THE BUNDESWERH SCIENTIFIC AND TECHNICAL INFORMATION SYSTEM AND ITS HISTORICAL BACKGROUND

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1. Introduction

The Library Service and the Documentation Service of the Bundeswehr certainly are not at the center of the general library-related or documentary interest. This is illustrated, for example, by the fact that the last paper about documentary or library life in the Bundeswehr was published almost 10 years ago. And that publication consisted of impressions by an insider, rather than being a status report. As major changes have taken place in this field in recent years, it now seems reasonable to draw the attention of the community of experts to the Bundeswehr again.

Even outside the Bundeswehr, the relationship between the library and documentation communities in the Federal Republic of Germany has not always been entirely without tensions. The focus of attention was more on the differences, rather than on the commonalities with regard to tasks and activities. Accordingly,
these two communities have not always merged in those public institutions where both exist.4

Statements like those made by Berndt von Egidy – who, as the chairman of the Verein Deutscher Bibliothekare (Association of German Librarians), was interviewed in 1997 by the UNI-Magazin, which covers vocational aspects relevant to students – also rather seem to suggest a separation of library and documentation institutions: "The most important task of librarians is to manage the scientific material in libraries. In this context, their interest focuses primarily on the "book" as an information carrier. (...) – Documentalists, by contrast, deal primarily with the analysis of new literature. In doing so, they go much deeper into the subject in order to describe the relevant contents in meaningful catchwords and to make them available to the user. Retrieval and gathering of information, and buildup of databases, are thus the central tasks of documentalists."5

If this statement were also true for the Bundeswehr (and only here are we in a position to make a statement), the libraries and documentation offices in our sphere of competence should have maintained good neighborly relations, rather than merging. However, the Bundeswehr has – not altogether voluntarily – come to a different assessment and thus to a different solution, which seems practicable to us. In the following, we would like to present this solution – and the way that led us to it.

2. History of the Bundeswehr Scientific and Technical Information System

2.1 Structure and Equipment of the Former Bundeswehr Library Service

When the Bundeswehr was conceived and established from 1950 on, there was also the question of how to provide the new armed forces with a library service. Partially patterned on the Wehrmacht and Reichswehr structures, an essentially decentralized concept was chosen, which, of course, could only be based on the technical opportunities of that time. After an extended period of discussion, the overall technical responsibility for the Bundeswehr Library Service was not delegated to a civilian directorate in the Federal Ministry of Defense (FMOD), but to the Military Science Section of the Bundeswehr Staff (later: Armed Forces Staff).

4 An example of an institution, in which the "library" and "documentary" working areas are separated – even if they are part of the same superior organizational unit – is the Bundesforschungsanstalt für Fischerei (Federal Research Institute for Fishery), Hamburg (cf. offer of employment for the library service #35 (2001) 1, p. 132).

Agencies (administrative offices, command headquarters, special research institutions, schools) with certain literature requirements were usually provided with a technical library of their own, mostly a small one. Not every technical library was consistently staffed with qualified librarians; in smaller libraries, even the management function frequently had to be assigned to semi-skilled personnel.

In order to supply agencies that have no technical library of their own, major Wehrbereichsbibliotheken (Military District Libraries) were set up in each of the six military districts of the Federal Republic of Germany. They were assigned to carry out the functional supervision and to look after special subject fields according to a prespecified plan. In addition, Military District Library III had to maintain the "Bundeswehr Central Catalog" – to which the other Bundeswehr libraries reported their bookstocks – and it controlled the Bundeswehr lending system; collected the military-scientific literature published before 1945; and issued the "Militärwissenschaftliche Quellenkunde" (Military-Scientific Source Study) – a technical bibliography, which later appeared quarterly. For these reasons, it was also officially designated as "Zentralbibliothek der Bundeswehr" (Bundeswehr Central Library). – From Military District Libraries I and VI emerged the Universitätsbibliotheken der Bundeswehr (Bundeswehr University Libraries) between 1972 and 1973, while they also continued to carry out the tasks described above.

Functional supervision was basically structured along regional lines: The Military District Libraries principally carried out the functional supervision of the technical libraries within their respective military districts. However, there were numerous exceptions. For example, the technical branch in the Ministry not only exercised direct functional supervision of the military district libraries and the Bundeswehr University Libraries, but also of the libraries of important agencies, such as that of the Bundeswehr Command and Staff College, and that of the Federal Ministry of Defense.

According to the latest figures, the total number of Bundeswehr libraries is 111, most of which are libraries staffed with one, two or three persons, and which have a total personnel strength of 355 posts. Of them, however, the Bundeswehr University Libraries alone account for 92 posts.

Even if the Bundeswehr Library Service was, in principle, capable of accomplishing its mission, it showed, among other things, the following performance deficits:

- Inefficient structure in the field of functional supervision, with longstanding insufficient staffing of the competent technical branch within the Ministry;
Lack of acquisition procedures carried out according to uniform guidelines and of a uniform formal and content-related bibliography system for the entire Bundeswehr;

- Lack of a suitable reporting system applied according to uniform criteria and of a consistent determination of the personnel requirements; and

- Deficits in the user-oriented cooperation between the libraries in the field of information transfer and document provision, because of obsolete technical equipment,\(^6\) in particular, also in terms of the efficiency of the Bundeswehr Central Catalog, resulting in considerable supply delays in the Bundeswehr's inter-library lending system.

