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Fifth-gen goes Dutch



As fighters from numerous air forces gathered in the Netherlands for the annual Frisian Flag event, the emphasis was on the latest generation of jets. **Paul Gross** and **Ben Gorski** report

As a herd of Holstein-Friesian (Frisian in Dutch) cows eat their way through a fresh green meadow, the sound of more than 30 jets taking off in rapid sequence shatters the calm. The cows seem unimpressed, unlike anyone who takes on this force might be! For two weeks, the skies of the Friesland province in The Netherlands are adorned with mixed formations of modern flying hardware. This is where NATO's best pilots train.

Flying the flag in 2023

From October 2 until October 13, more than 40 aircraft and helicopters from seven NATO countries participated in the largest aerial exercise in the Netherlands. Entirely organised by the Royal Netherlands Air Force (RNLAF) and supported by hundreds of international ground crew, twice a day complex missions were executed and evaluated.

The annual event is the largest exercise organised in the Netherlands. As the name suggests, the exercise is flown from Leeuwarden Air Base in Friesland. Frisian Flag is regarded as a smaller version of the Red and Green Flag exercises in the USA.

Leeuwarden is the first Main Operating Base of the RNLAF to operate the F-35A Lightning II. More than 35 of 52 on order have been

delivered so far. On December 27, 2021, Initial Operational Capability (IOC) was reached. Fifth-generation fighters like the F-35 are playing a growing role since their entrance during the previous edition of Frisian Flag in 2022.

"The current situation in Eastern Europe, with a war one-and-a-half hours' flight from here, demands that we continue to practice with our NATO allies," said Air Commodore

Johan van Deventer, commander of Air Force Air Combat Command.

Exercise history

The exercise's history dates back to 1992 and started under the name DiaTIT. The acronym originating from Diana Tactical Integrated Training, with Diana being the mascot of the organising 323 squadron. Since the beginning in

The mass take offs during Frisian Flag require a lot of effort from the local Air Traffic Control RNLAF



Left: Leeuwarden Air Base takes care to have good relations with the local community. To minimize noise, pilots must make a short banking maneuver to starboard from runway 23 to avoid the village of Marssum Twan Van Dommelen

Below: Commodore Johan van Deventer, commander of Air Force Air Combat Command, considers Frisian Flag a very important exercise in the current geopolitical situation Paul Gross

Tanker support

Some earlier editions of Frisian Flag were combined with the NATO's aerial refuelling exercise (EART) exercise, also taking place in the Netherlands at Eindhoven Air Base. This year however, EART was moved to Lanzarote in Spain. Main reason for this switch is the almost unrestricted airspace in the exercise area. Nevertheless, Frisian Flag has a need for extensive tanker support for many of its scenarios. Fortunately, the Multinational MRTT Unit (MMU) flying out of Eindhoven Airbase and Cologne

airport in Germany came to the rescue. Next to these the USAFE's 100th Air Refueling Wing out of RAF Mildenhall provided much-needed tanker support.

For the MMU, this was a very welcome request. The unit is working towards a sufficient number of certified boom operators. This is a challenge as most of their missions involve air-to-air refuelling with the refuelling pods at the wingtips. Only very few receivers refuel by means of the refuelling boom. Frisian Flag however provides any aircraft that need a boom for air refuelling, giving (trainee) boom operators much-needed practice opportunities.



Above right: Lt Col Greg Schroeder, the Director of Operations for the 493rd Fighter Squadron, is a Frisian Flag veteran, having participated with the F-15C in 2012 Paul Gross

Below right: Maj Marcel Burgers, project officer of Frisian Flag. He is the head of a team of ten that organised the 2023 edition of Frisian Flag Paul Gross



“The current situation in Eastern Europe, with a war one-and-a-half hours’ flight from here, demands that we continue to practice with our NATO allies.”

1992, the format has changed and the scale has increased. An important year was 1999 when for the first time the massive involvement of foreign aircraft made it a true “Flag” exercise.

Throughout the years the number of participants and their origins varied. Next to NATO members there has also been regular participation from Sweden, Switzerland, and Finland. In the 1999 edition the United

States Navy participated for the first time, with Grumman F-14As, Boeing F/A-18s and Grumman EA-6Bs from aircraft carrier CVN67 USS *John F. Kennedy*.

