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Navigating in Rough Seas The German Navy in the Process of Transformation

Out of a regional defence role the Navy had to prepare itself for global, prolonged missions right from the start of the transformation process. In order to create better preconditions for that and not to undermine the proven task force principle, the 2006 fleet organization was subjected to a fundamental restructuring. The goal was to improve the capabilities for operations by a more streamlined organization and more efficient command and control elements.

As a consequence, all forces of the fleet were combined in two task force flotillas and two naval air wings. In addition, permanent operations headquarters for the command and control of naval units were set up with the Fleet Command and in both flotillas. Especially the latter measure has produced a considerable gain in the quality of the conduct of operations and relieved the force from detaching necessary key personnel. It has been achieved to establish the organizational tenets, which allow commanding missions like UNIFIL or the Operation ENDURING FREEDOM without having to gather personnel for the headquarters of the contingent commander from the entire Navy.

Supplementary to that a manpower augmentation/replacement pool was established in the task force flotillas to which the wings have access; it serves to reduce the mission stress of individuals. This measure, too, begins to increasingly show the effect we had expected, even though it was not possible yet to adequately man all the billets. This is primarily because of the many regulations, largely also due to statutory requirements, demanding additional qualifications which the crewmembers need for performing their secondary functions aboard ship. Mission-experienced sailors of the personnel augmentation pool will, in the near future, also be enlisted to train the members of the second crews of the 125 class frigates and in-port vessels within the scope of the Navy's mission-oriented training close to naval bases.

To be consistent, the staff of the Naval Office was reorganized as well. The establishment of the position "Chief of Expert Tasks" and of the new department "Training and Development Tasks" serves to fulfill the tasks for shaping progress and advance in a better and also in a joint and combined way in future.

First Stocktaking on the Basis of UNIFIL

If the orientation to missions is applied as a yardstick for the success of the transformation, then the UNIFIL mission will allow to draw a first conclusion as it is also to be understood as



The Chief of Staff, Navy, Vice Admiral (GE N) Wolfgang Nolting, during a Visit aboard Ship. Picture: PIZ Marine

a litmus test for the present organizational changes. At the end of February of this year, Germany has passed on the command over the maritime component of UNIFIL after having held it for one and a half years. The political success of the mission, which is based on excellent and solid military achievements, receives high recognition both on national and international level. The Navy was able to accomplish this because it is structure-wise primarily geared to missions/operations. For the first time, forces of both flotillas are nearly equally involved in one mission, supported by naval air forces. The headquarters of the task force, too, is generated from the three mission headquarters, which bring in their respective technical expertise. In the 18 months as lead nation, the forces, headquarters and the support system have proved to be sustainable — last but not least also thanks to the well functioning collaboration with the Joint Support Service. The Navy feels confirmed in its decisions on the structure. Even if some smaller adjusting screws can and must still be turned a bit, the end of the optimization of today's structures has been reached, at least as far as the basic approach is concerned. Any further trimming would directly lead to losses in capability.

As for UNIFIL it continues to be the unchanged goal to enable Lebanon step-by-step — but yet as soon as possible — to assume and perform its sovereign tasks of sea surveillance and coastal defence on its own. For that reason Germany provides UNIFIL with a compre-

hensive capability package even after the transfer of the command responsibility. In addition, Germany grants the Lebanese Navy bilateral military equipment and training aid. Among other things it comprises the delivery of three patrol boats, the employment of German training personnel in Lebanon, and the co-financing of a coastal radar chain. With that we thus continue to make a visible and significant contribution for that operation.