2.2 Structure and Equipment of the Former Bundeswehr Documentation Service

The Bundeswehr Documentation Service, also referred to as "Defense Documentation" and, as from 1988, "Documentation and Technical Information System,"\(^7\) began to operate in the early 1960s. From 1961 on, the Referat "Militärwissenschaft" (Military Science Branch) of Command Element B of the Ministry of Defense was concerned with the planning for the new Documentation Service, the design of which had to be started from scratch, and from where, as mentioned above, also the functional supervision of the Library Service was exercised. Following a decision by State Secretary Hopf, the Dokumentationszentrum der Bundeswehr/DOKZENTBw (Bundeswehr Documentation Center) was set up in 1963 and, in 1988, renamed Dokumentations- und Fachinformationszentrum der Bundeswehr/DOKFIZBw (Bundeswehr Documentation and Technical Information Center). The mission of this agency, which was independent from 1975 to 1993, was the centralized implementation of the Defense Documentation in the form of a collection, retrieval and information bureau for documents and studies with politico-military, strategic, defense-technology-related or other contents of interest for the defense community. The material analyzed especially consisted of studies, research and test reports, and

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6 Until 1992, the Bundeswehr University Libraries were the only Bundeswehr libraries where electronic data processing was used on a large scale. The equipment of the other Bundeswehr libraries, e.g. with regard to typewriters, catalog card duplicating machines, copiers, later also for personal computers, was poor.

7 Cf. "Das Dokumentations- und Fachinformationssystem der Bundeswehr" (The Bundeswehr Documentation and Technical Information System), an informational publication, 3rd edition (as of: December 1989), Bonn, 1989; Annex 1, p. IV. – For the sake of simplicity, the designations "Defense Documentation" and "Bundeswehr Documentation Service" will consistently be used in the following.
article literature from professional journals. The documents were usually made available to the users as a fulltext copy.

Moreover, local documentation offices were set up in 14 Bundeswehr offices and training activities. The essential reason for this probably was faster access to the documents in secondary document collections, which were set up in the documentation offices. But the tasks of these agencies also included the intake of documents relevant to description, which had been prepared or processed in the respective offices or activities. In addition, some of the local documentation offices supported the DOKZENTBw/DOKFIZBw by carrying out the description of documents and the development of information services.

In order to ensure even better description and analysis of the literature, "documentation networks" for various subject fields were set up, where staff from various Bundeswehr institutions took over the document analysis work in secondary function. But because they did not prove to be efficient, they were disbanded after 1984. In addition, the document analysis work of the DOKZENTBw/DOKFIZBw was supported by "contract documentation offices" from the civilian sector, e.g. by the documentation office of the Deutsche Gesellschaft für Ortung und Navigation (German Society for Detection and Navigation) and by professionals that worked on a free-lance basis (so-called "freelancers").

Also the so-called "documentation liaison officers", who acted in secondary function within the FMOD and at command headquarters, offices and schools, were supposed to promote the Defense Documentation. Unfortunately, this function was not always performed as desired; the problems associated with secondary functions are widely known. Sometimes, even a Bundeswehr librarian served as such a "documentation liaison officer"...

Functional supervision of the DOKZENTBw/DOKFIZBw and of the other elements of the Defense Documentation was exercised in a branch of the Armed Forces Staff within the FMOD. Together with the directive "to make use of the results of the Defense Documentation," the structure and tasks of the Defense Documentation were defined in a decree issued by State Secretary von Hase on 07 May 1968.

The DOKZENTBw/DOKFIZBw was led by a service member, and also in the areas of stockbuilding and subject indexing, it was staffed, to a large extent, with military personnel. The main reason for this was the special task of the Documentation Service, which essentially consisted of the analysis and transfer of documents relating to special military subject areas, defense technology and security policy.
When, in 1992, the decision on the merger with the Library Service was taken, the Defense Documentation had 152 posts. 99 of them existed in the DOKFIZBw, and the remaining ones in the 14 local documentation offices, with a personnel strength of 2–14 posts each.

All in all, the technical equipment of the Defense Documentation was always better than that of the Bundeswehr Library Service, and was, for a time, excellent. For example, a projection printer was used in the DOKZENTBw as early as in 1964.

From the time when the DOKZENTBw began to operate, an emphasis was placed on Electronic Data Processing (EDP). But only in 1974 was it possible to use the EDP system STAIRS (Storage and Information Retrieval System), which had been developed by IBM and was highly advanced at that time, and which permitted information retrieval by on-line dialog – mostly via dedicated lines. In addition, databases from outside the Bundeswehr had been used for searches since 1973.

Although the Bundeswehr Documentation Service was capable of completing its mission, following performance deficits identified in 1992 included the following:

- Obsolescence of the STAIRS retrieval system, which no longer offered any updating possibilities;
- Too long delivery periods for document copies ordered from the DOKFIZBw [unless these were rush orders];
- Considerable time lag from the publication of the documents to the retrieval of the documents in FIDOS;
- Too low frequency of publication of Bundeswehr documentary information, rendering data in the information booklets obsolete;
- This resulted in a declining demand for document copies.

