

# Contribution of the Luftwaffe to NATO's Response Force

At the NATO summit in Prague in November 2002 the heads of state and chiefs of government of the member countries agreed on the creation of a rapidly available response force employable in the entire mission spectrum to close a hitherto virulent capability gap. The primary goal pursued with the subsequent implementation of the NATO Response Force (NRF) in 2003 was therefore to increase the reaction capability of the alliance by establishing this rapid response force, which, according to the Council's decision, ought to be globally employable. An additional objective was to use the NRF as a motor for the transformation of the armed forces in order to substantially improve the capabilities of the respective national contributions of the armed forces and to eliminate identified deficiencies as quickly as possible.

## Stipulations and Standards

The Rapid Response Force, which is composed of capability modules, consists basically of naval, ground and air forces with a total strength of approximately 25,000 service personnel. Under the joint, interservice aspect of the transformation of NATO it represents a milestone in the progression of the alliance. In order to be capable of reacting quickly and flexibly to crises, the NRF is vested with a high degree of readiness. This requires that the readiness of the announced units to be deployed within a few days be fully ensured. Aside from this availability on short notice the NRF concept requires a worldwide deployability and an independent, autonomous sustainability in the area of operations of up to one month. The generation of up to 200 aircraft sorties per day is pre-determined as a planning constant for specifically the air forces.

Within the scope of the force generation process for the provision of respective armed forces reservoirs by the NATO member states, the individual nations will announce and earmark units to be employed as part of the NRF for one year. During that time, the troops are available for joint and combined exercises over a period of six months and in a state of readiness for a possible employment for another six months. Basis for the announcement of forces within the scope of the force generation process are the so-called Combined Joint Statement of Requirements (CJSOR), a listing of all necessary modules of different capabilities of the services in order to be able to adequately accomplish the potential missions in the whole mission spectrum of the Rapid Response Force.

For the air forces the operation of three operating airbases, so-called Deployment Operat-



Press Conference of the former Supreme Allied Commander Europe (SACEUR), General (US MC) Jones, during the NRF Exercise in Turkey in 2003. Picture: SHAPE

ing Bases (DOBs), is planned in the area of operations, which will function as operational/tactical command facilities under the leadership of Air Component Commands (ACC HQ). The spectrum of possible deployment bases can range here from a fully functional DOB down to a deactivated base with an intact aircraft-operating surface, but with an infrastructure and management organization that is useable to a heavily restricted degree only. In order to be able to flexibly react to the necessary requirements for the deployment of air forces, the capabilities of forces needed for the operation of a DOB are consequently taken modularly account of as well. Aside from logistic forces this also comprises respective forces for the protection of objects and sites.

The CJSOR additionally demand for the component of the air forces among other things the capability for theatre missile defence (TMD), a coordination cell for airlifts in the area of operations (Regional Airlift Coordination Center (RALCC)) as well as a major constituent the aircraft modules for projecting the capabilities for air attack, air defence, reconnaissance, suppression of enemy air defences, air transport and in-flight refuelling.

## Participation of the Luftwaffe

Especially the air forces make a unique contribution to rapid crisis reaction, which is thanks to their speed, range, and flexibility. With their

projecting of air power and conducting of air surveillance/air patrols (airspace management) as a basic prerequisite for the missions of armed forces, the air forces thus ensure the operational flexibility and an important contribution to the success of a military operation. With the participation of the Luftwaffe in the NRF Germany contributes visibly to the force reservoir to which NATO can quickly fall back on in case of a mission after respective assessment of the situation and coordination. Already in October 2003 the Luftwaffe took part with a TORNADO SEAD (Suppression of Enemy Air Defence) module of the Lechfeld-based 32<sup>nd</sup> Fighter Bomber Wing in the first rotation of the Rapid Response Force — the NRF I — to suppress enemy air defences and to provide object security forces for its protection at a possible operating base in the area of operations. Aside from the six aircraft and a reserve of two additional TORNADOs the participation included a strength of 670 service personnel. Particularly the general military preparation of those personnel required the quick adaptation of training phases and processes in the preparation of the units.