In the current operations it becomes apparent that the training support is increasingly getting part of the military mission accomplishment. This makes sense and serves the long-term stabilization, as military partnership and cooperation prove more and more to be efficient measures for the prevention, management, and post-action rehabilitation of crises and conflicts. For the Navy this is not only true with UNIFIL off the coast of Lebanon, but also in other maritime areas such as the Horn of Africa within the scope of Operation ENDURING FREEDOM. In this respect this task gets an own place value; at present, however, it does not justify any changes in the structure. But it has to be stated that it can no longer be performed exclusively subsidiary in the required extent within the scope of available free capacities. These free capacities do no longer exist in the required form, as they have long been cut back in an effort to make the operation of the Bundeswehr more economical. It is thus essential to reconsider basic decisions on the core mission of our armed forces. In future, it should



The German Frigate KARLSRUHE during UNIFIL Mission.

be avoided that training support as it had to be quickly and efficiently provided for the Lebanese Navy in Beirut can only be realized by putting own training projects last. This goes analogously also for the generally growing requirements in connection with our arms export interests. Here, the Navy in its function as parent and/or brother navy will be made demands on even more excessively than before.

Sea Base

In December last year, the Chief of Defence, Bundeswehr, has issued the basic conception (BC) "The Sea as a Base for Joint and Combined Operations", in brief words: BC "Sea Base". The BC aims at taking advantage of the sea for the Bundeswehr as a whole. Now it is about advancing this BC in all capability categories. This ranges from the operational requirements to be met by the IT system of the Bundeswehr via the further development of joint, interservice command procedures, the approach of sea-based joint and combined logistics up to the analysis of the "Secured Military Sea Deployability".

It should be clearly emphasized here that the "Sea Base" serves the goal of fostering and advancing the cooperation with the presently available means. The operator and user must in future, draw possible conclusions regarding new weapon systems conjointly. In doing so, the systematics of the capability development and equipment planning are followed which also allow putting up with deficits for the time being. It should be mentioned though that a deficit in military operational sea deployability is now already very clearly appearing on the horizon. Thus, the requirement regarding an initial capability continues to be valid and is to be incorporated into the Bundeswehr planning process as soon as possible.

CD & E

Many of the current CD & E (Concept Development and Experimentation) projects can be grouped under the "Sea Base". Two of these

projects will be dealt with in the following as examples:

The project "Command and Control from Sea", in which the commanding of smaller units on tactical level from aboard ship is examined together with the Army, has meanwhile made good progress. Interim results show: tactical command from the sea aboard a German frigate is basically possible. Even if the command capability finds presently limits in the number of maximally employable communication means of the frigate and the available data transmission rate: Command and control (C&C) from sea is another substantial contribution to the targeted capacity for network enabled warfare (NEW). C&C from the sea makes it possible to reach a quick gain in capability without great expenses and efforts needed which is owing to the integration of available capabilities of the different Services. It is not exaggerated to maintain that C&C from sea represents a paragon for the transformation. It is last but not least for this reason that the project is to be also extend-

ed to the Class 702 combat support ships in the near future.

From a joint and combined point of view the COMMON SHIELD project deserves particular attention this year. In COMMON SHIELD co-action in securing/protecting objects will be tested at the sea/land interface in connection with NATO Tech Demo 08 in September 2008. All services are going to participate in COMMON SHIELD. Purpose of the project is to test and review command processes necessary for the protection on tactical level under conditions of network enabled warfare (NEW) on the basis of a picture of the situation largely gained by new sensors. Result of the project is intended to be a concept for joint and combined cooperation in a command facility for object security. Ships sailing near the coast are particularly vulnerable due to restricted maneuver capability and limits in the employment of sensors and effectors. These deficiencies are to be compensated by new technologies, but also with the help of other Services in order to counter in this way possible threats against our ships. The results of COMMON SHIELD will therefore be further developed in the project "Protection of Ships in Harbors and Close to the Coast".

Center of Excellence for Operations in Confined and Shallow Waters

"Sea Base" makes clear that a joint and combined operation with participation of the Navy comprises far more than just troop transports. Whenever an operation is conducted in coastal areas, the Navy will be able to support it with various means. To that end it is necessary to make intensive efforts to ensure the interoperability between the actors of a joint operations. As far as training, technology, and procedures are concerned it must be said that the collabo-



A German SEA LYNX Naval Helicopter during Boarding within the Scope of Operation ENDURING FREEDOM at the Horn of Africa.



