

Five Years of Flight Operations with EUROFIGHTER in the Luftwaffe

Frank Graefe

Following initial training of ten pilot instructors by the industry, flight operations with the EUROFIGHTER weapon system were possible to be started in the Luftwaffe (Air Force) with 73rd Fighter Wing "Steinhoff" in Rostock-Laage/Germany on 30 April 2004. The EUROFIGHTER weapon system has thus been operated by the Luftwaffe for more than five years since end of April 2009. At the same time, the 10,000th flying hour (FH) on the EUROFIGHTER weapon system in the Luftwaffe was appreciated and recognized with praise by Parliamentary State Secretary Christian Schmidt and the Chief of Air Force Staff, Lieutenant General, Klaus-Peter Stieglitz, by a parade in 74th Fighter Wing on 16 March 2009. Both anniversaries offer the opportunity to make a provisional appraisal of the introduction of the EUROFIGHTER weapon system.

Introduction

The procurement of 180 aircraft of the EUROFIGHTER weapon system was approved by the German Bundestag (Lower House of Parliament) on 26 November 1997. Within the scope of the four-nation (Germany, Great Britain, Spain, Italy) procurement planning of a total of 620 aircraft, Germany was allocated a work share of 29 percent in the EUROFIGHTER program. The procurement of the total number of EUROFIGHTERS is planned to be realized in three slices – for Germany it will be 44, 68, and 68 aircraft. The order placed for the four nations, a total of 148 EUROFIGHTER of the 1st batch, was contracted in 1998 already. All 148 aircraft of this slice were delivered by March 2008.

The Republic of Austria was the first EUROFIGHTER export nation which decided to purchase this weapon system and which has ultimately ordered 15 EUROFIGHTER in the construction/configuration state of the 1st batch. Within the scope of the export of these 15 EUROFIGHTER to Austria, a total of eleven German EUROFIGHTER of the 1st batch were handed over to Austria. In return for that Germany will get eleven new aircraft of the 2nd batch. Germany has thus only 33 EUROFIGHTER of the 1st batch at its disposal. Although these aircraft of the 1st batch are, in the present situation, not available for the Luft-



EUROFIGHTER of 73rd Fighter Wing "Steinhoff" at Laage/Rostock.

Picture: Luftwaffe

waffe's training and flight operations in missions, this export variant will be profitable for both sides in the medium term, since the Luftwaffe will, in consequence, receive eleven modern, multirole-capable aircraft of the 2nd batch with extended functionalities and, on the other hand, the EUROFIGHTER for Austria are possible to be delivered more rapidly and more cost-effective.

Due to the continuous development of the software and hardware components which was ongoing in parallel with the use, the EUROFIGHTER of the 1st batch were delivered in diverse states of construction/configuration which makes both the technical-logistical support and the flight operations in missions more difficult. Therefore, a total of 28 already delivered EUROFIGHTER of the 1st batch are



EUROFIGHTER of the Austrian Air Force.

Picture: Eurofighter Typhoon



EUROFIGHTER of the Luftwaffe at the 2009 AERO INDIA Air Show in Bangalore.

Picture: Eurofighter Typhoon

presently going through a retrofit program in order to upgrade them to the most modern construction state of the 1st batch. Ten aircraft have already gone through this comprehensive retrofit program. At present, there are twelve additional aircraft in the retrofit phase and are thus, just as the eleven aircraft for Austria, not available for flight operations despite a simultaneously high training and project density.

