

# Making it Real...

The Netherlands hosted two multinational live flying exercises simultaneously in April. From Leeuwarden Air Base (AB) in the north of the country, exercise Frisian Flag sent large-scale packages of 40 fighter aircraft into 'combat' over the north of the Netherlands, northern Germany and western Denmark. From Eindhoven in the south, the European Air Transport Command (EATC) supported the exercise with four tanker aircraft in an operation called European Air-to-Air Refuelling Training (or EART 15).

Western air forces 'waged war' in large and complex packages with differing aircraft types from



squadrons across Europe. Training in complex scenarios with multinational assets is critical in forming an efficient and powerful force should real-world operations be necessary.

The annual Frisian Flag exercise provides opportunities for such training and has become a respected event since it was first held in 1992. It's one of the few large-scale fighter exercises in Europe. Responsible for the organisation for this year was 322 Tactical Training Evaluation and Standardisation (TACTES) Squadron of the Royal Netherlands Air Force (RNLAf) based at Leeuwarden.

Large-scale fighter missions, tanker support and mobile surface-to-air missile threats made this year's Frisian Flag one of the most complex ever. Despite 'real world' operations elsewhere, **Gert Kromhout** reports that, for fighter pilots, it's the only place to 'fly, fight and learn' in Europe.

"We enable the air and ground crews to train in a modern air combat environment," said Captain Remco, deputy exercise supervisor at 322 Squadron. "There are large-scale air operations with ground-based and airborne electronic threats in a relatively unrestricted environment. We promote pilot leadership, self-discipline and taking the initiative, and provide a forum for the development of tactics and their validation."



Above: Captain Remco, deputy supervisor at Frisian Flag.

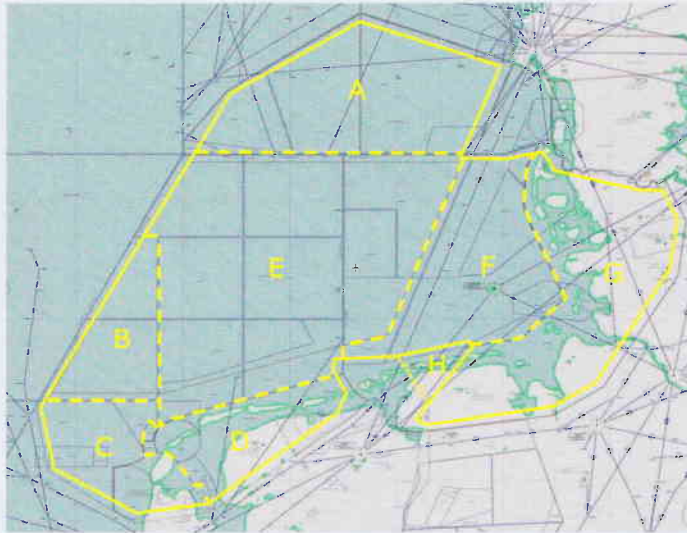
Below: The objectives of Frisian Flag 2015 were similar to previous years' events but with different scenarios and participants, new tactics and new simulated weapons. All photos author unless stated



## Heated discussions

According to Leeuwarden AB commander Colonel Gerbe Verhaaf, it's important to establish and maintain multinational relationships between different air forces and crucial to have all the pilots at the same base. "Debriefing face-to-face, exchanging ideas and socialising is invaluable. Sometimes these debriefings result in heated discussions between participants about things they did not like – a good thing because we all want to learn and improve. The same people drink a beer together at the bar after the day's finished. All participants get better from exercises like this. When it comes to actual combat, they have the highest level of survivability possible."

The presence of a deployable Command and Reporting Centre (CRC) cell and RNLAf combat controllers at Leeuwarden added much to the value of the debriefing. There was no airborne radar asset such as the Boeing E-3 AWACS available



**Above:** Frisian Flag's large area of operations, with the Netherlands bottom left, northern Germany in the middle and Denmark to the right.

for the exercise but, according to Captain Remko, it was not a problem. "The deployed German CRC was capable of producing exactly the same air picture."

Twice a day around 40 fighter

aircraft took off from Leeuwarden to fly missions in reserved air space north of the base towards northern Germany and Denmark. Luftwaffe SA-6 Gainful, SA-8

Gecko and EADS Roland missiles and Dutch Army Raytheon/Kongsberg National Advanced Surface-to-Air Missile Systems (NASAMS) were placed within the fighting area, frequently changing locations to catch pilots unaware.

Mission profiles during Frisian Flag were air defence, dynamic and pre-planned targeting, high-value airborne asset protection and slow mover (helicopter/transport) protection.