Cooperation of Navy and Army.

ration between the allied navies is presently more advanced than the joint, interservice cooperation.

Achieving improvements in these fields is one of the primary tasks of the Center of Excellence (COE) for Operations in Confined and Shallow Waters in Kiel. This COE deals additionally with all issues the armed forces will be confronted with in the coastal area. It is especially here where the German Navy can make available its special competence for operations in coastal zones. Operations in this extremely critical environment entail new challenges. The fact that others see this in exactly the same way shows the meanwhile good international participation in the project. NATO, too, has already awarded some study contracts to the COE, since there was a clear competence gap in this field up to now. In order to support the COE in its work and to be able to quickly test new findings in practice, this task has been embedded in the new NORTHERN COASTS exercise series. Aside from units of the Army, Air Force and the central organizational areas there were seven other navies, which took part in the exercise in the first run already. With that it is also possible to get new procedures quickly to the user.

Maritime Security

In hardly any other area can the requirements for military capabilities be derived so directly from national German interests as with the protection of sea-lanes of communication (SLOC). One aspect which was taken little heed of in the whole discussion about the domestic employment of the Bundeswehr was the special responsibility of the Navy for the protection of Germany's coastal waters and SLOCs and those of its allies, i.e. for the maritime security. Here it is mainly about the legal possibilities of the Navy at the high seas, i.e. outside of our territorial waters. The remaining risks and perils

must not be forgotten over the pleasant realization that just allies and partners surround Germany for almost twenty years now. It is about merchant vessels, trade goods, and sailors threatened by pirates and terrorists in maritime areas like at the Horn of Africa. Here, the international law allows all options of action and demands the acting also in treaties signed by Germany. Our politically determined constitutional interpretation — here the lacking consensus of the parties — restricts the possibilities of the naval forces considerably, however. This challenge can only be met by unanimous political consent. It is obvious that missions within the meaning of preventive security policy and hazard prevention may develop for the Navy within the scope of networked security, especially outside of German coastal waters. In this respect it is welcomed that a discussion has been launched in the political arena since the pirate attacks of the recent past which give cause for serious concern and which led to the UN Resolution 1816 (Fight against Piracy at the Horn of Africa). A Navy should be allowed to act in accordance with its capabilities in order to be able to contribute to enhancing the security on the sea routes that are of such special importance to Germany.

But below the use of military force there is also a large number of activities, which serve to improve the maritime security and which are pursued not only in NATO, EU, but also on bilateral and multilateral levels. The German Navy contributes to this subject by working on the Virtual Regional Maritime Traffic Center for the Mediterranean, on programs from NATO, EU, and European Defence Agency (EDA), and last but not least on comprehensive projects of the Chiefs of European Navies, the CHENS. At present it is being examined as to how the German Navy can participate in a regional surveillance system for the Baltic Sea under Finnish leadership.

And on national level the Navy is integrated in the — primarily civilian — network of maritime security with the Fleet Command concentrating on the part of the situation picture of external security. With its connection to the Maritime Security Center in Cuxhaven the naval headquarters is assigned the role of a junction point between the national and international situation picture.

With its commitment in the field of maritime security the Navy makes thus an important contribution to networked security. But apart from the capabilities in the asymmetric spectrum the Navy must also be capable of securing sea lines of communication against threats, which may develop from regional conflicts. This task will not have to be managed on national level alone, but jointly with allied partners. Germany's power and economic interests demand a significant contribution to securing the peaceful use of the oceans even against conventional military adversaries. A general superiority of Western navies vis-à-vis regional naval powers is to be assumed here. In a case of conflict these are therefore allowed to resort, aside from asymmetric means, to primarily the classical ones of Sea Denial (the adversary is denied the use of a sea area for his purposes), which include submarines and mines. It will be necessary to place particular emphasis on such defensive measures as such weapon system threaten shipping and the own naval forces alike. For the German Navy this means that it keeps its capability for three-dimensional anti-submarine search. For that purpose the P-3C Orion maritime patrol aircraft and the modern submarines of the 212 Class which also possess an own ASW capability — an innovation for the submarines of the German Navy — can be employed in addition to frigates with shipboard helicopters.