The first five EUROFIGHTER of the 2nd batch earmarked for the Luftwaffe were delivered during the period from December 2008 to June 2009 and are operated in 73rd Fighter Wing "Steinhoff" at Laage airbase. The delivery of three additional aircraft of the 2nd batch is planned up until August 2009 so that the Luftwaffe should have eight new aircraft of the 2nd batch at its disposal in summer of this year. A four-nation delivery of a total of 236 aircraft of the 2nd batch is planned to be realized by 2012. Whereas the Luftwaffe's EUROFIGHTER of the 1st batch were designed for the employment in the air-to-air role only, the aircraft beginning with the 2nd batch are also intended for an employment in the air-to-ground role. After lengthy negotiations, the procurement of the 3rd batch is presently still in the final four-nation coordination process which when completed allows to bring the negotiation with the industry to an end. Within the scope of this four-nation coordination it is planned to contract the 3rd batch in two steps with the first part (Batch 3A) comprising 45 percent of the total quantity or 107 aircraft, respectively. Moreover, Spain has ordered the production of five additional aircraft outside the scope of the territorial principle so that the contract for momentarily 112 aircraft of the 3rd batch is now being negotiat-

ed. Territorial principle means that the procurement of the EUROFIGHTER weapon system is based on an elaborately balanced ratio of units, industrial division of labor, and national budgets. Each nation produces certain components for the whole procurement program. The value of the components for 620 aircraft produced in Germany, for example, corresponds to an equivalent of the 180 aircraft planned for Germany in all. Each nation finances the output and performance rendered by its industries.

The parliamentary dealing with the request for the delivery of 31 German aircraft of the 3A batch was entered upon by the Defence and Budget Committee of the German Bundestag on 17 June 2009. To avoid possible cost-intensive interruptions of the production between the delivery of the aircraft of the 2nd batch and the 3rd batch in 2012, the contract with the industry for the 3A batch was to be concluded in summer 2009 at the latest. Great Britain currently plans to order 40 aircraft of the 3A batch of which 24 will be sold to Saudi Arabia. Saudi Arabia is the second EUROFIGHTER export customer and procures a total of 72 aircraft of which 48 are manufactured under license.

With the meanwhile six EUROFIGHTER nations, including Austria and Saudi Arabia, the introduction of the EUROFIGHTER weapon system is going to replace a total of eleven different types of aircraft. In the meantime, the weapon system is stationed at seven different airbases in the EUROFIGHTER nations; internationally, approx. 60,000 flying hours were flown with this weapon system so far.

Stationing/Deployment

After the beginning of flight operations by the Luftwaffe with the EUROFIGHTER in the 73rd Fighter Wing "Steinhoff" training unit in



Replacement of PHANTOM F-4F by the EUROFIGHTER in 74th Fighter Wing at Neuburg/Danube.

Picture: PIZ Luftwaffe/Adam

Training

April 2004, the flight operations in 74th Fighter Wing at Neuburg/Danube – the first operational EUROFIGHTER tactical wing of the Luftwaffe – were started two years later on 25 July 2006. The next milestone will be the start of flight operations in 31st Fighter Bomber Wing “Boelke” in late 2009. In the medium term, the Luftwaffe intends to employ the EUROFIGHTER weapon system in this unit in an air-to-ground role for the first time. As a reaction to the protracted delivery rates of the aircraft, the beginning of the flight operations with the EUROFIGHTER weapon system in 71st Fighter Wing “Richthofen” at Wittmund and in 33rd Fighter Bomber Wing at Buechel was recently adapted accordingly and delayed by one year. With that the Luftwaffe plans to set up with the EUROFIGHTER weapon system a total of two fighter wings and two fighter bomber wings in addition to a training unit. For maintaining security in German airspace, the two fighter wings – 71st “Richthofen” and 74th – provide each an alert section consisting of two fully armed and refueled fighter aircraft (QRA(I) – Quick Reaction Alert Interceptor) around the clock which is permanently assigned to NATO. In addition, 73rd Fighter Wing “Steinhoff” and 31st Fighter Bomber Wing “Boelcke” were tasked to provide a QRA(I) during the phase of the conversion to the EUROFIGHTER weapon system, if required.

73rd Fighter Wing “Steinhoff” at Laage/Rostock is a pure training unit. Up to now mainly already trained pilots of other combat aircraft types have been given retraining there. Since the start of the EUROFIGHTER training in the Luftwaffe in January 2005, more than 50 pilots have so far been trained on the EUROFIGHTER weapon system already. Based on the employment possibilities of the 1st batch aircraft in the air-to-air role, retraining was initially provided to mainly former F-4F PHANTOM crews, but also to exchange pilots who returned from abroad with experiences on the F-16 and/or F-18 as well as to former MiG-29 pilots. More than 20 of the hitherto retrained pilots were successfully trained to become instructor pilots (IP). Moreover, a first group of 24 Austrian pilots will be retrained for the EUROFIGHTER weapon system at Laage airbase up until 2013; of these, 14 pilots have already completed their training.