These processes are meanwhile standardized. Here, the implementation of the vaccination pattern for the NRF forces and the expert's opinion on the fitness for service in the tropics represent the basis of the medical preparation of the personnel. In addition, the preparation of the soldiers for a possible mission abroad includes training in the basics for such operations. To that end, the Luftwaffe conducts for its mis-



German and French Soldiers during the NRF Exercise in the Cape Verde Islands. Picture: SHAPE



F-16 of the U.S. Air Force during NRF Exercise in the Cape Verde Islands. Picture: SHAPE

sion contingents course-based training by means of a course on employment fundamentals (mission-preparatory training for crisis management and conflict prevention). When the area of operations has been established, a respective country module will be added on short notice. As there is only little advance warning of an NRF mission, the introduction of mobile training teams (MTT) was initiated which, in case of NRF alert, instruct the troop-providing units directly in the units in country-specific data of the area of operations in the fields of law, geo information, intelligence, ethnology and medical system.

The Luftwaffe has hitherto been involved in all rotations of the NRF conducted. In this context, the Luftwaffe in its function as force provider applies the principle of making a visible contribution to ensure the operational readiness of NRF through reliable participation by means of capability modules. The basis is here a firmly established “basic package” consisting in the main of two TRANSALL C-160 for air transports, appropriate object security forces for the protection of the deployed forces as well as of augmentation personnel of the Kalkar-based Air Force Operational Command for the respective leading Air Component Command. As for the medium term, the announced employment of an Airbus 310 MRT in the specific role as tanker is also permanently planned. Moreover, the Luftwaffe participates regularly with capability modules of the air attack, air defence, and reconnaissance and missile defence areas. However, when there is a comprehensive participation of the Army, NATO will be given notification that only the “basic package” will be provided because of the then still performable mis-

sion and command support by the Joint Support Service.

Since summer 2004, the participation of the Luftwaffe in the NRF takes place on the basis of the above-described tenets, a coordinated rotation principle with a firm participation rhythm of the different capability modules. At present, plannings have been affected for the period until 2012. They constitute the basis for the project planning of the units and are reflected in the targeted fine planning of training and exercise projects for the preparation to the planned NRF participation.

## Preparations

Prior to an NRF assignment the units go through a training cycle, which sometimes begins already years before the start of the actual standby phase. The operational capability is established, maintained, and improved in interrelated phases from the unit level down to the contingent/sub-contingent. In that process the training and exercise activities are based on an exercise triad composed of core, high-value, and system exercises. In addition, NATO assesses the Air Force units earmarked for the NRF within the scope of an operational evaluation (OPEVAL) as proof of their operational capability. This proof of compliance will then be valid for 36 months and must be repeated only in case of a new NRF assignment after the end of the stated time period. This preparation for a possible employment makes allowance for the training and certification process stipulated by NATO in the NRF concept. According to that, the following training phases are pre-determined standards:

- Unit-level tactical training — national preparation according to NATO standards; defined goal is to ensure an adequate state of training for the preparation for the next phase under the leadership of the respective component commands

- Component-level training — combination, preparation, and certification of the modules of the individual services within the scope of joint exercises; the objective is to achieve cohesion and to ensure the interoperability of the multinational force reservoir
- Joint force training is to ensure the operational readiness of the total force in multinational and joint collaboration.

Following the evaluation of the experiences gained in previous NRF participations, the commissioning of the respectively responsible division command was established as an essential and permanent element for planning the participation of the Luftwaffe in such missions. Here, the headquarters of the air division command assumes the responsibility for the planning and preparation for two rotation cycles each.

Aside from the internationally announced operating forces under NATO command, national support forces will also be assigned to the force pool for the duration of an NRF standby phase. Especially logistic and command support troops will serve to ensure the operational readiness of the NRF-assigned forces. In addition, both the operating forces and the national support troops will be attended by respective medical support to ensure the accomplishment of the mission. Detailed planning of a contingent commander’s staff is basically provided for to ensure the national command capability and to guarantee the operational readiness in terms of materiel and personnel. Under the leadership of the contingent commander in the area of operations this staff will, as an instrument of the Joint Operations Command, be responsible for guaranteeing the national command capability. In the case of a comprehensive participation of the Luftwaffe in the NRF, the staff of the contingent commander in the area of operations will basically be provided by the respectively responsible air division command, generally under the leadership of the deputy division commander.



