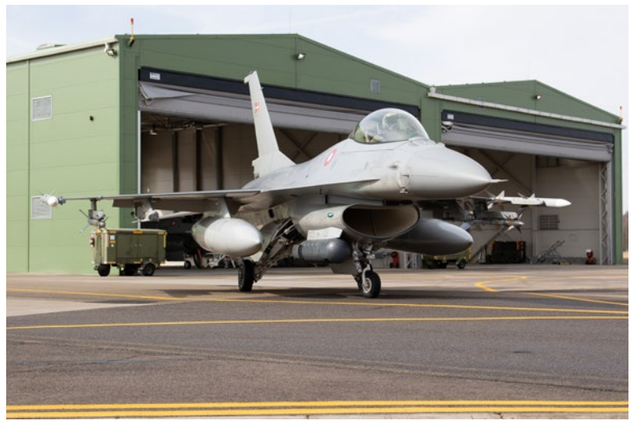
The alert aircrafts fly two types of missions, Alpha scrambles and Tango Scrambles. Alpha scrambles are the “real deal”, flown when unidentified aircraft approaches or enters the air space of one of the three Baltic countries. These are typically Russian transport aircrafts, who have either failed to submit a flight plan, or are diverting from their submitted flight plan. A Tango scramble is a training sortie flown once a day, to make sure that every link in the alert chain is functioning as it should.

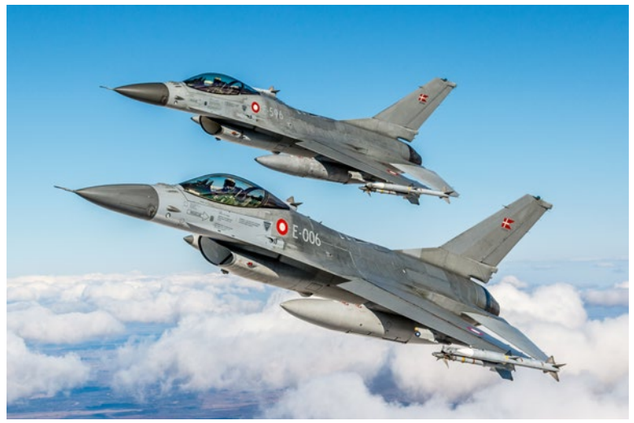
When flying the QRA mission over Danish territory, the F-16’s are armed with a drum full of 20mm cannon shells and two AIM-9M Siderwinder air-to-air missiles on the wingtips and two 370-gallon fuel tanks under the wings. However, when flying over the Baltics the Danish F-16’s are armed with two AIM-120C AMRAAM air-to-air on the wingtip launch rails, two AIM-9M Sidewinders mounted on the outer underwing pylons, two 370-gallon under wing fuel tanks and the Lightning Targeting pod mounted on the right side of the air intake.

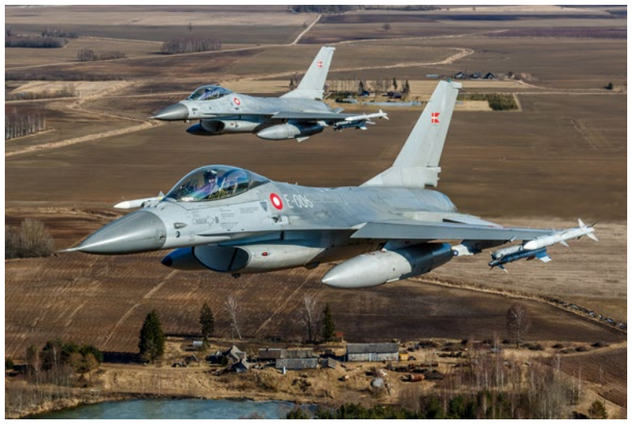
Speaking about the difference between flying the QRA mission over Denmark, and flying the BAP mission over the Baltics, Lieutenant Colonel STI commented: “*Flying over the Baltics isn’t that much different than flying over Denmark. It is a bit closer to Russia, but we often fly over the Baltic sea when flying east of the Danish island of Bornholm, so we are used to flying near Russian air space.*”

The author would like to send a big thank you to the men and women of the Royal Danish Air Force, for their help with this article.





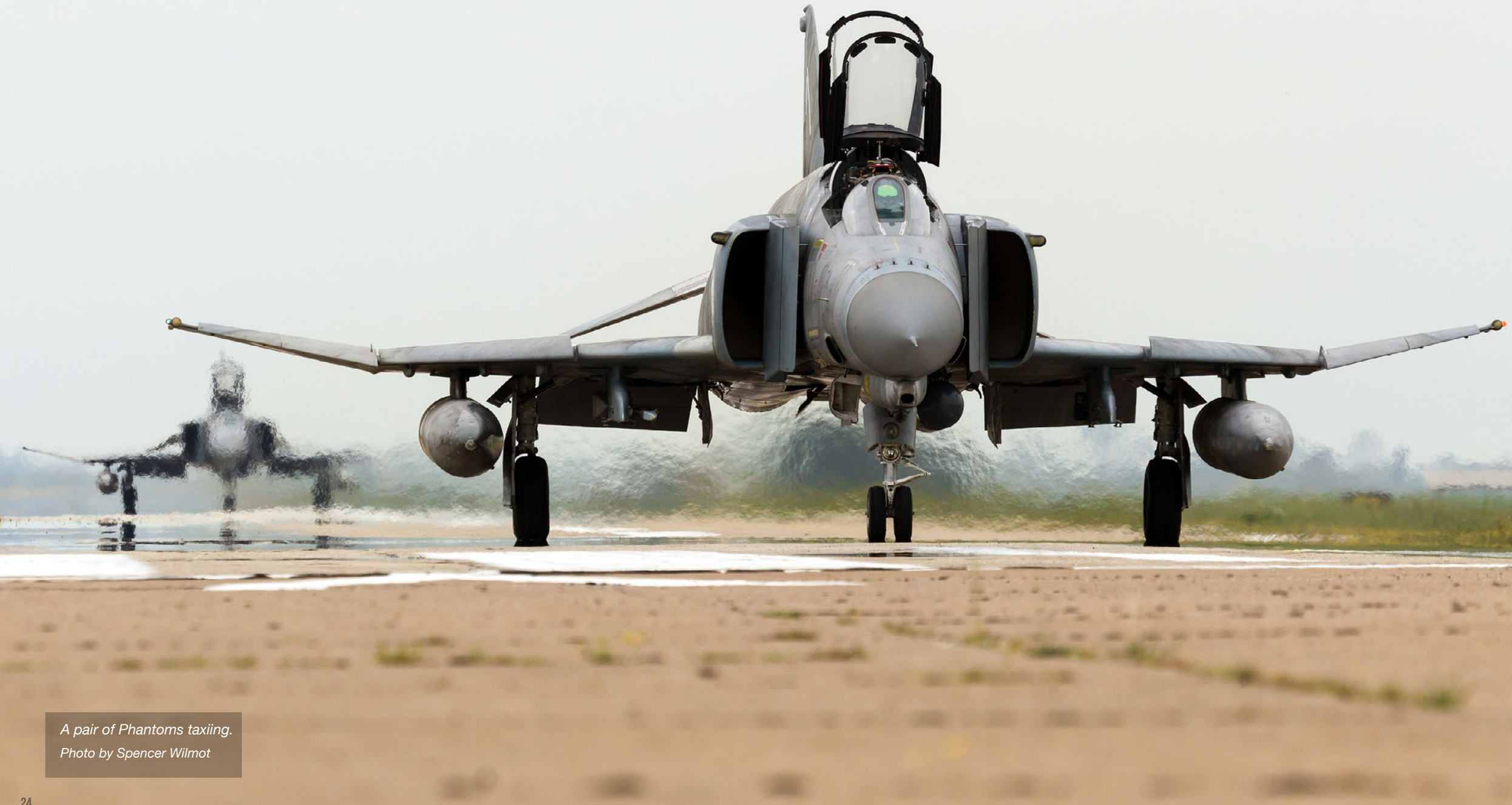




117 COMBAT WING - ANDRAVIDA

TEXT & PHOTOS - SPENCER WILMOT

Andravida air base, Greece. An airfield with its roots dating back to 1955, it is situated some 5 miles from the Ionian Sea in the northwestern corner of the Peloponnesian peninsula. Spencer Wilmot reports from Greece.



A pair of Phantoms taxiing.
Photo by Spencer Wilmot

117 Combat Wing

Andravida air base, Greece. An airfield with its roots dating back to 1955, it is situated some 5 miles from the Ionian Sea in the northwestern corner of the Peloponnesian peninsula. It is home to the 117 Combat Wing. It is home to the legendary McDonnell Douglas F-4E Phantom II of the Hellenic Air Force, where 117CW maintains it's last remaining Rhino squadron - 338 Mira!

Enter the Phantom!

In the early 1970s, under a program named Peace Icarus I, the Hellenic Air Force placed an order with McDonnell Douglas to procure thirty six F-4E Phantom II aircraft. In April of 1974 the first six F-4Es landed at Andravida air base, while aircraft deliveries were completed by the end of the same year. These aircraft would eventually equipe two squadrons: 338 "Ares" Fighter/ Bomber Squadron (having moved from Souda, on the island of Crete) and 339 "Ajax" All-Weather Squadron, which would take on the interception role. As of March 1975 both squadrons were dually operational in Air-to-Ground and Air-to-Air capabilities, respectively.

The F-4E would prove to be a most capable aircraft, incorporating technological advances such as a higher fuel capacity, upgraded J79-GE-17A engines and the addition of leading edge slats that were automatically extendable and retractable at differing angles of attack. It's introduction helped forge what would become huge beneficial developments for the Hellenic Air Force and its operations.

In 1977, under the name Peace Icarus II, a second order was placed with the United States and McDonnell Douglas. This time it would be for an additional eighteen F-4Es as well as eight RF-4E reconnaissance Phantoms. Delivery of this order would be finalised by 1979.

All F-4E Phantoms delivered to Greece sported the South East Asian colour scheme. A camouflage dating back to the Vietnam conflict. In time, a dark blue scheme named Aegean Blue, would be applied. It wasn't until the late 1990s that the current grey Aegean Ghost scheme would be applied.

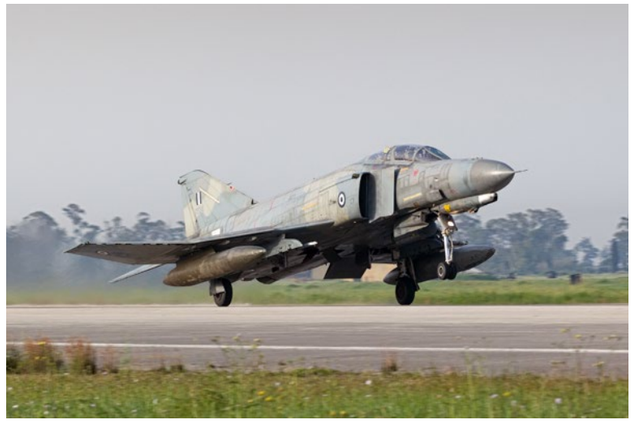
Upgrades

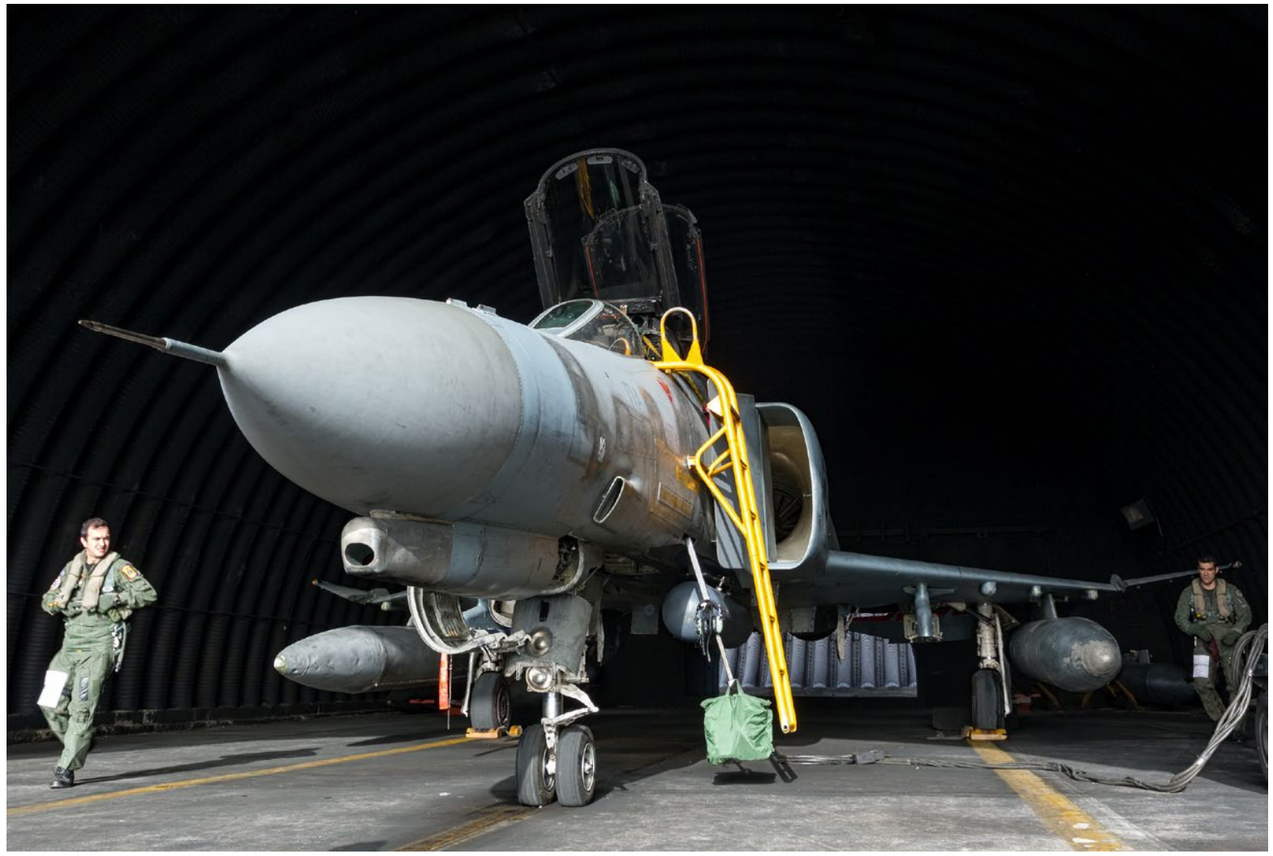
In August 1991, after a deal struck the year before with the US government under the Southeastern Regional Agreement (SRA), nine (of a total of twenty eight) former Indiana Air National Guard (ANG) F-4Es landed at Andravida. The remaining aircraft deliveries were completed by November of the same year and were delivered to 338 Mira, who in turn transferred their own to 339 Mira, and 337 Mira of 110CW at Larissa. Their operational use was immediate.

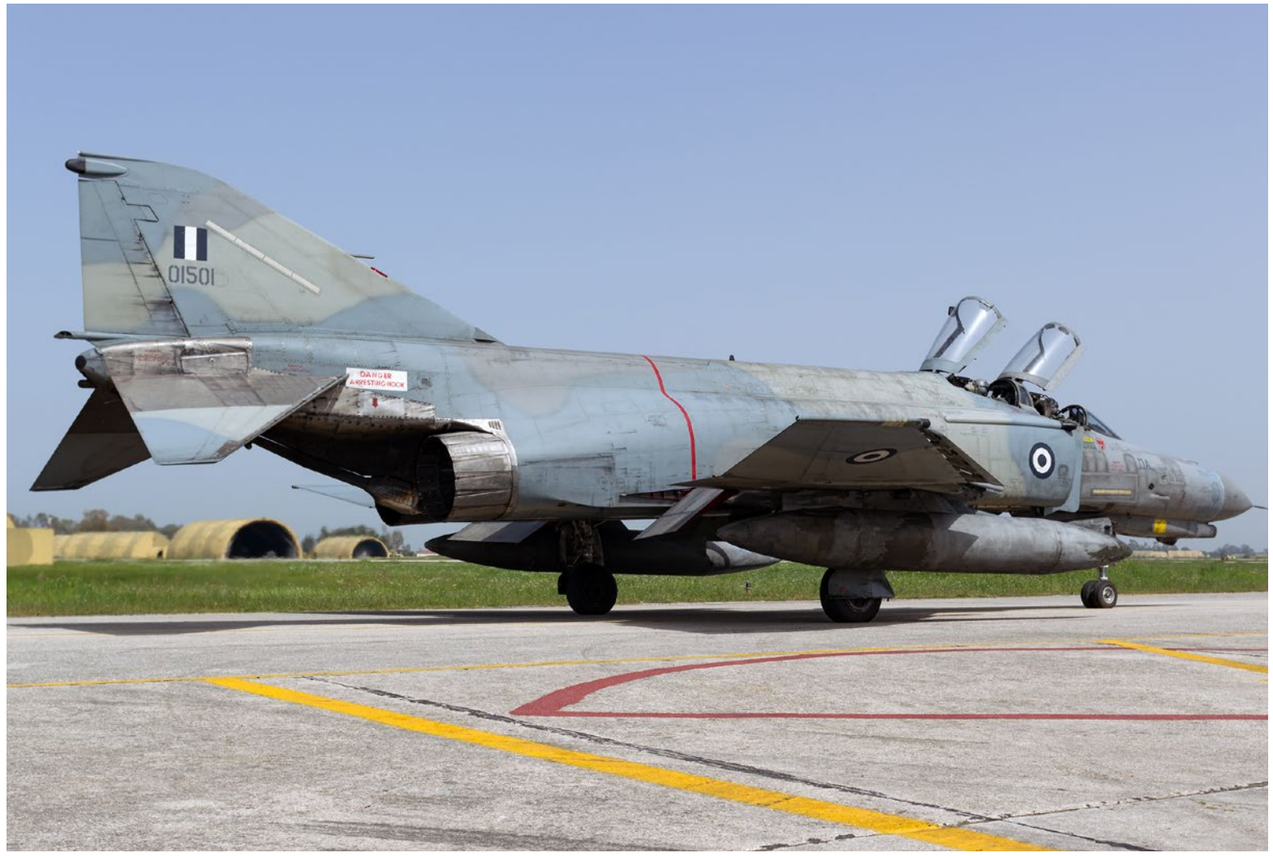
By 1997 a contract was signed between the Hellenic Air Force and (the then) DASA of Germany, (later to be EADS), to upgrade their F-4Es following the success of the German Improved Combat Efficiency (ICE) program and the Luftwaffe F-4F fleet. The upgrade was named Peace Icarus 2000 and in total thirty nine Phantoms were to receive it.

It consisted of structural reinforcements resulting in a life extension and an Avionics Upgrade Program (AUP) focused on the radar, electronics, navigational equipment and implementation of the new Hands On Throttle And Stick (HOTAS) system and new Identification Friend or Foe (IFF) system. A more modern aircraft, in other words.

In December of 2002 - a delay of some two plus years after the proposed completion date - the delivery ceremony of the first upgraded aircraft occured, and so began the integration of the upgraded F-4E in 117CW. Thirty six F-4E AUPs would eventually (2005) be delivered due to three accidents of aircraft during the program.

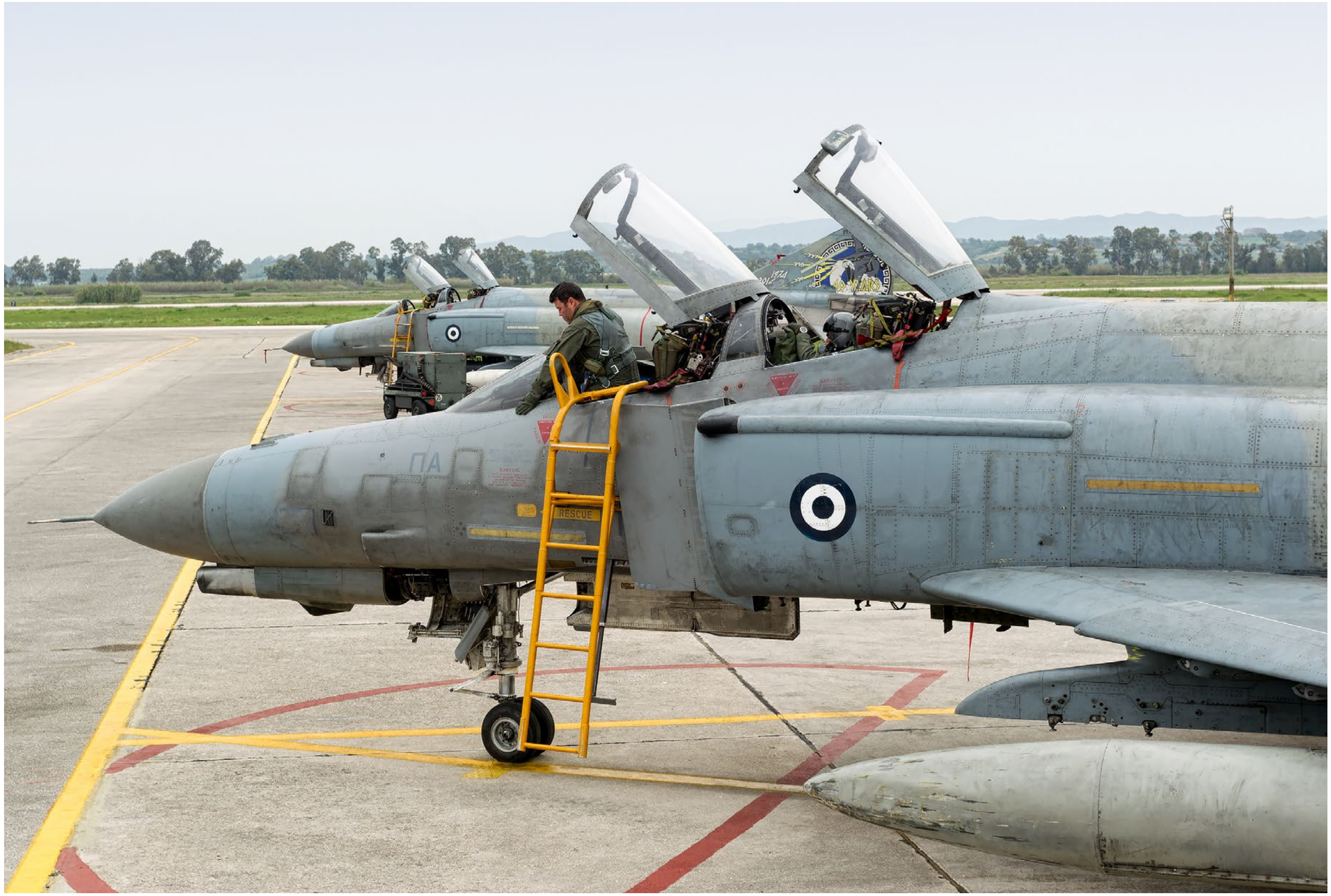


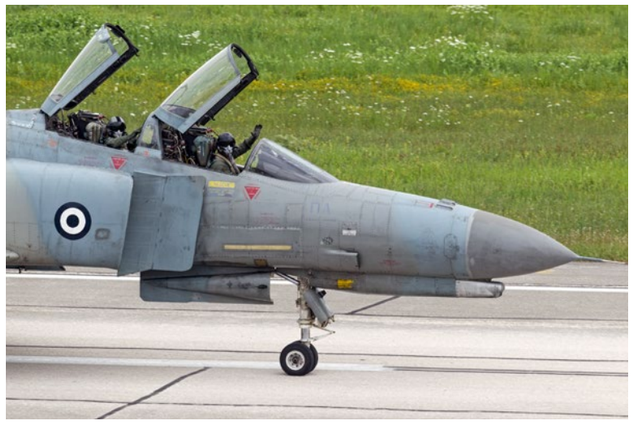


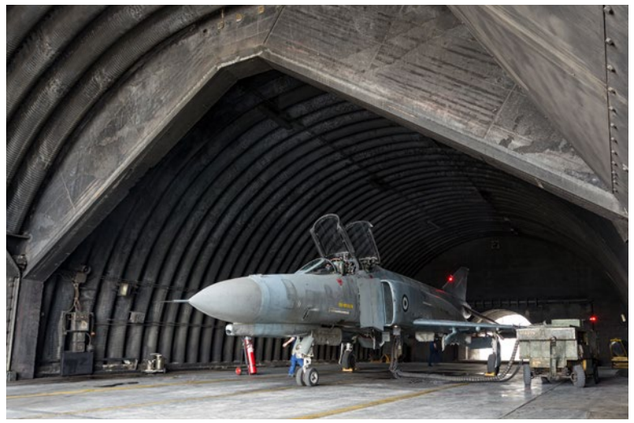


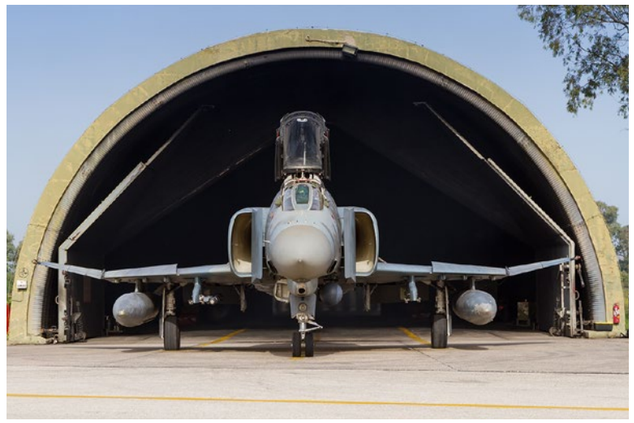
A Phantom "driver" and his machines!

Photo by Spencer Wilmot









339 Stand-Down

In July 2012 both 338 and 339 Mira celebrated sixty years of operations and these two squadrons would continue at Andravida under 117 Combat Wing, until October 2017, when 339 Mira officially disbanded leaving 117CW with only one unit - 338 Mira.

From now on (both) would operate as 338 Fighter Bomber Squadron as part of the Hellenic Tactical Air Force at 117CW Andravida.

Now combined, the expanded 338 Squadron continues in its Ground Attack role, primarily, but dually serves in the Interception Air-to-Air role, as well.

This was evident during (the author's) first morning on base, where a pair of Phantoms launched for simulated bombing runs (Air-to-Ground) over fixed targets out at sea. The targets were in actual fact, rocks, and during the simulation Dassault Mirage 2000-5 aircraft from 331 Mira out of 114CW Tanagra tried defending them.

It was here the Phantoms practiced both Air-to-Ground bombing and basic fighter manoeuvres (BFM) in the Air-to-Air arena. Hellenic Phantom training missions can, and sometimes often do, reach an altitude of 50,000 feet. Whilst it is not the maximum service ceiling the F-4E can obtain, it's one the squadron limits themselves to, for various safety reasons.

Today, having a total of thirty four aircraft with ten in heavy maintenance, 338 Mira still happily operate the Mcdonnell Douglas F-4E Phantom II fighter - an aircraft still flying after nearly sixty years after it's introduction!

The multirole F-4E Phantom II has, fortunately, somewhere in the region of four to five years left in active service, with the Hellenic Air Force, with no replacement aircraft decided upon at this date.

During peak times, (read Summer as opposed to Winter - due to weather limitations), there can be up to thirty two launches a day (less than half that number during Flymag's visit, due mainly to Easter holidays recently ending and personnel still on leave).

New features and equipment

An African dust storm reduced visibility somewhat, bringing along cloud and haze associated with it. But flying continued almost as normal albeit in a reduced capacity due to the lack of staff still away.

Pilots at 338 Mira are required to fly, on average, eight to ten hours per month, which roughly equates to one hundred hours per year. This figure gradually decreases the more years served and obviously experience gained.

The Weapons System Officer (WSO), also being a pilot, requires five to six years in the rear seat before moving up front to command. He manages all non-flying activities such as navigation, including situational awareness, as well as radio operations and weapons management.

Coincidentally, the 117CW Base Commander had his final flight during (the) visit and would also mark one of his last days at the base, as he steps down from command at Andravida. He flew the F-4E Phantom II for a total of twenty five years!

His deputy will now take over the role as Base Commander and Flymag wishes them both the best of luck for their futures.

In total there are fifty pilots at 117 CW Andravida. Noteworthy, 338 Mira has the only female fighter pilot in the entire Hellenic Air Force.

Whilst the total number of Greek female aviators is slightly higher - three in fact - two are at different Combat Wings. One flies the AS.332 Super Puma of 358 Puma Mira and the other the Alenia C-27J Spartan of 354 Pegasus Mira. Both units based out of 112CW Elefsis.

After college, pilots-to-be will spend one year at Kalamata Air Base. This first year is the Selective Phase and consists of sixteen sorties and a total of nineteen hours in the single engined Cessna T-41 (C172) basic trainer. Combined with eighty hours of ground school this lasts for four months.

Pilot Training Progression

Moving on to the Initial/Basic Phase, for the second and third year, the Beechcraft T-6A Texan II is used for forty five/sixty (initial/basic) sorties lasting fifty eight/seventy eight (initial/basic) hours. The duration of this phase, together with two hundred and ninety hours of ground school, is eleven months.

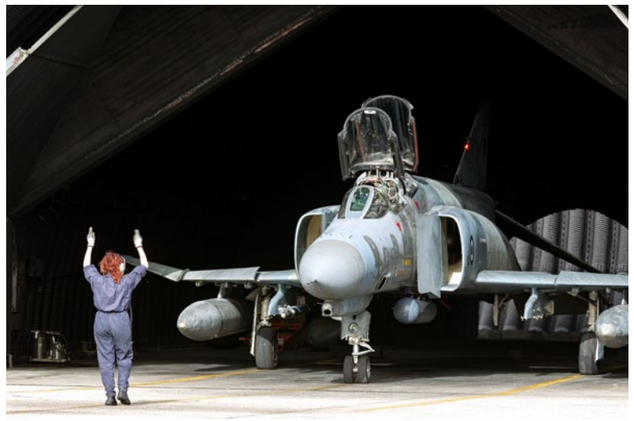
The final year, after graduation, is called the Advanced/Operational Phase, and is spent on the North American T-2E Buckeye, taking another eleven months on the jet trainer, flying seventy two/sixty (advanced/operational) hours and sixty/sixty (advanced/operational) sorties. Two hundred hours of ground school complete this phase.

