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THIS ISSUE'S THEMES:

- **Development of standardization management:** best practices and initiatives
- **Projects:** developing and applying standards
- **Governments and Industry working close together**

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Introduction

A warm welcome to the second *European Defence Standardization Journal*. The first Journal was published in late 2007 and at that time we were just 'testing the water' to gauge the demand and worth of such a publication. The response was very encouraging. 3000 copies of the Journal were distributed and we received positive feedback on the contents and format. Many standardization experts from our participating Member States have asked the European Defence Agency (EDA) to do it again. Therefore, it gives me great pleasure to introduce this second *European Defence Standardization Journal*.

The Journal covers three main themes. The first deals with the development of standardization management best practices and looks at some of the important initiatives in EDA, the Commission and also in NATO. This reflects a part of the strategic approach to defence standardization that will in time help to reduce the cost of our defence materiel and improve the interoperability of our forces. The second theme provides examples of projects where standards are or have been developed and applied. For EDA this is a growth area. Each new cooperative project requires standards and standardization to be considered. For some of these projects this is normal business. For others standards and standardization are important enablers not only for the success of the programme but in a wider international context. For example MidCAS (Mid-air Collision Avoidance System) is looking to establish recognised standards for sense and avoid that will contribute to the future integration of manned and unmanned aviation flying routinely in non-segregated airspace - that means above our towns and cities. However, many new standards actually emerge from industry and it is industry that applies the standards requested by governments in defence contracts. Therefore, it makes sense for governments and industry to work closer together and this is the subject of the third theme of the Journal.

Finally, I would like to thank everyone who has contributed to this Journal. We have many different perspectives from a number of different countries and organisations. This makes for a balanced Journal that I hope you find as useful as the first edition.

Jukka Juusti,
*Armaments Director,
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Disclaimer

The opinions and statements in each of the Journal articles are those expressed by the authors and are not necessarily endorsed by the EDA.

A Brief History of Defence Standardization

By Doctor
Claudia Urbanovsky,
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Standardization, especially military standardization, is as old as civilisation itself and the 'Standardiser' alongside the soldier, the whore, the priest/magician and the politician is one of the five oldest professions! Based on relics found, standardization can be traced back to the ancient civilizations of Babylon and early Egypt. The earliest written standards – found etched in stone - which were the physical standards for weights and measures of Sumeria.

As trade and commerce developed, written documents evolved that set mutually agreed upon standards for products and services, such as agriculture, ships, buildings and weapons. Initially, these standards were part of a single contract between supplier and purchaser. Later, the same standards came to be used across a range of transactions forming the basis for modern standardization.

Gaius Marius who lived in the 2nd Century B.C. gave his name to what was most probably the first recorded Defence Capabilities Initiative (DCI) in history – the Marian Reform.

Before Gaius Marius, the Roman Legion was well, it was whatever the commander wished it to be. At the end of the 2nd century BC Gaius Marius reformed the previously ephemeral legions as a professional force drawing from the poorest classes, enabling Rome to field larger armies and providing employment for jobless citizens of the city of Rome. The legions of the Late Republic and Early Empire are often called Marian legions. The three different types of heavy infantry were replaced by a single, standard type based on the Principles: armed with two heavy javelins called pila, the short sword called gladius, chain mail (lorica hamata) or banded armour (lorica segmentata), helmet and rectangular shield (scutum).

Each legion had now an auxilia of similar size, which contained specialist units, engineers and pioneers, artillerymen and craftsmen, service and support personnel and irregular units made up of non-citizens, mercenaries and local militia. These were usually formed into complete units such as light cavalry, light infantry or velites, and labourers. There was also a reconnaissance squad of 10 or more light mounted infantry called speculatores who could also serve as messengers or even as an early form of military intelligence service. As part of the Marian reforms, the legions' internal organization was standardized. Each legion was divided into cohorts. Prior to this, cohorts had been temporary administrative units or tactical task forces of several maniples, even more transitory than that of the legions of the early republic themselves. Now the cohorts were six to ten permanent units, composed of five to eight centuries each led by a centurion assisted by an optio, a soldier who could read and write. These came to form the basic tactical unit of the legions very standardised Roman Legions!