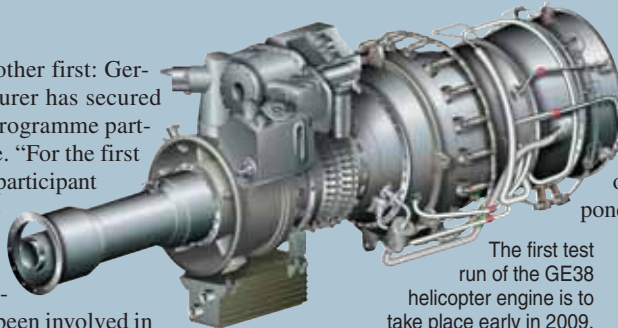
TORNADO Fighter Aircraft of the German Luftwaffe.

Picture: Bjoern Trotzki

## Marketing Report: MTU Aero Engines GmbH:

# GE38 Helicopter Engine — Potential Revenues for MTU Roughly € 2 Billion

MTU Aero Engines has set another first: Germany's leading engine manufacturer has secured for itself an 18 percent role as a programme partner in the GE38 helicopter engine. "For the first time, MTU acts as a development participant with full system design responsibility in a U.S. military engine programme," declares MTU CEO Egon Behle. In previous U.S. military engine programs, MTU has been involved in manufacturing roles only. Under the scope of the GE38 programme, the German engine builder will essentially be responsible for the power turbine module and the power turbine shaft. Moreover, MTU will be granted the licenses for maintenance, final assembly and testing of the GE38 models to power a future European Heavy Transport Helicopter (HTH). Meanwhile, MTU has obtained the production license, and the U.S. authorities have greenlighted the export of design data.



The first test run of the GE38 helicopter engine is to take place early in 2009.

are already underway, and the first engine test run is slated for early 2009.

GE Aviation, an operating unit of General Electric Company, is a world-leading provider of commercial and military jet engines and components as well as integrated digital, electric power, and mechanical systems for aircraft. GE Aviation also has a global service network to support these offerings. The GE38 is part of GE's successful family of turboprop and turboshaft engines that has accumulated more than 80 million operating hours worldwide

MTU Aero Engines is a firmly established player in the engine industry. Having carved out a technology leadership role, the company excels in high-pressure compressors, low-pressure turbines, engine control units, and manufacturing and repair techniques. The company has some 7,100 employees globally and in fiscal year 2007 had sales of nearly 2.6 billion euros. MTU Maintenance is the largest independent provider of commercial engine maintenance services worldwide. In the military arena, MTU is Germany's industrial lead company for practically all engines flown by the country's armed forces.



The U.S. armed forces have plans for the procurement of 156 CH-53K heavyweight helicopters. All pictures: MTU Aero Engines

The first application of the GE38 is the CH-53K helicopter from Sikorsky Aircraft Corporation, powered by three engines; 156 helicopters are planned to replace the CH-53E SUPER STALLION™ helicopters, not including foreign military sales or other potential U.S. armed forces opportunities. MTU and General Electric (GE) see a potential of up to 6,000 engines, covering a variety of other turboshaft and turboprop applications. Behle notes: "For us, this means revenues of about two billion euros over the programme's cycle of about 30 years."

Capable of producing more than 7,500 shaft-horsepower at sea level, the GE38 draws upon technologies from the GE27 Modern Technology Demonstrator Engine programme for the U.S. military and the T407 turboprop engine developed for the U.S. Navy. First component tests



Artist impression of a future European Heavy Transport Helicopter (HTH) in single-rotor design ...



...and as a tandem-rotor variant.



EUROFIGHTER of the German Luftwaffe.