Main goal

The aim of Frisian Flag is to train and prepare pilots for large scale, mixed aircraft operations. To accomplish this, for two weeks complex missions are trained in an international atmosphere. To create an as real as possible simulation, several scenarios are prepared and executed in waves of 30 to 40 aircraft and helicopters.

The scenarios vary from air interdiction missions, to attacking ground targets, to co-operating with forward air controllers both on land and at sea. Experience gained during previous missions is analysed extensively and applied during the subsequent missions.

With several teams operating from locations abroad, briefing and debriefing can be a challenge. Although the participating air forces can use applications comparable to Zoom and Skype (but at a much higher security level) it is always easier to evaluate face-to-face.

Therefore, the units that were not operating from Leeuwarden, all had to detach a liaison pilot at Leeuwarden. After the mission

these pilots had contact by phone with their colleagues abroad who had flown the mission. Their feedback then was discussed during the debrief with the rest of the participants at Leeuwarden. Subsequently the results of the general debrief were shared with the pilots at their homebase abroad. All-in-all this was experienced as complex and sometimes suboptimal. However, this compromise also has an advantage.

Or, in the words of Major Marcel ‘Fikkie’ Burgers, project officer of Frisian Flag: “The great importance of an international exercise like this is the co-operation with other NATO partners. By working together intensively in planning, briefing, and debriefing an exercise mission, you get to know each other really well. This year we have several participants participating from their own home bases. We can connect with these remote participants via video conferencing, but it’s not ideal. It is somewhat distant. And participating in social activities is also difficult. On the other hand: during a large-scale operational deployment, you never fly all together from one location either.”

RNLAF in transition

As hosts, the RNLAF brought a large contingent to the table. This year 12 F-35s deployed from



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Leeuwarden Air Base. Currently, the RNLAF is in the transition phase from the F-16 to the F-35. The KLu is therefore participating with both types. The four participating F-16s operated from 312 squadron from Volkel Air Base. Also, Apache attack helicopters, a maritime NH90 helicopter, all operating from their own bases. Last but not least, the Netherlands provided highly needed air refuelling capacity by means of an A330 MRTT of the Multinational MRTT Unit, operating from Eindhoven Air Base.

Also participating was The Royal Netherlands Navy with air defence and command frigate Zr.Ms. De Zeven Provinciën and multipurpose frigate Zr.Ms. Van Amstel.

Organising a Frisian Flag

A team of about ten, headed by Maj Burgers form a special department under the name of Air Combat Development Centre (ACDC). The ACDC also organises other training and exercises like the Weapon Instructor Course (WIC).

The planning process usually starts a few months after the evaluation of the previous edition. It all starts with the invitation, compiled by the ACDC. The invitation states, for example, the dates and objectives of the exercise. After

For the 70th anniversary of the 313 squadron Tigers, this Dutch Air Force F35 received an anniversary tail which shows all the types of aircraft they have flown Ben Gorski



that CLSK (Commando Luchtstrijdkrachten, Air Force Command) determines which countries are to be invited. This usually concerns all NATO countries plus some other European countries like Switzerland and Sweden.

Normally there is more interest in participation than can be physically accommodated at Leeuwarden. In those cases, CLSK had to decide on who can participate. This choice is made on a number of aspects, including input



The Luftwaffe is more or less a regular participant in Frisian Flag with their Eurofighter Typhoon – all that differs is the squadron. This year the honour went to Taktisches Luftwaffengeschwader 31 'Boelcke' located at the German Air Force Base Nörvenich Ben Gorski

The Finns are very appreciative of finally becoming NATO members and their transition to the F35 Ben Gorski





Onwards to the 25th anniversary...or not?

With this edition of Frisian Flag finished on 13 October 2023, normally the planning-phase for the next edition would have commenced soon after. The 2024 edition would have marked the 25th anniversary of Frisian Flag. An anniversary that proves that the concept of the exercise remains valid. However, 2024 will see no Frisian Flag. One reason is that in 2024 the Weapons Instructor Course (WIC), of which a major part will take place at Leeuwarden Air Base. This will not only provide a high workload for the personnel of the base, but it will also 'eat' a large part of the noise-quota that Leeuwarden Air Base can use. But there are more factors, as Major Burgers explains: "...we will skip it next year. That has mainly to do with the calendar that is so full with other exercises, other operational tasks and the transition we are still in with the F-35. Therefore, it was decided not to have Frisian Flag in 2024."