2.3 Was the Coexistence of the Bundeswehr Library Service and the Bundeswehr Documentation Service objectively justified?

The question of why a structure within the scope of the existing Library Service was not created already in 1963 – the year of the foundation of the DOKZENTBw - becomes clear if one considers that the BRH (Bundesrechnungshof, Federal Audit Office) had recommended in an advisory opinion published in 1962 to build up separate documentation offices, because, in its view, the tasks of libraries and documentation offices did not overlap, but complemented each other. In this context, let me quote an appropriate passage from the advisory opinion of the BRH: "Libraries primarily collect the literature and make it available to the user, but they do not go into its contents. A documentation office, in contrast, mainly
processes the contents of the publications." A harsh and inadequate judgment on the analysis work in libraries... The advisory opinion, which generally referred to the scientific documentation in the Federal Republic of Germany, at least recommended close cooperation between libraries and documentation offices. According to this opinion, their organizational amalgamation is desirable, but not absolutely necessary.

The organizational interrelationship or intensive cooperation between libraries and documentation offices, which had been suggested by the BRH, obviously was not the intention of the Bundeswehr librarians. In 1957, for example, it was planned to extend the Bundeswehr Central Library to a "real" central military library, with a comprehensive collection mission for German military literature and prompt acquisition of the essential foreign specialized publications. Even seven months after the beginning of the preparations for the establishment of the Defense Documentation – within the same technical branch of the FMOD – existed the intention to issue an abstract bulletin edited by librarians as of 1962. In addition, the Bundeswehr Central Library was to develop a uniform classification method for the systematic catalogs of the Bundeswehr technical libraries. However, these projects were later not implemented due to shortages of personnel and other resources.

Particularly close cooperation with the Library Service was not envisaged on the documentary side either: Just as other documentalists of that time, the pioneers of the Bundeswehr Documentation Service were inspired by the idea to build up, within their sphere, an independent, efficient institution providing scientific and technical information by means of effective tools and methods of "intellectual and technical order" and of information transfer. The relevant ministerial mission was based on the positive vote by a ministerial review group and on the abovementioned advisory opinion of the BRH. In addition, NATO recommended its member nations to build up their own defense documentation centers, where this had not yet taken place.

Thus, Carl Hans Hermann wrote in the Bundeswehr journal "Truppenpraxis": "If (...) [by introducing documentation in the sphere of the Bundeswehr] an urgent requirement (...) can eventually be met, the organizational solution created within the Bundeswehr Staff permits, in a narrower sense, to tackle a task, the importance of which can probably only be appreciated by experts. (...) The undoubtedly most

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8 "Untersuchung über die wissenschaftliche Dokumentation in der Bundesrepublik Deutschland," (Survey of the Scientific Documentation in the Federal Republic of Germany.) Präsident des Bundesrechnungshofes (Director, Federal Audit Office). Pr. 2 – 1011/16-01/2.62. Frankfurt a. M., 1962, p. 6. (The words are marked in the original text.)
important complex [in this context] is that of differentiating between the working fields of librarians and those of documentalists. In this area, the Bundeswehr is groundbreaking. (...) In all relating areas of planning, the Federal Ministry of Defense has consistently assumed that, if both documentalists and librarians exclusively concentrate on their own tasks, any competition that might have negative effects will no longer occur, while meaningful cooperation in both working fields is extremely useful".\(^9\) Hermann defines "meaningful cooperation" as follows: "If (...) [the user] needs books, journal volumes or individual copies, he will have to ask a librarian. However, if he needs current information on certain fields of topics, he will have to ask a documentalist. In case of doubt, he will have to ask either of them. His query will then be forwarded to the correct sector".\(^10\)

The fact that, within the Bundeswehr, the matter at issue was the "pioneering" separation of the responsibilities of librarians and documentalists, rather than an intensive interrelationship between both fields, was perhaps due to the initially outlined, general climate concerning occupational policy of the first post-war decade, which had just ended. A point that was always emphasized in publications written or edited by Bundeswehr documentalists was the independence of documentary tasks and methods, and that, hence, a differentiation from the Bundeswehr libraries was necessary: libraries, in general, were "(not a) relic of the past," but "indispensable also in the future"; however, they could only provide "passive information and answers on request," while documentation increasingly tended to "actively inform" and to support military commanders or scientists, when completing their tasks, with information and documents.\(^11\) Obviously, the motto of the Bundeswehr documentalists was "Pour new wine into new bottles," in conjunction with the effort to distinguish themselves as visibly as possible from the Bundeswehr Library Service.