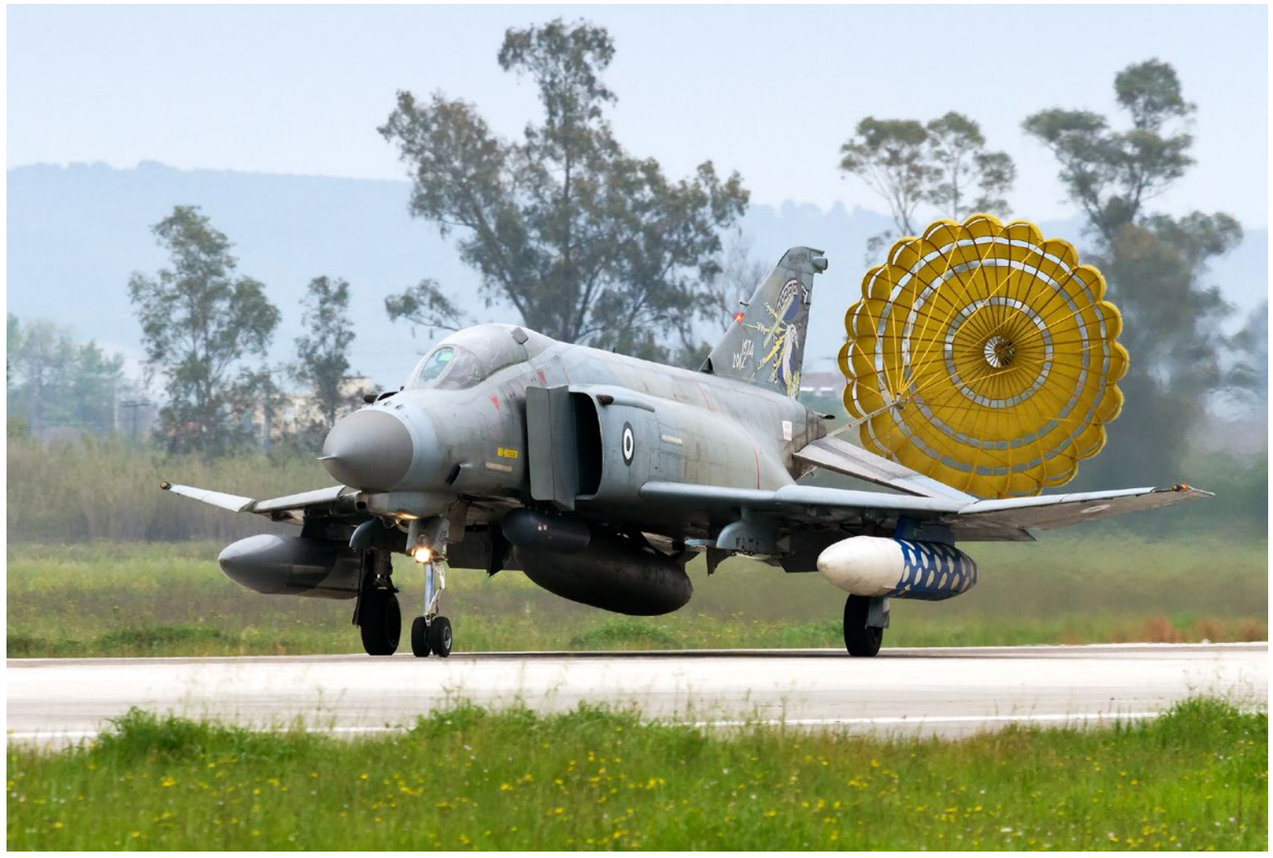
A grand total of five hundred and seventy hours of ground school, lasting twenty six months, flying two hundred and forty one sorties over two hundred and eighty seven hours, are accumulated before the graduate pilot gets their (hopefully desired) squadron, whereby they'll occupy the rear seat of anywhere between five to six years.

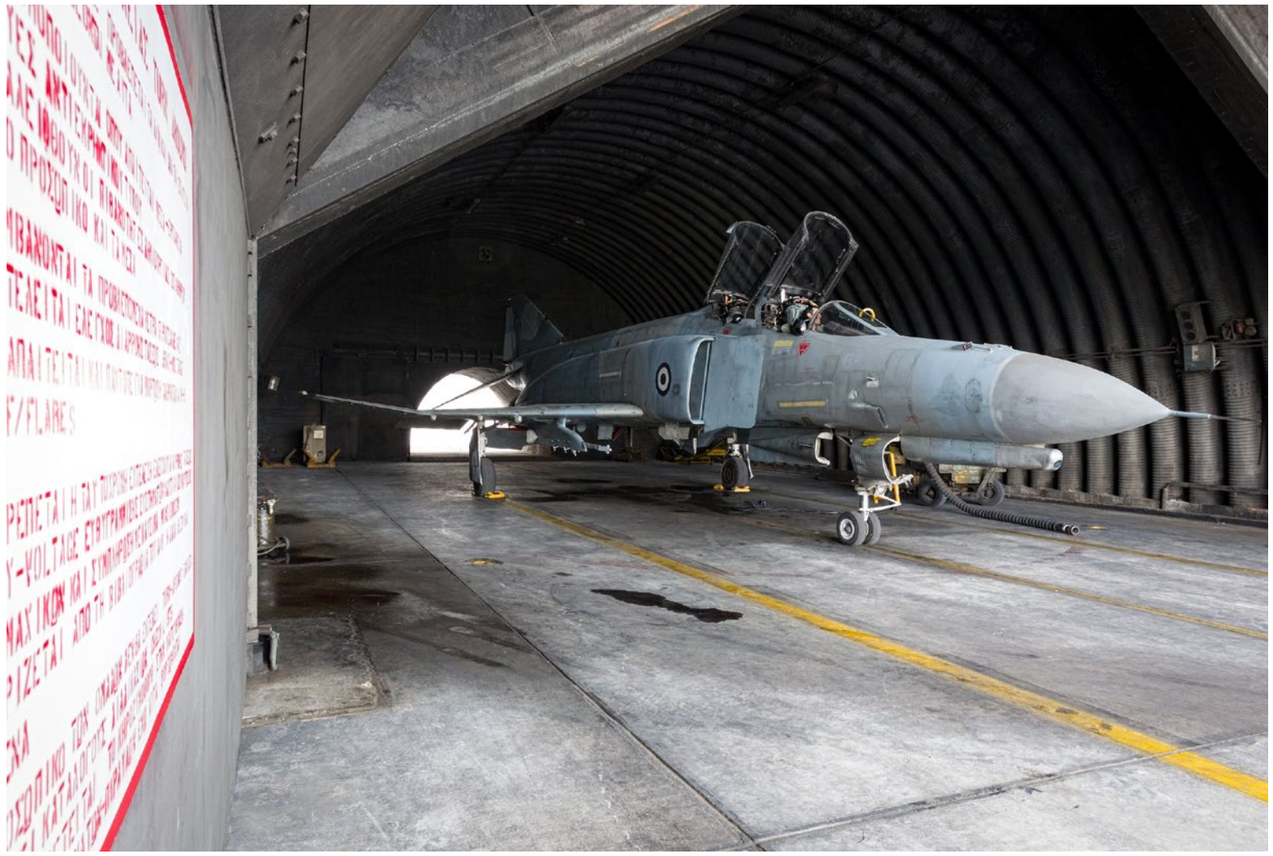
117CW will receive four graduate pilots this year, alone!

Interesting to note, all radio communications are conducted in English and the level is good.

The author would like to take this opportunity to thank the following in preparation of this article: Base Commander Kostavaras, Squadron Commander Kappes, Major L Karantzinis, Lieutenant Adam Pantazis







BLUE FLAG 2017

TEXT & PHOTOS - PATRICK ROEGIES, JURGEN VAN TOOR, 4 AVIATION, THEO VAN VLIET

The “Blue Flag” exercise originated in 2013 as a result from the exclusion of the Israeli Air Force from the NATO exercise Anatolean Eagle. Patrick Roegies reports from Ovda and the 2017 edition.

A pair of F-16I Sufas taxiing out to their training sortie
Photo by Theo van Vliet

Blue Flag 2017

Although there has been a strong support with military aviation there has been a reluctance to conduct joint military aviation training programs in Israel in the past. This position somehow changed with the organization of the “Blue Flag” exercises in Israel with the first event taking place in 2013.

The “Blue Flag” exercise originated in 2013 as a result from the exclusion of the Israeli Air Force from the NATO exercise Anatolean Eagle. Since the first edition in 2013 the Blue Flag exercise is organized bi-annually at Ovda Air Force Base in the south of Israel. During the first edition of Blue Flag four foreign nations participated.

The Italian Air Force was present with AMX and Tornado aircraft, the Hellenic Air Force and the Polish Air Force joined with F-16 aircraft and the United States Air Force attended with F-15E aircraft.

Each of these nations have trained separately with the Israeli Air Force in the past, and some of these nations have been deployed to Israel earlier, but the Blue Flag exercise was the first joint multi-national exercise organized on Israeli territory.

The second edition of Blue Flag took place in 2015 and during this edition the number of participating foreign nations increased to five. This year event, which was the third edition of the exercise took place between 6 November 2017 and 16 November 2017.

With an increasing number of international nations the extend of the exercise is still developing and is currently the largest air force exercise in the region.

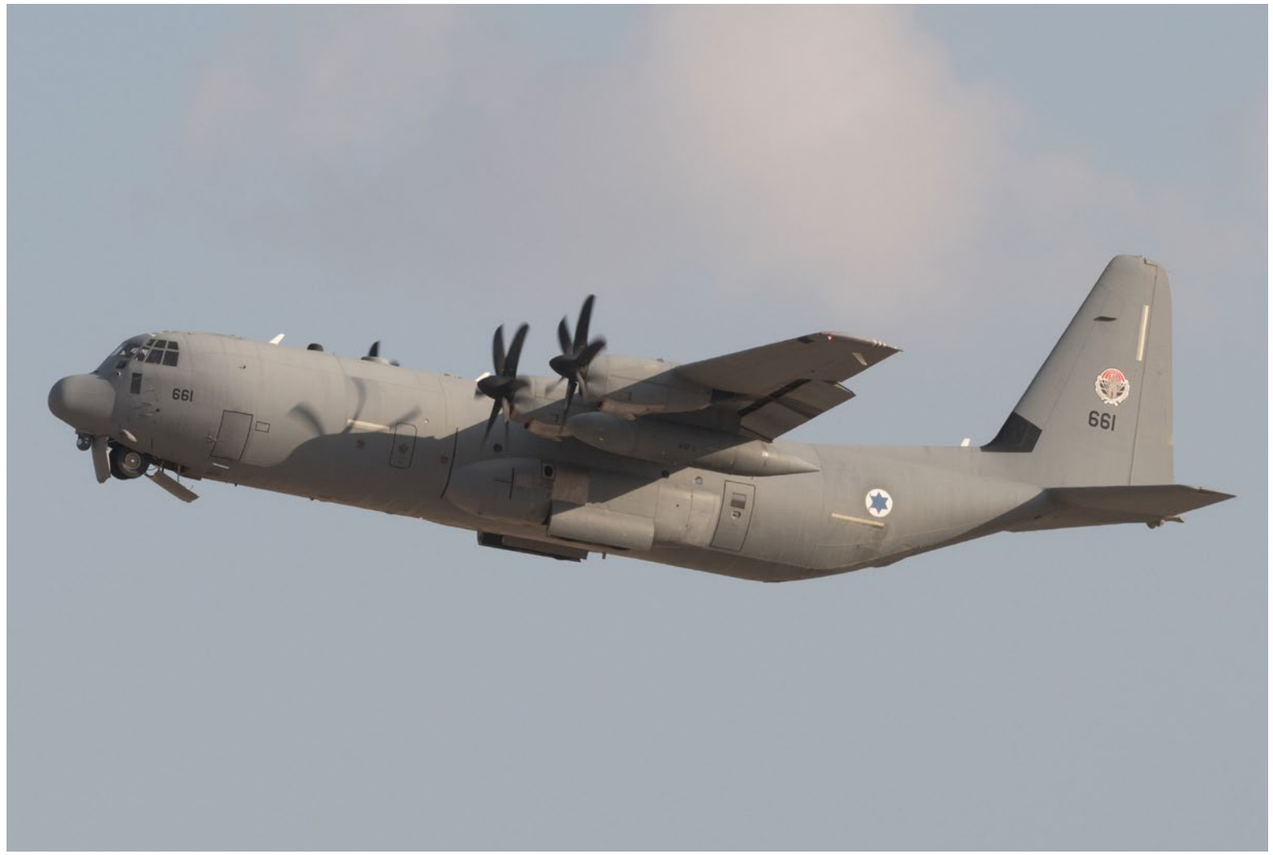
Participants

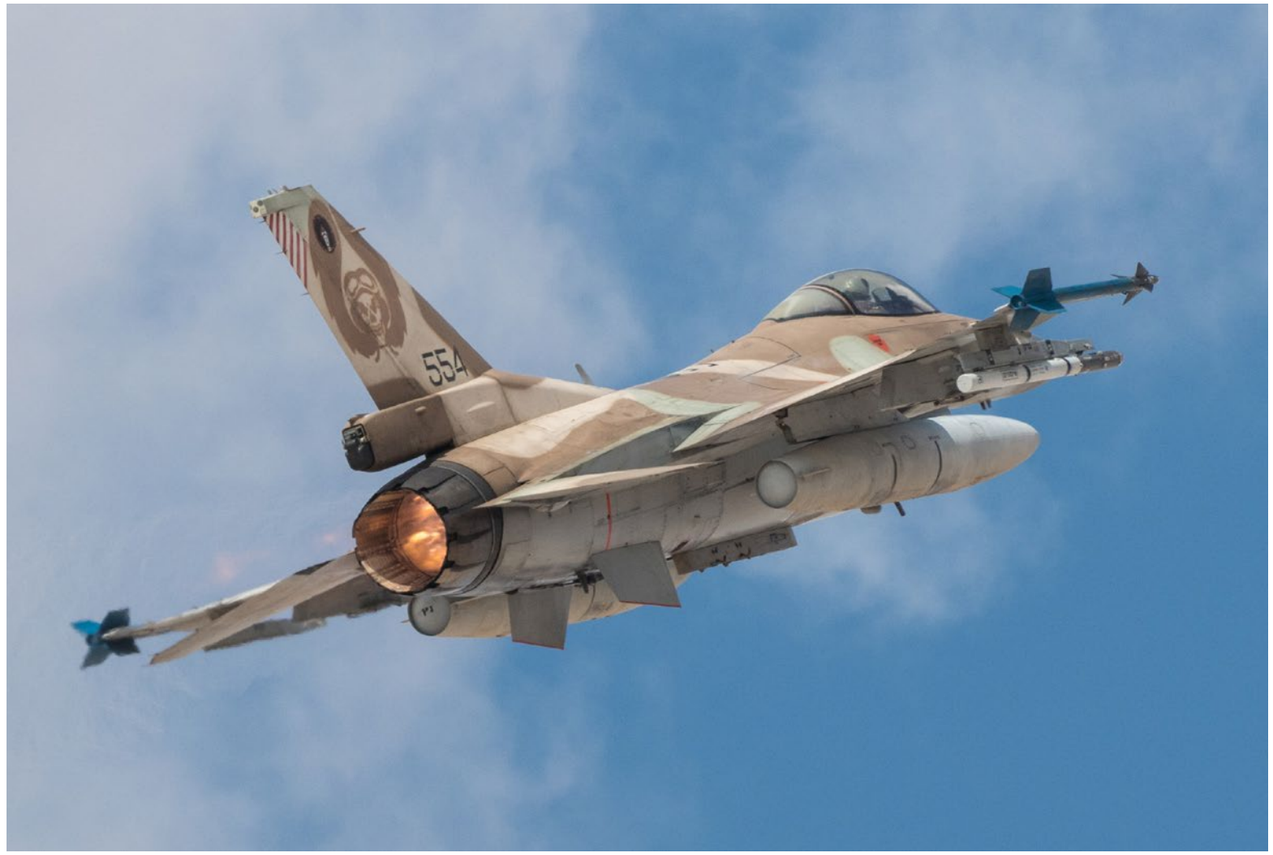
During the 2017 edition of Blue Flag a total of seven foreign Air Forces attended to the exercise. Participants from France, Germany, Greece, Poland, Italy, USA and India are participating with both aircraft and personnel.

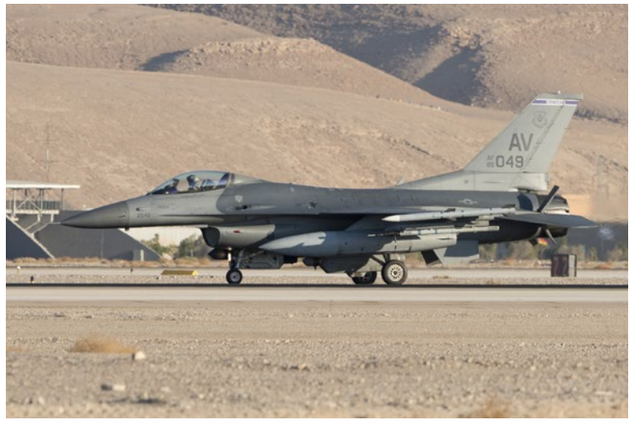
- **German Air Force**
  JG73: EF2000
  EF2000T
- **French Air Force**
  EC03-003: Mirage 2000D
- **Hellenic Air Force**
  335 Mira: F-16C-52CF
  F-16D-52CF
- **Polish Air Force**
  6.ELT: F-16C-52CF
  F-16D-52CF
- **Italian Air Force**
  6 Stormo: Tornado IDS
  Tornado ECR
- **United States Air Force**
  510 FS/31 FW: F-16CM
- **Indian Air Force**
  77 squadron: C-130J

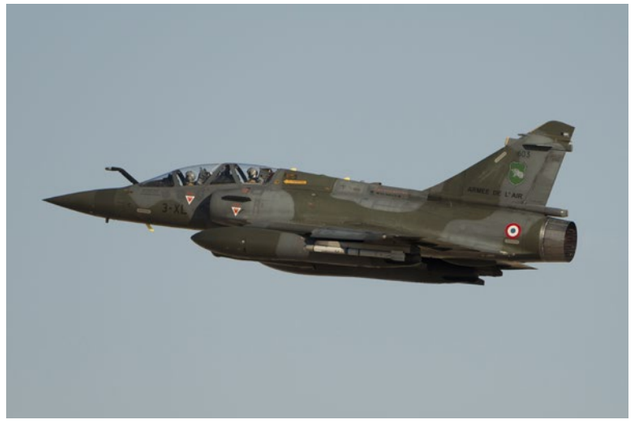
The Indian Air Force deligation is limited to a single C-130J to perform droppings of Gurad Commandos, a special forces unit of the Indian Armed Forces.

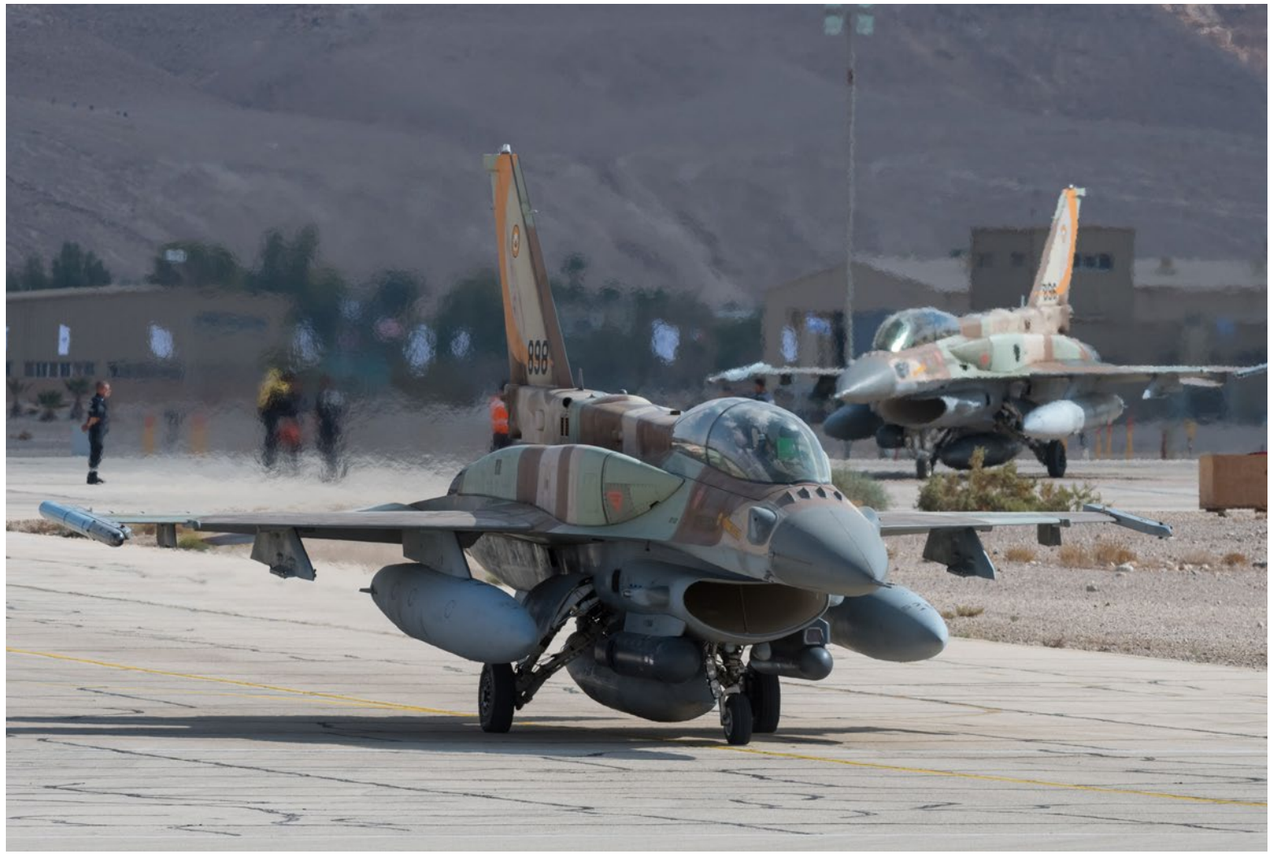
Blue Air is tasked with protecting the C-130J by performing Combat Air Patrol (CAP) strategy while Red Air is tasked with preventing Blue Air from succeeding. Unlike all other units this aircraft operated from Nevatim AFB.

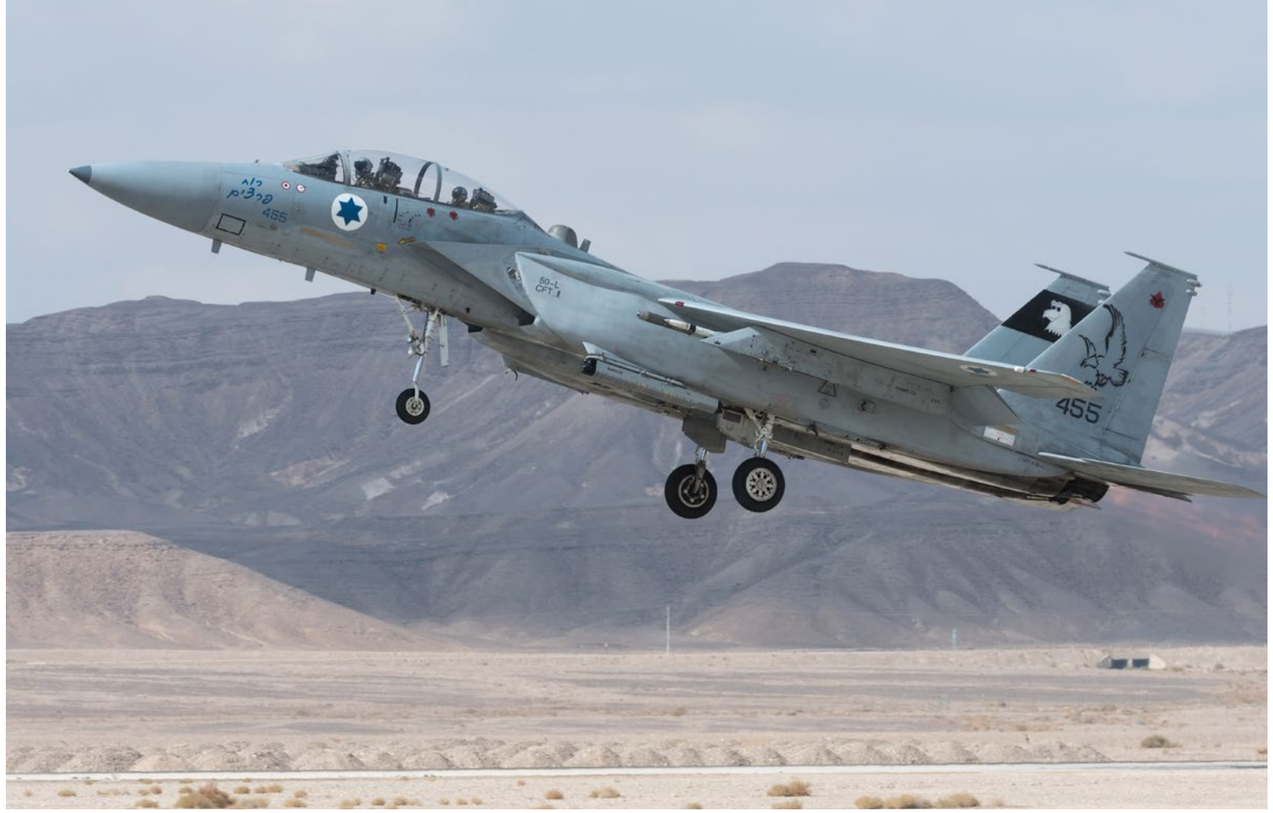












The home team

AlthoughThe Israeli Air Force participates with a large number of their own squadrons.

- **Israel Air Force**

No. 101 sqn:	F-16C-40-CF-Barak
No. 106 sqn:	F-15A Baz
	F-15C Baz
	F-15D Baz
No. 107 sqn:	F-16I Sufa
No. 110 sqn:	F-16C-30CF Barak
No. 115 sqn:	F-16C-30CF Barak
No. 117 sqn:	F-16C-30CF Barak
No. 119 sqn:	F-16I Sufa
No. 133 sqn:	F-15A Baz
	F-15C Baz
	F-15D Baz
No. 201 sqn:	F-16I Sufa

Most of the squadrons have been operating from Ovda Air Force Base. It was mentioned that No. 110 squadron, No. 119 squadron and No. 201 squadron were also participating operating from their home base, but remained unconfirmed.

Preparations

The preparations of the Blue Flag exercise started a year ago. A year before the exercise commences the Israeli Air Force aircraft were selected and are submitted to an extensive maintenance program.

The participating squadrons are selected and the aircrews receive their initial instructions working up to the actual exercise. These preparations also include the practice of take offs and landings using only the English language in order to prepare the aircrews for the large scale international exercise.

An exercise of this extend also requires a thorough preparation of all logistical processes during the extend of the exercise for both the domestic and the foreign participants. Ground services have to be available as well as full fuel reserves for the duration of the exercise. During the last year the hardened aircraft shelters have been renovated as well.

Exercise objectives

The strategic objective of the Israeli Air Force is the development of military cooperation between the Israeli Air Force and the international nations in order to cope with future hostile threats.

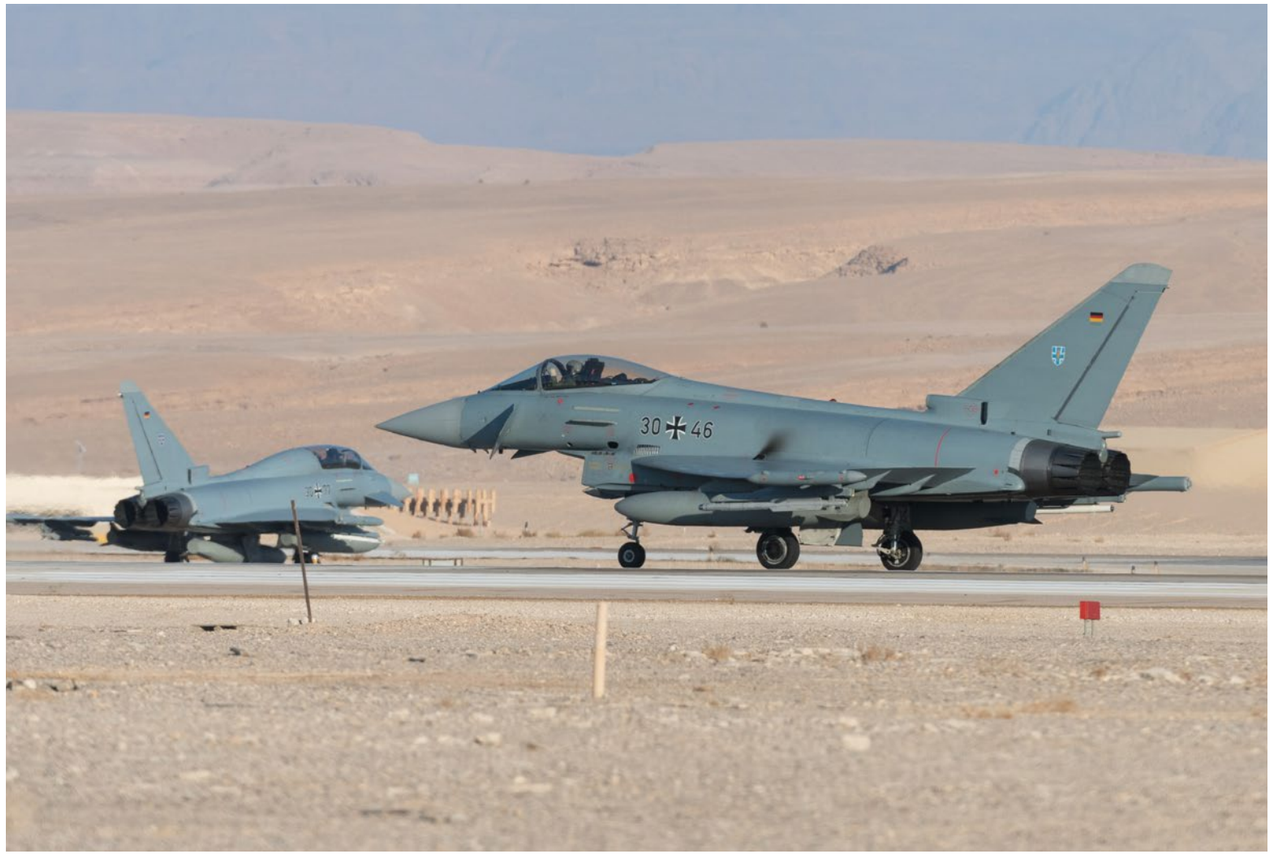
The main objectives of the Blue Flag exercise are the joint training of real time mission scenarios in air tactics and the exchange of experiences between the participating nations with the purpose to develop the skills of the aircrews of the various nations.

By operating together during the daily sorties military doctrines are shared and experiences are exchanged. Throughout the course of the exercise extreme combat scenarios are simulated, while operating in a coalition force, in order to be able to cope with the future developments of hostile coalitions and to be able to effectively counter any enemy force.

The entire exercise is led by the air boss who is responsible for all sorties and the overall safety during all scenarios. The air boss has the disposal over the military air traffic control and airborne early warning and control capabilities.

The exercise simulates realistic air to air and air to ground missions by means of pre-determined scenarios. Each day comprises two sorties in which a different mission leader is appointed to lead the designated sortie. During each mission the “Blue Air” forces can expect hostile actions from the opposing “Red Air”. During the entire extend of the exercise no live ordnance is being used.