## Dominated

This year's exercise was dominated by 12 F-15C/Ds of the US Air National Guard. The 159th Expeditionary Fighter Squadron, based at Jacksonville International Airport, Florida, landed at Leeuwarden ten days before the start of the exercise. The Finns and Germans were present with six F/A-18Cs and ten Eurofighters respectively and Spain sent six F-18As. A civilian Lear jet of Skyline Aviation and a Dassault 20 of Cobham Aviation Services

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provided stand-off electronic warfare measures and army support came from special forces Joint Tactical Air Controllers (JTACs) operating in the area of operations to control close air support.

As hosts, the RNLAF sent 14 F-16As (including four spares)

from 322 squadron and Volkel-based 312 and 313 squadrons. This was the maximum number of F-16s the RNLAF could operate, and their ageing airframes meant ground crews and maintenance personnel spent extra hours keeping the fleet serviceable. With

another eight F-16s in Jordan for operations against Islamic State over Iraq, and two more on quick reaction alert in the Netherlands, the 61 Dutch F-16As currently in service are stretched to their operational limits.

Before the start of the exercise,

the operational and logistical commands plan maintenance in such a way that peak F-16 availability is guaranteed—resulting in a reduction in sorties in the week before and week after Frisian Flag. During the exercise there are virtually no F-16 flights at Volkel. ▶

## Participants: Frisian Flag (Leeuwarden AB)

Air Force	Types	Squadrons
RNLAF	10x F-16AM (+4 spares) C-130H*	312, 313, 322, 336 Sqns,
Luftwaffe	8x Eurofighter 2000 (+2 spares)	TLG 31 'Boelcke'
US ANG	8x F-15C/D (+4 spares)	159th EFS
Spanish AF	4x F-18A+/B (+2 spares)	Ala 12
Polish AF	4x F-16C/D (+2 spares)	32 TAB
Finnish AF	4x F-18C (+2 spares)	31 FS
Civil	Learjet 36A	Flightline Aviation
Civil	Da20DC	Cobham Aviation

\* Second week only

**Abbreviations:** FS: Fighter Squadron, EFS: Expeditionary Fighter Squadron, TAB: Tactical Air Base, Ala: Wing, TLG: Tactical Wing

*Above: A Eurofighter of Taktische Luftwaffengeschwader 31 'Boelcke'. The Luftwaffe likes Frisian Flag – Leeuwarden is located 'around the corner' and the exercise is partly conducted over Germany. It also provides opportunities for German tanker aircraft, ground-based air defences and special forces.*

*Below: Lear jet of Skyline Aviation. This, and a Dassault Da20 of Cobham Aviation, provided electronic warfare services.*



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## **Evolving tactics**

The exercise scenario changes each year, as Colonel Gerbe Verhaaf explained: “When we plan and prepare this exercise we look at trouble spots around the world and what conflicts we can expect. We examine previous and current conflicts such as the one in Syria and Iraq, which we’re currently involved in.

The RNLAf and other participants use the exercise to develop tactics and operate new weapon systems against current and emerging threats.”

A good example is the exercise’s air-to-air combat phase, which primarily focused on beyond-visual-range engagements. Active Electronically-Scanned Array (AESA) radars are gradually being introduced, offering improved capabilities over mechanically-scanned radars. Such systems including the F-15C’s APG-63(V)3, can be used at the maximum range of the AIM-120 beyond-visual-range radar-guided missile. Half of the Eagles deployed to Leeuwarden were equipped with the APG-63(V)3.

The next five years will see significant changes at Leeuwarden AB with the arrival of the F-35A Lightning II and 306 Squadron re-equipping with MQ-9 Reapers. But, Colonel Verhaaf says, that does not mean the base can no longer organise Frisian Flag exercises. “Frisian Flag is tied to Leeuwarden and will remain so. Leeuwarden is the ideal base for this exercise. The training areas are only a few minutes away. If we run the exercise from the southerly Volkel AB, we’d have to fly the whole package through dense civilian air traffic routes four times a day, and that’s not ideal.

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**Above:** The Finnish Air Force, the only non-NATO participant, is no stranger to Frisian Flag. Hornets of the 31st Fighter Squadron flew air-to-air missions only.

**Below:** A Spanish Air Force F-18B CE.15-12 '12-75' from Ala 12 lights the afterburners at the start of its take-off run. The Hornets have recently undergone a mid-life update to ensure they remain in service until at least 2025.



**Below:** The Air National Guard’s appearance at Frisian Flag 2015 was a first. The RNLAf had requested US assets to take part – and the Florida ANG had been looking to join in a European exercise.



# Team Tanker

The European Air Transport Command (EATC) recognises there are serious shortfalls in European air-to-air refuelling (AAR), and used Frisian Flag to create a realistic training environment to exchange information and ideas amongst the tanker and fast-jet crews. The tanker exercise is known as European Air Refuelling Training (EART).

The shortfalls surfaced during Operation Unified Protector (OUP) over Libya in 2011. The vast air operation was the first European-led large-scale 'real world' air campaign – before which major air coalitions were often led by the United States.