Therefore, it will be 2025 when will see the next edition of this highly valued exercise. Frisian Flag will then, albeit with a pause of two years, continue to provide NATO with unique opportunities to train realistically in large air operations.

With the phasing out of the Dutch F-16s imminent, this is a view that will soon disappear. The last F-16 operations are expected to be in 2024
Ben Gorski



Frisian Flag participants				
Number	Type	Nation	Squadron	
6	F-35A	Netherlands	322sq	
6	F35A	Netherlands	313sq	
4	F-16AM	Netherlands	312sq	
2	AH-64D	Netherlands	301sq	
1	C-130H	Netherlands	336sq	
1	NH-90NFH	Netherlands	860sq	
1	AS.532U2	Netherlands	300sq	
4	F-35B	United Kingdom	809 NAS	
4	F-35A	United States	48FW/493FS	
3	F/A-18C	Finland	HavLLV 11	
8	F-16AM	Belgium	2 wing	
4	F16AM/BM	Denmark	Esk726	
1	LJ-36A	Netherlands	Skyline Aviation (civil) Eletronic warfare	
8	EF2000	Germany	TLG31	
1	KC-30M MRTT	NATO	MMU	
1	KC-135R	United States	100th ARW	
1	E-3F	France	EDCA 00.036	



At the request of the Americans, A-4 Skyhawks from the Canadian company Top Aces participated in the exercise Twan Van Dommelen

from the ACDC. Type of aircraft, added value for the exercise and previous attendance are some of the other factors taken into consideration.

During the planning period the chosen participants are invited to send a delegation to Leeuwarden. The goal is to give them a look and feel of how things are at the airbase, and inspect the facilities that they will be given.

Organisational challenges

In the past some real-world events have caused Frisian Flag editions to be cancelled or cut short. In 2010 the eruption of Icelandic volcano Eyjafjallajökull caused Frisian Flag to be halted after a few days. In 2020 COVID-19 caused cancellation just days before the first participants were due to arrive. The 2021 edition was also cancelled, this time it was decided half a year in advance. And then, just as everything looked fine for the 2022 edition, on February 24, 2022, Russia invaded Ukraine and had an impact on the 2022 edition.

For the 2023 edition there were also some unforeseen circumstances that had to be overcome. One factor was the renovation of the runway at Leeuwarden Air Base. This caused Frisian Flag to be held in October, instead of normally in April. Some air forces had already committed to other exercises earlier in the year. The French, who participate almost every time, had to pull out because of operational obligations. This also applied to the Italians who were supposed to participate with their F-35 but were tasked with Air Policing missions from Malbork Air Base in Poland.

However, fewer participants also create opportunities as Maj Burgers explains: "Although fewer countries are participating in the exercise this year, the exercise value is no less. We can now perform certain missions, that are much more difficult with large numbers of aircraft. An example is personnel recovery, the rescue of a downed pilot in enemy territory. Such a Combat Search and Rescue (CSAR) mission is quite complex, and is now much easier to fit in."

He continues: "There are now about 35 aircraft per wave airborne, where in the past we sometimes had waves of 50 to 60 aircraft. A big advantage is that we can plan missions that are much more tactical. This makes it possible to be able to do very different types of missions



The Belgians participating in Frisian Flag this year were from the 2nd Wing 350th squadron Ben Gorski

that have never really been done before. An example is picking up people from an embassy, comparable to the events in Afghanistan. In this edition of Frisian Flag, we are going to do a kind of mission like that, but including air threat."

Evolving Frisian Flag

The 2022 edition of Frisian Flag saw the first-ever participation of the F-35. The unique capabilities of this aircraft gave an extra dimension to the exercise. Especially the information gathering and sharing was found to be an important factor. Through its better sensors, the F-35 has relevant information far earlier and better than the fourth-generation fighters. Back in 2022 this was described by the then Frisian Flag Supervisor, a senior F-16 pilot with tactical name 'Joker': "The information dominance of the Blue Forces increased a lot because of the F-35. The F-35 is an information-sponge... it is like an iPhone where the F-16 is like a Nokia 3210."