During each sortie the entire southern air space of Israel is closed south of Jeruzalem to Ovda and the borders of the surrounding countries. As a result the civilian air traffic is redirected to different routes and the remaining military air traffic not participating in the exercise is limited to the periods of time there are no flying activities during the “Blue Flag” exercise.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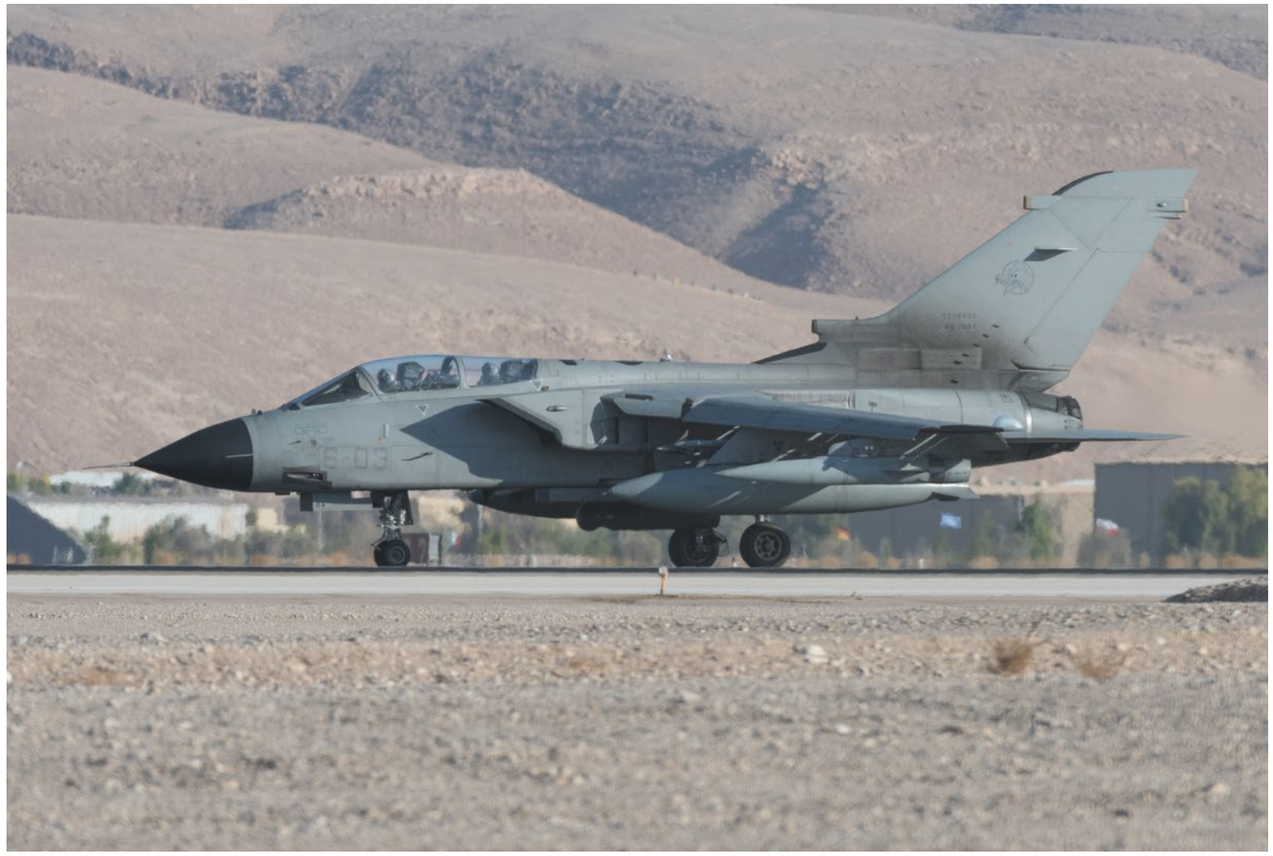
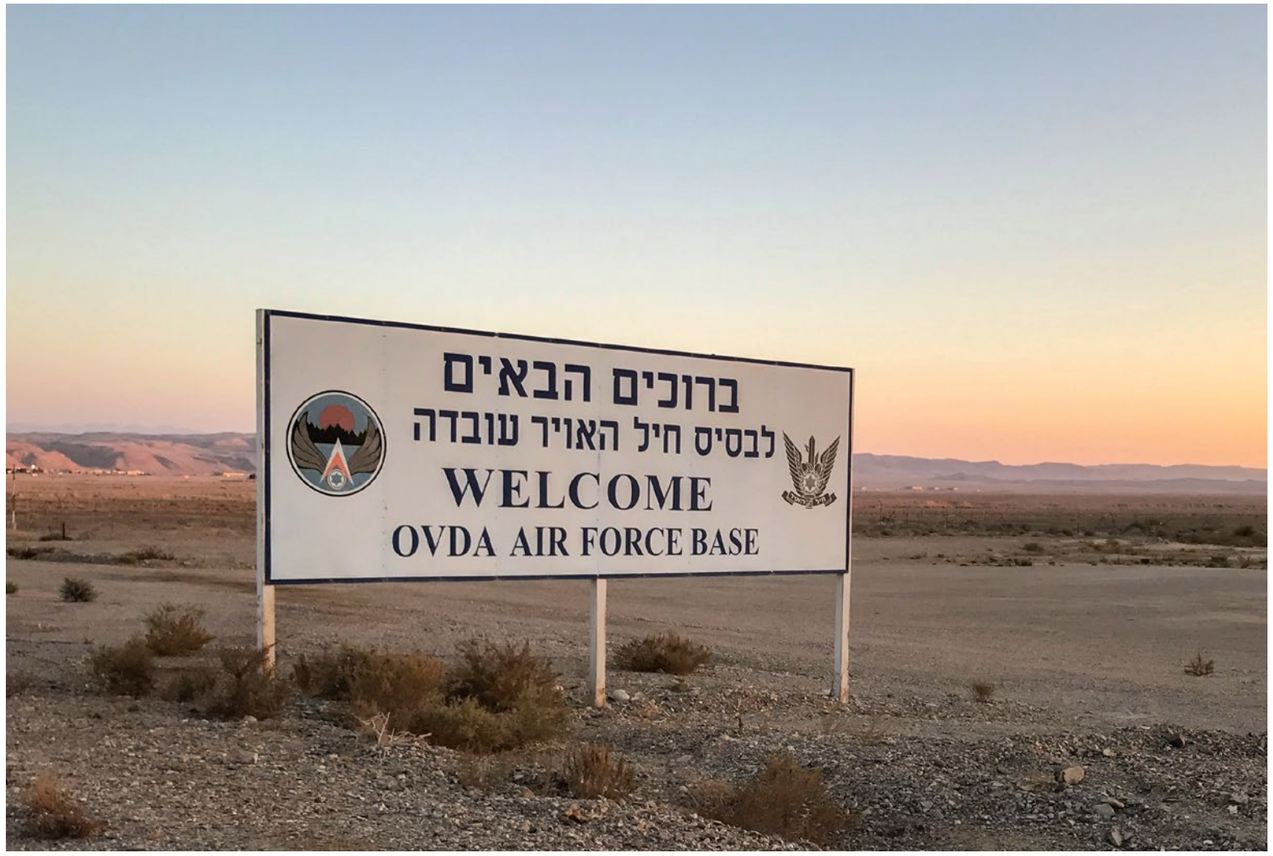
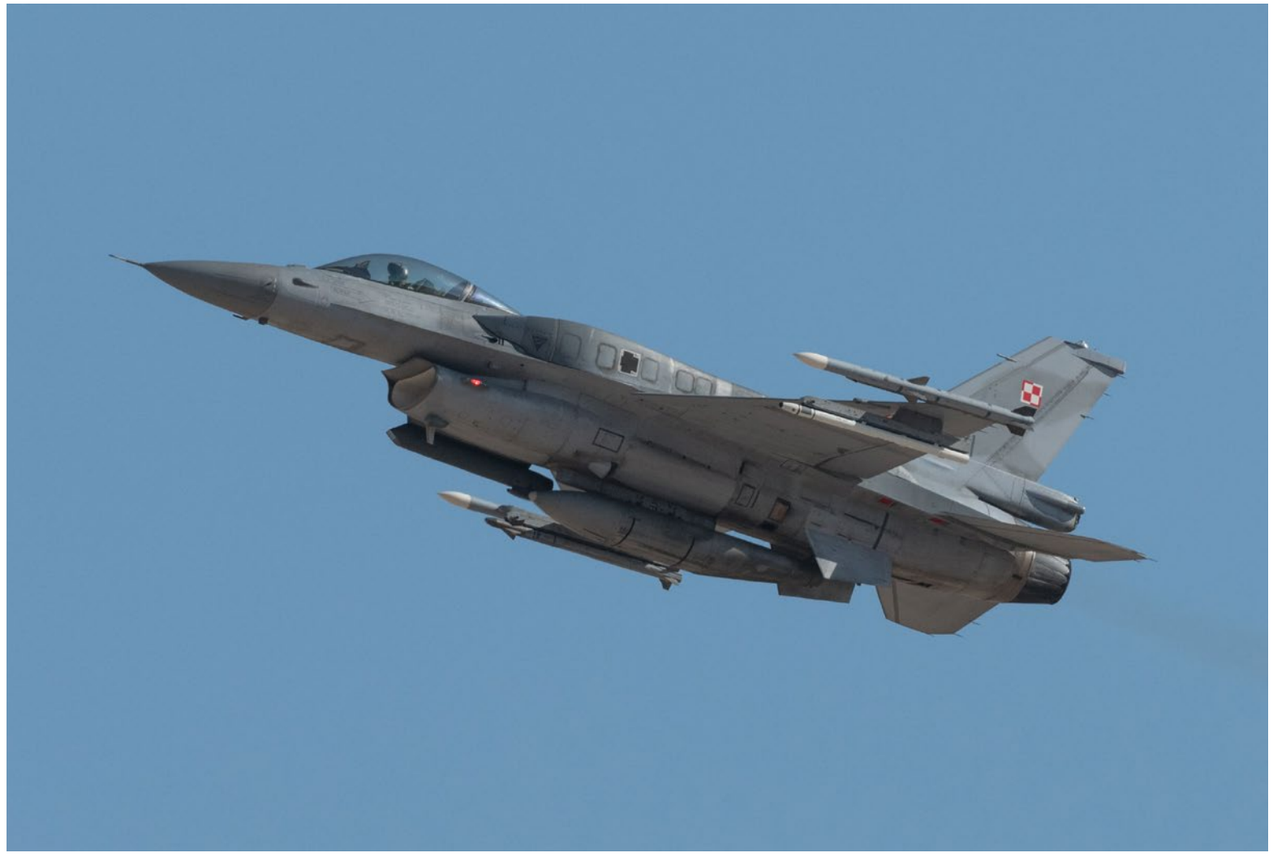



ברוכים הבאים
לבסיס חיל האויר עובדה
WELCOME
OVDA AIR FORCE BASE



Aggressors

The exercise includes the No. 115 “Flying Dragons” as the aggressor squadron, supplemented with assets from other Israeli Air Force squadrons participating in the exercise, and several air defense assets like patriot systems positioned throughout the Southern territory of the country simulating an actual threat situation. The “Flying Dragons” have been trained in simulating several opposing air forces tactics and present an as real as possible presentation with the purpose to train the participating squadrons.

The “Red Air” assets and the “Blue Air” assets both conduct their daily pre-flight brief separately. During each brief the rules of engagement are provided with a strong focus on flight safety. As a result the “Blue Air” forces do not know what they will encounter on “Red Air” forces besides the planned scenario selected for that specific sortie.

After each sortie an evaluation takes place where one representative of “Red Air” will participate the “Blue Air” debrief and will answer all questions there might be.

Exercise course

The Blue flag exercise is organized during a two week period and the course of the exercise is built up in several stages. The first week is used as a familiarization training for the foreign participants to acclimate to Israeli air space, the Ovda airbase procedures and for all participants to build up the intensity of the daily sorties. After the familiarization is completed defensive counter air missions are conducted and the intensity during the first week is further increased by a “Blue air” versus “Blue Air” exercise without the projection of the opposing aggressor capabilities.

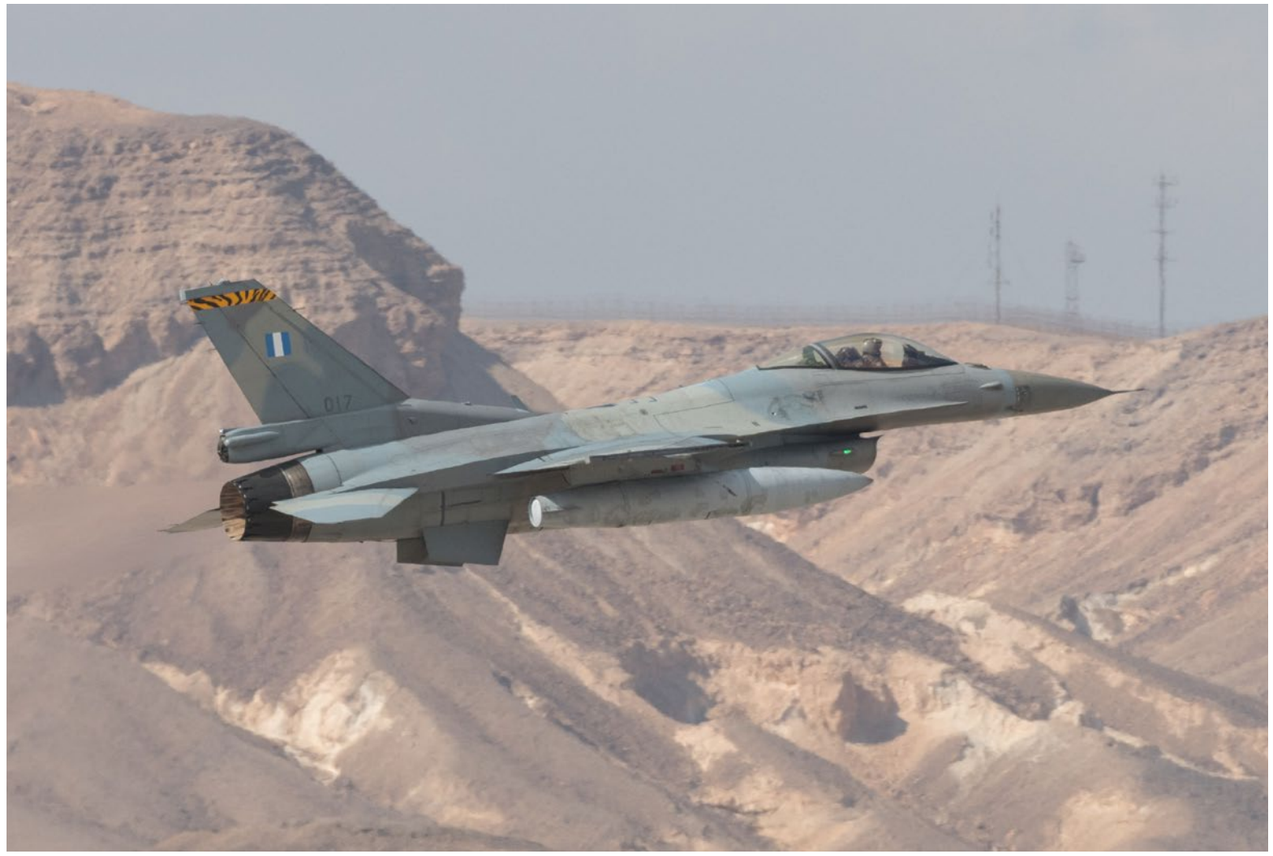
Different missions

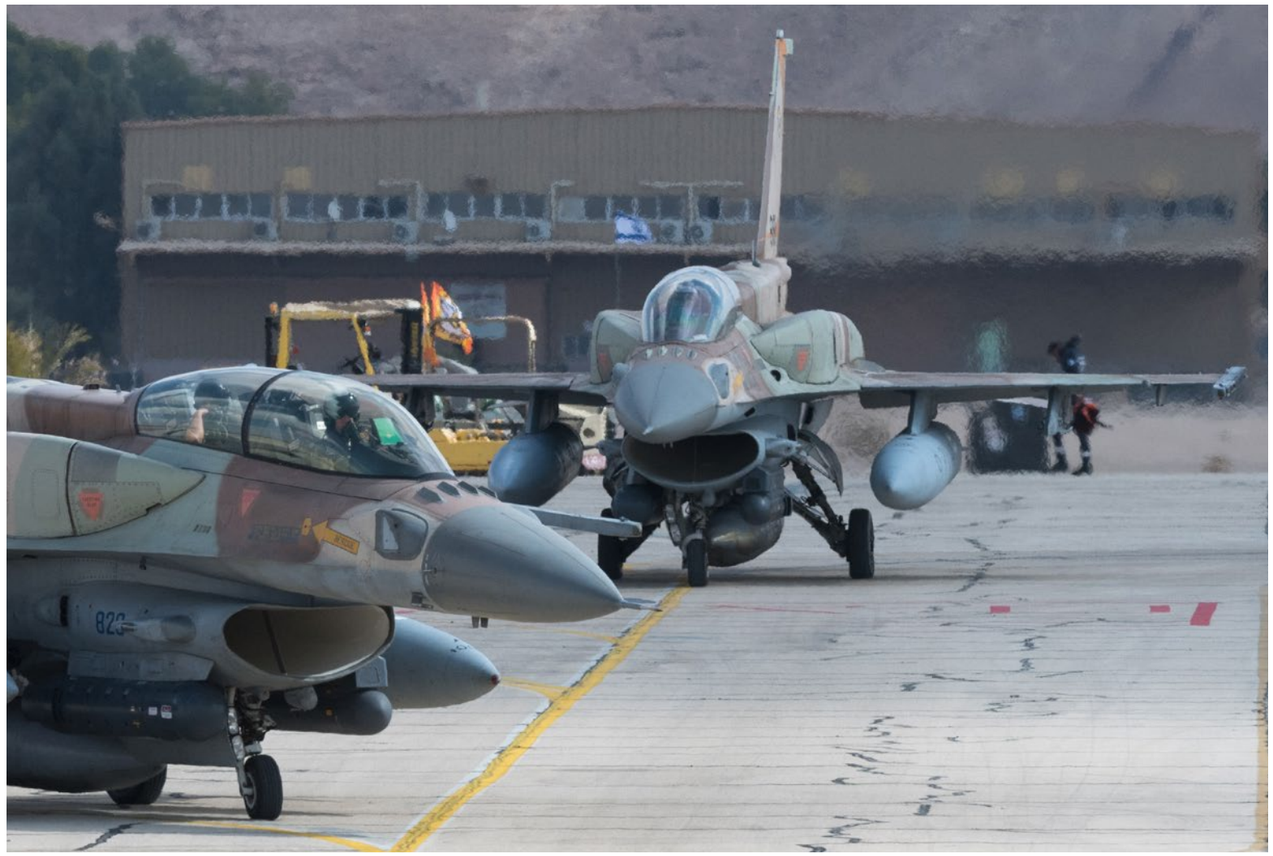
The second week comprises a complex military campaign including the opposing aggressor forces. These opposing forces are projected by means of surface to air missile batteries including the use of shoulder fired missiles in combination with the aggressor aircraft assigned to “Red Air” presenting a scenario which requires the “Blue Air” forces to synchronize the different weapon systems in the different types of aircraft in order to understand and defeat the “Red Air” Forces.

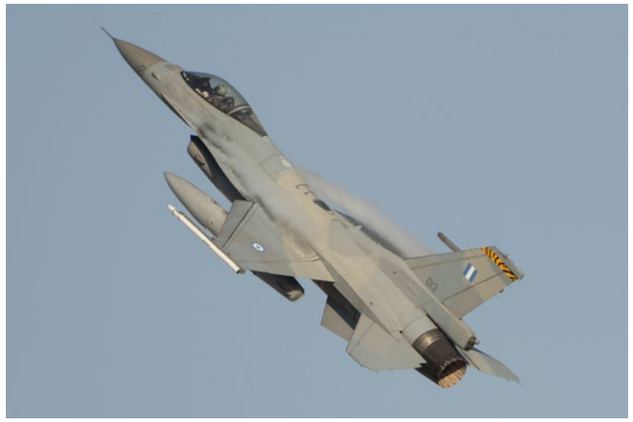
During these scenarios other forces including the use of helicopters, the application of electronic warfare assets, heavy military airlift and airborne air traffic control, in order to train the participants in mission support capabilities and other active combat divisions in the area of operations. Both night time missions and aerial refuelling missions are included as well initially during two full days of small force exercise sorties succeeded by the last day in which a large force exercise sortie is projected in which the full scale scenario is projected.

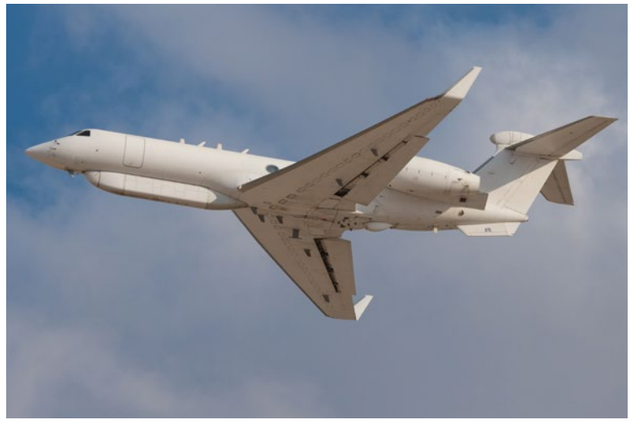
Conclusion

By organization of this great exercise, Israel is clearly looking for a coalition to maintain itself in a turbulent Middle East. The deteriorated relationship between Iran and Saudi Arabia will affect Israel somehow. In that case clear allies and a streamlined operation are indispensable.





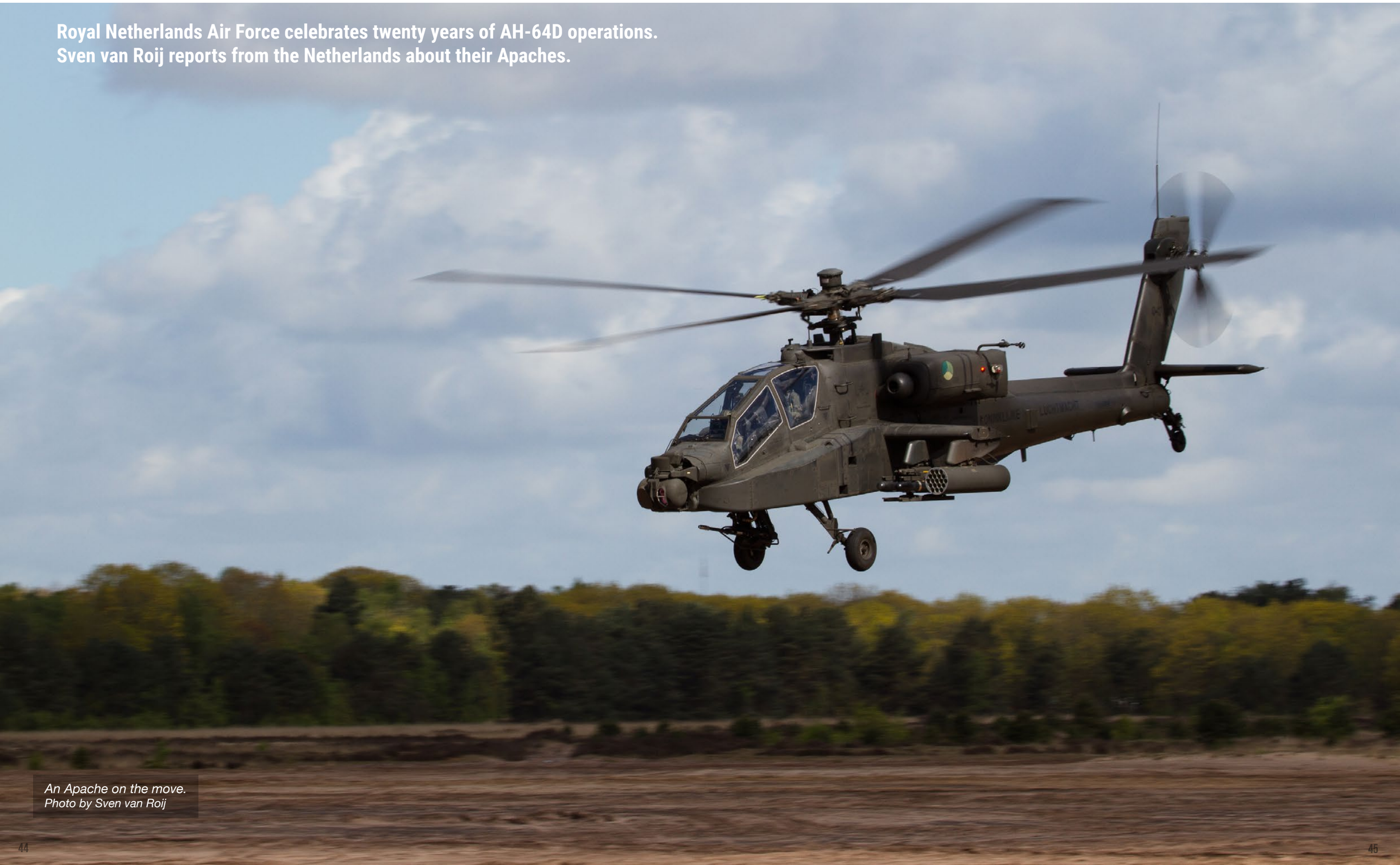




A DOUBLE DECADE OF DUTCH DELTA

TEXT & PHOTOS - SVEN VAN ROIJ

Royal Netherlands Air Force celebrates twenty years of AH-64D operations. Sven van Roij reports from the Netherlands about their Apaches.



An Apache on the move.
Photo by Sven van Roij

A double decade of dutch delta

At the end of the Cold War, the demand for an attack helicopter arose for the Royal Netherlands Air Force (RNLAF). The tender procedure was complicated and caused a tough political battle in which various Dutch ministries were directly opposed. After much lobbying, the American AH-64D Apache was chosen as the most suitable candidate for the West European country.

Since its introduction twenty years ago, the type has been deployed worldwide for a variety of tasks, including combat operations, armed reconnaissance and air policing operations. To the general public, the 'Dutch Delta' became known during its legendary flight demonstrations of the RNLAF Apache Demo Team. After years of heavy cutbacks and ongoing deployments, the tide seems to be turning for the RNLAF. With an approval of the US State Department to remanufacture the entire Apache-fleet, the attack helicopter will remain in service for many years.

The first battle

In the nineties, the Netherlands was in need of a rapidly deployable unit which could operate in worldwide missions. The 11th Air Mobile Brigade, a light infantry combat unit, was established in 1992 to meet this demand. With establishment of the unit, the helicopter fleet of the RNLAF quickly expanded with CH-47D Chinooks and AS532U2 Cougars. In order for these new transport helicopters to operate safely, the purchase of a versatile attack helicopter became necessary.

The Dutch MoD therefore send five manufacturers a request for quotation on 10 December 1991. The ministry showed interest in the Agusta A129 Mangusta, the Bell AH-1W Super Cobra, the Eurocopter EC-665 Tigre, the Boeing/Sikorsky RAH-66A Comanche and the McDonell Douglas AH-64 Apache. The Comanche was quickly declined as a possibility, since the type could only be operational from 2002 onwards.

The RNLAF showed a strong preference for the Apache since the type had proven itself during various deployments, including the conflict in Panama and actions in the Gulf War during Operation Desert Storm. In addition, the Apache was already in production and the helicopter could therefore be delivered relatively quickly to the Netherlands. A big advantage, since the RNLAF did not operate an attack helicopter at the time.

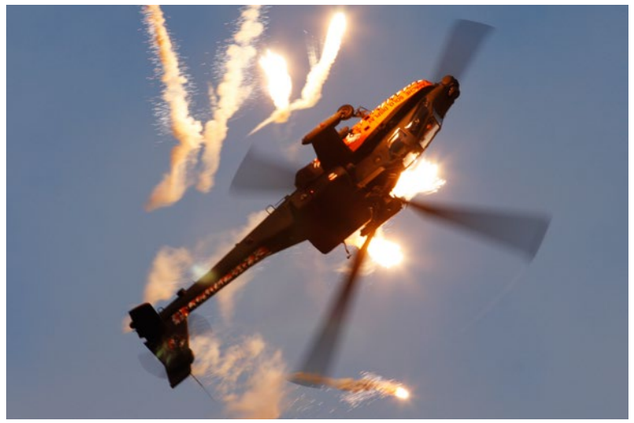
The decision

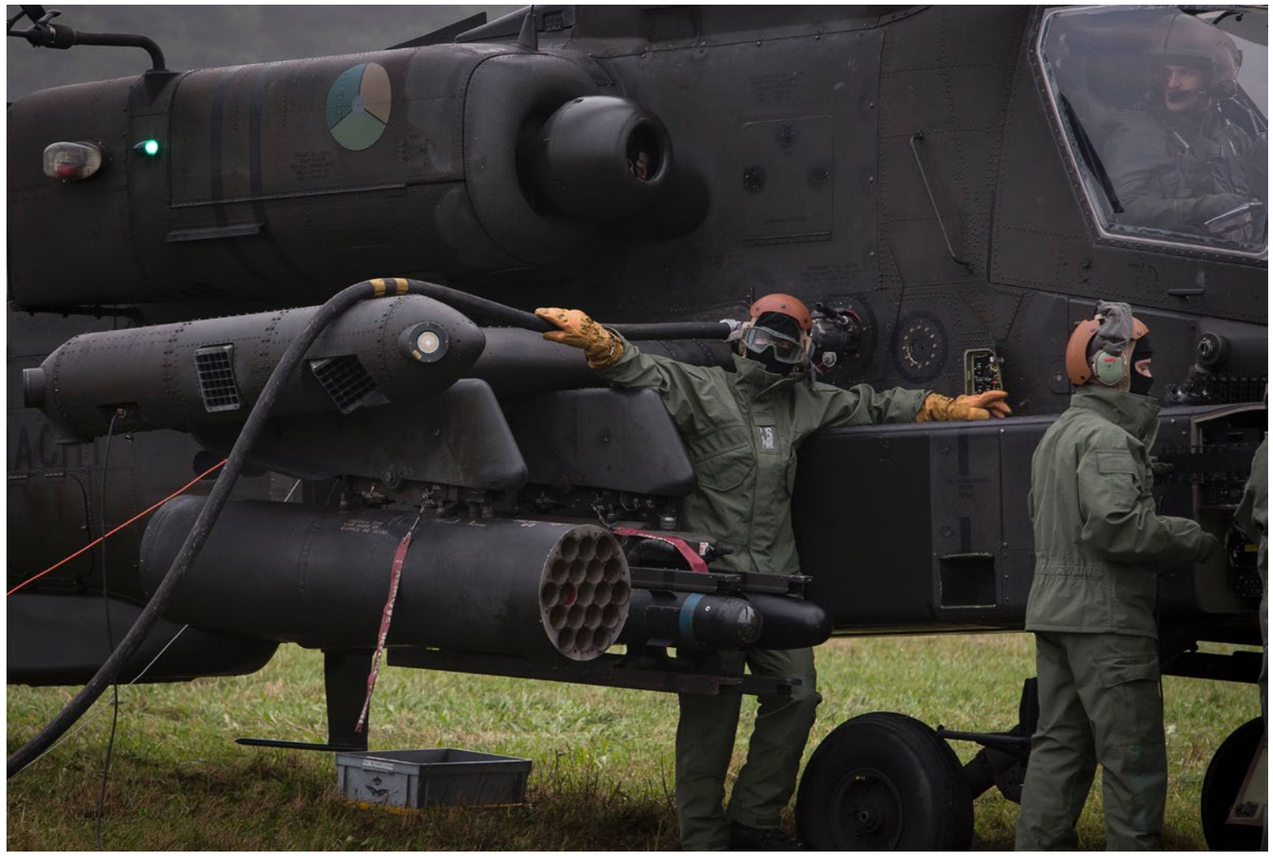
After further investigation, the Royal Netherlands Air Force decided the Super Cobra and the Mangusta did not meet their requirements. The development risks of the Mangusta were too big and the Super Cobra had to many limitations. Thus it became a race between the Tigre and the Apache. Despite the preference of the Dutch MoD, the battle for the new helicopter had not been fought yet. There was a political preference on the French-German built Tigre. After all, purchasing a helicopter from a European manufacturer would be another step towards European military cooperation.