In this context, two things were overlooked: First, the technical libraries of the Bundeswehr already dealt with specifically documentary tasks; second, the documentation offices of the Bundeswehr themselves were libraries. The reasons for this are as follows:

(1.) If documentation merely consisted of the collection, analysis, distribution and use of articles, reports and studies or also ... books (!), all libraries would

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\(^10\) Hermann, Carl Hans (Footnote 9), p. 337.

pursue documentation. If documentation merely consisted of the "efficient listing of all intellectual documents" (e.g., by the buildup of databases), it would be a quasi synonym of "bibliography." What distinguishes "documentation" essentially from "librarianship" and "bibliography" is the solution to specific information problems of concrete customers by means of relevant documents retrieved and provided using diverse retrieval instruments. This is exactly what many librarians in smaller technical libraries of the Bundeswehr regarded as their special task. For example, Edwin Latznel said in his presentation held in Freiburg during the German Librarians' Congress in 1959: "Our librarians are responsible colleagues working within the scope of the military tasks of the agency to which their library belongs. They must always know what is 'going on' in their surroundings and which major projects are planned, so that they can provide literature for them in good time." Many technical libraries of the Bundeswehr were, thus, special libraries, i.e. libraries offering special services for the tasks and the personnel of their respective institutions.

12 "The term 'documentation,' which was coined around 1900, and which was, in 1960, defined more precisely by the FID [author's note: Fédération Internationale de Documentation] with the words 'the collection and storage, classification, dissemination and utilization of all types of information,' refers, on closer examination, to the librarianship, as well". Gisela Ewert and Walther Umstätter: "Die Definition der Bibliothek," in Bibliotheksdienst 33 (1999) 6, p. 957–971; here: p. 961. The definition of the term "documentation" cited by Ewert/Umstätter and formulated by the FID is too general and its date is not correct. Cf. Footnote 15 below.


14 Following Berndt von Egidy's statement quoted above in: "Im Zentrum der Information" (Footnote 5), p. 33.

15 Ewert/Umstätter (Footnote 12) give a clear definition of "library" (p. 996), but they adopt an unspecific definition of "documentation" (p. 961; wording in Footnote 16), which, besides, does not date from 1960, but from 1930, and does not originate from the FID, but from a predecessor institution, the Institut International de Bibliographie. Cf. Schürmeyer, Walter: "Aufgaben und Methoden der Dokumentation," in Zentralblatt für Bibliothekswesen 52 (1935), p. 533–543; here: p. 543. The founders of this institute, Paul Otlet and Henri de Lafontaine, called "documentation" what would actually have had to be termed "bibliography". They had founded the institute in Brussels in 1892, in order to develop a world bibliography by means of the Universal Decimal Classification. Cf. Lafontaine, Henri: "The International Institute of Bibliography," in Library Journal 29 (1904) Conf. No., p. 101–104; here especially p. 101 and 103.

16 In terms of its content, this definition originates from a librarian, who was, at the same time, one of the pioneers of documentation in Germany during both World Wars: Albert Predeek. Cf. Predeek, Albert: "Die Dokumentationsstelle für das technisch-wissenschaftliche Schrifttum in der Bibliothek der Technischen Hochschule zu Berlin," in Zentralblatt für Bibliothekswesen 52 (1935), p. 607–626, here: p. 608.

In order to provide these specific information services to their customers, the special libraries felt compelled from the beginning to add also component parts of bibliographically independent works, or other media, to their stocks, and to include detailed statements of contents. The technical libraries of the Bundeswehr followed this example, both in terms of stockbuilding and in terms of subject indexing.

Content analysis of these documents must be conducted in close cooperation with the experts of the institution, the tasks of which a special library is to support. In this fashion, the librarians can utilize the specific knowledge of the experts of their agency, which they themselves may lack. Occasions for this present themselves within the scope of customer-oriented information transfer, as has also been reported from the practice at the Army Officer School and the technical libraries of Military District VI. This approach obviously also seemed to be much more user-friendly than that of referring the user to the DOKZENTBw, as had once been demanded by the FMOD. – On such occasions, a special library can also verify documents that have been created within its agency, or within the task area of the latter. Thus – as far as anything that has been recorded in writing is concerned – a special library becomes the "memory" of its institution.

All this was not considered by the BRH in its fundamental Advisory Opinion on Scientific Documentation published in 1962. Its analysis was primarily based on larger, general libraries, which, indeed, can usually offer their users only "help for self-help".

(2.) If the nature of "documentation" consists of solving concrete, qualified information problems, it is usually insufficient to furnish only bibliographical data about documents. "Users not only want bibliographical references, but they want the full texts, and they want them immediately". The documentalists of the Bundeswehr followed this insight already from the very beginning, in that they regarded the "storage" of analyzed documents or "proper documentary extracts" (articles, book extracts) and their promptest provision possible as an essential part of their work. This applies both with regard to the DOKZENTBw/DOKFIZBw and with regard to the local documentation offices, which had an auxiliary memory of the documents indexed in the Defense Documentation. However, any institution

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19 Cf. text at Footnote 10 above.
that collects all sorts of publications, analyzes them, takes them into its stocks, and provides them for use, can be described as a library.\textsuperscript{21} Thus, the DOKZENTBw and the local documentation offices were special libraries in the full sense of the word, because also the other abovementioned definition features of this type of library applied to them.\textsuperscript{22}

Thus, the coexistence of libraries and documentation offices within the Bundeswehr was only due to the circumstances of a particular period of time. As a matter of fact, an organizational and procedural merger would already have been necessary from the very beginning.