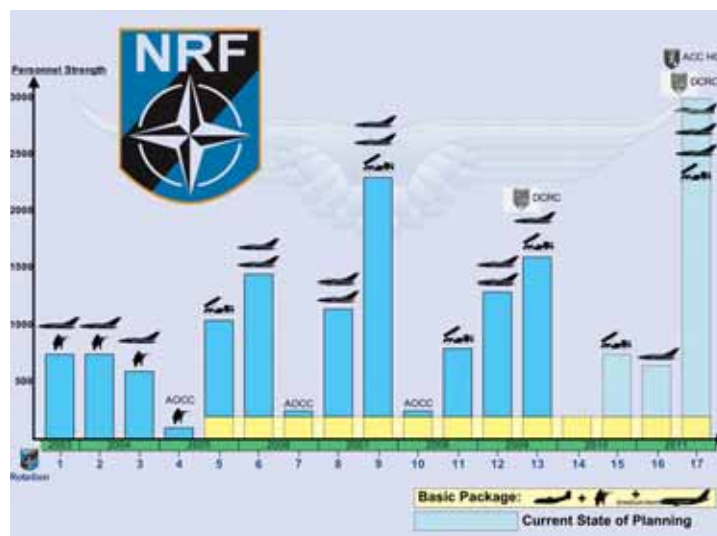
Picture: International Air Show

## Experiences Gained during NRF 9

With the standby phase of NRF 9, which ended on 10 January 2008, the hitherto most comprehensive participation of the Luftwaffe in NATO's Rapid Response Force came to a close. In addition to two TORNADO modules with six of them in SEAD and PGM (precision guided munitions) roles, three PATRIOT surface-to-air missile squadrons with respective command control and support facilities, object security/site defence forces of the Air Force Ground Combat Support Regiment, two TRANSALL C-160 as well as augmentation forces for the Air Component Command in Izmir/Turkey formed the constituent part of this rotation cycle. Of the operating forces assigned by Germany for this NRF rotation whose total strength amounted to 2,500 military personnel, the Luftwaffe share was thus more than 90 percent. The Navy provided the remaining portion. Also planned for that mission were 900 national support troops of which the Luftwaffe had to man approximately 100 billets for the staff of the contingent command in the area of operations. The very extensive preparations were started in March 2006 already. The interfaces between base logistics and operations logistics of the Luftwaffe were worked out and the logistic support concept was prepared in intensive coordination of the troop-providing lead commands, especially between the Air Force Command and the Joint Support Command. The objective was to ensure a smooth deployment and follow-on support of the large Luftwaffe contingent in the case of an employment.

Another planning effort was owed to the fact that the necessity for detaching one or both TORNADO modules is possible to be established only within the scope of an actually forthcoming em-

ployment of the NRF in the respective pre-operative planning phase. Thus, the two modules had initially to be fine-planned independently of each other; an additional joint large module had to be determined in addition to that. For the case of the deployment and employment of both capability modules at a DOB a comprehensive study was conducted under the propinquity of the responsible division command in order to identify and use synergy effects. By this extensive and sustained planning work it was possible to clearly reduce the logistic footprint and the personnel strength of this "12-piece module" in comparison with the "6-piece modules". For the units, the intensive preparation of the personnel for achieving the operational readiness began at the same time with general, specialized and advanced training, medical prophylaxis as well as exercises and evaluations. NATO's major exercise "Noble Award 07" conducted under the leadership of ACC Izmir represented the culmination of this training process. Within the scope of this multinational exercise in the Danish town of Aalborg the components of the NRF 9 contingent were deployed to Denmark, detached from 31<sup>st</sup> Fighter Bomber Wing "B" and 32<sup>nd</sup> Fighter Bomber Wing and from 2<sup>nd</sup> Surface-to-Air Missile Wing "M-V" with a total of approxi-



Grafic: Autor

mately 1,000 soldiers and their weapon systems. In addition, the command of 1<sup>st</sup> Air Division in its function as headquarters staff of the contingent commander in the area of operations also participated proportionately for NRF 9 in the exercise. The exercise objectives comprised among other things the application of inter-unit tactical procedures, training and advanced training of aircraft crews in a multinational pool as well as the employment of surface-to-air missile forces in a complex exercise scenario. This logistic and operational challenge was managed by the participating air forces in a brilliant performance.