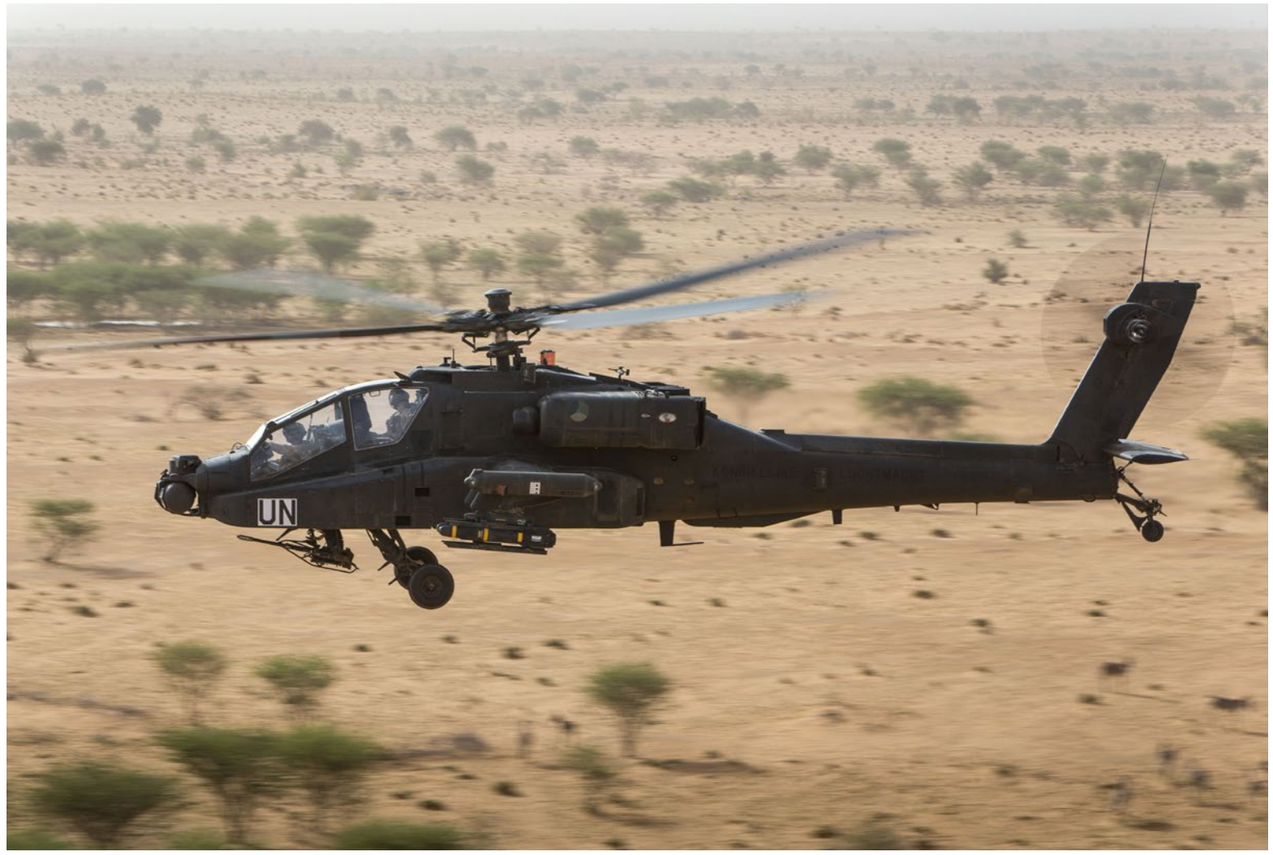
In the spring of 1995, the Dutch House of Representatives decided to purchase thirty AH-64Ds. The representatives underpinned their choice on the fact the Apache had, in contrast to the Tigre, already proven itself in the field. The Tigre was still in development and not in production yet, only a few flying prototypes were in use.

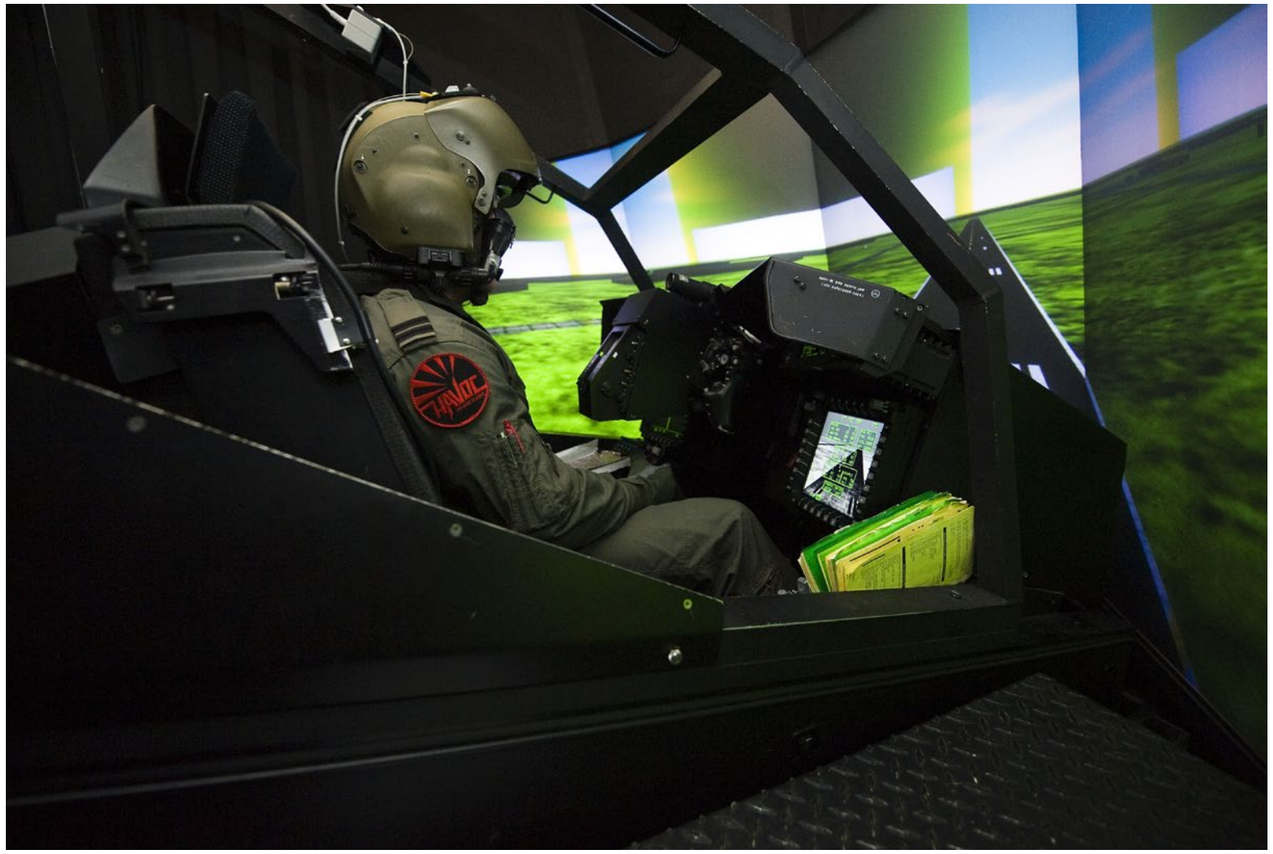
The low dollar exchange rate, due to the Mexican crisis, was a decisive factor as well. The order of Fl.1,3 billion (approximately €589 million/$725 million) was signed at Gilze-Rijen AFB on May the 24th, 1995. With the signing of the contracts, the Netherlands became the first country to place an order for the Delta-model, after the United States.

Later it would appear the decision to purchase the Apache would be well-founded since the first operational deployment of the Tigre was only in 2009. No less then eight years after the first deployment of Dutch Apaches, to Djibouti in 2001. If the Dutch armed forces had opted for the Tigre, several missions would have been jeopardized due to the lack of Close Air Support (CAS) by attack helicopters.









The arrival of the Alphas

To bridge the delivery of factory new AH-64Ds, a Letter of Offer and Acceptance (LOA), was signed. The LOA allowed the RNLAF to lease twelve AH-64As of the 7th Army of the United States Army Europe (USAREUR).

There were no costs associated with the lease. Only the operating costs of the aircraft were at the expense of the Dutch government. The Dutch Ministry of Finance unfortunately claimed import duties had be paid on the American Apaches, since the helicopters were temporarily based in the Netherlands. As a result, the cost of the deal rose unexpectedly by Fl.2.5 million (€1.1 million/ $1.35 million).

Mid-November 1996, the twelve Alphas were flown to the Netherlands from Hanau, Germany. During inspections at Gilze-Rijen, it appeared the technical condition of the helicopters was not optimal since the German-based helicopters had been stored outside and had made many flying hours. After several inspections the aircraft were released to the squadron.

With the arrival of the first Apaches, a new era began for the RNLAF. Until 1996, the Netherlands only operated helicopters suitable for liaison flights, command and control flights and light transport tasks. With the arrival of the AH-64A, combat ops could be carried out. This meant a big turnaround and retraining for military personnel. Ground personnel, technicians and pilots were trained on the new type in the USA. Airmen came from various other helicopter types but were also drawn from other units of the Dutch Armed Forces.

The first factory-new AH-64D Apache was officially handed over to the Netherlands at the McDonnell Douglas plant at Mesa, Arizona, in May 1998. In the months to follow, the aircraft were shipped to the European mainland, where they unloaded in the port of Antwerp. The first two Deltas landed at Gilze-Rijen AFB on July the 13th 1999. With the arrival of the Dutch Apaches, the leased Alpha-models were handed back to the USAREUR. The last AH-64A left the Netherlands on February 19th, 2001. The RNLAF had flown just under 6000 hours with the type. In August 2002 the last two AH-64Ds arrived on Dutch soil.

Training

With the arrival of the Apache, the selection and training program for aircrew changed. Gilze-Rijen received a Longbow Crew Trainer (LCT). The LCT, assigned to the 299th (Training) Squadron, consists of two separate cockpit parts with dynamic motion cueing seats in which pilots can practice various realistic scenarios. The simulator saves money, aircraft maintenance, resources and fuel but also reduces the noise pollution in the densely populated region of the airbase. The trainer also offers the possibility to practice emergency procedures endlessly in a safe way.

Before new aircrew start their operational career at one of the flights of the Redskin-squadron, they have been through military training for several years. After a strict selection procedure, initial test fase and basis training, the future officers start their military training at the Royal Military Academy (KMA) in the city of Breda. After the KMA, the cadets leave for Woensdrecht Airbase to start their Elementary Military Flight Training (EMVO) at 131 squadron. The theoretical training lasts 22 weeks after which the students will fly approximately 30 hours on the Swiss-built Pilatus PC-7 Turbo Trainer. The PC-7 training continues during the Advanced Flight Training (VVO). Following, the students leave for the United States to go through the Initial Entry Rotary Wing Course (IERW) at the Fort Rucker in Alabama.

The twenty-two-week IERW is the first introduction to helicopter flying, involving a total of 75 hours on the UH-72A Lacota. After a successful completion of the course, students receive both the Dutch Aviation Wing and the US Army Aviation Wing. After receiving their Wing, the pilots are introduced to the Apache for the first time during the Aircraft Qualification Course (AQC).

Then the students return to the Netherlands for a short time. At Gilze-Rijen AB, they receive their type of rating at the BOL (Bureau Opleidingen Luchtvarenden – Airmen Education and Training Office). This training is partly similar to the training in Fort but is a requirement of Dutch MLA (Militaire Luchtvaart Autoriteit – Military Aviation Authority). After their training at the BOL, the students return to the USA for the Mission Qualification Training (MQT) at Fort Hood in Texas.

The AH-64 can fly day and night.

Photo by Sven van Roij

The return to the Netherlands

The MQT is provided by the Dutch 302 squadron which operates eight Apaches and four Chinooks. These aircraft are permanently based at Hood Army Airfield – Fort Hood – for training purposes. In this part of the program, students learn to operate the AH-64D as a weapon platform and train their formation flying skills. Over 60 hours are flown on the type during the MQT.

After the MQT the trained pilots return to the Netherlands. Depending on his or her personal growth, a RNLAF Apache-pilot can move from the backseat to the frontseat after about two years of operational flying. This makes the frontseater the most experienced pilot and therefore the Pilot in Command (PIC), in contrast to some other users of the Apache.

During a deployment, the PIC operates the weapon systems, takes care of communication, navigation and determines whether weapons will be used. The pilot in the backseat takes care of the technical execution of the flight and monitors the sensors of the Apache. However, many of the tasks can be performed by both pilots.

The AH-64D

The MQT is flown on Dutch AH-64Ds since these helicopters differ from those of other users. The Dutch Delta is known as the “Radarless Longbow”. In addition, the IR-jammer on top of the fuselage is only mounted on the RNLAF aircraft during missions abroad. For self-protection, the helicopters are equipped with a Laser Warning Receiver, and the AMASE (Apache Modular Aircraft Survivability Equipment) system. The system is attached to pods on both wings. Each pod also houses two flare dispensers.

The basic AMASE-configuration was introduced to the RNLAF Apache-fleet in 2004, giving the helicopters 360-degrees of protection. Two years later, between 2006 and 2007, tests were carried out with the Directed Infra-Red Countermeasures (DIRCM) to protect the Apaches even better against Man-Portable Air Defense Systems (MANPADS). Despite successful test results, the DIRCM was never introduced or built into the AMASE-pods.

5,000 hours a year

In the years that followed, it became necessary to modernize the fleet with the Apache Block II upgrade. In order to pay for the modernization, it was suggested eight helicopters had be taken out of service. This idea was cancelled in May 2008. In the spring of 2013, the Dutch AH-64D upgrade program started since the systems of the Block I helicopters had several limitations. All RNLAF Apaches received their Block II upgrade at Boeing.

Currently, the RNLAF flies about 5,000 hours annually with this type. Of these hours, only twenty-five percent is flown above Dutch territory. The rest of these hours are flown abroad during deployments, training and exercises.

Deployed worldwide

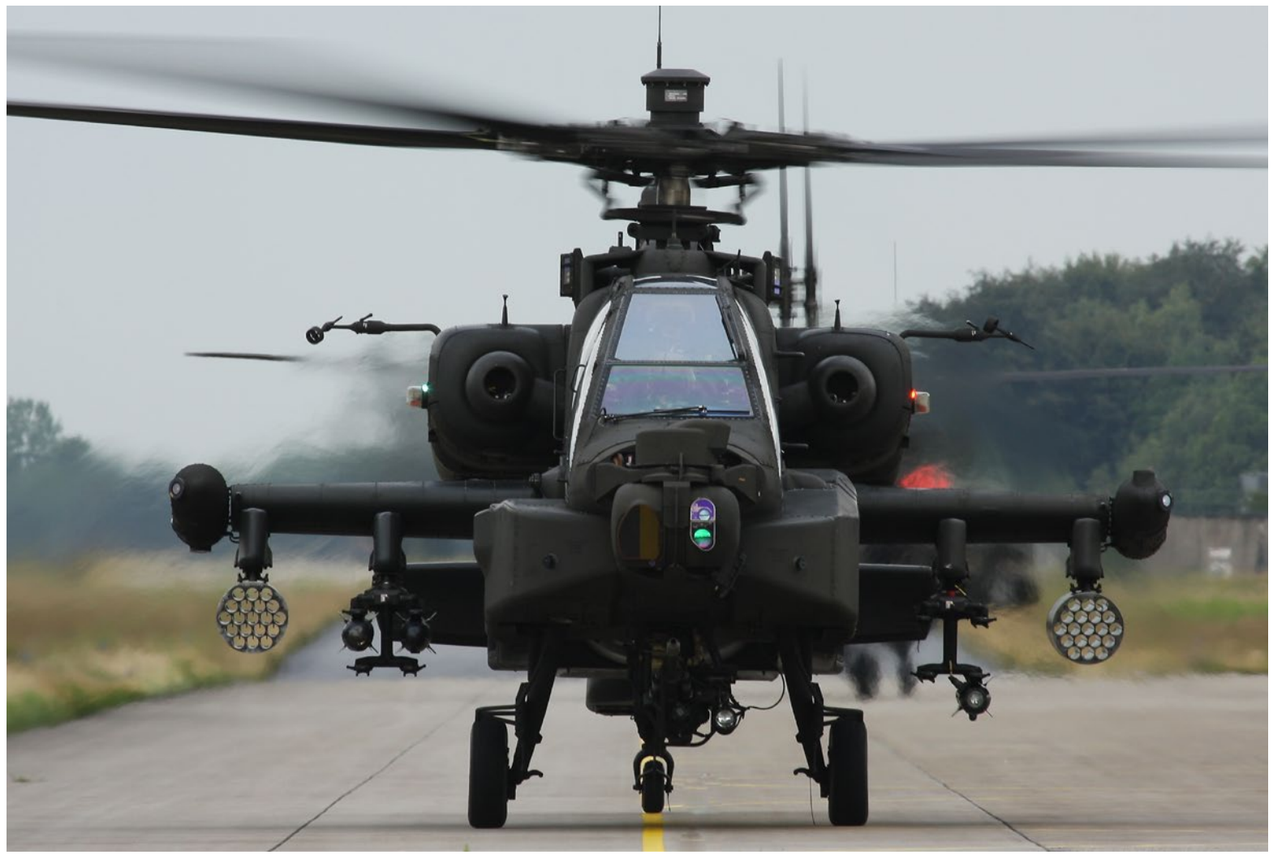
During first deployment of Dutch Apaches abroad, the A-models were still in use. After the RNLAF achieved their Limited Initial Operational Capability during Indian Falcon in Poland, two AH-64As and a small detachment of seven soldiers were sent to Tuzla to support the Stabilization Force (SFOR) in Bosnia.

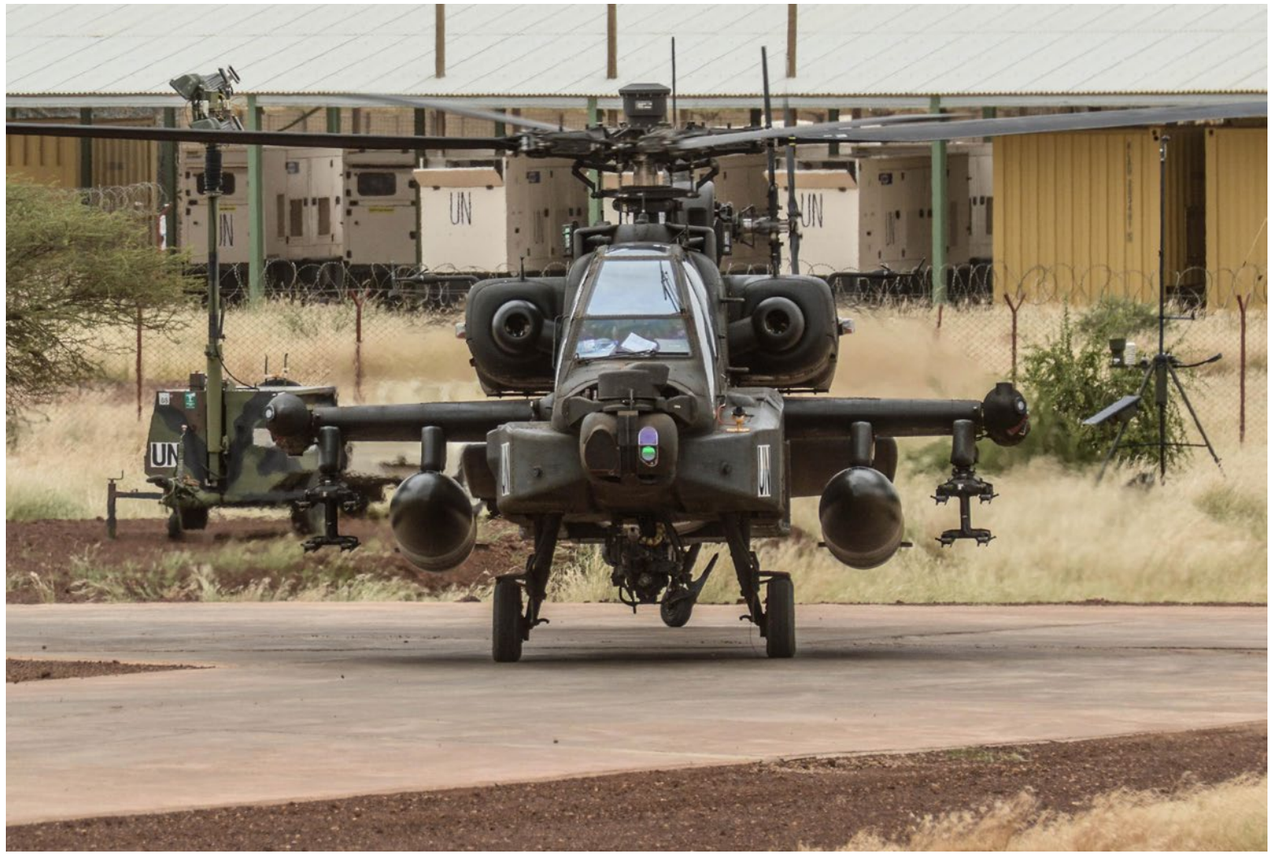
The Redskins flew a total of 332 missions during the SFOR-mission, in which more than 650 flying hours were made.

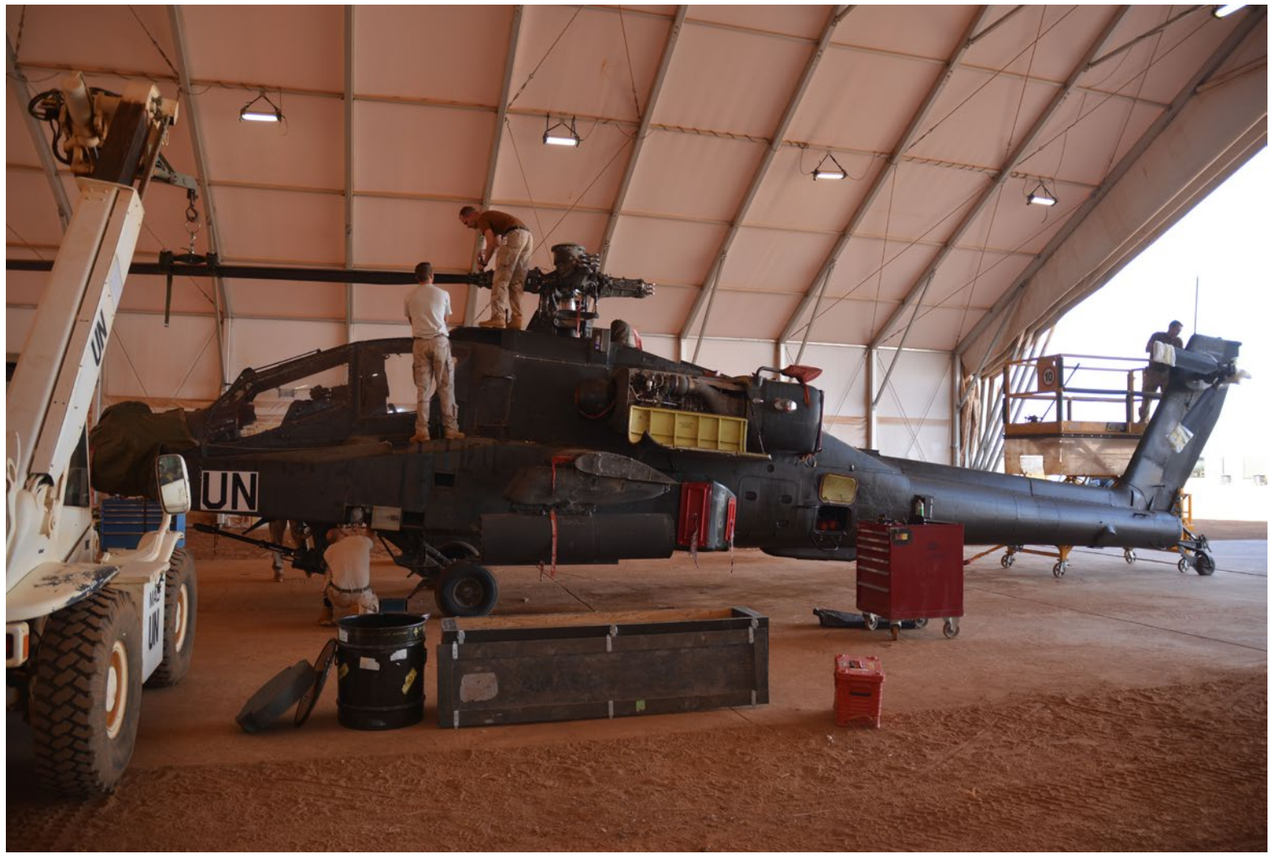
In the spring of 2001, four AH-64Ds and a detachment of 130 soldiers were send to Djibouti in support of the United Nations Mission in Ethiopia and Eritrea (UNMEE). The mission to the east African country became the first deployment of the D-model worldwide.

After this first mission, an intensive period followed with many deployment for the Redskin- personnel. In the spring of 2004, a detachment and six Apaches were send to Kabul – Afghanistan – to support the International Security and Assistance Force (ISAF).

In the same period, the Redskins were deployment to Iraq in support of the Stabilization Force Iraq (SFIR). Subsequently, in May 2004, six Deltas were urgently re-deployed to Iraq to protect Dutch groundtroops in the province of Al Muthanna.







Afghanistan

In April 2006, the Dutch government renewed the contribution of helicopters to the mission in Afghanistan Initially, six Deltas were deployed, later this number was reduced to four. The aircraft operated from Kandahar Airfield (KAF) but mainly operated in southern Afghanistan.

On the 20th of October, these Apaches moved to Tarin Kowt in Uruzgan, where they delivered Close Air Support (CAS) in which they managed to relieve the ground troops during Troops In Contact (TIC) many times.

The most recent deployment of Dutch Apaches was done in the framework of the Multidimensional Integrated Stabilization Mission in Mali (MINUSMA).

Four Apaches were used to gather intelligence and supported Dutch troops on the ground, making them ‘the eyes and ears of the UN’. With this Intelligence, Surveillance and Reconnaissance (ISR) deployment, the RNLAF made an important contribution to the UN mission. In addition, the aircraft provided the Quick Reaction Force (QRF).

During MINUSMA, the AH-64Ds were armed with AGM-114 Hellfire missiles and unguided 2.75-inch missiles. Halfway through the mission, in early October 2015, the Deltas flying for MINUSMA were equipped with the reduced-size crashworthy external fuel system (RCEFS). Due to the large mission area, approximately 12 times the surface area of the Netherlands, the range extenders were a welcome contribution to the UN intelligence mission.

After two and a half years of service, the first two Redskins returned to the Netherlands on January 7th, 2017. The remaining two Apaches returned home three weeks later.

In addition, the RNLAF regularly assists the civil authorities to make a contribution to Dutch society. The powerful sensors of the Apache have been used several times in the recent years to support the police in finding missing persons and locating robbers.

Collisions and accidents

In the past twenty years, the Royal Netherlands Air Force lost two AH-64Ds due to accidents. During the ISAF mission in Afghanistan, the first of two AH-64Ds crashed. The crew lost control of their helicopter when they flew north of Kabul on August 29, 2004. The investigation showed the crash was caused due to a pilot error since the crew did not follow the correct procedures whilst attempting to pass control from the frontseat pilot to the backseat pilot. There was no time to avoid a crash due to the low altitude of 200ft. The aircraft – registration number Q-20 – was damaged beyond repair and one crewmember suffered minor injuries.

On the 17th of March 2015, an Apache crashed in Mali, tragically killing both crewmembers. A technical failure of a component in the control system caused the attack helicopter to crash during a shooting exercise, some 50 kilometers north of Gao. The failure made it impossible for the crew to safely control the aircraft. Due to the technical defect, all Dutch Deltas – including the three remaining in the mission area in Africa – were temporarily grounded until the component in question had been replaced.

Two other Apaches were damaged after they flew against a high-voltage cable during a low-fly exercise at night. The first collision between an Apache and a high-voltage pylon took place in December 2007. The aircrew was able to safely land the Apache, but the collision caused a major damage to the power grid. Over 50,000 households were trapped for days without power. The aircrew was sentenced to community service and fines due to negligence and careless flight preparation.

Almost ten years later, on November the 13th of 2017, another Apache flew against a high-voltage cable during an evening flight training. The cable cutter of the helicopter did its job, leaving more than 24,000 households and companies without electricity for the night. There were no casualties and the pilots safely put the Apache with a precautionary landing in a field.