But Gaius Marius did not stop with administrative standardization. He went further . . . much further!

The first issue was standardization of the soldier: Men were carefully selected. The minimum height for the legionary of Rome was set at 6 Roman feet or 1.78 m. The measuring, according to standards was followed by a standardised medical examination. Having passed these two 'standards', the personal identification marks of the man were carefully noted and kept by the administration. Only then he could take the oath – sacramentum – of service. This act was also a very standardized affair, taken in batches, hands raised and reciting a 'standard formula' which did not change until the Fall of the Roman Empire in the 5th Century A.C.!

Following his 'sacramentum' our Roman legionary would get in touch with the next level of standardization, invented by Gaius Marius for the Armed Forces of Rome: Defence-material standards. They were classic prescriptive standards and we have almost all of them as they were written on metal tablets or collected in books, such as the works of Polybius and Vegetius.

The javelins (pila), short swords (gladii), chain mail (lorica hamata) or banded armour (lorica segmentata), helmet and rectangular shields (scutum) were also thoroughly standardised: You could take a plate of band armour from a lorica of LEGIO I AUGUSTA GERMANICUS, stationed in Colonia Agrippinensis (Cologne, Germany) to fix it upon a lorica from LEGIO I PARTHICA at Singara (Tabriz, Iran) in Mesopotamia with a standardised tool, even!

With so standardized a war machine you might wonder whether their operational standards were up to standard. If you are interested, go to your local book store and buy yourself 'De re militari' of dear Vegetius', then read and wonder!

EDSIS

It's all in a Word



By Neil Pitts,
Principal Officer
for Armaments Co-operation,
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The title of this article might at first seem a little strange but I hope that its relevance will become clearer as you read on.

The European Defence **Standards** Information System (EDSIS) was introduced in late 2007. For those who read the article that appeared in the 2007 Journal, you will remember that EDSIS's main function was to enable the participating Member States of the European Defence Agency to advertise materiel standards that were to be developed or undergo major modification. Other stakeholders from government or industry were able to express their interest in joining the project through the EDSIS open website. This co-operative working enables standards to be developed, recognised and used by a number of parties. Thus EDSIS plays its part in reducing the dependence on national defence standards.

At the time of writing, we have lived with EDSIS for over a year and there have been approximately 30 projects listed. Consequently, the stakeholder community has a better understanding of the potential of EDSIS, so much so that EDSIS is to be developed to make it more user-friendly, easier to access and provide feedback and information facilities to users and project sponsors. There is also a clear need from the pMS standardization managers for EDSIS to move from a project focus towards a single portal for wider-ranging European defence materiel standardization. This covers what has become known as the 8 P's with information provided from industry as well as governments.

- **Projects** - an improved version of what EDSIS previously contained.
- **Proposals** - new standardization proposals or identification of standardization gaps emerging from capability development.
- **Problems** - a help desk facility to assist in addressing problems in applying or using materiel standards.
- **People** - contact details of the key stakeholders in government and industry.
- **Policies** - background information on standardization management policies of the pMS, preferable via a link to national standardization websites to reduce the maintenance overhead.
- **Procedures** - how to develop standards at a European level, with reference to the procedures of the European Standardization Organisations and how these can be applied in defence.
- **Publications** - related standardization publications like this Journal.
- **Provision** - how to obtain/access standards used in defence procurement, in particular those referenced in the European Handbook for Defence Procurement.

So back to the title of this article "EDSIS - It's all in a Word." The utilisation of EDSIS will continue to grow and consequently the acronym will change to the European Defence **Standardization** Information System. We hope to go on-line with the new EDSIS soon after it has been presented to the EDA Steering Board in Spring 2009. In the meantime, sponsors from the "participating Member States (pMS)" will continue to use EDSIS in developing co-operative standards projects. EDSIS can be found on: <http://www.eda.europa.eu/edsisweb>



Best Practice Defence Standardization Management Model

By **Dave Wilkinson**,
Head of International
Standardization, UK Defence
Standardization.