## Preparation for 2009

For 2009, the Luftwaffe has for the first time announced the participation of the newly procured Deployable Control and Reporting Center (DCRC) in NRF 13. With this deployable command post the Luftwaffe will close a capability gap in the field of the tactical command of air forces. The Luftwaffe is now able to efficiently and effectively employ air forces even in deployed operations by applying the principles of "network enabled warfare". With the introduction of the DCRC and its provision for the Rapid Response Force the Luftwaffe has closed an identified capability gap within the meaning of the goal pursued by NATO with the implementation of the NRF of transforming the armed forces of its member states. Rotation 17 with the standby phase in the second half of 2011 will present a new dimension in the Luftwaffe participation in the NRF. Aside from two TORNADO modules, a PATRIOT surface-to-air module, the second participation of the DCRC and the already described "basic package" consisting of Air Force ground combat support troops for object security and site defence, air transport and in-flight refuelling aircraft, the participation of EUROFIGHTERS in an air defence role is planned for the first time. Moreover, the Luftwaffe will be responsible for

the provision of an ACC HQ with an integrated Air Operations Center (AOC). This operational/tactical command facility announced by Germany will, in its core, be made up of the staff of the Kalkar-based Air Force Operational Command. Extensive augmentation forces of the Luftwaffe and allied nations will supplement the command post. The goal-oriented extension of this capability requires both a comprehensive preparation of the personnel and a continuous development and upgrading of the equipment. Therefore, the planned participation in NRF 17 demands now already the introduction of specific measures. The national certification of the German ACC HQ/

AOC is thus planned to come about in exercise "European Endeavour 09" scheduled for May 2009, the main exercise effort of the armed forces in 2009. This example, too, shows the long-term impact of an NRF assignment and its driving character in the further development of the armed forces.

With the announcement of the potential provision of the ACC HQ/AOC and a comprehensive force reservoir Germany has assumed a leading role for NRF 17 in the area of the air forces.

The total of approximately 3,000 operating personnel of the Luftwaffe is dependent on the close cooperation with and support by the forces of the Joint Support Service (JSS) and the Central Medical Service of the Bundeswehr. The Command of 4<sup>th</sup> Air Division in Aurich, which will be responsible for this rotation, will get a central role in the coordination and detailed planning of these national support forces. Besides, this command will presumably provide the contingent commander in the area of operations. In addition, it is presently examined whether the assumption of sub-capabilities for the operation of a DOB under German command can also be reported to NATO. To that end, a more extensive participation of forces of the Joint Support Service and of the Medical Service of the Bundeswehr will be imperative here. A first step in the studying and testing of interfaces — especially for the build-up and operation of a DOB — was recently taken within the scope of exercise "Joint Logistics 08". Experiences gathered in that exercise will have a targeted influence on the further detailed planning of NRF 17 and will lastingly affect the German force reservoir.

Since its inception the Luftwaffe has been actively involved in the NRF and it's shaping, and it has constantly optimised and continuously perfected the processes for activating, preparing and ensuring the operational readiness of its force reservoirs in the past years. From the viewpoint of the Luftwaffe the German participation was very successful up to now despite the ongoing political debate about the future adaptation of the NRF.

From the Luftwaffe point of view the NRF will continue to be the motor of the alliance and, in particular, also an important driving factor to ensure the operational readiness of the Luftwaffe. It was not least the NRF 8 participation of 51<sup>st</sup> Reconnaissance Wing "I" which enabled the unit on the basis of the completed preparations for NATO's Rapid Response Force to perform the deployment and establishment of the operational readiness within the scope of the ISAF mandate in such a short time and so smoothly and without any delays.

The participation in the NATO Response Force will remain a firm element of the employment commitments of the Luftwaffe and ensure a reliable German contribution to the alliance in future as well. ■

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