A crew of two operates the Apache. The pilot and the gunner.
Photos by Sven van Roij

The future

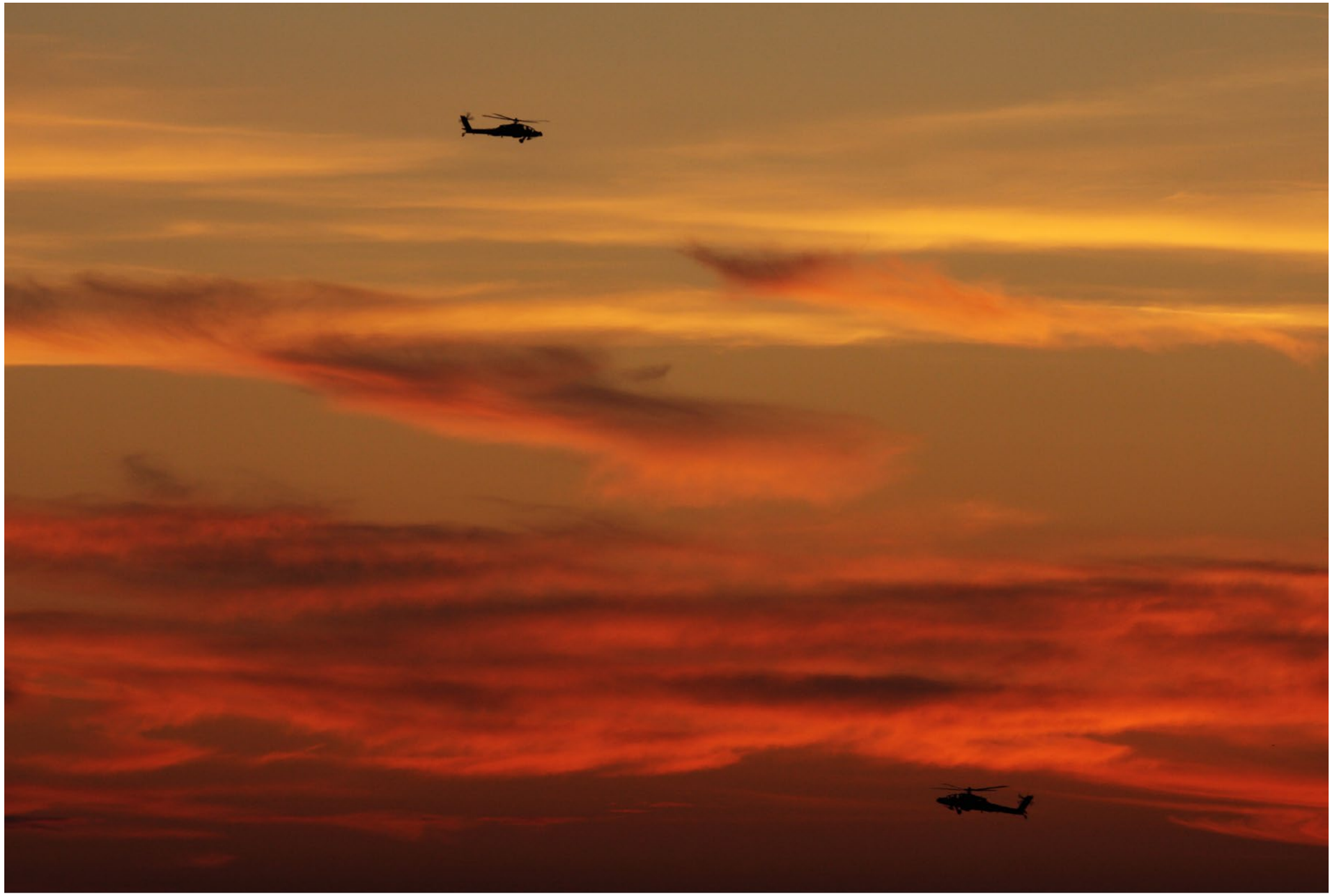
The Apache has proven itself on many continents. From the European mainland to the sandy desert of Mali and from the Iraqi heat to the vast training grounds in Texas.

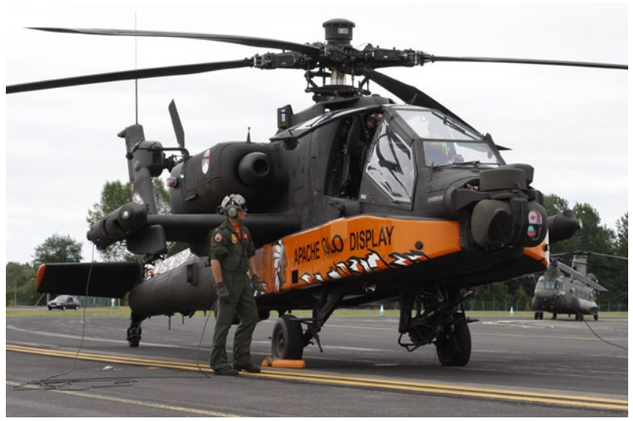
Dutch politicians are aware of the quality of the aircraft and the decent choice made by the Dutch House of Representative in the spring of 1995. This was confirmed by a news release from the US Department of Defense's Security Cooperation Agency (DSCA).

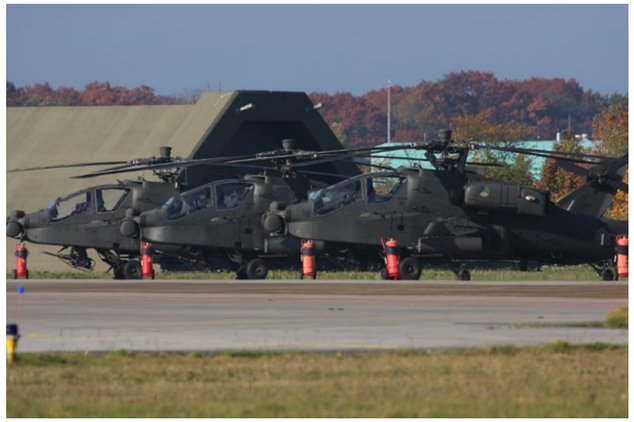
On February the 20th the DSCA confirmed "the approval of a possible Foreign Military Sale to the Netherlands of items and services to support the remanufacture of AH64D Blok II Apache attack helicopters to the AH-64E configuration".

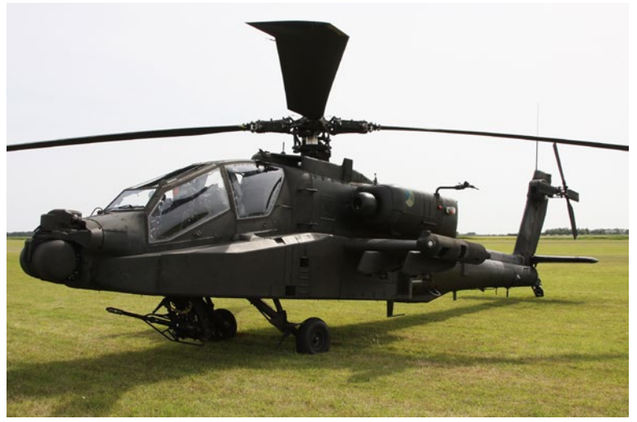
The deal can be closed for an estimated price of $ 1,191 billion with all twenty-eight helicopters still operational, fifty-one engines and many systems, receivers and sensors being upgraded.

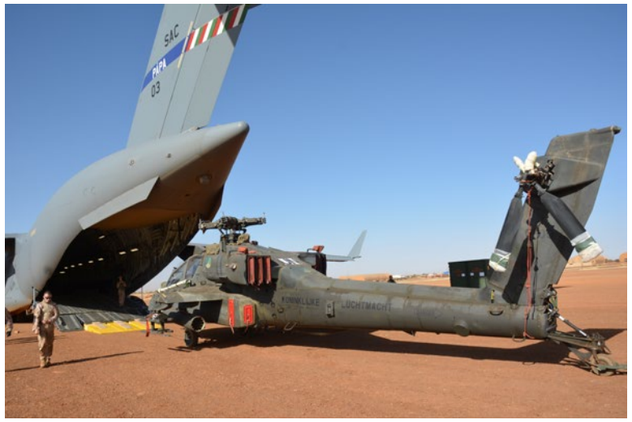
This deal is in line with the development of the RNLAF to become a 'Fifth Generation Air Force', in which the Apache seems to become indispensable for the Dutch armed forces and its allies, in the Netherlands and abroad. The Dutch Defense White Paper of 2018 writes the remanufacture of the Apache is planned from 2022 onwards. However, the deal has yet to be closed.











BREITLING JET TEAM - DRAGON TOUR

TEXT - SHERVIN FONOONI
PHOTOS - TEAM BREITLING / KATSUHIKO TOKUNAGA

Shervin Fonooni reports from the Breitling Jet Team Asia tour, a tour that took them through the far east.

The Great Wall of China makes an epic backdrop for the Breitling Jet Team.
Photo by Katsuhiko Tokunaga

Breitling Jet Team - Dragon Tour

They have not been seen flying in the European sky over the last four years, and for good reason, the Breitling Jet Team (BJT) has been travelling from Fukushima to San Francisco via Siberia. But the team is finally back with many images and anecdotes. Pilots and mechanics wanted to share this unique experience. So, we went to meet them.

Looking at Katsuhiko Tokunaga's images, you can easily imagine their wonder faced with these spectacular landscapes. Nevertheless, everything was not easy, far from it. The team had to do a tour de force to accomplish both missions, especially the Asian Tour. As one listens to their stories, it becomes evident that their adventures are worth of a script by Steven Spielberg.

An extraordinary adventure Tour

While the team ends a tour of the Middle East in 2011, Breitling owner Theodore Schneider talked to Jacques Bothelin and shared an idea with the team leader, one he will never forget: "*Next year, you will learn to eat with chopsticks, because it will be Asia.*" The watch manufacturer wanted to invest in a strong communication and marketing campaign on this continent, and the watchmaker succeeded in its commitment: "*We did not believe it, and finally it was set up. We had a year to prepare for this tour which started at the Zhuhai Airshow in China, and then it led us to travel around all over South-East Asia, Japan, South Korea, take part in airshows in China, Kazakhstan, Moscow...*" summarized Jacques Bothelin. In short, it was an extraordinary adventure of more than 40 000 km of distance, only 1000 km of the Australian coast.

The organization: a challenge

The BJT had to ensure its 2012 European season, then left to the Zhuhai Airshow, in November. there was only one choice: to go there in flight

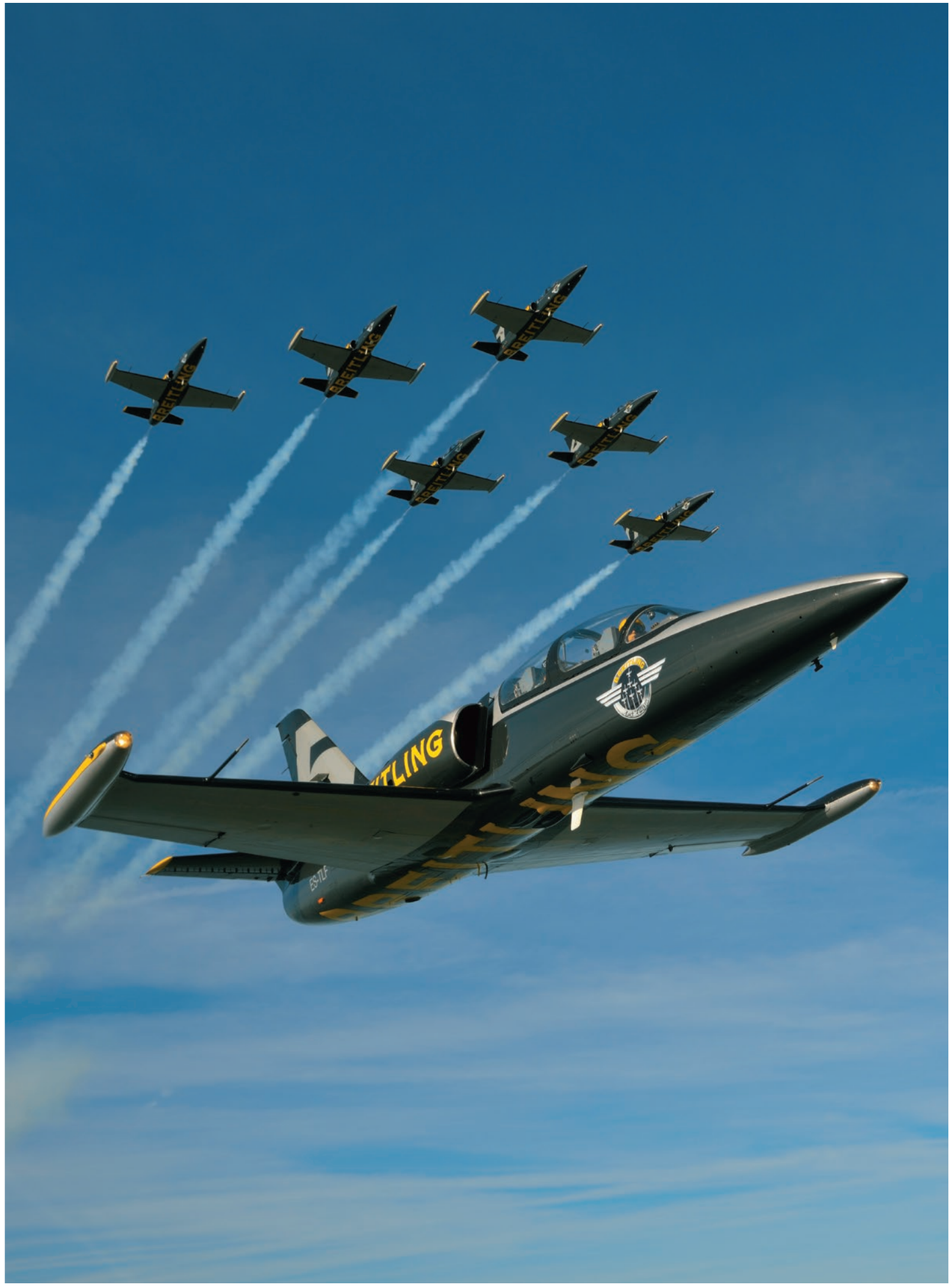
Thus, the first and main difficulty was getting there. The team then elaborated the shuttle flight that led it to Zhuhai: "*Setting up a shuttle flight consists of managing overflight authorization problems, problems of exporting war material, visa problems for everybody, logistics problems in Zhuhai,*" detailed Patrick Marchand. In other words, a child's play!

The Dragon Tour

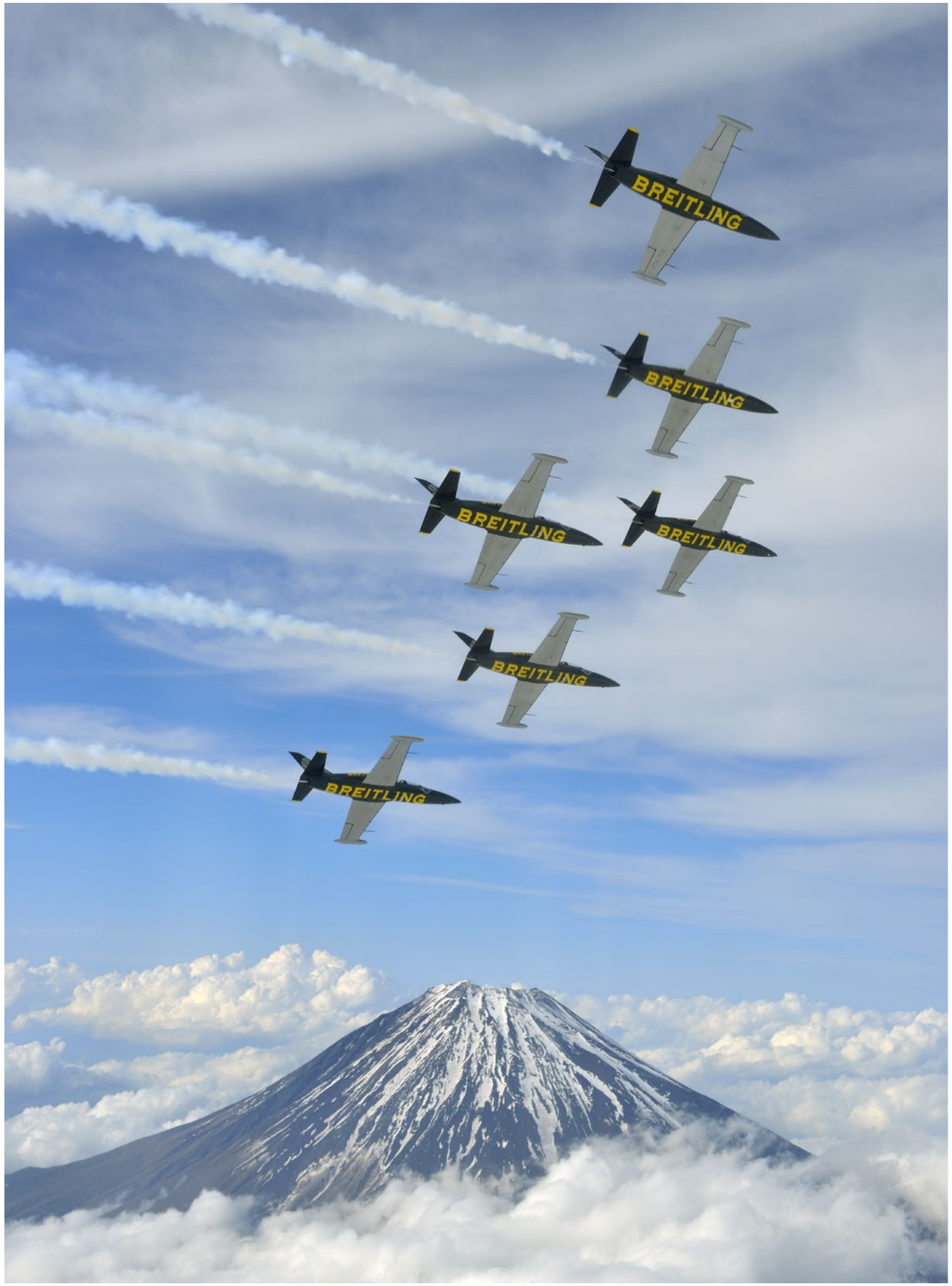
After considerations, the team decided to establish its key base for one year in China, in Zhuhai. A suitable hangar was found and modified to park the support aircraft, a Fairchild Metroliner. The reason? By looking at their future round in Asia, it soon became clear that the luggage compartment of the L-39 Albatros was not enough to carry both suitcases and quick repair batches. One solution: buy a Metroliner for small maintenance and send two containers of parts with the tools, to put all that was necessary in place during the year that preceded the departure.

A tour is done in stages. However, the Dragon Tour was a real headache for the BJT members: "*We changed countries every week. So, every week we reset everything, and we started over with immigration and visa problems, flight authorization problems, import and export problems, and all the logistics...*" said Patrick Marchand, "*We are less confronted with this kind of consideration in Europe, although we still find differences in functioning, even in a regulatory context, from one country to another, under the guise of The European Aviation Safety Agency (EASA). Crossing the border, you change worlds. So, everything was different from country to country, and once there, the problems we confronted were sometimes of the same nature, but treated differently.*" Apart from the Zhuhai Airshow and Maks in Moscow, the sponsor was also responsible for creating events for each display of the aerobatic team.

Another very important factor to consider was the weather, especially in extreme regions, where the rainy season, monsoons and snowstorms have a real significance. Therefore, the organization of the agenda has been adapted according to local forecasts: "*In the case of the Philippines or Singapore, there are windows of periods in the year, where the weather has a probability of being acceptable, which are extremely limited. So that's what dictated a good part of the timeline, to define when we would be able to do this or that,*" stated the team Leader. "*A lot of things were unpredictable. At first, we did not understand. When we were in Russia, we realized that in a weather forecast (for no trouble), there was systematically a storm forecast and a forecast of fog, which is normally incoherent. As there were systematically such advertisements, we didn't take them into account.*"



The crew of the Breitling Jet Team.
Photo by Katsuhiko Tokunaga



The plot thickens

For the BJT, the 2012 season was coming to an end in Europe and everything was in place for Zhuhai. There was the airshow in Sanicole, Belgium, and there, unexpected events occurred.

On September 15th, Bernard Charbonnel, number 2, on his return from the Netherlands for a liaison flight, was victim of a technical breakdown, forcing him to eject himself with his mechanic. The crew came out unscathed, more frightened than hurt.

That same evening, at the Kleine-Brogel Belgian Air Base, as the team recovered from the incident, an American track vehicle struck and damaged two of the Albatrosses: "*Within 24 hours, we ended up with three less planes. Besides the one that crashed, one of the two jets was irreparable. We sent it to Estonia to have it repaired and the third could fly on Sunday,*" explained Jean-Yves Moreau, admitting: "*All these events have increased stress*". Jean-Yves is one of the team's six mechanics and is responsible, among other things, for the airworthiness of aircraft.

The Dragon Tour seemed compromised, but within the BJT, nothing is fatalistic. More is needed to spoil the confidence, and once again, the shadowy figures, in other words the mechanics, who had not lost hope, multiplied their efforts and managed to repair all the damage.

On D-Day, the planes were ready to fly in the sky of Dijon and reach Prague, the first stage of the journey.

Into the Unknown

If the events that took place just before the departure have motivated the group, to go to the unknown is unanimously the most feared phenomenon, especially since Russia forbids the flight over its territory on patrol: "*For the outward journey, we were flying individually. It made things a lot more complicated because if we considered our aircraft registrations, we had our seven L-39s plus the Metroliner. But seven jets with relatively close registrations, so to make a confusion in the flights, it was the best way,*" said the seasoned Leader with irony. "*On the other hand, on return, we could fly on patrol because we were state guests for the Maks International Airshow.*"

The Russian challenge

To cover the vast Russian space, the planes had to fly at ten-minute intervals, a condition imposed by the authorities. Therefore, there was always a risk that a flight plan would be lost. To remedy this, the Jet Team called upon two Russian escorts: one in the lead aircraft and one in the tail plane. The first had the role of anticipating the worries at the arrival and to solve them for the next step.

The second interpreter took care of solving the problems that happened during the distribution of the flight plans in the sequencing: "*As much on the international ground, the infrastructure is adapted to the international reception, therefore the English language. But on the other grounds, the infrastructure is limited to the local needs, therefore Russian... We did not know the context,*" regretted Patrick Marchand, who confided: "*Flying alone, mid-October, as winter approaches... sometimes we feel alone in the midst of pine trees.*"

The flight authorizations issued by Russia were valid for a number of days. The pressure was hard, especially as the airmen had lost one day at the start and another along the way because of the weather. From Irkutsk to Ulan Bator, the capital of Mongolia, there was only one day left for overflight: "*If we did not leave, we would have to renegotiate everything in Moscow to have permission to leave country. It was obviously feasible, but when we were in Irkutsk, we would be four or five hours away from Moscow…*" insisted Jacques Bothelin. "*We were in a hostile world, not hostile towards us, but in relation to misunderstanding,*" he concluded.

The Siberian winter is the most feared in this shuttle flight, and the crews, especially the mechanics who carried out the maintenance, were not at the end of their trouble. If the first stop in the region was a pleasant surprise with a temperature of 12° in the early evening, the situation became critical the next day: "*In the morning, it was icy and in the next stage, we were immobilized by the snow for two days. We found ourselves in Irkutsk with the airplanes sliding in the parking lot, which was icy and snowfall,*" described the team Leader.

The Siberian winter

The encounter with the boreal winter was therefore somewhat abrupt. Moreover, in Mongolia, which was the next step, the thermometer already displayed -15°. A few weeks later, it was -50° in Irkutsk. Remaining on the territory compromised the smooth running of the shuttle flight, and now more than ever the team had to leave the region.

The aim was to perform two steps a day to get away from the Siberian winter. A flight lasted 2h30, with its constraints and difficulties. Added to this the time differences. For each stage, the BJT lost an hour of sunshine, which made the maintenance very demanding: "*We had four mechanics for eight planes, in difficult climatic conditions,*" affirmed Jean-Yves Moreau. "*In the morning, we woke up early and landed for a first ferry. Each of us took care of two aircrafts. Then we ate and got back on the plane. When we arrived in the evening, the preparation of the plane was more important, so we finished late. So, it was very intense, very strong. To say that we did it ... it was good feeling!*"

Zhuhai: The deliverance

Once Russia was passed, the crews were heading for South and after nine days and thirteen stages, the aircraft landed in Zhuhai: "*This was the first moment in my case where I had the presence of mind to turn around and say to myself: wow we did that! We've arrived!*" remembered Patrick Marchand.

Although the Chinese weather forecast looked very bad in terms of visibility, the situation was rather reassuring on arrival. Meteorological bulletins indicated conditions below the flight instrument approach minimums. And like Russia, the Chinese bureaucratic system did not allow deviations or diversions, which again challenged the entire team.

However, the first impressions were pleasant. In China, airports are modern with perfect air control, except some peculiarities, such as communicating altitudes in meters: "*which complicated a bit mental gymnastics,*" joked Jacques Bothelin.

China

The infrastructure, means and operating of Chinese commercial aviation are exemplary. One of the Chinese peculiarities: general aviation does not exist, it is prohibited. It's a surprise, the sky is military!

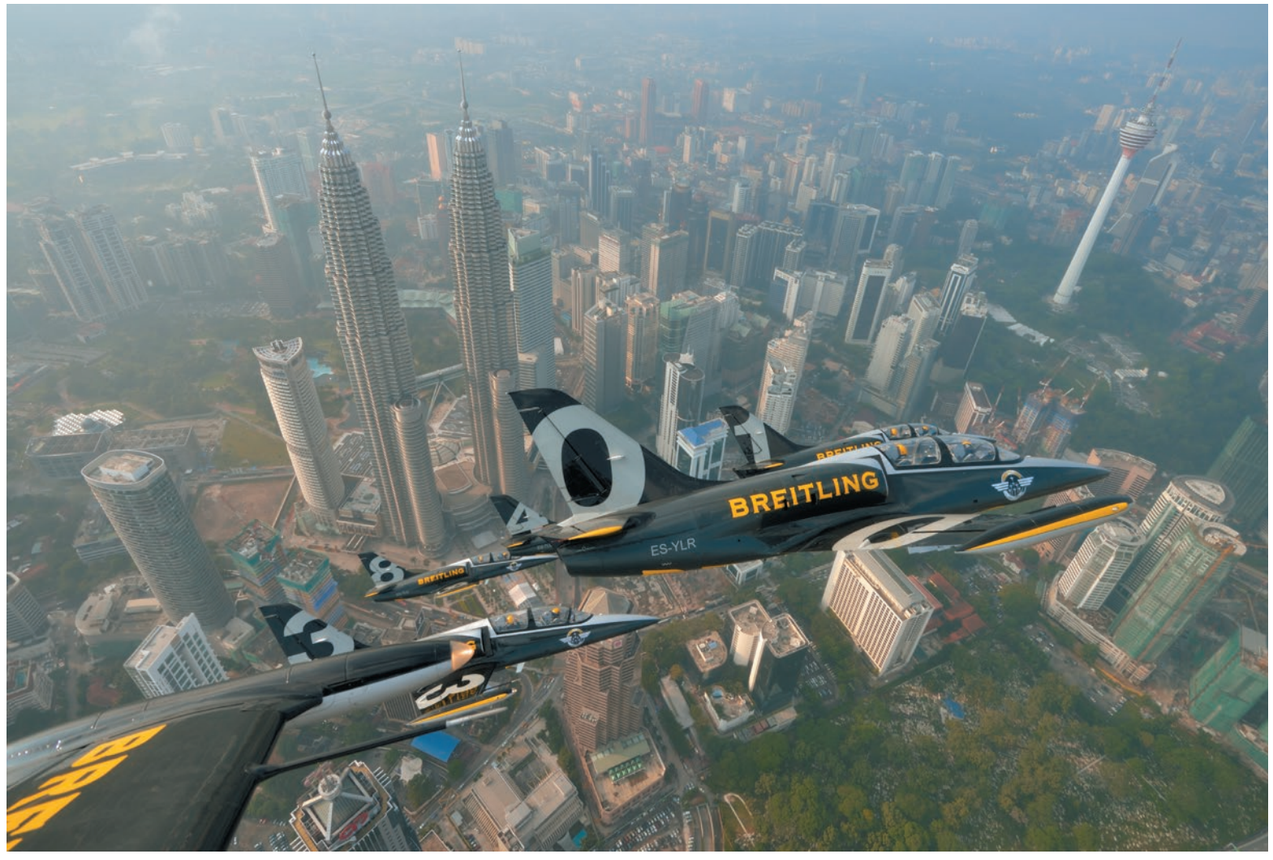
The first contract was fulfilled with a display at the Zhuhai Airshow. It was also there where the founding base was installed. This strategic choice provided the BJT with a central geographical position that allowed it to travel around Hong Kong, to South-East Asia, South Korea and Japan. If a technical problem occurred in this part of the globe, their logistics established in Zhuhai facilitated their intervention thanks to the complement aircraft. However, the French pilots quickly realized that nothing could be envisaged with less than two months' notice, even a change of schedule on a flight.

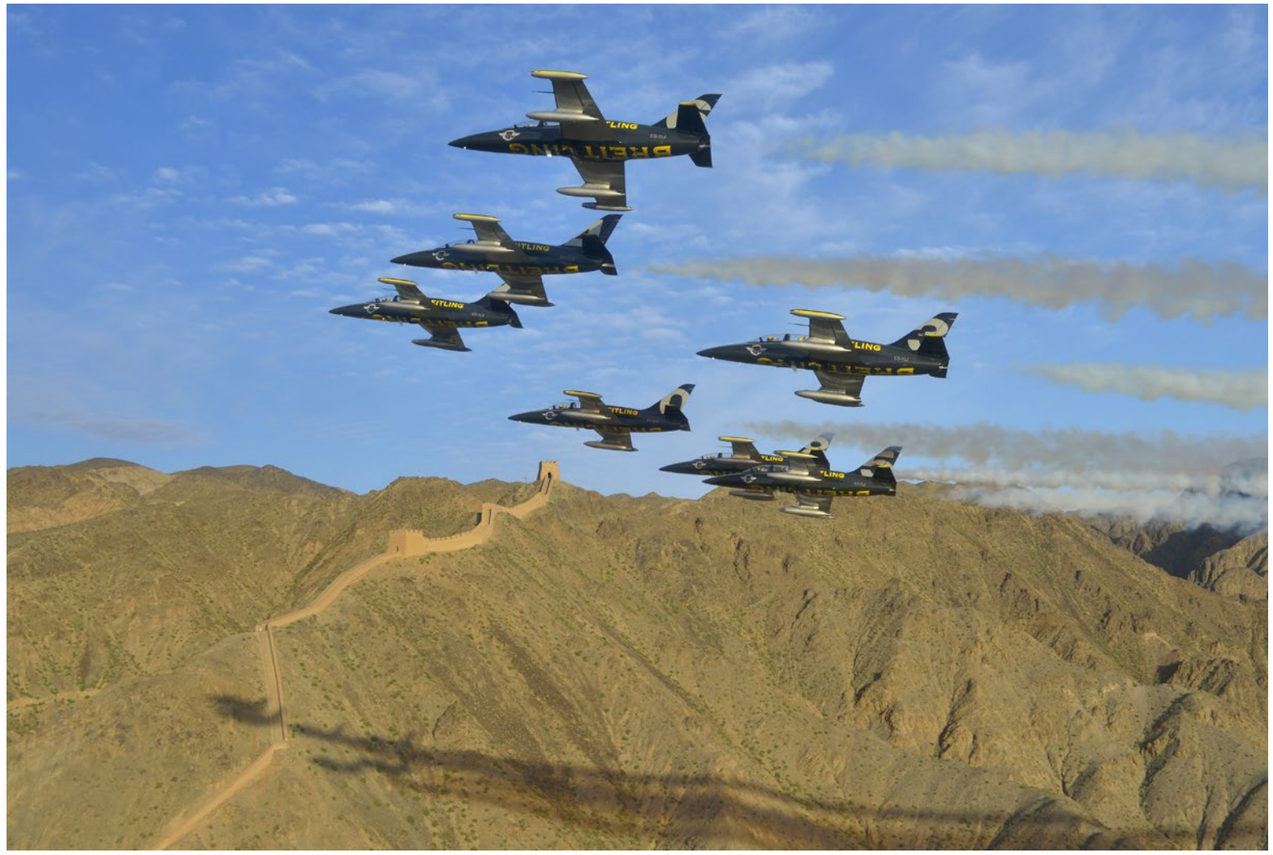
In addition, there is the issue of customs clearance of spare parts, where each country has its own constraints: "*and for us, it was a discovery every time,*" reminded Patrick Marchand.