The Materiel Standardization Harmonisation Team (MSHT) is currently working on the identification of a defence standardization management model which captures the best practices of the member nations. There are many benefits of such a model, namely providing:

- nations new to standardization management with a model to develop their organisations against;
- nations experienced in standardization management with the opportunity to review their operating methods against perceived “best practice” and consequently, a catalyst to re-think standardization management strategy;
- an opportunity to examine the best practices with a view to centralising standardization functions on a European basis and spread the costs;
- a baseline for enhancing current best practice, both nationally and collectively.

This GBR led project is being progressed by examining the key constituents of a standardization management organisation on an activity by activity basis.

The first project stage consisted of examining the civil-defence standardization interface and the following roles, responsibilities etc. were considered to encapsulate best practice:

Having a senior representative of the defence standardization organisation on the national civil standardization organisation’s Steering Board (or equivalent) in order to:

- *provide a specialized defence standardization contribution to the civil standardization discussions;*
- *influence civil standardization policy and strategy with regard to defence interests;*
- *receive first hand/timely information on any developments/changes of the national civil standardization policy and strategy;*
- *use the information gathered as an input to any defence standardization policy and strategy deliberations.*

Having a formal agreement between the defence standardization organisation and the national civil standardization organisation in order to:

- *provide Government recognition of the civil standards organisation as the sole organisation authorised to represent national interests at the European and International civil standardization level;*
- *encourage the development of civil standards rather than defence standards by allowing civil standards organisation representation in the early stages of defence standard development discussions;*
- *encourage adoption of defence standards by the national civil standards organisation.*

Having a Standards Coordination Officer to manage the MOD’s input to the national civil standardization organisation’s standard development committees in order to:

- *act as a single point of contact with the civil standards organisation;*
- *be the focal point for nominating MOD representation to the civil standards development meetings;*
- *be the focal point for MOD representatives regarding any standardization related policy and legislative issues that arise from the civil standards development meetings;*
- *ensure the issue of relevant civil standards drafts to the MOD Subject Matter Experts;*

- *provide the necessary guidance material for MOD representatives attending civil standards development meetings.”*

Readers of this article are invited to provide the author with any comments they may have regarding the civil-defence standardization interface conclusions.

Other areas currently under discussion include:

- the provision of advice and guidance for the selection of standards, use of performance/prescriptive standards etc.;
- the development and management of a defence standards portfolio;
- MOD/Industry cooperation in the development and use of standards;
- the verification of standards invoked in contracts;
- developing dual-national defence standards for multinational use;
- contributing to international defence standardization;
- determining the impact of EU Directives on defence standardization;
- managing the synergy between NATO, EDA and MSHT.

Resources allowing, there is no reason why this project cannot be completed and current “best practice” re-examined in order to determine why it is done that way and whether further enhancements are possible.

How far we can travel in the development of a “European Defence Standardization Management” scenario is a question for the future but already we have seen optimistic signs i.e. the creation of the European Defence Standardization Information System (EDSIS), the publication of the first British/German dual-national defence standard, Polish standardization training provided to other nations or the willing exchange of information between the MSHT nations.



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Internet/Intranet Services on Standardization: Benefits for the Community of Experts and Users

By **Roberto Presaghi**
*General Secretariat
of Defence - Italy*



Establishing and providing effective intranet/internet services focused on standardization can be extremely beneficial to the standardization community, on both a European and national scale.

The intrinsic interactivity of the internet makes it an ideal tool to foster cooperative work. Internet tools make it possible to share a large amount of information held in documents and databases almost immediately. Furthermore, internet tools facilitate the gathering of contributions from many users aimed at creating a common understanding or knowledge (e.g. web sites built collaboratively).

Being aware of the above potentialities, the Materiel Standards Harmonization Team (MSHT), under EDA umbrella, is carrying out a comparative study on the internet/intranet services that are available in the Member States Standardization Organizations. The overall aim is to compare the national practices and the tools/services provided to experts and users, so as to identify those that are considered "best practices".