2.4 Working-level Cooperation between Bundeswehr Libraries and Defense Documentation Institutions

At the practical level existed numerous opportunities for cooperation between libraries and documentation offices, which were also pointed out in basic publications serving the information on the Library Service and the Defense Documentation. However, they depended on the individual commitment of the librarians and/or documentalists in each particular place, or on that of the users themselves. For a user, there was often the disadvantage that he could not obtain all the needed information and documents together from a single agency, but had to contact two different institutions. As stated earlier, this disadvantage was, at the beginning of the Defense Documentation, even praised as a benefit.\textsuperscript{23}

Despite these difficulties, cooperation did take place. For example, the Bundeswehr technical libraries used the DOKZENTBw and its services as an information source for searches and the processing of inter-library loan request forms. By early 1993, 25 Bundeswehr libraries were already equipped with an on-line port to the databases of the Defense Documentation (FIDOS).

2.5 Reorientation: Merger between the Library Service and the Documentation Service rather than Dissociation

Over the many years of coexistence of the Bundeswehr Library Service and the Bundeswehr Documentation Service, numerous suggestions and initiatives for

\textsuperscript{21} Cf. Ewert/Umstätter (Footnote 15), p. 966. If all technical requirements are met, any library can also collect/index digital publications, while it does not depend on its geographical location (cf. \textit{ibidem}, p. 968).

\textsuperscript{22} Local documentation offices, which do not conduct stockbuilding or stock exploitation on their own, could typologically be described as "subsidiary offices of the special library DOKZENT Bw/DOKFIZBw".

\textsuperscript{23} Cf. text at Footnote 10 above.
organizing the relationship of both areas to each other had been developed, which, however, were not implemented. But this changed in 1989: After massive criticism of the state of the Bundeswehr Library Service by the Committee on Public Accounts of the German Bundestag, State Secretary Dr. Carl set up a Bundeswehr ministerial working group, which was tasked to examine the Bundeswehr Library Service as a whole and to develop proposals for an "effective and, at the same time, economical full-coverage provision of scientific and technical information for all Bundeswehr agencies," using information and communications technology. This working group developed a model structure for the merger between the Bundeswehr library service and the Bundeswehr documentation service, because – in contrast to the general view previously held – it identified a host of overlaps between the tasks and fields of activity of Bundeswehr libraries and documentation offices. With regard to the personnel strength, considerable cuts had to be made, among other things because of the obligations to achieve economies in the course of the Bundeswehr reduction within the scope of German reunification. The model comprised a total of 335 posts for the Scientific and Technical Information Center and, in addition, 102 special libraries of different sizes across the Bundeswehr, and another 92 posts for the two University Libraries of the Bundeswehr Universities. – The libraries of the former East German Army formed the basis for building up the Bundeswehr Scientific and Technical Information System within the new Länder (former East Germany).

3. Current Structure and Equipment of the FIWBw (Fachinformationswesen der Bundeswehr, Bundeswehr Scientific and Technical Information System)

3.1 Organizational Structure and Structure in Terms of Functional Supervision

- The Bundeswehr Library Service and the Bundeswehr Documentation Service have merged to a uniform FIWBw (Bundeswehr Scientific and Technical Information System).

- For efficient management of the FIWBw and for full-coverage provision of scientific and technical information, technical literature and other specialist media for all Bundeswehr agencies that have no technical information office of their own, the FIZBw (Bundeswehr Scientific and Technical Information Center) – a technical division within the Armed Forces Office – was formed out of the DOKFIZBw on 01 April 1995.

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As a central institution of the Scientific and Technical Information System of the Bundeswehr, the FIZBw has, since 1997, maintained the computer-assisted Central Stock Record of the literature on stock at the technical information offices of the Bundeswehr, with uniform formal description and subject indexing. With a central editorial department, the FIZBw monitors the compliance with the sets of rules and the quality of the analysis work. The FIZBw is entitled to direct participation in the German inter-library lending system. It controls the inter-library lending system within the FIWBw (Bundeswehr Scientific and Technical Information System) and is the coordinating library for those Bundeswehr technical information offices that have no permission to take part in the German inter-library lending system. Apart from the "FIWBw Central Stock Record" database (Zentraler Bestandsnachweis FIWBw), it has also other retrieval instruments for this purpose at its disposal: for example, the Bundeswehr Central Catalog (Zentralkatalog der Bundeswehr), which was completed in the form of cards by 31 May 1997, and the data of the former Bundeswehr Documentation Service, previously indexed in a STAIRS database (recently also in a database on the Bundeswehr Intranet). – As a successor to the Bundeswehr Central Catalog, the FIWBw Central Stock Record is one of Germany's central technical and scientific catalogs.

The FIZBw is – as the DOKZENTBw/DOKFIZBw were already – represented as a permanent member of the Information Management Committee of the NATO Research and Technology Organisation (NATO RTO; formerly: "AGARD") (homepage: [http://www.rta.nato.int/](http://www.rta.nato.int/)). In addition, in the year 2000, the function of national distribution center for publications of the NATO RTO was transferred from FIZ Technik, Karlsruhe, to the FIZBw. – Since 1995, the FIZBw represents the Bundeswehr Scientific and Technical Information System within the executive committee of the APBB (Arbeitsgemeinschaft der Parlaments- und Behördenbibliotheken, Association of Parliamentary and Governmental Libraries).