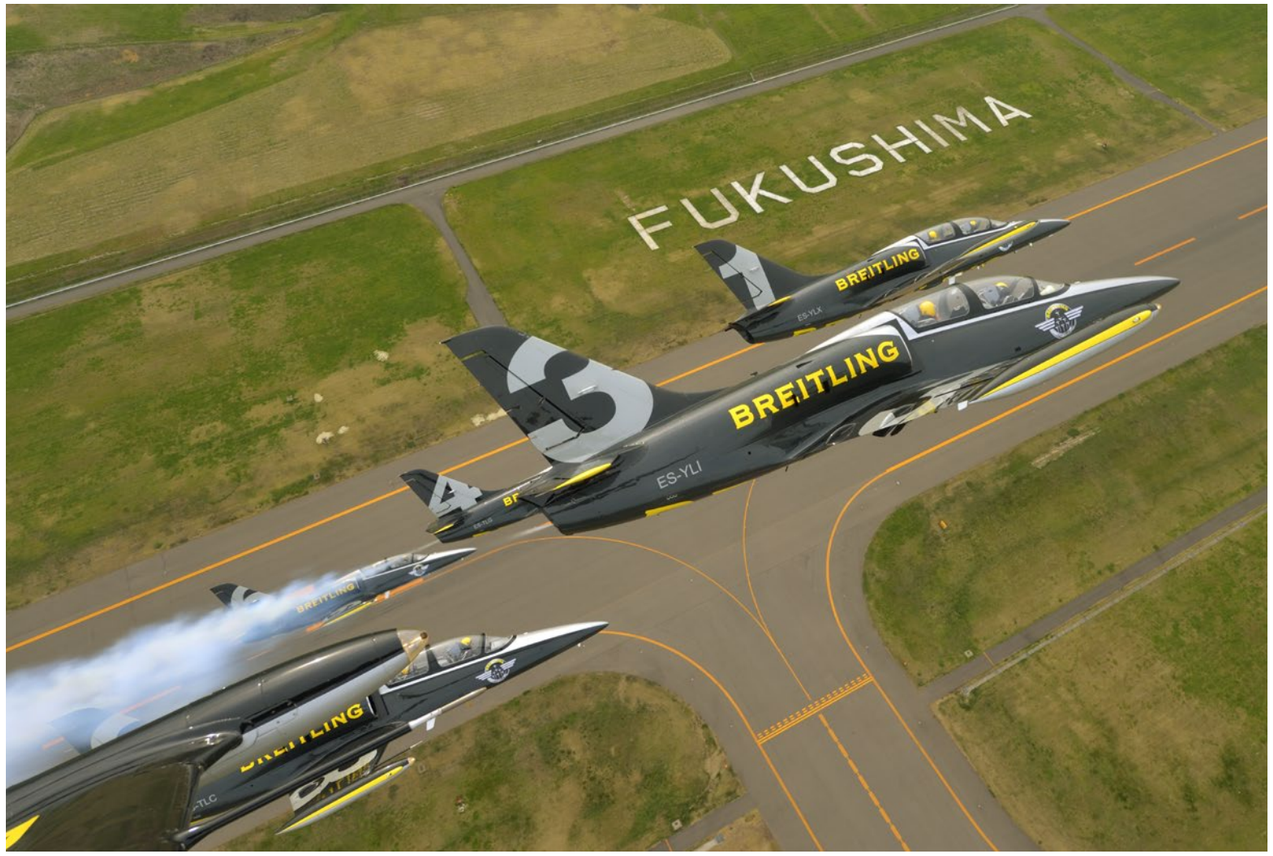
Still further South

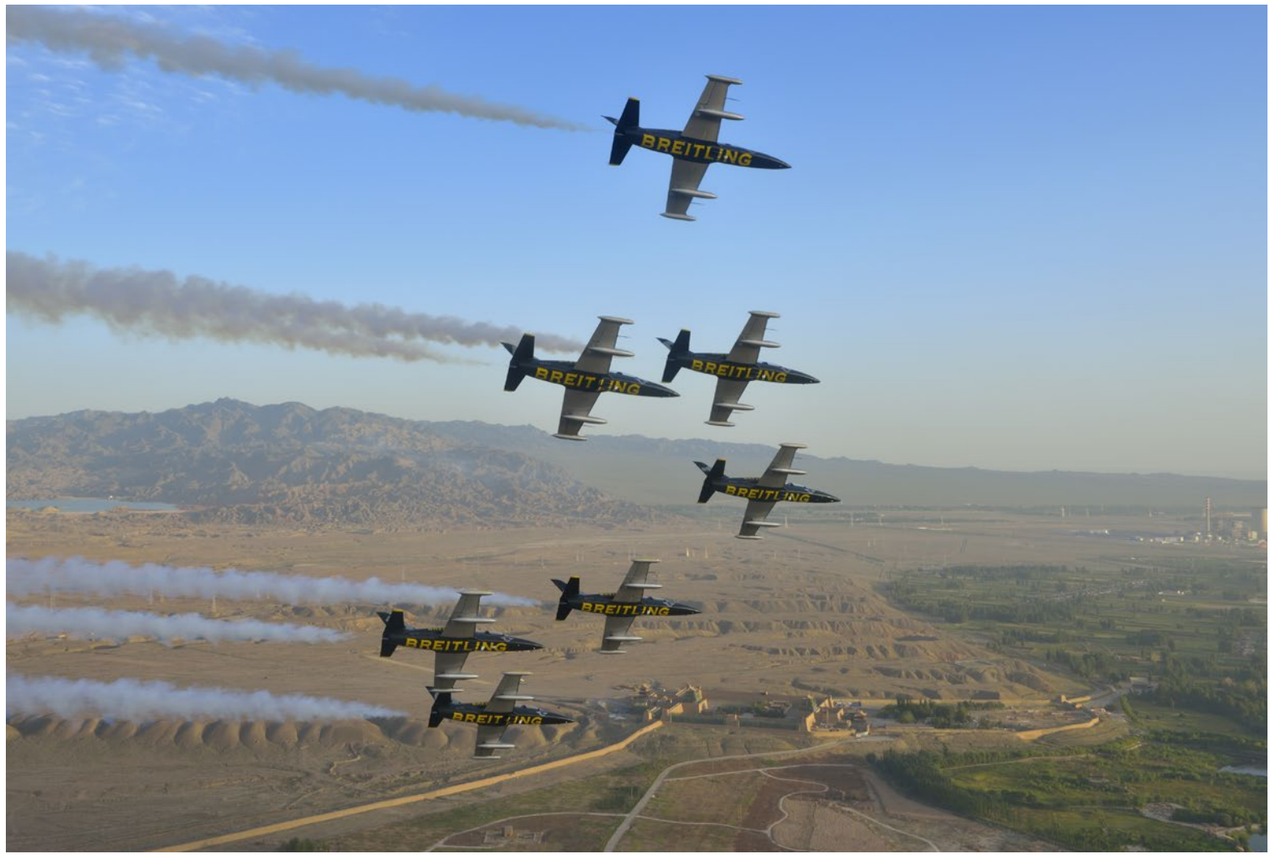
The Breitling Jet Team ended its mission at the Zhuhai Airshow. It was then time to set off again towards Indonesia and Japan.

While the flights follow one another without incident, the airmen remain nevertheless on their guard. Although fascinating, the desert and maritime landscapes did not inspire relaxation and memories resurfaced: "*We recalled the moments when we were above the icy immensities as we passed through Russia, and especially, between the south of China and the Philippines where there were 600 nautical fleets and that we were in the middle,*" admitted Bernard Charbonnel. "*Personally, I thought about it a little, I listened to my plane well, I looked at how the needles moved, I was very attentive. A thought comes to mind and you say to yourself: Damn, it can happen to me now! And it was less comfortable than finding yourself in a cornfield in Holland...*".









Welcome to Asia

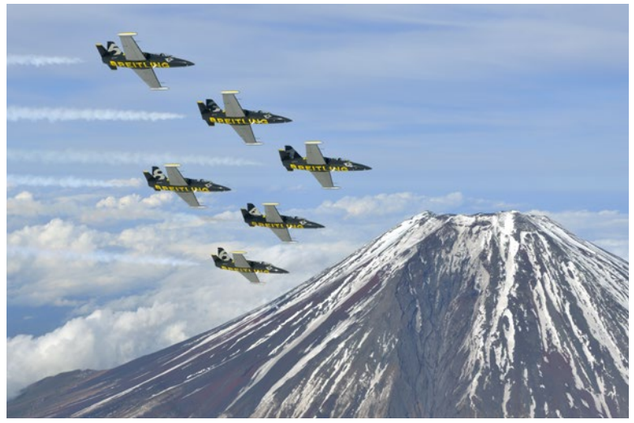
As Jacques Bothelin often says: "*There is no good place to break down by plane, but there are worse places than others*". It is easy to understand that places such as Siberia or Borneo were feared by the crews, so the chances of survival, in case of serious incident, were reduced. By the way, can we trust the local first aid facilities? Not really, according to the experienced leader: "*If we break down between France and England, between the rescue systems which exist and the number of ships passing by, the probability of survival is certainly much higher than it is between two countries like Hong Kong and the Philippines.*"

The overflight of these spaces hardly reassured the crews.

Fortunately, the BJT was not alerted of any incident and the trip proceeded as planned. The tour continued successively in the Philippines, Yogyakarta in Indonesia, Jakarta, Singapore, Kuala Lumpur, Bangkok. At each appearance, the audience was amazed by their display, unrivalled in Asia.

Once back in Zhuhai, the team prepared to travel to South Korea and Japan, and complete its Dragon Tour. Once more, enthusiasts and the public enjoyed the spectacle offered by these elite pilots.

For the return to France, the Aerobatic Team stopped in Moscow, for the International Aviation and Space Show of Moscow (MAKS). Just like the outward flight, the airmen concentrated on the stages of the return.



Crossing the Himalayas

If the route was similar, their vision of the overflight has evolved, as Patrick Marchand explained: "*Our perception of the distances has been changed because when we were at Yogyakarta, we were at the Australian gateway. We had not set the return trip and the choice was made according to strategic considerations.*

Passed to the South meant to hold a winter tour in the Middle East, that changed the prospects. But if we got stuck for an administrative problem in these southern countries, it had little appeal to flight there. We could not go back to the North because we had to cross the Himalayas.

So, we had to go back to China, then to Siberia to return home, but it was in the dead of winter, so we would be stuck eight months. Very quickly, Moscow became the suburb of Dijon in our conversations. Previously, we planned to go to Moscow and it seemed very difficult to go up. When we were in Indonesia, if a plane broke down, in Moscow we would be at home, we would go back and repair it".

A tour full of emotions

The infrastructure and regulations of some countries can always be questioned, but nobody would have imagined, among the members of the BJT, the welcome the team would receive: "*We took off from Singapore to fly with the MiG-29 of the Smokey Bandits - the Malaysian aerobatic display team - we took pictures, we went down at low altitude, they showed us two or three nice places in their country,*" related Jacques Bothelin.

"*We landed, they chartered a bus to take us lunch in town. After a quarter of an hour, we had the impression that we had always known each other. This ease of contact through the sharing of passion was extraordinary. In return, we made a demonstration in Kuala Lumpur and offered them back seats. The language of aeronautics in terms of passion, is truly universal,*" concluded the Leader.

The Siberian winter

As the only civilian aerobatic display team to have evolved on the Asian continent, the BJT has aroused an unprecedented enthusiasm, and pilots, like rock stars, were adulated after each display. In Thailand, even though it was a mere appearance (not an air show), the public crossed the barriers and invaded the car park. Overtaken by the situation, soldiers were forced to evacuate the team: “Really, we took ourselves for the Rolling Stones!” pointed out Patrick Marchand.

Even the Russians, although reputed for their antipathy, created strong ties with the French pilots: “*We had interactions with Sukhoi Russian pilots which were great. Once again, we have developed a warm relationship with them very easily,*” revealed Patrick Marchand. “*We made them fly, they were enthusiastic. They were after all the test pilots who were flying the Sukhoi T-50*”.

For Jacques Bothelin, the explanation was simple, these pilots were trained on the Albatros: “*They thus developed a certain respect for our work because they knew the L-39. It is not the plane which is expressive, which demonstrates things, it is more the value of the added work and they, who were real professionals, had very well identified it. It was also very endearing to see the Sukhoi display pilots as kids coming to fly with us. I still do not understand their motivation.*”

And this was not the only anecdote: “*In Russia, we aroused a lot of curiosity. In Novosibirsk, we were welcomed with big honey pots and vodka,*” said Abderrahim, a mechanic who takes care of the technical part of the planes.

This Asian tour was an opportunity to discover the cultural riches of these countries as well as an absolute change of scenery that contrasts with Europe: “*We are not used to flying over totally snow-covered landscapes. When you pass from Irkutsk to Ulan Bator, you pass from the white to the ocher,*” described Jean-Yves Moreau.

China

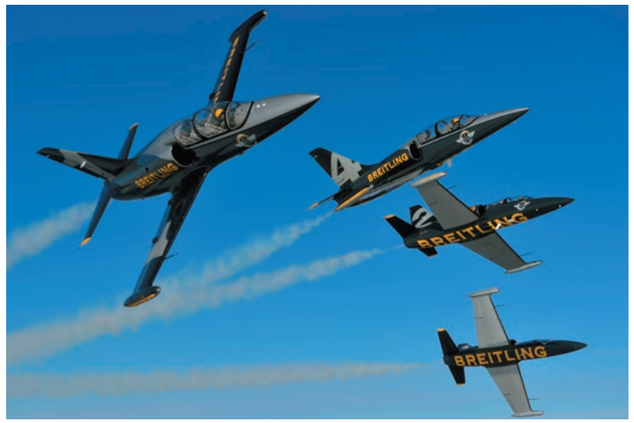
Nevertheless, there was some regret not having to take advantage more: “*Sometimes, we forgot to enjoy ourselves*,” confided Jacques Bothelin. “We realized that we did not look out much, as it was not really the moment for contemplation and jubilation. We are in a situation that always agonizes about what will happen the next day, weather, breakdowns...” continued the Leader. An opportunity for the number 2, “Charbo” to add: “*The pleasure is not necessarily in the moment T. Actually, we are very focused and under pressure, good stress of course, but the pleasure is immense when the goal is achieved, when we arrive. Even now thinking about that, it brings me a lot of pleasure.*”

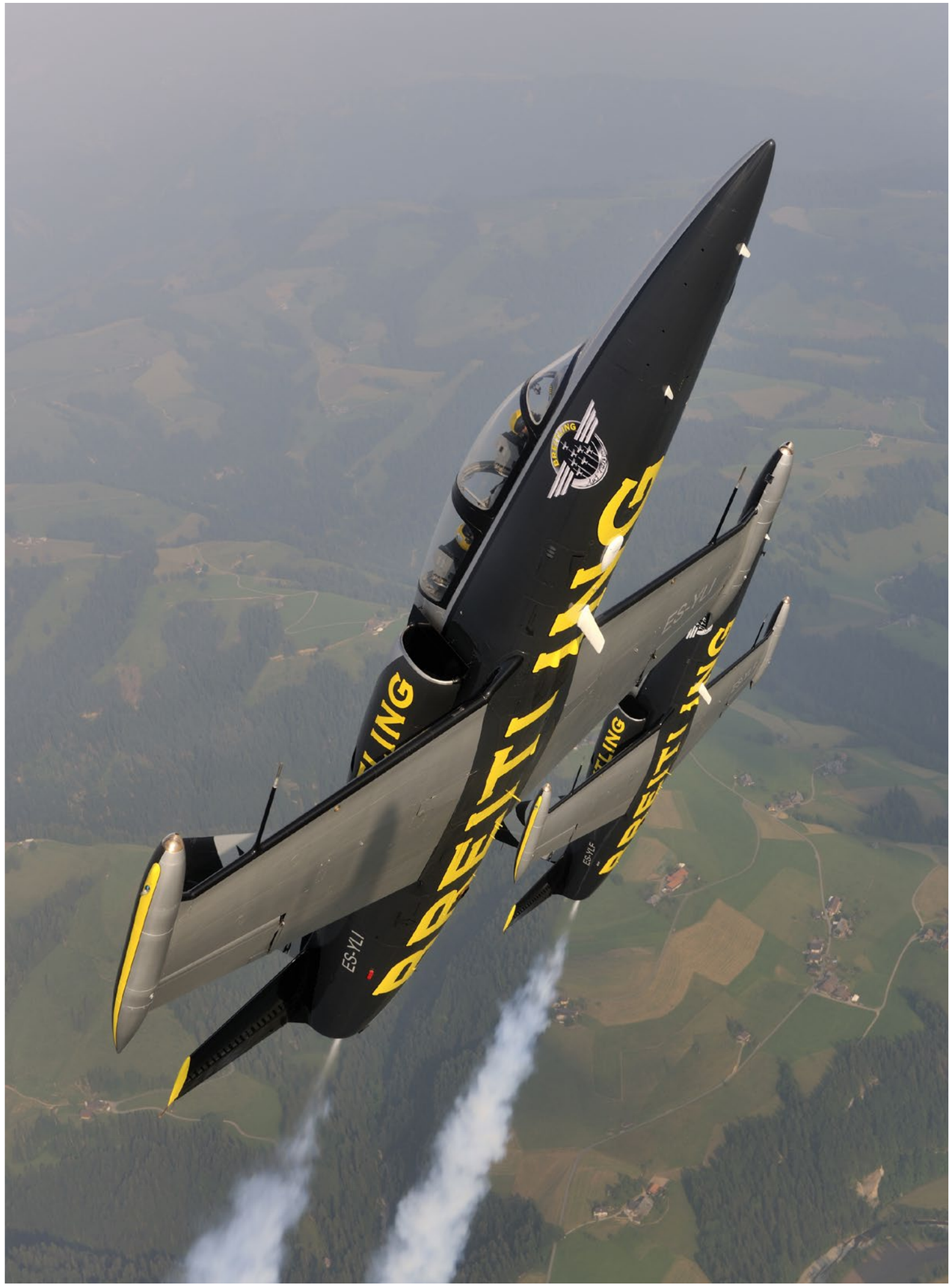
The emotions are so intense, that pilots and mechanics lose words to describe them.

One thing is for sure, their stories will make generations dream, but nobody can imagine how they felt when the L-39 wheels touched the Zhuhai runway.

Can we speak of exploit? “*No, not at all,*” assured Jean-Yves Moreau: “*The feat implies that there is a disproportionate risk. For us, everything was structured. There was no doubt that we would succeed. But this was something extraordinary that we have done. No private display team has done that before us.*”

Some 44,000 km, 11 months, 21 countries flown over, this is the summary in figures of the Dragon Tour.





EART 2018

TEXT - SHERVIN FONOONI
PHOTOS - SHERVIN FONOONI & MOHARAM FONOONI

The fifth European Air-to-Air Refuelling Training was recently conducted at Eindhoven Airbase. This multinational exercise is organised by the European Air Transport Command, Shervin Fonooni reports from the Netherlands.

Aeronautica Militare performs AAR with its four KC-767As
Photo by Moharam Fonooni

EART 2018

The EART 2018 has just finished at the end of April. For two weeks, four tankers, based on the Royal Netherlands Air Force's Eindhoven Air Base, conducted live air-to-air refuelling (AAR) for aircraft participating in exercise Frisian Flag. A mentor expert in AAR, was present to assess the crew members during their missions.

On this occasion, we met the French contingent, from Groupe de Ravitaillement en Vol 2/91 "Bretagne" (AAR Squadron). Lieutenant-Colonel Franck, Major Jérôme and Captain Guillaume gave us their impressions.

Reinforcing the European Fleet

AAR is a multidimensional domain, a field where Europe faces serious gaps in the management and coordination of AAR.

The last campaigns in Mali, Libya, and Kosovo highlighted the need for Old Continent to increase capabilities for Air-to-Air Refueling, as European armed forces have relied systematically on American assets.

Today Europe is able to provide 42 tanker aircraft, while the US do it with 550 tankers. AAR capabilities have to be developed in Europe as a matter of priority, to be made available for future European or NATO operations.

In this context, the European Air Transport Command (EATC) organised, in 2014 as requested the European Defense Agency (EDA), the EART exercise to develop interoperability between European air forces. Lieutenant-Colonel Franck, captain and former EATC coordinator, summarized the concept: "*Each country has a single organisation which gathers all transport requests, from all operational staffs, from public service…*".

In France, it is the CSOA (Operations and Transport Support Center) which collects these requests and makes standard computerized forms named Air Transport Request. "*We have therefore proposed to Europe to apply exactly the same principle: creating a single point of contact (called NARC for the National Air Refuelling Center) which gathers all the requests that come to us. Then we organise the European refuelling transport*", he continued. "*In Europe, there are 250 refuelling points. These forms come to us and they can be used on French and foreign aircraft*".

Standardizing AAR

In technical terms, it is a cooperation system allowing the exchange of transport and AAR services, based on flying hours. The calculations are made from an Equivalent Flying Hour of one C-130/C-160 flying hour (which is therefore in a way a bargaining chip). This agreement, signed in February 2001, is called ATARES (Air Transport & Air-to-Air Refuelling and other Exchanges of Services). 28 European and NATO nations are part of the multinational ATARES arrangement.

European air forces must train upstream to be operational before engaging in a multinational mission. However, only a third of the European nations have fleets of tankers (France, Germany, Italy, the Netherlands, Spain). To date, the EATC has only 19 tanker units under its command. In comparison, the US Air Force operates a fleet of more than 500 tanker aircraft (Boeing KC-135, McDonnell Douglas KC-10A and C-130 Hercules KA-6D) more standardized.

To remedy this situation, the EDA has implemented a standardized refuelling project to cope with the expectations of current operations.

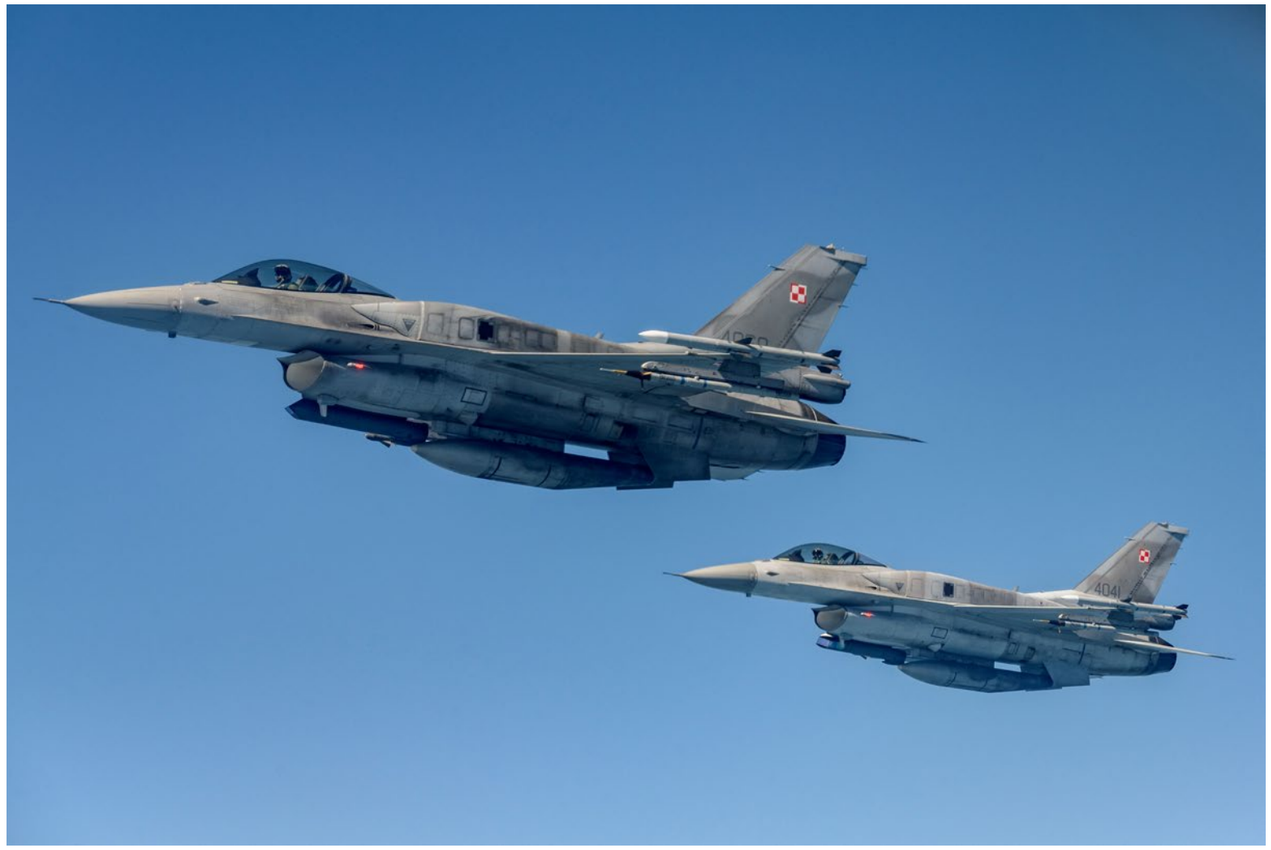
In July 2016, The Netherlands and Luxembourg signed for the acquisition of a pooled fleet of Airbus A330 Multi Role Tanker Transport aircraft, also known as Multinational Multi-Role Tanker Transport Fleet (MMF). The aircraft will be NATO property and will be operational from Eindhoven Airbase.

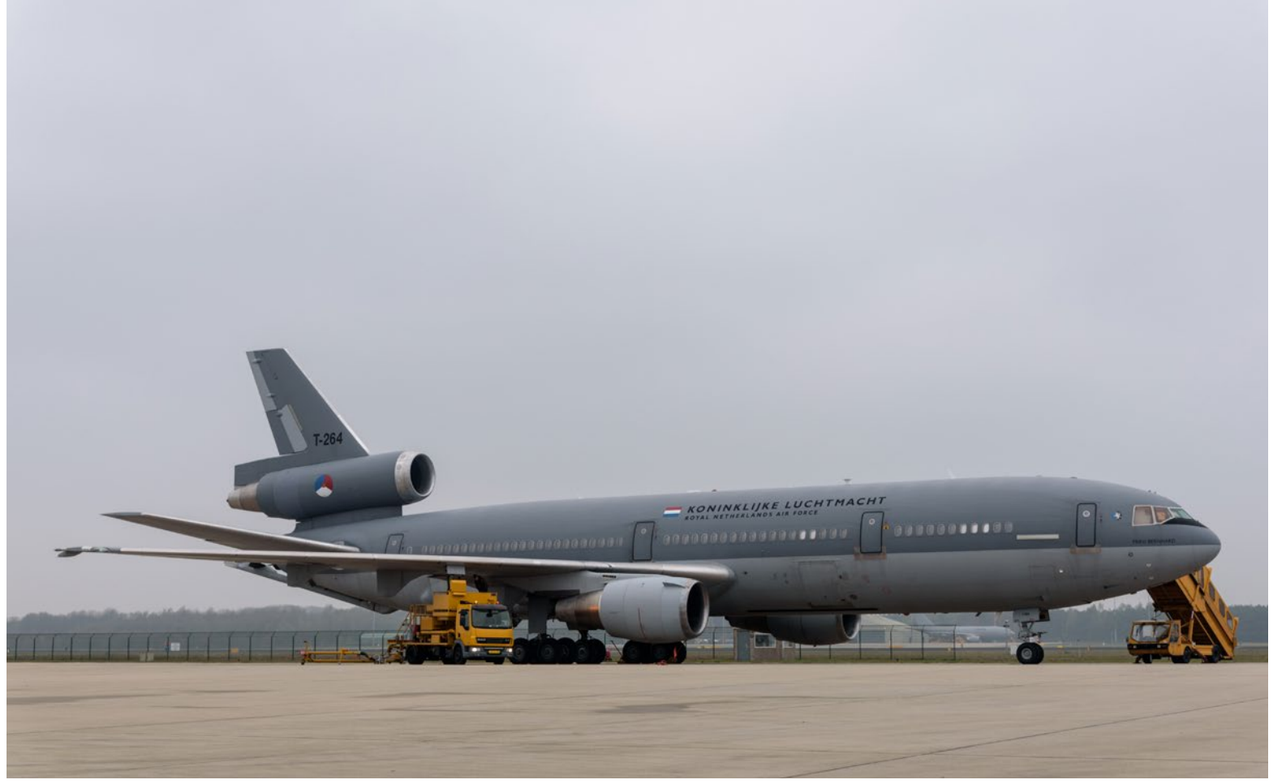
In February and September 2017, Belgium, Germany and Norway signed also a Declaration of Intent to join the European multinational fleet. Thus, the fleet grew from two to eight aircraft.

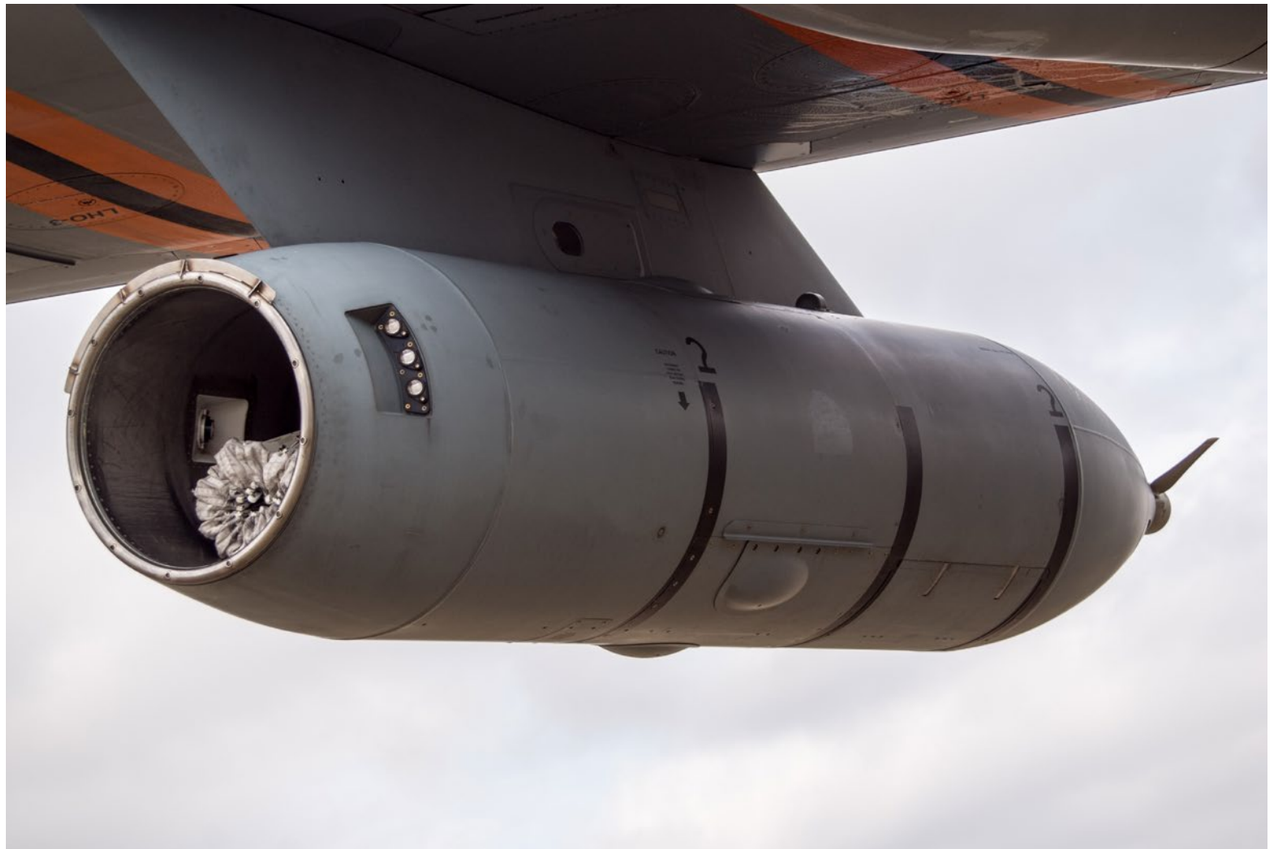
The delivery of the eight A330 MRTT aircraft is expected between 2020 and 2022.