Colonel Niels Lokman, Head of the Functional Division of the EATC, noted: "One might think AAR is just putting a tanker in front of a fighter, but that's not true. There's a complete world behind it.

For instance there's airspace management, operational and emergency procedures, communications and the organisation of command and control. There are interesting operational differences between the countries."

A lack of training opportunities was identified during OUP. "In Europe, everyone operates by themselves. They fly tanker aircraft primarily to refuel their own aircraft. We're all training by the same NATO standards, and everyone is trained well.

However, during OUP it turned out that everyone interpreted the regulations a little differently," added the colonel.

## Approval clearances

Captain Eric van Osch, a former



Above: **Four years from now, the RNLAF's 334 Squadron will replace its two KDC-10 tankers with four Airbus A330 MRTTs and become a multinational unit with Polish and Norwegian elements.**

RNLAF Boeing KDC-10 flight engineer currently assigned to EATC staff, identified clearances to refuel other nation's aircraft as another problem encountered during OUP. "The refuelling systems are all standard. All probe-equipped aircraft can refuel from the drogues on the tankers and all booms fit in the receptacles of the receptacle-equipped aircraft. However, each nation has to clear aircraft types to receive fuel from another nation's tankers. This certification takes a lot of paperwork, time and trials, which can be rather costly."

During OUP, some nations did not have the necessary clearances ready. Lt-Col Franck Bottero, EATC chief of mission control and commander of the French tanker wing during OUP, said only the C-135FR/KC-135 of the French Air Force could refuel all aircraft in theatre. He explained: "The nations' mindset was that they had to be able to refuel their own fighters. Working in a multinational environment was not a priority."

Captain Osch added that an AAR planner had to look in his books to find out which tankers were allowed to give fuel to specific nations' aircraft. "The result was

there were many more tankers in the air than necessary, if all fighters were allowed to refuel on all types of tanker. The nations are working on this issue but it takes a lot of time and money."

Another issue to have emerged during OUP is a lack of air-to-air refuelling (AAR) planners in Europe. This was a gap in the EATC's ability to plan and execute joint force air operations.

Col Lokman said those points are what EART is addressing. "Last year, we set up an AAR planner course to create a pool of people that can be called-up during a real-world operation. This [EART15] exercise is the first time the students of this course are part of the Frisian Flag AAR planning cell at Leeuwarden, which allows them hands-on training."

## Tanker teamwork

The first EART, in 2014, focused on bringing tanker crews from different nations (Netherlands, Germany and Italy) together to learn from each other. Normally, during operations and exercises, the fleet of supporting tankers operates from several air bases. This year, France was added as fourth participant,

bringing a C-135FR. The others were the RNLAF with a KDC-10, the Luftwaffe with an A310 MRTT and the Italian Air Force with a KC-767A.

Col Lokman said training levels in 2015 were more complex than in 2014. "This year we have academics and we introduced mentors to participating crews. Procedures were standardised because not having the same methods can cause problems. During OUP, a lack of an organised approach to AAR caused quite a number of issues."

Lt-Col Bottero explained how a minor detail can cause big problems. "During OUP, my wing discovered the Eurofighter fuel transfer rate was lower than planners thought. They scheduled the fighters to our tankers to receive 10,000kg [22,046lb] of fuel in ten minutes. However, the Eurofighter takes 15 minutes to take that amount. This created a real mess in the schedule."

## Efficient & effective

Although OUP was four years ago, clearance problems have not been resolved – as was the case during Frisian Flag. In EART 15, the F-15s were not authorised to refuel from KDC-10 tankers nor the German Eurofighters from the Italian KC-767A.

The EATC is making progress in creating a better and more efficient force. Not being tied to Frisian Flag means EART can support other flying exercises at the same time.

In the future, newer tanker assets will be included. France will get A330 MRTTs to replace its C-135 fleet while the Netherlands will replace its two KDC-10s with A330s as well.

Together with Poland and Norway the Dutch will operate at least four A330s from 2019/2020 in a multinational 334 Squadron at Eindhoven.

Other countries have expressed their interest in this initiative and may decide to participate in the unit, generating the purchase of even more MRTTs. By then, the European aerial refuelling force should be an efficient and well-oiled operation.

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Above: **The French Air Force participated in the EART exercise for the first time. GRV 2/91 'Bretagne', based at Istres, took one of their elderly C-135FRs to Eindhoven AB.**

## EART (Eindhoven AB)

RNLAF	KDC10	334 Sqn
AMI	KC-767A	8° Gruppo*
FAF	C-135FR	GRV 2/91 'Bretagne'

Luftwaffe A310 MRTT FBS

\*second week only

MRTT: Multi-Role Tanker Transport, FBS: Special Air Mission Wing