- The institutions that are functionally subordinate to the FIZBw are the Fach-informationsstellen (technical information offices) and small-scale technical libraries.

- Technical information offices replace the former libraries and local documentation offices, which were amalgamated where both existed at the same agency. A technical information office is a special library, an "institution of a new nature, which – with its diverse services – is to ensure efficient provision of scientific and technical information for its users".

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Those technical libraries of the Bundeswehr that were real OPLs (One-Person Libraries) and that were operated by a civil servant of the Intermediate Service (equivalent to NCOs) at "agencies with low information requirements" received the name *Fachbücherei*, which sounds somewhat obsolete in German and may be translated with "small-scale technical library". The fact that they were to obtain no access to the integrated system was a real deficiency, but – for financial reasons – an unavoidable parameter. Most small-scale technical libraries are also special libraries. In order to improve their efficiency, we make every effort to give them at least the opportunity for indirect participation in the integrated system.

At some agencies that had a technical library until 1992, headquarters libraries without any specialized personnel had to be established, because of the manpower reduction parameters. Headquarters libraries are – like reference libraries – managed in secondary function, but the latter have separately allocated funds at their disposal.

The body responsible for the management and implementation of the Bundeswehr Scientific and Technical Information System was, for the time being, the technical section (within the Armed Forces Staff), which had, up to then, been responsible for the Bundeswehr Library Service and the Bundeswehr Documentation Service. This task was transferred to the FIZBw (within the Armed Forces Office) as of 01 June 1994, which, at that time, still carried the name DOKFIZBw. Through an appropriate element within the Armed Forces Staff, it is integrated into the organizational procedures within the Ministry.

The FIZBw and two of the technical information offices are – as *Regionale Fachinformationsleitstellen* (Regional Technical Information Control Centers) – in charge of the functional supervision of the other technical information offices and small-scale technical libraries in the regions assigned to them.

The functional supervision within the Bundeswehr Scientific and Technical Information System (FIWBw) "comprises the support and monitoring of activities of technical information offices in the selection, acquisition, indexing, transfer and provision of scientific and technical information; ensuring the reporting system within the FIWBw; the cooperation of the agencies exercising functional supervision in establishing the acquisition funds requirements of the technical information offices by staffing the budget estimate; the involvement of the agencies exercising functional supervision (...) in personnel measures at the technical information offices ([e.g.] performance ratings, the involvement
in initial, extension and follow-on training of the specialized personnel". In all technical matters, the technical information offices are entitled to directly contact the responsible agency exercising functional supervision.

In addition, the three regional technical information control centers are responsible for the provision of technical advice to the agencies that have headquarters libraries.

- The Bundeswehr university libraries enjoy a special status. Because of their university-specific tasks, they have no management or functional-supervision tasks within the FIWBw. De facto, they are not submitted to any functional supervision.

- Following a decision by the Ministry, the library of the Federal Ministry of Defense (FMOD) is not submitted to the functional supervision by the FIZBw either. The library of the FMOD cooperates with the other institutions within the FIWBw and is to become an active participant in the integrated system as soon as all technical requirements are met.

- The technical information office of the Bundeswehr Academy for Information and Communication in Strausberg, which took over, inter alia, stocks and catalogs from the former Militärbibliothek der DDR (Military Library of the German Democratic Republic) and from the former military district libraries, performs, in addition, the task of an archive library and that of a duplicate collection and exploitation agency for the entire FIWBw.

3.2 Information Marketing
"Just like every retailer, for example, first has to 'entice' customers into his shop in order to be able to sell him something, a library must make itself attractive for its 'customers'". Accordingly, information marketing at Bundeswehr technical information offices gains particular importance, which reflects in the fact that theoretical bases are elaborated and that this topic is repeatedly dealt with at the annual conferences for the professional development of directors of Bundeswehr technical information offices.

A special aspect of information marketing (and also of stockbuilding) is information verification, i.e. the verification of documents that are not released onto the

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25 SKA (Streitkräfteamt, Armed Forces Office) – Amtschez (Director) – Reference No. 52-01-00/52-50-00 dated 29 December 1995, No. 10 ("Fachaufsichtserlass FIWBw" [FIWBw functional-supervision decree]; on file at the FIZBw).

market ("gray literature"). Material of particular interest to the FIWBw is especially documents created within the Bundeswehr and containing valuable information. Their inclusion in the stock of a technical information office, and their recording in the FIWBw Central Stock Record, promotes information interchange between agencies and persons working on the same topics and issues. Therefore, the Bundeswehr technical information offices are obliged to devote their special attention to this "acquisition marketing".

3.3 Formal Description
The set of rules serving as a framework is the "Descriptive Cataloging Rules for Scientific Libraries" (RAK-WB). Supporting the participants of the integrated system is a demanding and laborious task for the Zentralredaktion Formalerschliessung (Central Editorial Department for Formal Description) of the FIZBw: In a shared catalog, data record duplicates can only be avoided if the central office insists on strict adherence to the rules. This requirement is directed at those technical information offices that have, up to now, only pursued alphabetical cataloging for internal use and where minor breaches of the rules had no serious consequences. Some participants of the integrated system still must acquire detailed knowledge of the RAK-WB.