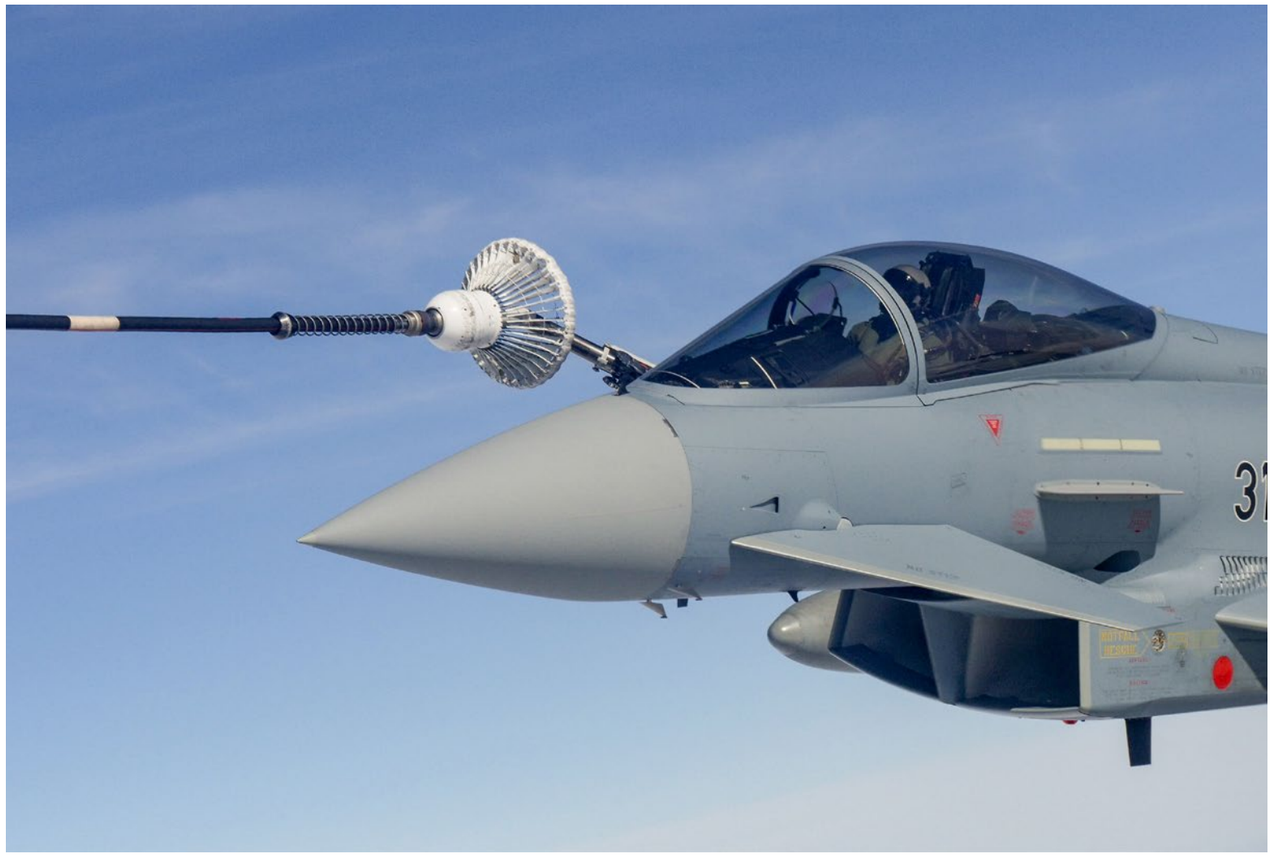
In addition to refueling aircraft and strategic transports, A330 MRTT aircraft will be able to be used too for carrying out medical evacuations. The MRTT Program also involves maintenance and operational deployment.

Therefore, this project requires a close collaboration with France and the United Kingdom in relation to training and instruction as well as maintenance.









Advanced Certification Level

The Royal Air Force already has A330 MRTTs “Voyager” in service since 2012. For its part, France will receive next autumn its first A330 MRTT “Phénix”.

According to EDA, the expected life span of the fleet is 30 years and the investment budget is between €250 million and €1 billion.

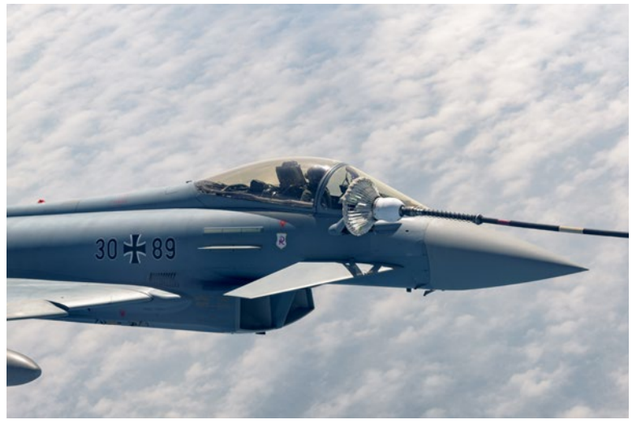
If more countries take part in the MRTT Program, the design costs will be shared with these countries too, leading to lower costs for Luxembourg and the Netherlands.

The exercise was organised and leaded by the European Air Transport Command (EATC). The aim is to train aircrew and engineers to plan and execute complex AAR operations in a multinational and realistic composite air operation (COMAO) environment.

Introduced in 2014 following EDA’s initiative, the EART concept is dedicated AAR training focused on maintaining proficiency and enhancing knowledge of multinational tanker aircraft.

It has become an annual event for all European tankers. If 2017 edition was the introduction of certification process, facilitating the processes between tankers and receiver aircraft, EATC has taken another important step forward this year, to improve effectiveness and interoperability of forces through an advanced certification level, and to increase the tanker capability by 2020 through the MMF Project.

The two-week long EART 2018 involved the participation of Germany, Italy, the Netherlands, France, and for the first time, of a non-European country: the United States.



Refuelling multinational aircraft

To optimise the training of tankers crews, it is necessary to have receivers. Since 2014, EATC pools EART with a multinational fighter exercise, such as the Dutch Frisian Flag which operates from Leeuwarden Airbase, in the north of the Netherlands. Established in 1999, Frisian Flag brings together several air forces from the United States to Poland, it is a large-scale exercise involving more than 70 aircraft. The aim is to train NATO members and allies in conflict scenarios, where fighters are involved in COMAO, over the North Sea. During their missions, the pilots proceed to AAR.

This 2018 edition, EART and Frisian Flag unfolded together one more time, but according to their own training objectives.

During EART, the crews are far away from their home base and are deployed on a common operational base. Thus, this context offers a complex and realistic framework for optimizing and standardizing processes, and also increasing interoperability. This year, the tankers flew two missions a day, refuelling multinational aircraft such as German Eurofighters, French Mirages 2000D and Rafales, Polish and Dutch F-16...

Germany participated with its Airbus A310 MRTT, Italy operated on the Boeing KC-767A, as did the Koninklijke Luchtmacht with its McDonnell Douglas KDC-10. Finally, France used the Boeing C-135FR, in service for 54 years, similar to the USAF KC-135 Stratotanker.

Mentoring: A Major Asset

The EART focuses on standardisation procedures through the mentoring of tankers crews, their ground crews and their engineers.

Performing AAR with receivers from several nations requires special skills which can be assessed by experts. For two weeks, mentors from France, Italy, Germany, Spain, the Netherlands, and also USA have shared their experience and their knowledge with tankers crews during EART 2018.

These mentors are tanker pilots or refuelling operators and were at Eindhoven to manage AAR processes with tanker crews and to ensure that the EART objectives have been achieved.

Train as you fight, Fight as you train

Major Jérôme is a former captain and navigator in the Forces Aériennes Stratégiques (Strategic Air Force). In 2016, he became a mentor for EART and since 2017 he has been Training Supervisor for this exercise.

In another example, the participating tankers perform “Accompanied Let-Down” procedure, which consists of leading an aircraft (receiver) on an approach to a runway down to 500 feet. Likewise, tankers crews are let to carry out also night AAR (only if additional receivers are available for this mission).

With the recent conflicts, European nations have realized that their mode of intervention is no longer relevant, particularly in the AAR field, as revealed by Lieutenant-Colonel Franck: “*For example, the Dutch did not understand why we were doing multi tankers. These are people who did not intervene in Kosovo…*”. During this 2018 edition, the crews trained in the “Multi Tankers Rendezvous” procedures. This mission was to gather together tankers in a restricted space, flying 500 feet from each other, in boxes, instead of 3000 feet. First tanker would give a rendezvous to first receivers, second tanker would do the same with another receivers. Future training step will involve three multinational tankers which will fly in close formation.

Today, EATC aims to work with predefined grids (chequered matrices) and is based on feedback from all crews: “*Those who did not train, became aware of the added value*”, affirmed the French coordinator. “*When you have a COMAO, that is, a large number of fighters that have to push together to attack, if you refuel them in a scattered way, just to meet each other losing a ton (of fuel) and their range would be different.*

If you have two or three tankers and there are twelve fighters arriving and refuelling almost at the same time, they would push all full and you would have the desired final effect. It’s a training that may seem simple and stupid. If you have not discovered this difficulty, you are going to turn and lose your leader. Fighters will get lost in a constrained space, with a complicated radio which is classified, you will fail everything”, says Lieutenant-Colonel Franck, and continues “*and EART goes in that spirit.*”

Concentrated and responsive

All these procedures are carried out according to a codification, issued from a NATO regulation where the AAR instructions are listed: “*For example, our fighters will always come from the left and go to the right. And everyone is doing the same*”, explained Captain Guillaume.

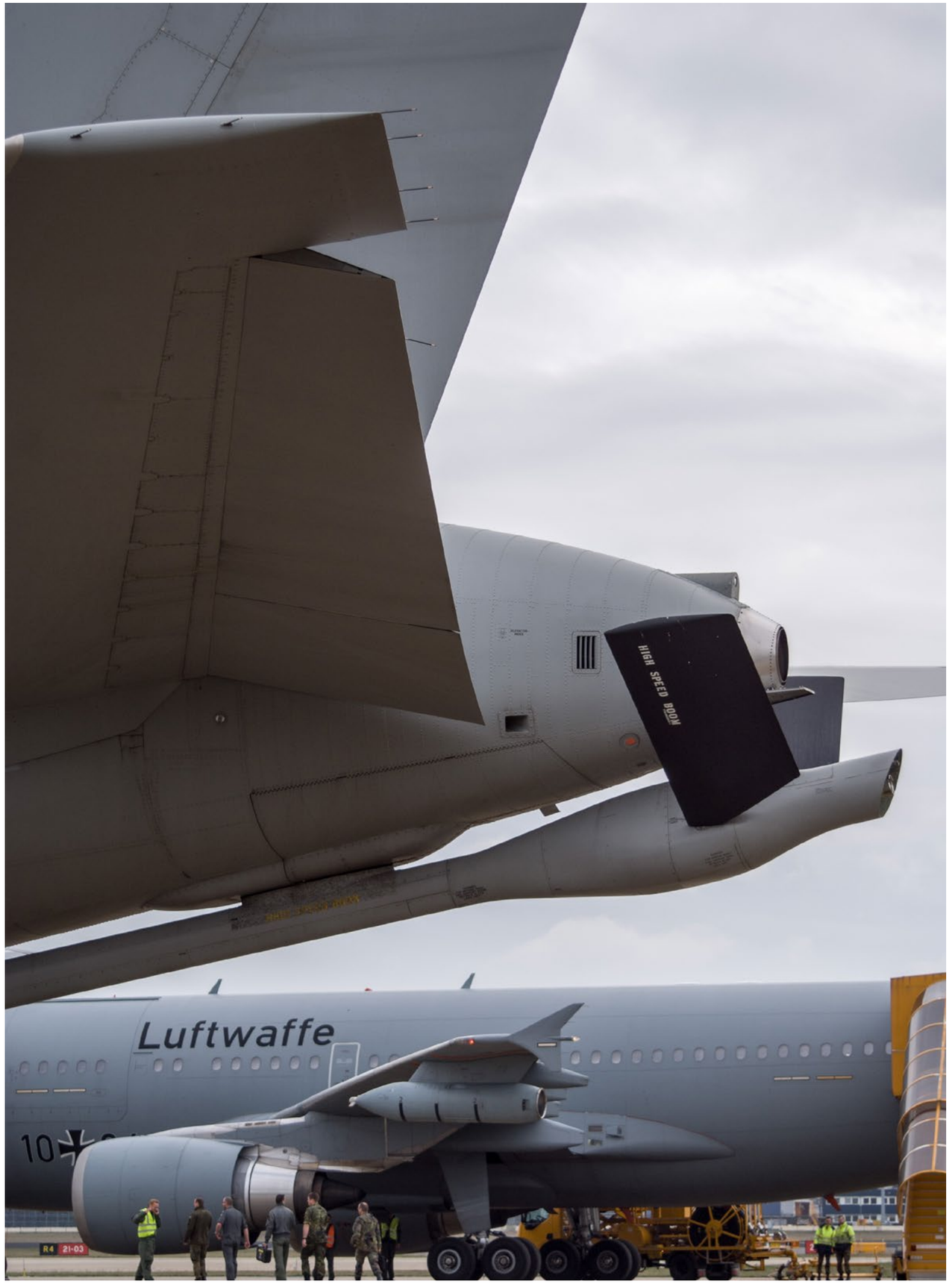
These technical peculiarities therefore require a certain mastery and this also applies to the communications which are all codified: “*We all speak in the same way and that is why we can refuel any nation. We know exactly what the dialogue will be between the fighter pilots and the tanker crew. It’s really very simple, it’s our core business*”.

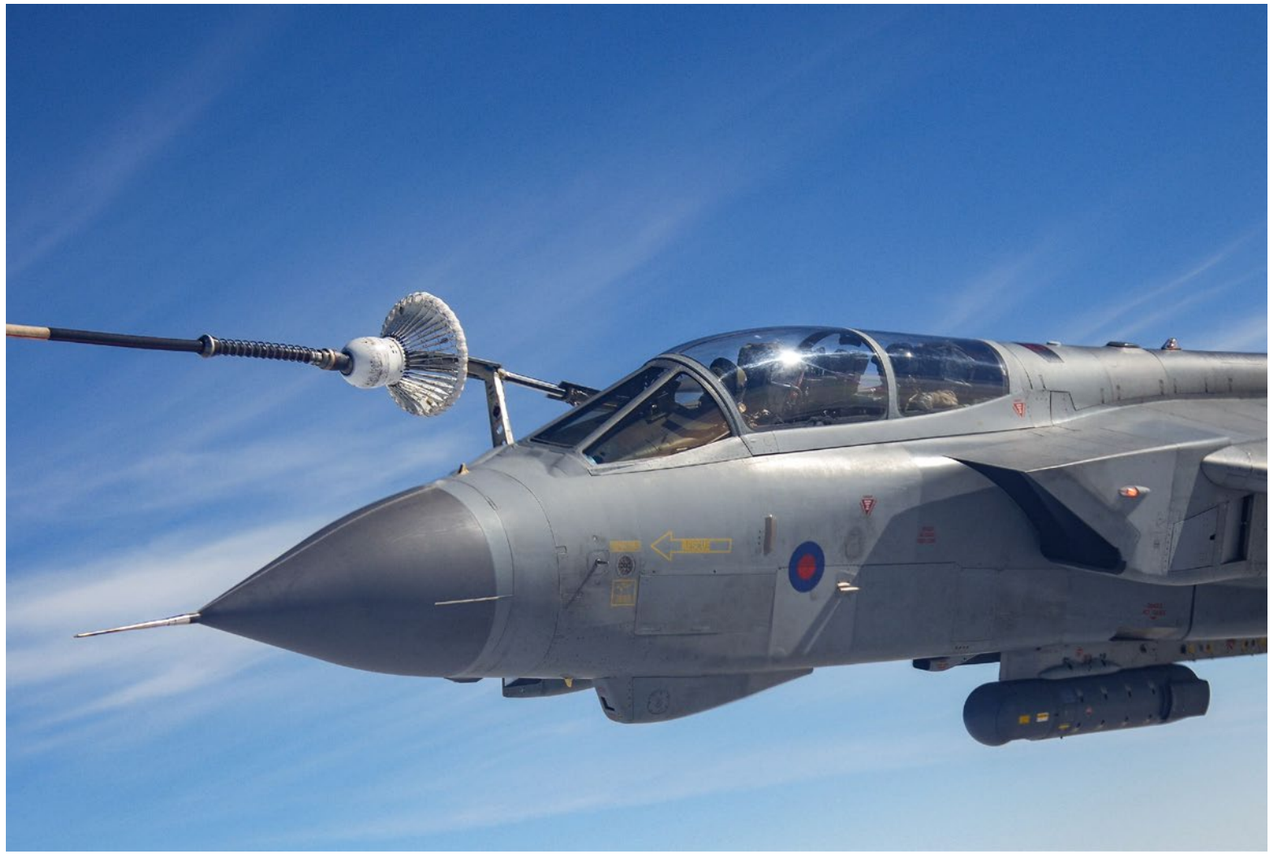
Captain Guillaume is pilot at the Groupe de Ravitaillement en Vol 2/91 “Bretagne”, at Istres. He represented his first operational unit at Eindhoven.

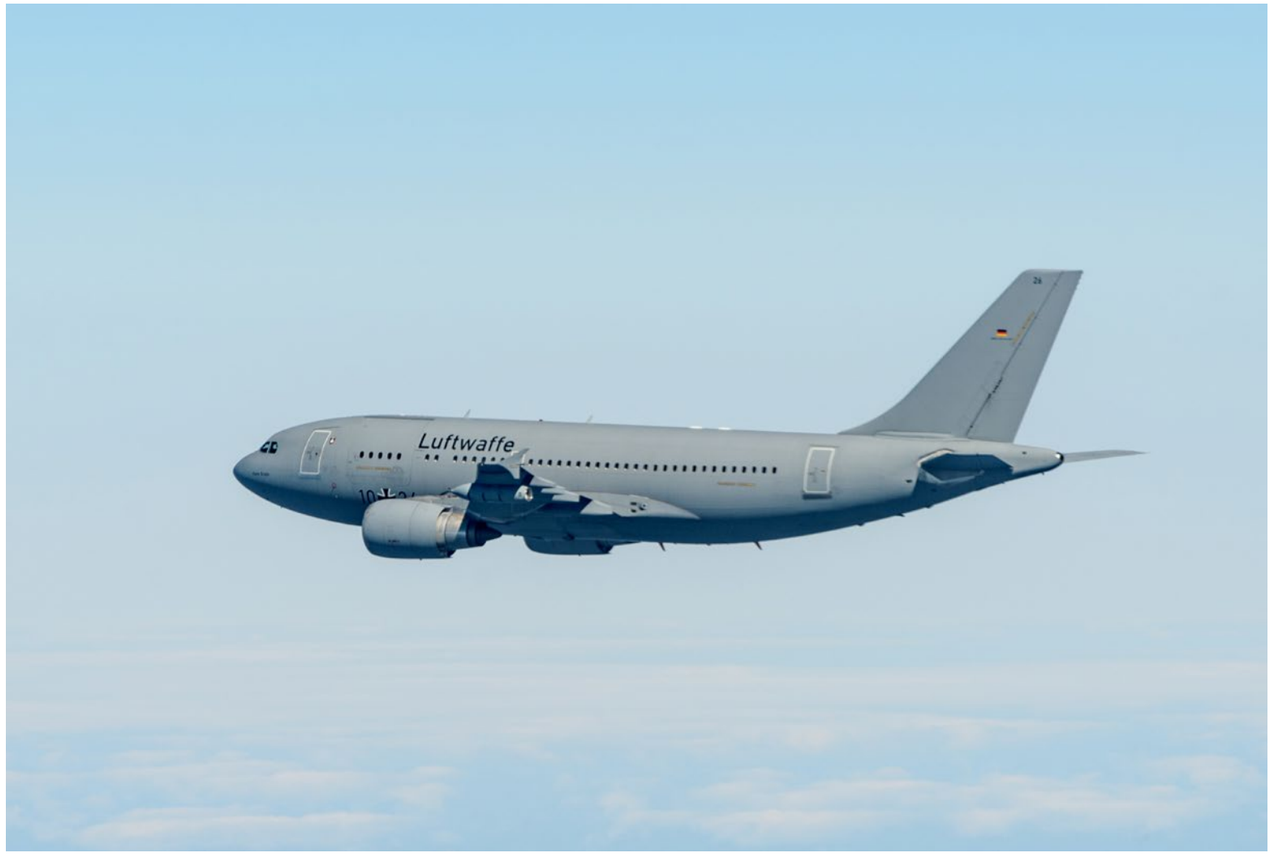
EART missions nevertheless demand a great rigor: “*When we refuel French aircraft, we already know if they are old or young according to their missions. On foreign aircraft, we do not have the command, so we are more attentive to their arrival*”, said the mentor, adding: “*You should know that receivers refuelling with the boom like Polish F-16, it requires less expertise on the part of the fighter, since it is the boomer (the AAR operator) who will go into contact.*”

Therefore, the crews are concentrated and responsive to any situation: “*Regarding security, if it seems dangerous - for example a receiver arriving too quickly - and the contact would be too “strong”, we would make them the remark*” described Captain Guillaume. “*We are then very vigilant and we have a procedure which authorise us to quickly increase the distance. There is no superfluous dialogue between the crews and we are very attentive.*”

The procedures, such as speed and altitude indications, are listed according to the receiver: “*This catalog says us exactly what we need to do. We know exactly what is required and we always adapt to the receiver*” concluded the pilot.







The Arrival of the Phoenix

As every year, GRV 02.091 “Bretagne” was present at EART. The Forces Aériennes Stratégiques (FAS) sent a C-135 to Eindhoven during the fortnight. However, the tanker was not under EATC command, as the other 19 aircraft are. the C-135FR and the KC-135R are actually an integral part of FAS. Their main mission is to contribute to the permanence of nuclear deterrent force. Thus, the management of the Stratotankers is under the FAS authority.

The C-135FR has a configuration which allows it to refuel all the Frisian Flag fighters: “*We have almost all the certifications to refuel all aircraft, except modern US fighters. But we can refuel almost 80% of the fighters that exist today*”, affirmed Major Jérôme.

France, which is at the initiative of the EATC initiative, takes part in this exercise, firstly to train its crews in a multinational framework, secondly, to share all its expertise in AAR missions with other European crews.

The order of twelve Airbus A330 MRTTs “Phénix”, officialized in December 2014 by the French Ministry of Defense to Airbus, provides for the induction of the first example in the Armée de l’Air in October 2018 and the receipt of the remaining aircraft at a rate of one to two aircraft per year until 2025.

At this end, they will replace the fleet of eleven C-135FR tankers and three KC-135RG of GRV 02.091 “Bretagne”, as well as the three Airbus A310s and two A340s of the strategic transport squadron “Esterel”, which will come under the command of the FAS in 2021.

Strategic transport missions

Equipped with a rigid central boom and Hose-and-drogue pods under the wings, with a payload of about 30% higher than the C-135 (more than 50 tons) the “Phénix” will be tasked with conduct AAR missions in France and strategic extension essential for external operations, both in favour of French and foreign aircraft while contributing to the permanence of nuclear deterrent force.

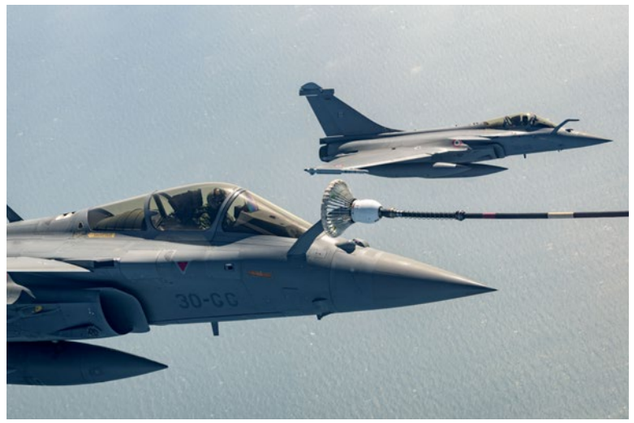
Having, moreover, the capacity to accommodate 271 passengers or 40 tons of freight, they will be able to carry out strategic transport missions incomparable to those carried out by the C-135.

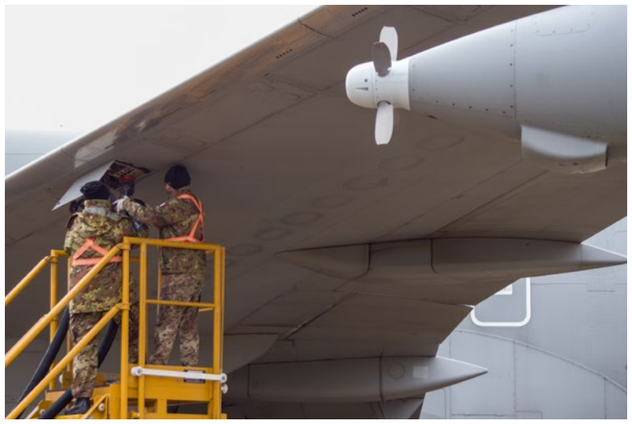
Finally, equipped if necessary with the MORPHEE kit, the “Phénix” will also carry out medical evacuation missions in a range of more than 12,000km.

The “Command & Control” (C2) capability will be retained, notably through L16 and SATCOM capabilities.

The A330 MRTT program also includes major infrastructure works on Istres airbase: the runway will be renovated, the 31st EARTS facilities will be created to accommodate the two air units and will include a suitable maintenance center to the new aircraft as well as a simulation center.

Contributing to all strategic missions of the Livre Blanc, the “Phénix” will open a new page in the history of the French Air Force.





The future with the multinational MRTT

AAR is a strategic asset and then, is absolutely necessary for air power projection. Tankers are therefore required to sustain combat operations when aircraft are on long-range missions as they extend the payload and endurance of receiver aircraft. Actually, modern day air power relies in part on the tankers capacity, as the AAR enables air operation to be projected and concentrated around a strategic point.

EDA, with the cooperation of EATC, intends to progressively develop EART by inviting other nations to participate and by offering major exercises.

EATC is currently studying possibilities to offer in 2019 a double-phased EART training. The basic training would then be organised in first semester, concurrently with Frisian Flag. As Frisian Flag is a complex exercise, the AAR procedure must be carried out in a very short time. Thus, everything depends on the experience of the fighter pilots and the control of all the parameters like the approach, the contact, the separation, the flight in formation, or even the weather.

In the second phase, led by another member country of the EATC, crews would train in advanced procedures, combined with multinational exercises involving a larger number of fighters, including Ocean Sky in Spain and Volfa in France: "*The server will be here in Eindhoven. We have an objective training matrix. All we need is airspace, we will make grid software*", revealed Lieutenant-Colonel Franck.

For EATC, these exercises offer a unique opportunity to train crews to plan and coordinate missions in a multinational framework: "*We train in France to do daily work*", said Captain Guillaume. "*Here, on the contrary, we are working in an international context. The crew is training, we do not have a mentor, but we also have people working at the operations level here. For young people, this is the first experience in a framework that is not yet operational... it's simulated operational. They can therefore understand a little what happens, since same methods are used.*"

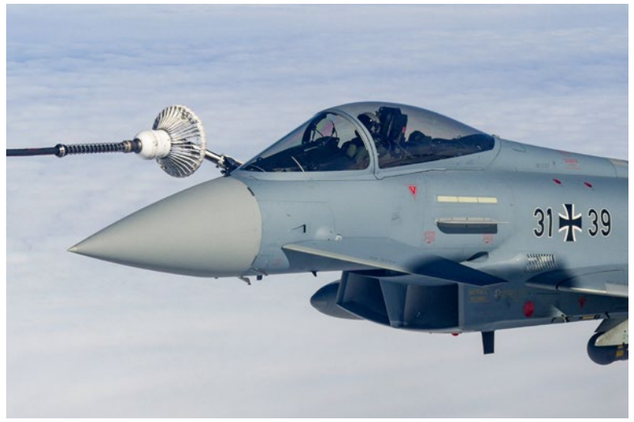
Emergency medical evacuation

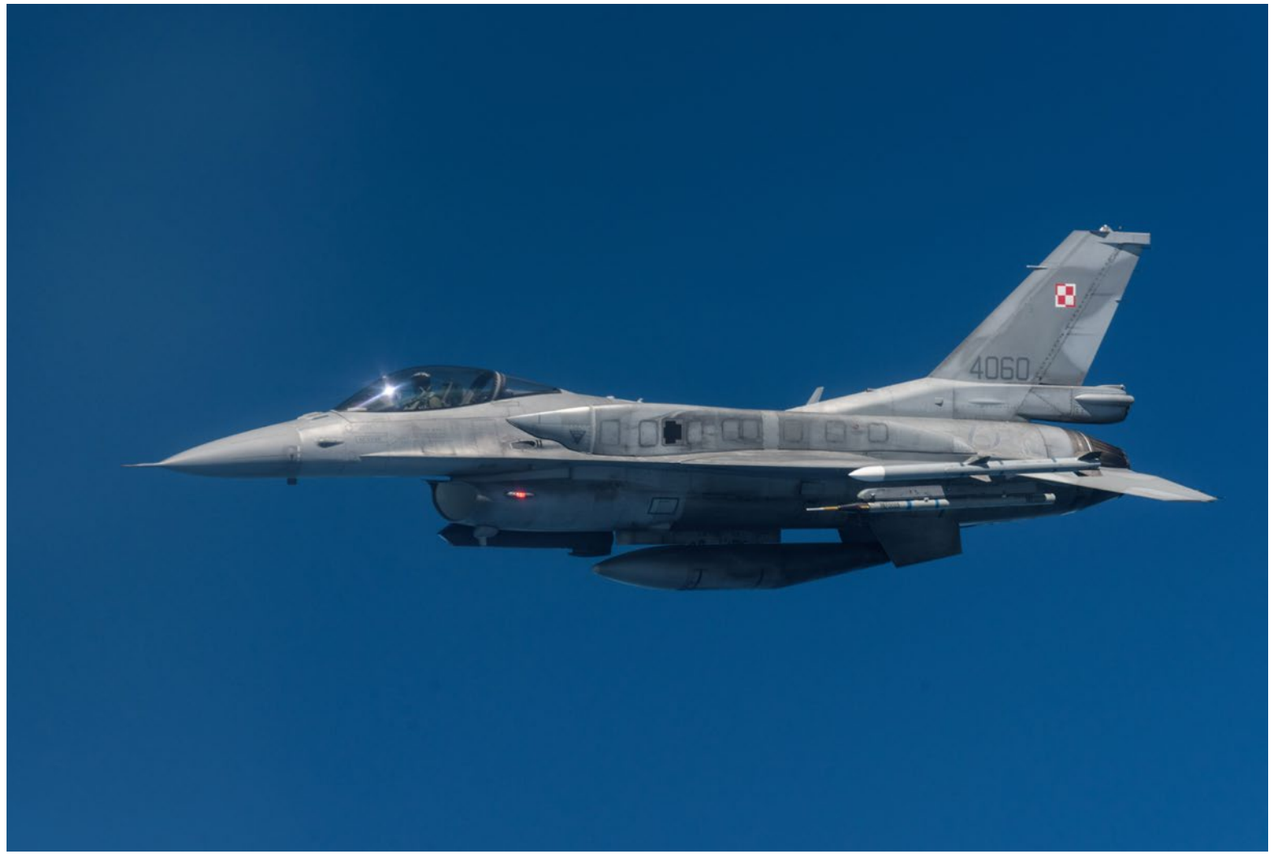
AAR activities will also intensify with the progressive introduction of the Airbus A400M. However, the military transport aircraft accumulates failures in recent years. Airbus was penalised by the European countries customers, including France and Germany who are the two main buyers.