The issue of identifying valuable internet/intranet services, aimed at facilitating the various standardization activities, is an important part of improving standardization management. In that regard, one of the main efforts of the MSHT work is to develop an ideal reference model for standardization management, operating in accordance with a set of "best practice" procedures. Within this issue, the establishment of appropriate internet/intranet services is surely a key point.

Simplistically, standardization can be seen as a continuous process split into two essential parts. The first is related to the effort to obtain the widest diffusion of "best standards" amongst users, with the assumption that the more widespread these "best standards" are, the more successful the standardization process. The second is related to the establishment of an effective interaction and cooperation amongst experts for the creation and maintenance/revision of standards. Internet/intranet services have a key role to play in achieving both of these targets.

From a practical perspective intranet services, within a given standardization organization, can be exploited to:

- publish standardization information;
- manage the standardization documents and enhance/facilitate collaborative work on them;
- deliver training to the desktop on standardization subjects;
- make fully operational a steady and faster workflow based on "best practices";
- gain wider and faster access to standards databases;
- promote discussion and debate on standardization issues among users.

Internet services offer the same potential as intranet services but on a larger scale, bringing the above benefits to a wider stakeholder community outside a given organization.

The benefits arising from the establishment of appropriate internet/intranet services in national organizations are well worth the financial investment. It is envisaged that the costs needed to establish internet/intranet services can be split into two types. One-off costs associated with IT systems infrastructure and costs associated with on-going maintenance. The first can be relatively low, especially if such services rely on existing internet/intranet structures. The second are normally higher due to the need of human resources for setting the systems up, populating them with standardization contents and maintaining them.

From a governmental organization perspective, the abovementioned costs should be seen in terms of savings in the long run due to the reduced incidence of errors expected in contracts related to the use of wrong standards. The rationale is that the more the standardization knowledge is made available to project teams and users, the less is the risk of applying incorrect standards. It implies that the information on "best standards" and standardization "best practices" is fundamental to achieve the successful training of users and to keep them well informed on the use of updated and correct standards.

The MSHT, along with EDA, has identified the use of internet/intranet services as a key tool, along with this Journal, in effectively communicating standardization. Both are mentioned in the internal "MSHT Communication Strategy on standardization" which is currently under development. It is expected to provide the standardization community with a better view of the EDA/MSHT achievements on standardization as well as contribute to the exchange of information amongst stakeholders.

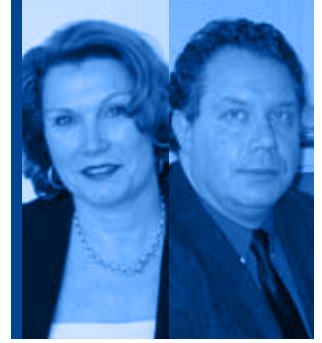
Lastly, the MSHT is working on the matter, in two ways. On the one hand, it is defining "best practices" for the provision of intranet/internet services that focus on standardization. On the other hand it is developing a practical application of the "best practices" identified: the evolution of the European Defence Standards Information System (EDSIS) scope, from a tool aimed at collecting titles and points of contacts related to cooperative standardization projects to primary tool for exchanging standardization information amongst Member States. EDSIS aims to operate in strict conjunction with European Handbook for Defence Procurement (EHDP), which is another primary European standardization service available on the Internet.



European Handbook for Defence Procurement (EHDP): A first step towards an integrated approach between Governments and Industry

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French MoD Representative*



STANDARDISATION: AN UNEXPECTED TOOL TO CONTRIBUTE TO THE BUILDING OF A EUROPEAN DEFENCE STRATEGY...

The time when standardization matters were considered as an abstract and a dry subject is over, a new era is emerging with a strategic vision of standardization. The expected effects are of an economic, technical and multicultural nature.

The perspective is to define a new basis as far as the relation between Defence Procurement stakeholders and standardization is concerned.

One of the main enablers for achieving a high degree of quality in Defence Systems is the quality of the normative clauses within Defence contracts, for meeting Forces requirements in the most cost effective way.