Particular attention will have to be given to the future anti-mine capability. Here, new solutions are required in view of the identified challenges. These include rapidly deliverable effectors, organic countermine capacities on combatants as well as modern anti-mine vehicles.

Personnel and Attractiveness

The improvement and sustained maintenance of the operational readiness in the extended task spectrum will continue to be the superior goal of the transformation. Here, the Navy faces big challenges in view of the not always favorable parametric conditions.

The stress the women and men in their blue jackets experience in missions and operations is rather strong. It reaches the limit of the stress capacity despite all the measures taken. There is a demand for action here in order to remain attractive; and the concept of personnel augmentation is already showing a way. But in this context it is essential to take the women and men along on a new course, because they want and must be convinced and they rightly expect

Equipment and Materiel



P-3C ORION Maritime Patrol Aircraft.

support which cannot be provided free of charge. We need to revise our thinking here and to take the so-called soft factors more into account again in order to motivate them.

The subject of the stress and physical load of the personnel as an overarching one is not only restricted to the Navy. It should be pointed out, however, that the Navy with its personnel strength of approximately 7.5 % (measured against the Personnel Structure Model 2010) is involved in all mission and operations of the Bundeswehr with a personnel share ranging mostly between 11 and 17 %, but only very rarely below that, for quite some time. The reason for that is mostly because the demand for maritime capabilities has obviously increased and is apt to continue to rise in view of Germany's maritime dependence. We will have to scrutinize whether or not the manpower and means will still suffice for the tasks required to be performed by us.

The basic security orientation of politics and society generates the expectation for the Bundeswehr to take only very low risks in missions and operations (keyword: no-loss mentality). This attitude propagates in the armed forces and begins to take effect there, too. This is surely also happening under the impression of the current stabilization missions in which the Bundeswehr is luckily and comparably seldom confronted with wounded and dead soldiers. The national defined goals and objectives also comprise reaction and intervention operations with far higher risks, however. How can one thus manage to maintain and extend the mission orientation of the Bundeswehr, which can certainly also be afflicted with dangers to life and limb, in the minds of our sailors and to continue to be attractive for new recruits at the same time? This question needs to be answered, especially since the situation in the field of recruiting junior personnel gives cause for serious concerns and there is a trend that these will even increase in future because the demographic development in connection with an economic upswing will trigger off a tough competition for young and qualified people. This situation will be aggravated by the fact that especially at

places where the Navy recruits most of its soldiers, this is in the East of our country, the number of school graduates will decline by nearly half. A substantial decrease in the number of candidates is noted throughout the armed forces and across all careers today already. Thanks to the growing qualification of the applicants it was so far possible to counter that trend.

In order to be able to survive this struggle in future as well, considerable efforts to increase the attractiveness will thus be indispensable. Here, we will continue to need a lot of creativity to recruit new staff. Internal promotional efforts and personnel ties to the Service must be intensified even more. But above all we have to develop credible and reasonable concepts for attractive living and working conditions. These are not realizable without personnel resources and additional financial expenditure, however.