3.4 Subject Indexing
As a particular feature, the FIWBw pursues subject indexing within the scope of its Central Stock Record, which is maintained and monitored by a central editorial department. Two separate indexing systems are applied in this context: a classification and a thesaurus. The "FIWBw classification" is a cross-subject mono-hierarchical broad classification system with up to four hierarchy levels. It serves the subject-specific order of the documents. The "FIWBw Thesaurus" has been developed on the methodological and objective basis of the "Defense Documentation Thesaurus". The maintenance and use of the classification as well as of the thesaurus are supported by the aDIS/ BMS software. – At a significant number of Bundeswehr technical information offices, classification for the Central Stock Record also constitutes the basis for types of shelf classification, which are individually maintained on the spot.

Subject indexing for the Central Stock Record is complemented by abstracts. Within the FIWBw, the indicative abstract is mandatory, unless a suitable statement of contents of a different type already exists. In the case of longer treatises (for example, in book format), tables of contents or outlines can be used for the abstract.
3.5 Information Transfer/Document Provision
Apart from information transfer on request, which is traditionally a focus of most Bundeswehr technical information offices, there are active information services in the form of initiative information specially tailored to the user, literature compilations, and information services that have the nature of publications. The most important ones to be mentioned are the "Zeitschriftenverzeichnis FIWBw" (FIWBw List of Periodicals) created with the support of the technical information offices and the 16 thematically differentiated serial publications of the Bundeswehr technical information as well as special editions (Sonderhefte) about current topics, which contain an up-to-date selection of bibliographical references to publications that are indexed and available in the databases of the FIZBw.

Increasingly important media for publication and retrieval of information services have, since the year 2000, been the Bundeswehr Intranet and agency-internal networks. Apart from the FIZBw, also other Bundeswehr technical information offices – including the technical information office of the Federal Office of Defense Technology and Procurement or the library and technical information office of the Bundeswehr Institute for Underwater Sound and Geophysical Research – have their own homepages on the Bundeswehr Intranet. For example, from the FIZBw Homepage on the Bundeswehr Intranet, it is possible to download the latest editions of each series of Bundeswehr technical information publications and the latest special editions as a PDF file, in some cases even the full texts of the documents shown among the special editions.

Last year, an Intranet-OPAC was newly developed, which enables every user of the Bundeswehr Intranet to search the entire document pool of the FIZBw: Not only can the stock of the integrated system be accessed through OPAC, but we were also able to render the entire legacy data stock of the former Defense Documentation, which unfortunately could not be integrated into the integrated system, directly accessible to the user. The user is thus able to view the result of his search in the form of the catalog entry, each including the associated abstract, and download it into his computer. The document will then be delivered either as a conventional inter-library lending item (book and/or hardcopy) or in electronic form.

Electronic Document Pool/Electronic Document Delivery
As mentioned above, the FIZBw has, since 1998, been digitizing the full texts of many documents that were internally indexed, considering copyright parameters parallel to the collection on microfiches, using the Codufidex-Mudis system. About 70,000 fulltext copies are currently available in the PDF format. Since August 2000, these documents have been delivered to the requesters by e-mail; at
the moment (in March 2002), the proportion of the electronically provided documents is about 60 percent of the total.\footnote{In August 2001, their proportion was still about 25\% (with about 40,000 fulltext copies in the PDF format).} The time needed for processing the request until the electronic delivery takes place now usually takes only 30 minutes or less, which meets with a positive response by our users.

3.6 Information Technology

Within the scope of the data processing project FIDOS, the STAIRS application which to date has been employed in the documentation service, was replaced. It was originally planned to fully introduce the new application by 1998, which is called FIDOS-NEU. Because of scarce budget funds, however, the implementation was delayed. Eventually, the aDIS/BMS library management system of the a|S|tec company was procured. Unfortunately, this software could not be used without any problem: for example, not all modules were fully operational.

As of November 1998, after having ensured a relatively stable operation of the aDIS/BMS library management system at the FIZBw, implementation of the integrated library system was started. A total of 64 participants will be linked to the system, 58 of which have already been connected. The Central Stock Record currently comprises approximately 270,000 catalog entries. Our integrated system concept envisions a two-tiered network with common authority and master data. The individual participants in the system have the option to carry out additional subject indexing that only relates to their local stock records.

Each participant in the integrated system will have the ability to work on their local stock independently of the network center, to access all authority and master data updated on a daily basis, and to make use of the data included in the Gemeinsame Körperschaftsnamendatei (Common Corporate Names File) and the Deutsche Bibliothek (German Library), which are offered in the external data pool. Intakes, however, can only be made following a duplication check at the FIWBw Central Stock Record. The integrated system stock always provides a current record of all documents of the connected technical information offices available under aDIS/BMS. This requires a constant automatic adjustment of local stocks with the Central Stock Record and vice versa, for the holdings and authority data processed by the central editorial department at the FIZBw also have to be automatically distributed to all participants in the integrated system. To monitor these replication processes and the data backup system, which is crucial to the entire integrated system, check routines were developed. Thus, the integrated system administrators are capable of responding to any problems immediately. These tasks, which by themselves are already quite demanding, were considerably
aggravated by the initially relatively unstable and low-performing Bundeswehr communications network. But not only was and still is the technical implementation a demanding task. The buildup of an integrated system with participants who, for the most part, have never worked with a data processing system before also is a difficult undertaking.