On average the hitherto retrained pilots have flown more than 1,900 flying hours (FH) on combat aircraft models and are thus very experienced pilots. At present, the first courses for training young trainee pilots after completion of their basic flying training at EURO NATO JOINT JET PILOT TRAINING (EN-

JJPT) in Texas/USA are being conducted at Laage. In the coming years, the training of those who have completed their ENJJPT will be prioritized in the training planning and their number increased in a way to allow two thirds of all ENJJPT-trained pilots to be annually retrained for the EUROFIGHTER weapon system in 2015 at the latest. Provided there are free capacities, the weapon instructor training on EUROFIGHTER will be started in the medium term as a last building block in the training.

As training has so far been conducted in the air-to-air role only, which was due to the functionalities of the 1st batch, the start of the air-to-ground training will be another milestone. In order to direct the focus of the hitherto air-to-air training to air-to-ground training and to simultaneously intermix the respective experience existing in the Luftwaffe, pilots of TORNADO aircraft, too, are presently being retrained for the EUROFIGHTER weapon system for the first time. Directly following their retraining, they will be trained to become pilot instructors to allow them to pass on their knowledge of their employment in air-to-ground missions. The fact that by June 2009 more than 11,000 flying hours (FH) have so far been flown in the Luftwaffe free from accidents is proof for the high training quality in the Luftwaffe.



Two-Aircraft Section of QRA EUROFIGHTER.

Picture: PIZ Luftwaffe

Employment in Missions

Whereas the first years of the introduction of the EUROFIGHTER weapon system were characterized by training flight operations, the emphasis is now being placed on mission-oriented flight operations as well as on the establishment and improvement of worldwide operational and deployment capabilities.

On 3 June 2008, 74th Fighter Wing has transferred the provision of the NATO QRA(I) alert sections, which are to guarantee the permanent mission task of the Luftwaffe of maintaining security in airspace, from the F-4F PHANTOM to the EUROFIGHTER weapon system. Both the NATO Alpha scrambles conducted today and the NATO review/test successfully conducted in October 2008 prove the operational suitability and operability of the EUROFIGHTER weapon system in the air defence role.

As of 2009 the Luftwaffe plans for the first time to launch larger deployments with the EURO FIGHTER weapon system and to participate with that aircraft in several exercises on Sardinia and in the Tactical Leadership Program in Spain. In February 2009, three EUROFIGHTER were successfully ferried from their home airbase at Laage to take part in Asia's biggest air show, the AERO INDIA in Bangalore/India, with an Airbus A310 multirole transport tanker of the Luftwaffe pro-

viding air-to-air refueling (AAR). This deployment represented a milestone in the extension of the capability profile of the Bundeswehr, since it was possible for the first time to deploy combat aircraft of the Luftwaffe without allied support over a strategic distance of 9,000 km, using organic air-to-air refueling assets. The worldwide strategic deployment capability of the EUROFIGHTER weapon system was successfully demonstrated with that and valuable knowledge and experiences for future deployments aimed to improve the global

operability were possible to be gathered at the same time.

The consistent orientation of the EUROFIGHTER weapon system towards missions and operations becomes apparent by the planned participation in different NATO missions. Some NATO countries, especially the new members like the Baltic States, Slovenia, Macedonia as well as Iceland do not have own air defence assets to ensure the sovereignty of their airspace. This is why the NATO countries guarantee the security in the respective airspace – in the Baltic States, for example, by way of a rotating process since April 2004. Up to now, Germany has participated with the F-4F PHANTOM weapon system in the “NATO Air Policing Baltic States” in the years 2005 and 2008 for three months each. For the four-month Baltic States air policing upcoming in late 2009 the Luftwaffe plans to participate for the first time with the EUROFIGHTER weapon system from September to October, aside from the employment of F-4F PHANTOM from November to December.