The course of transformation was consistently followed in the equipment planning as well. The Class 125 Frigate is mentioned here as an example. It reflects quite clearly the challenges of the transformation in the Navy, as it is the first large-scale procurement project of the Bundeswehr, which is oriented to the new force categories. As frigates for stabilization operations the ships are designed for the foreseeable most frequent missions. For the Navy these are operations in which it has gathered comprehensive experiences since the beginning of the Adriatic embargo in 1992 and which make up the biggest part of its missions until today. Such stabilization operations of low to medium intensity are mainly subject to asymmetric threats. They take place far away from the home base and are of long duration. In order to be able to keep the frigates on station for a considerably longer time than conventional ships, there were concepts developed for an intensive use and the employment of several crews. These concepts entail a number of changes in the fields of personnel, training, and maintenance, which are presently studied by a working group of the Naval Staff. They will not be limited to the F 125, but will give new stimuli for the transformation process in the Navy and beyond. Weapons and equipment of the F 125 take account of the joint and combined requirements. The frigate will thus be capable of carrying along staffs and Special Forces and engaging targets with its weapons in supporting attacks directly ashore. The further development of the Navy to an expedi-



212A Class Submarine.



Frigate HAMBURG.

tionary navy finds particular expression with the F 125.

In the field of future technology the Navy proceeds from the assumption that mainly small, partly also unmanned subsystems (a subsystem is a mobile, remotely operating capability platform which, due to its limited autarky in operations, is dependant on the regular and intensive support by one or several other platforms) will be needed in foreign coastal areas. In this context, underwater, surface and flying subsystems are being taken into consideration. The challenges to be met here will include the integration of these subsystems and the carrier platforms needed for their transport, operation and control to a modularly organized capability pool. The Navy wants to assume an imaginative role in this field.

In current plannings the Navy is all in all solidly established in substantial maritime major projects. The numerous small projects cause some worries, however. Replacement procurements of discontinued (outdated) system components are presently not sufficient with regard to type and number. Minor causes can result in failures and breakdowns of systems and reduce the operational readiness of the fleet. An added problem is the fact that such occurrences can be met on a long term basis only by modularizing capabilities in future procurement projects in order to become even more efficient here and to save costs.

The Navy has also studied in great detail — and/or is still in an ongoing process of thoroughly studying — the field of maintenance. The maintenance cycles of different classes

(ships and boats) were thus changed in their systematics. Instead of going into longer depot or interim maintenance every 2 ½ years as it was hitherto the case, the units are now overhauled in a so-called Scheduled Maintenance (SM). Inspections becoming necessary in the meantime which are e.g. required because of legal regulations as well as minor maintenance/repairs will be combined between two SM as an approximately 6-week safety inspection. In this way quite some financial savings are expected to be reached over an operation period without negatively affecting the operability of the units. Challenges have to be faced, however, in respect to reductions in the field of the civilian staff who — especially in the two naval arsenals in Wilhelmshaven and Kiel — do not only carry out maintenance works for the Navy in a very competent and skilled way, but who do it, in comparison with civilian contractors, much more cost-effective.

Retaining Defence Technology Competence

Another aspect gives cause for concern. The Federal Audit Office has rightly accused the Navy last November of having awarded the software maintenance and adaptation of its combat directions systems (CDS) to the industry without any studies of economic efficiency having been made beforehand. Urged by the political side own competence was renounced and purchased instead from the industry. By having done this, the capability was lost to competently and comprehensively assess the quality of the systems delivered by the industry. It is imperative to regain this capability and to maintain it, respectively, by looking for new economic ways of cooperation with the industry. This includes innovative forms of technical and logistical support by trade and industry like the “condition monitoring”.



Combat Support Ship BERLIN.

Navy Pursues Solid Course

In spite of the described difficulties the Navy follows a solid course in the transformation, which improves the maritime capabilities and thus the capability profile of the Bundeswehr as a whole. Mission orientation will continue to be given prominence to. At the same time, the Navy will retain its special responsibility for Germany’s maritime security. It is prepared to make this contribution jointly and in cooperation with partners. In doing so it must always be kept in mind that the developments in capability must not be looked at out of context. They must be seen in synergy with the armed forces. Required is the joint and coordinated development of all Services. ■

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