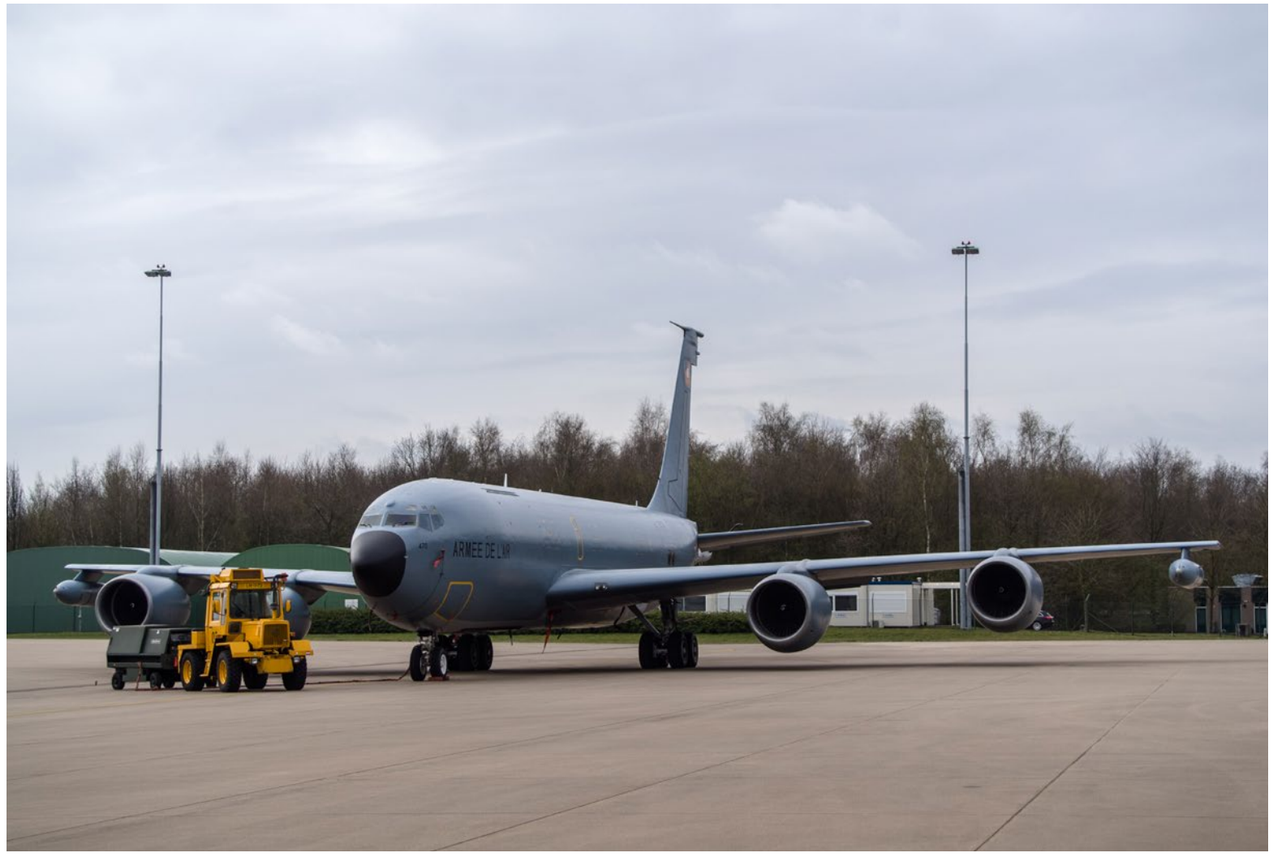
But all these projects will not be enough in the current state, because Europe needs 130 tankers to be significantly operational. According to another study conducted on this subject, two A330 MRTTs flying twice a day would be able to meet the demands of all European nations to maintain the qualifications and initial training of fighter pilots.

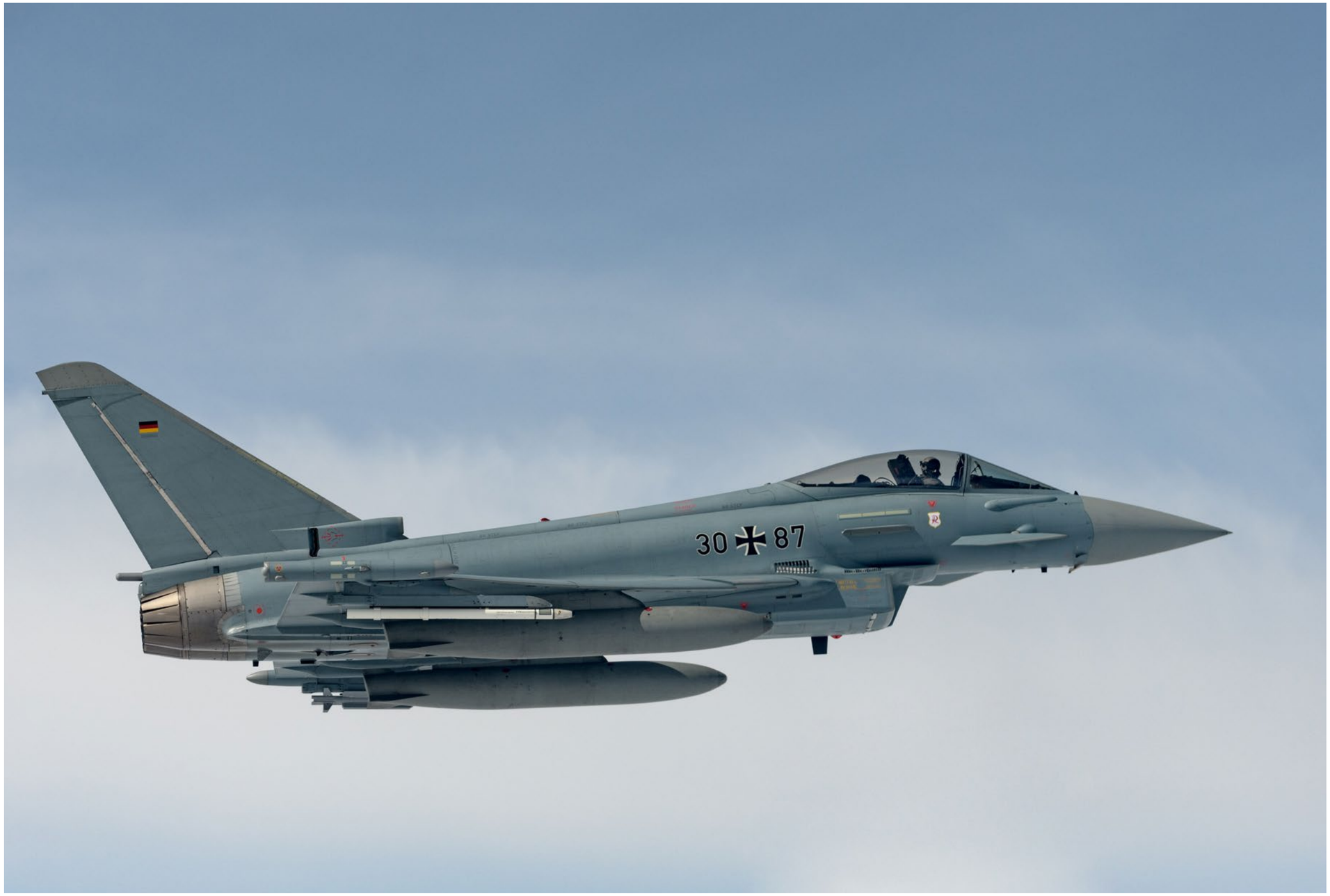
"*Only two*", Lieutenant-Colonel Franck pointed out, adding: "*We are therefore thinking of making hubs (AAR zones), one to the south and one to the north of Europe. We will sell slots to the nations. This will be managed in simple cost, since there will be no transit, it will be an ATARES use. We will manage the fleets here. And if other nations, like the Poles, want to come with their slots, we would do this a long time in advance because there are behind diplomatic problems to manage. We will have to check certification procedures.*"

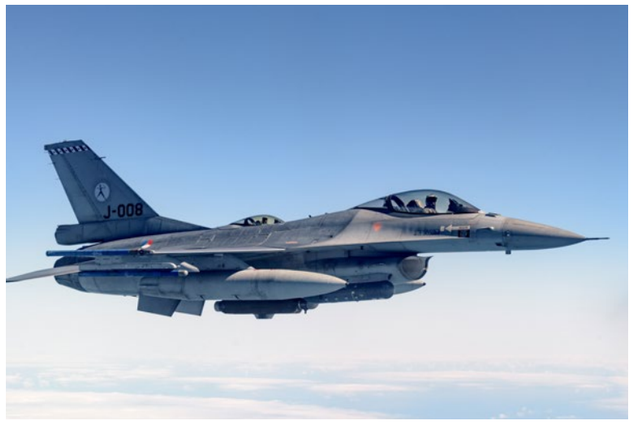
Moreover, the management of these aircraft in a restricted area is not easy: "*It is necessary to be able to gather planes and it is especially necessary to optimise them*", explained Lieutenant-Colonel Franck. "*Today we are optimising a C-135. Tomorrow an A330, 110 tons to take off... it will need people to optimise this plane. Moreover, the A330 will not only be called for AAR as the C-135 does it today. Tomorrow, it will carry out strategic transport, Medevac (emergency medical evacuation).*"

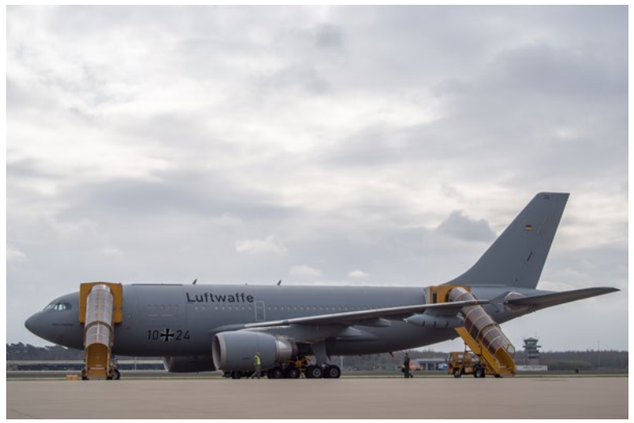


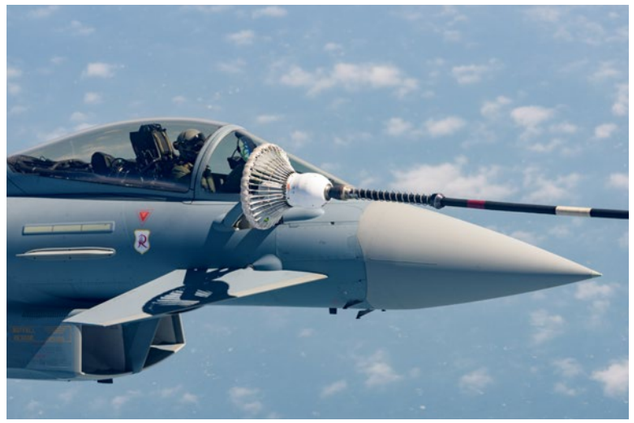












The Arrival of the Phoenix

The C-135FRs are now 54 years old and keeping them in flight is, in itself, an exploit: "*It's not always easy but we get there*", Lieutenant-Colonel Franck admitted. "*When we were in Libya, what you may have trouble understanding is that on an old fleet, 97% of missions were assigned to us by a JFACC (Joint Force Air Component Major)". Despite the age of the Stratotankers, if FAS have been entrusted with virtually all missions by the multinational organisation, it was mainly for their know-how in AAR operations, but also in management of their fleet. "Somehow, we are asked how we do this with such an old plane*", Lieutenant-Colonel Franck admitted.

"*We need to give thanks to our technical teams who do great work, who do not count their hours and who work day and night. We have a dedicated human resource, which works hard for the missions of this aircraft*", said Major Jérôme. "*At Istres, we have one of the few units to have our group of technical teams located and under the same command of our squadron. Thanks to them, the aircraft is operational and in the best possible conditions*", he added.

The American tanker ensures versatility and flexibility required to perform various missions as reminded by the French mentor: "*The C-135FR has a configuration that allows us to refuel all fighters. And since it's an old plane, it has the merit of having certifications to refuel all aircraft.*"

The Libyan campaign lasted nearly eight months, but at what cost?

According to Lieutenant-Colonel Franck, the Airbus A330 MRTT "Phoenix" will revolutionise AAR: "*FAS are reviewing everything (the number of crews by plane...), because they know how to do with a plane, but tomorrow, they will have X planes with 97% availability and there, it will be the surprise...*", he concluded.

FRISIAN FLAG 2018

TEXT & PHOTOS - DARREN WILLMIN

Darren Willmin reports from Leeuwarden, and this years edition of the Frisian Flag exercise.

Polish Mig-29A (59) from 23BLT Minsk Air Base arrives back to Leeuwarden Air Base with parachute extended.
Photo by Darren Willmin

Frisian Flag 2018

Frisian Flag is a large exercise which is held annually at Leeuwarden Air Base in the Netherlands. With Participating aircraft from several countries with over 75 aircraft in total and all launching and recovering twice a day from Leeuwarden.

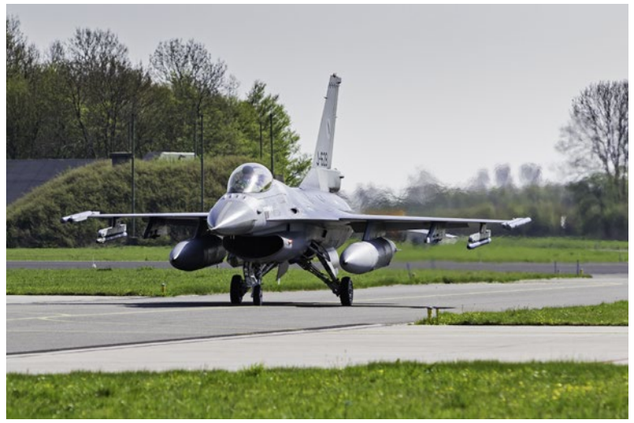
Frisian Flag 2018 is the 19th year of the exercise and has become a popular event for many nations. The intention of this exercise is the joint training of NATO and Allied Nations for any conflict situation, consequently allowing aircrew to enhance their co-operation and strengthen the relations between Nations.

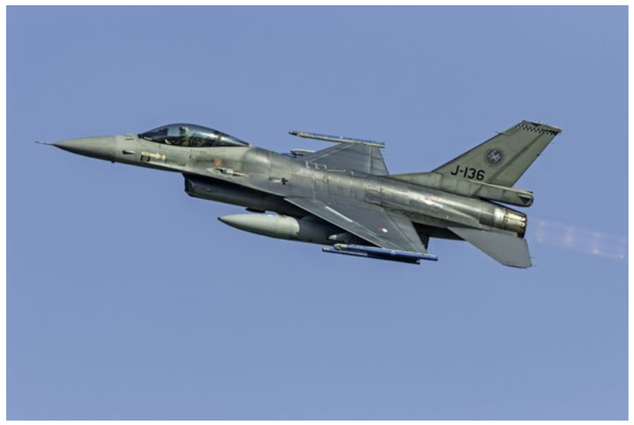
Missions flown during Frisian Flag included defensive missions which protects ground objects on land and at sea over Dutch airspace. Also slow moving or high valued aircraft in corporation with air defence systems as well as offensive missions which involves pre-planned strikes, gaining air superiority, suppression of enemy air defence systems with support from Forward Air Controllers. The command and control of aircraft was provided by Dutch and German Control and Reporting Centres (CRCs) as well as NATO AWACS (Airborne Warning and Control System) aircraft.

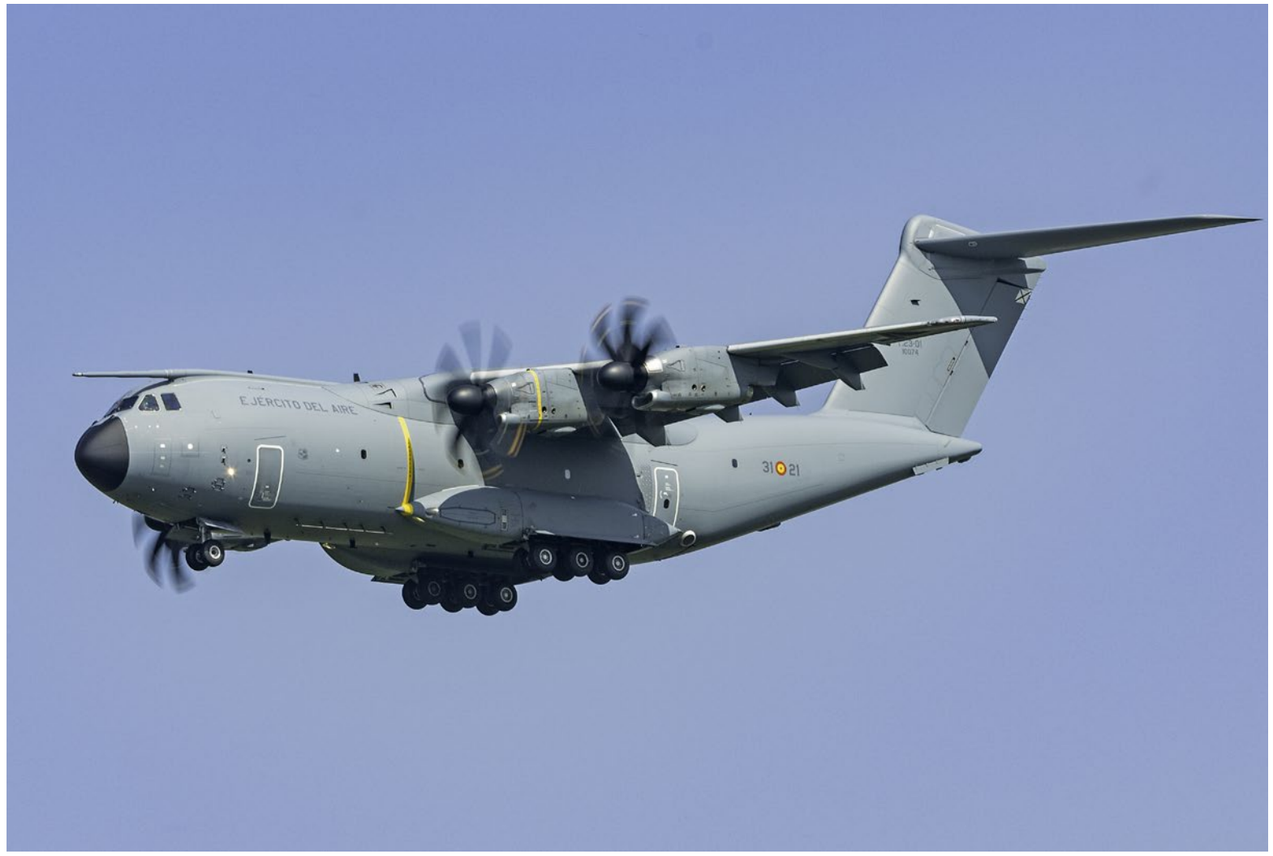
One of the main sorties during this exercise is Air-to-Air Refuelling. This is made possible by an exercise which runs simultaneously with Frisian Flag known as European Air Refuelling Training (EART). The tankers all launch and return to Eindhoven Airport in the South of The Netherlands. The training sorties would see the tankers head North to meet up with the fighters to undertake the transfer of fuel. These two linked exercises allow further international co-operation and expand the complexity of Frisian Flag missions.

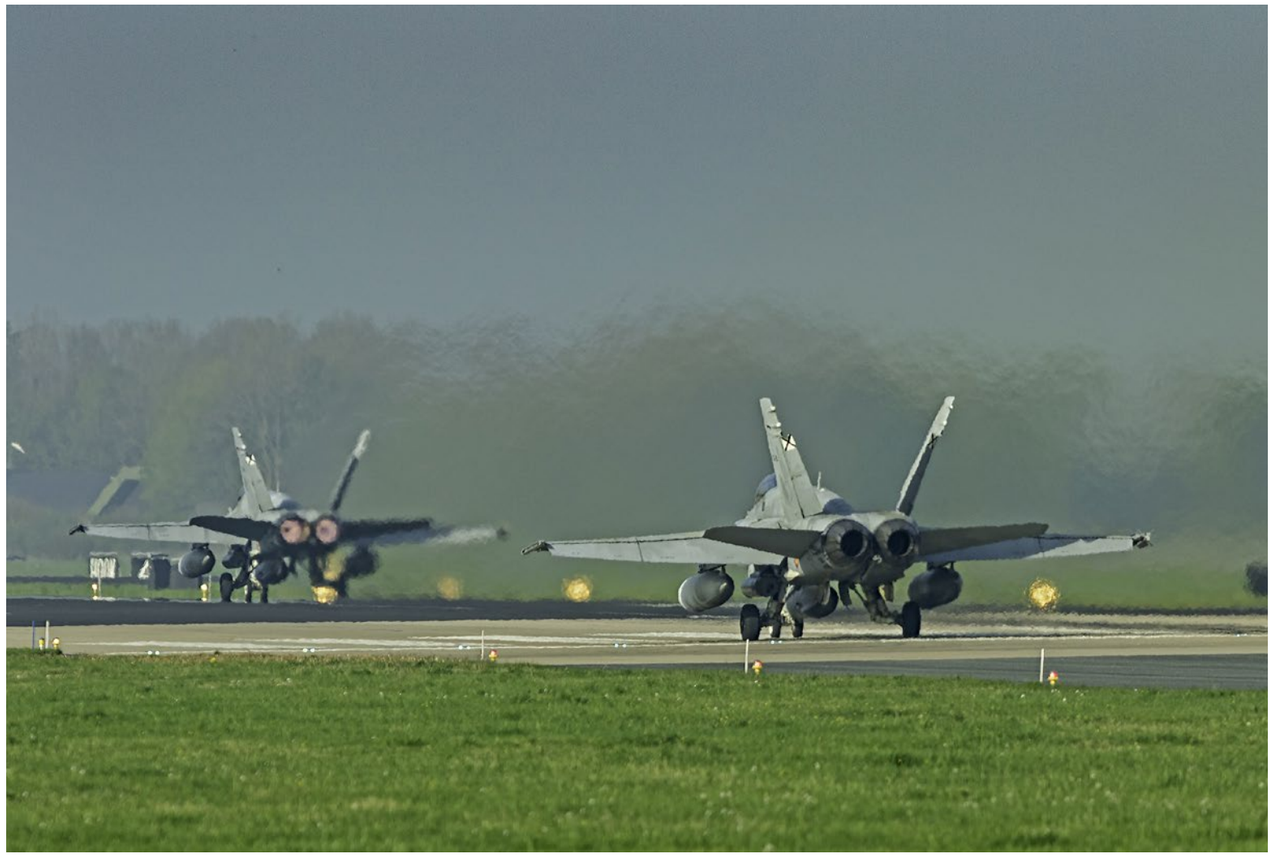
The pilots are flying daily with a mission lasting between one and a half to three hours, with a further four to five hours for mission planning beforehand and a three-hour debriefing after arriving back at Leeuwarden Air Base. Two waves were flown daily, usually more aircraft were flown in the morning wave than in the afternoon.

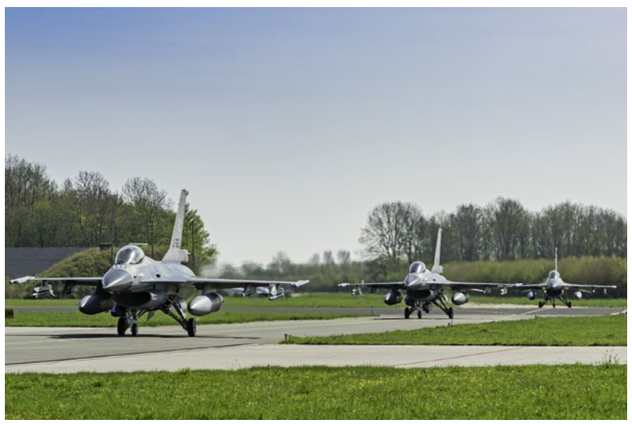
The event regularly draws many aviation media and enthusiasts to Leeuwarden Air Base during the 2-week period, averaging around 500 people per day such is the scale and interest in the exercise.

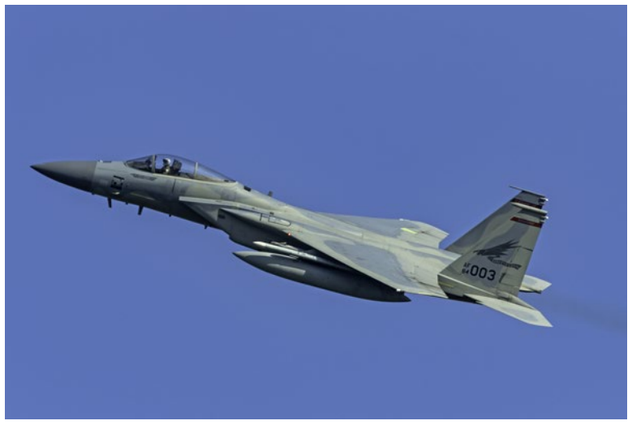






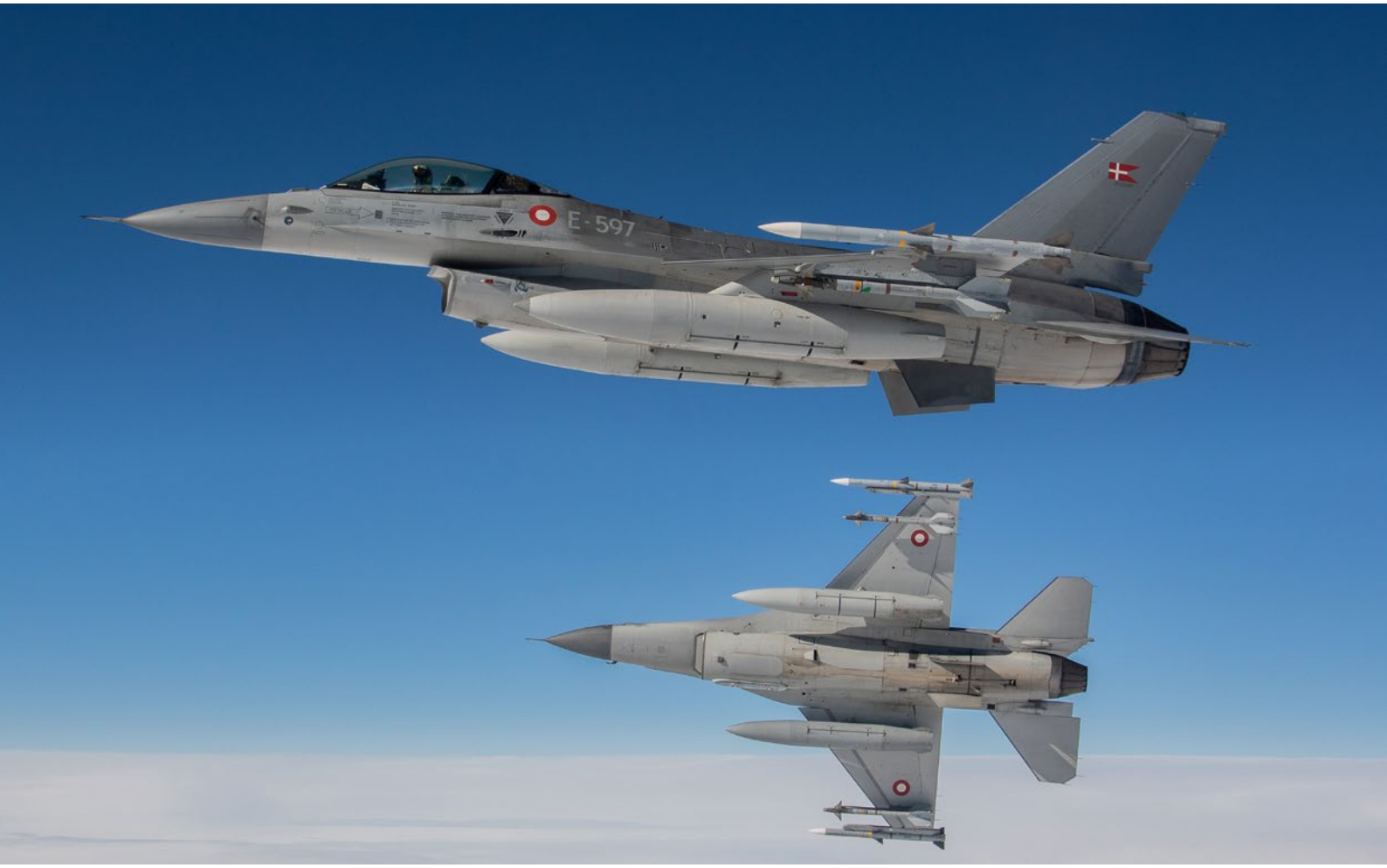






THE NEXT ISSUE OF FLYMAG MAGAZINE

The next issue of FLYMAG will be published in September of 2018.
The Royal Danish Air Force wasn't only patrolling in the sky above Denmark and the Baltic countries this spring, as the were conducting air policing above Iceland as well. Søren Augustesen reports from Iceland in the next issue of FLYMAG.



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