With the employment of this sophisticated combat aircraft in the Baltic States the Luftwaffe contributes significantly to the protection of NATO airspace and gives with this a clear signal of German alliance solidarity. The employment of the EUROFIGHTER within the scope of the “NATO Air Policing Baltic States” is actually the first mission of this advanced weapon system outside of the own national borders of a EUROFIGHTER nation. The Royal Air Force is presently still planning to employ its EUROFIGHTER as an alert section on the Falkland Islands in late 2009.

For summer 2010, Germany will take part in the protection of the Icelandic airspace for



EUROFIGHTER in In-Flight Refueling Process.

Picture: Luftwaffe



EUROFIGHTER with IRIS-T Air-to-Air Missile.

Picture: Diehl

several weeks; a participation of the EUROFIGHTER weapon system is in the planning. For the NATO Response Force 17 in the second half of 2011 it is planned to announce to NATO for the first time the employment of six EUROFIGHTER in the air defence role.

Air-to-Ground Capability

The realization of the air-to-ground capability will be effected in two stages. The 1st stage of the role adaptation was approved by the parliament in 2007 and comprises for the Luft-

waffe the integration of an electro-optical laser designator pod for marking ground targets as well as an allweather-capable precision armament for short ranges (GBU 48, 1,000 lbs effector with the possibility of a laser-guided final approach and GPS navigation). 31st Fighter Bomber Wing "Boelcke" will be the first unit to be equipped with these precision weapons as of 2012. In the second stage of the role adaptation, Germany intends to realize the integration of the allweather and precision-capable modular standoff weapon, the MAW TAURUS, in 2016. Additionally available for air-to-air and air-to-ground engagement is the aircraft's internal gun.



Preparations for Nighttime Takeoff.

Picture: Eurofighter Typhoon

Further Development

In 2014, the capabilities of the EUROFIGHTER in the air-to-air role will be extended by the planned integration of a powerful medium-range guided missile, the METEOR. The METEOR has a high velocity, long range and maneuverability even in the terminal phase of the engagement. In addition, the METEOR opens up new possibilities in air warfare such as in-flight change of the target allocation and/or the target allocation by another aircraft within the scope of Network Enabled Operations (NEO). With the already integrated IRIS-T guided missile and the planned METEOR the EUROFIGHTER is going to have effective air-to-air weapons for short and medium ranges. In the further development of the capabilities of the EUROFIGHTER it is required to also take particular account of solutions put forth by other EUROFIGHTER nations, as a joint approach allows to reduce costs for both integration and development. Of priority is a progressive development of the EUROFIGHTER for mission-relevant tasks of the most likely scenarios of the future. The armament of the EUROFIGHTER for employment in close air support (CAS) missions for own ground forces is therefore given preference. To that end, the procurement of an allweather-capable, precise effector with little and scalable charge/explosives weight is under study. Of interest, too, is the approach taken by Switzerland which, as a potential export customer, also considers the employment of the EUROFIGHTER in the reconnaissance role.

New Possibilities

With the EUROFIGHTER the Luftwaffe has been using a combat aircraft of the fourth generation with advanced technology, an enormous versatility, and considerable growth potential for five years now. Powerful engines, aerodynamic and highly agile design, great climb performance, long endurance/times on task, long ranges, sophisticated avionics, and the ergonomic man-machine interface offer new operational possibilities. Especially the capability for network enabled warfare and for interoperable data exchange meant new territory for the Luftwaffe in respect to the operational use and new possibilities within the scope of the participation in joint and combined operations with NATO allies. The EUROFIGHTER weapon system contributes substantially to the sharpening of the capability profile of the Luftwaffe. The main effort of the further development of the EUROFIGHTER weapon system is focused on the consistent orientation towards the mission and the establishment of the full deployability. ■

By LTC (GS) Frank Graefe, Assistant Branch Chief, Air Force Staff.