Prior to the introduction of the aDIS/BMS software and, henceforth, with each new software release and/or each upgrade of the functional scope, intensive tests were and are required to be carried out by the FIZBw. On the one hand, this constituted an enormous increase in the workload of the in-house personnel, since duty routine continues to have to be discharged as well. But on the other hand, it is a quite considerable advantage for internal cooperation. Never before had the "librarian group" and the "documentalist group" to work on a common cause and the opportunity to learn about the problems of the "other side". In this context, it was ascertained that, regarding this task, they have never been worlds apart, an idea still present in some minds.

Despite all the problems outlined above, the following is to be stated: An integrated system designed in such a way is unique in Germany. When breaking new ground, it is to be expected that not everything straightaway goes according to plan. Even though much remains to be done, we can be proud of what we have accomplished to date.

3.7 Personnel
The entire FIWBw is characterized by a climate of good cooperation. This was accomplished in part by information briefings and professional-development events, which provided the opportunity to give technical presentations and exchange ideas. In this context, especially the annual professional-development meetings for directors of the Bundeswehr scientific and technical information offices are to be mentioned. – To provide staff members with current information between the annual meetings of the FIWBw, the FIZBw issues the "FIWBw Newsletter" several times per year, which includes an overview of the status of the introduction of FIDOS-NEU, as well as vacancies in the Bundeswehr technical information offices.

While the positions with the Bundeswehr University Libraries are normally occupied by librarians only, the positions for civilian personnel at the FIWBw are usually open to both librarians and documentalists. Some positions, mainly those at the FIZBw itself, are reserved for officers and field-grade officers whose documentary training, e.g. at the Institute for Information and Documentation of the Fachhochschule Potsdam (Potsdam Technical College), is supplemented by practical training carried out in special libraries and other technical information
offices. This syllabus is not yet the ideal integrated library-documentation education and training. Therefore, we are very interested in the plans conceived to install new postgraduate library and information science studies, e.g. at the University of Applied Sciences, Cologne.

As already mentioned above, the introduction of the new FIWBw was tied to concrete requirements in terms of personnel reduction. It is and was carried out on a step-by-step basis and parallel to the buildup of the integrated system, and, as of today, has been largely completed. However, the FIWBw will not escape the general reduction requirements, e.g. within the scope of the reorganization of the Bundeswehr. The Concept for the Bundeswehr Scientific and Technical Information System also requires to determine the personnel requirements under an analytical approach as soon as the integrated system has worked on a routine basis for a sufficient period of time. A tool for determining the personnel requirements and for technical evaluation and organization development of the FIWBw is an efficient reporting system, which has, in recent years, been implemented in cooperation with the technical information offices.

4. The Future of the Bundeswehr Scientific and Technical Information System

The projects of the Bundeswehr Scientific and Technical Information System to be implemented in the coming years include:

- Electronic provision of service regulations on the Bundeswehr Intranet;\(^{28}\)
- Provision of the data of the Central Stock Record on the Internet (except for data about documents meant for internal official Bundeswehr use only);
- Expanding the FIWBw to the Bundeswehr Knowledge Management Service on the basis of a "Technical Concept for Joint FIWBw Tasks," which is already available as a draft copy and is to be issued by the Bundeswehr Chief of Staff;
- An improved quality management including user surveys;
  - Replacement of the "Collection of Decrees for Libraries with Organic Personnel" by a collection of "Special Directives for the Bundeswehr Scientific and Technical Information System (BesAnFIWBw)"; for this purpose, considerable preparatory work has already been carried out;

\(^{28}\) Assigned to the FIZBw by decree; cf. *Ministerialblatt des Bundesministeriums der Verteidigung* (Federal Ministry of Defense Gazette) (2001), p. 123. In the course of this task, the regulations will, in the medium term, be indexed as documents, included in the Central Stock Record of the FIWBw and, thus, made searchable.
- The retrospective digitization of all items on stock at the FIZBw on microfilm/microfiche.

5. Conclusion

If U.S. market studies prove that every employee spends an average of one hour on the search for information causing an annual deficit of 13 million U.S. Dollars in a company with 1,000 employees, special libraries will be afforded with a wide range of activities as the "eye" and "memory" of their respective parent institution, also within the Bundeswehr.

"Consistent cooperation between documentalists and librarians is in line with the professional reality in the information sector." From the perspective of the Bundeswehr Scientific and Technical Information System, we can only confirm this assessment of the German associations for librarianship and documentation service: We are working together so consistently that we have found a new common identity.

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30 Statement by the Bundesvereinigung Deutscher Bibliotheksverbände (Federation of German Library Associations) and the German Society for Documentation, in: Bibliotheksdienst 32 (1998) 1, p. 10.