In this years' edition of Frisian Flag an important development was the intensified use of simulators. Maj Burgers explains: "This year, for the first time, we are using live virtual

construct. That means an F-35 pilot participates in the exercise from a simulator located in a shelter. The ultimate goal is that this simulated participant can do the same thing during the exercise as the flying participants.' On the subject of simulators he continues: "We also have a simulated RC-135 River Joint participating. So, we really do make it a real realistic war scenario."

On the subject of simulators he continues: "We also have a simulated RC-135 River Joint participating. So, we really do make it a real realistic war scenario."

Unlike the previous editions this Frisian Flag, the 2023 edition also saw civil Red Air participation. Two A-4 Skyhawks and two Alpha Jets from Top Aces operated from RAF Lakenheath at the request of the US Air Force. At sea, exercise opponents can also be found. Maj Burgers explains: "A defence and command frigate Zr.Ms. De Zeven Provinciën from the Koninklijke Marine (Royal Dutch Navy) will control aircraft in the second week, just as an AWACS radar aircraft does. Also, the radar systems of the naval ships will act as simulated enemies."



To get the missions flown a lot has to happen behind the scenes. Without all the supporting personnel, Frisian Flag would not be possible RNLAf



When asked if there are things on Maj Burgers' wish list for a next Frisian Flag, he replies that those are not so much aircraft but more surface to air missiles: "This year unfortunately, our colleagues with the Patriot ground to air missiles could not participate. For a realistic exercise scenario, we would like to have more systems like that. Patriots, or other emitters that can simulate a threat from the ground".

United States participation

The United States Air Force Europe (USAFE) has been a regular participant in Frisian Flag. This year the honour fell to the 493rd Fighter Squadron from RAF Lakenheath.

Lt Col Greg 'Voodoo' Schroeder is the Director of Operations for the 493rd Fighter Squadron. He is a Frisian Flag veteran, having participated in 2012 when the 493rd FS was equipped with the F-15 Eagle. When asked about the difference between the F-15 and the F-35 in Frisian Flag scenarios, he states: "The big difference is that the F-15C is a pure air-to-air platform, so it specializes in air combat. The F-35 can do much more. As a

result, co-operating with other countries and other aircraft types has also clearly changed. By conducting training missions together, we experience what, for example, German Eurofighters, Finnish Hornets and Belgian F-16s can do, what their tactics are, and so on. That way we can learn from each other and understand each other better."

During Frisian Flag he is leading the detachment of ten F-35 pilots and a large groundcrew. When asked about the relevance of Frisian Flag for his unit he states: "Among American pilots Frisian Flag is a popular exercise. The Dutch are excellent hosts. An international exercise like this always offers the opportunity to improve interoperability, in other words operational co-operation. The lessons we learn are about the tactics used, but also what the capabilities of the different aircraft are."

According to Lt Col Schroeder the opportunities offered by the Netherlands during an exercise like this one are particularly good. "The airspace above the North Sea and the exercise scenarios make training very valuable. By working together with other NATO partners, our pilots can experience how pilots from other countries operate. Certainly, for less experienced pilots it is very instructive," he said.

During Frisian Flag, fifth-generation fighter aircraft work together with those of the 4th generation. According to Lt Col Schroeder, this is very valuable because the different types complement each other. Adding to that he explains: "I can speak from experience, having flown both the F-15, and now the F-35. The biggest challenge for F-35 pilots is the huge range of missions we can perform, thanks to all the sensors and advanced technology. It takes time before I have enough experience to be able to do all the different missions well."

As to whether fourth-generation fighters are useful in an exercise with a large number of 5th generation fighters, Lt Col Schroeder explains: "I do think that's the case. I think that the F-18s, F-16s and the Eurofighters bring a capability that into mission is very helpful in accomplishing those missions. But just because the 4th generation fighters are older, that doesn't mean I don't want them there. They absolutely provide capability. I want them there as a 5th generation pilot. I think I would say they're needed, and I definitely think help us win in these fights." **afm**

The 'Grim Reapers' will become the second American F-35 squadron stationed in Europe, after their colleagues from the 495th FS 'Valkyries', who received the first F-35s in December 2021
Twan Van Dommelen