Due to the very nature of a standard that results from a process requiring expertise, recognition and consensus, a system of standards (or a normative referential) is a powerful lever to reach the required level of interoperability between Forces, Systems and Organisations. This aspect is obvious to such an extent that NATO defines the notion of "standardization" through this inherent feature, to highlight that standardization and interoperability are closely interlinked.

BACKGROUND OF THE EUROPEAN INITIATIVE: FULL SUPPORT OF THE EUROPEAN COMMISSION

Since the very beginning in 1997, the European Commission has approved of a communication for defining and implementing a common European Strategy for Defence Industry.

Standardization appears among the key domains identified in the actions plan to facilitate the development of a common European Defence Equipment Market. The objective is to increase the visibility of the defence standardization activities deployed in European nations, to harmonise and to promote the best practices on the subject and to define the links between a common European Defence Standardization system and the systems of other existing standardization bodies.

Every call for tender that specifies an armament programme is supported by normative clauses that shall be respected by industry responding to the call. This allows reference to be made to well-known practices and not to reinvent the wheel when technologies have proved their capabilities. Lists of standards have been quoted for years without properly accounting the economical aspects, common European strategy aspects, or the specificity of the considered application.

The development of a European system gathering the best standards and related recommendations in Defence Procurement technical and managerial matters has been initiated by CEN with the aim to solve the

high degree of market segmentation in the field of defence by means of proposing a harmonised set of "best practice" standards that can be used at a European level for defence material procurement.

THE EHDP TOOL: A GUIDE DESIGNED TO HELP DEFENCE MANAGERS

The development of the EHDP (European Handbook for Defence Procurement), has been initiated within CEN (Comité Européen de Normalisation), under the aegis of European Commission. The EHDP main objective is to provide Defence Procurement stakeholders with the "state of the art" standards references and with related information to guide them in the best practices when specifying these in defence contracts.

Furthermore, the work allows the identification of possible gaps in existing standardization documentation which could result in activating the relevant standardization bodies to start new standards initiatives.

The EHDP objective is also to create a momentum for excellence and pro-activity in harmonising, streamlining, optimising, tailoring and maintaining international standardization. One of its great challenges is also to bridge the Management World and the Expertise World through education.

EHDP has been designed to become in the medium term the main or exclusive reference for governmental armament programme managers, as well as for defence industry actors in drafting either programme specifications or the related replies from industry. This reference guide is expected to balance Defence Government and Industry dialogues about what is expected by the Forces, the Technical Architects and what is feasible currently in Industry i.e. "State of the Art".

Finally, EHDP appears as one of the inaugural enterprises in support of the emerging European defence policy through standardization.

A WAY TOWARDS AN OVERALL HARMONISATION THROUGH RECOGNISING THE BEST PRACTICE STANDARDS AND IDENTIFYING THE BEST WAY TO UTILISE THESE STANDARDS

[Introduction of an overall framing methodology to improve EHDP quality:](#)

At the beginning of the development of the EHDP (EHDP Phase I), European nations have proved their ability to work together, to pool their respective expertise to reach a significant consensus and to produce useful deliverables.

This successful first step has shown the necessity of a methodology approach by defining common development principles especially when selecting best standards and when drafting the related recommendations established to guide managers.

That is why when starting EHDP Phase II, a framing methodology has been developed for use in the follow-up of the Project.

The implementation of this methodology has resulted in a high level of quality as far as EHDP overall coherence and streamlining are concerned.

The next expected steps: Four main axes are to be dealt with:

- Ensuring the overall coherence of the EHDP by implementing the overall framing methodology to Phase I results,
- Ensuring that EHDP meets, to the maximum extent, the requirements of the armament programme managers and the defence contract drafters by extending the domains covered,
- Ensuring the EHDP long-term maintenance methodology,
- Ensuring the availability of best standard references on a user-friendly website.

The sum of these actions should contribute to the adoption of the EHDP as the main guide to establish the standardization part of Defence contracts.

Thus, Phase III is expected to result in a coherent EHDP that is continuously maintained and updated, educational and enriching.



AS A CONCLUSION

EHDP is a guide that for a significant set of technical domains provides the relevant elements needed by Defence project team managers to utilise standardization as a strategic acquisition process. Even if the current status of EHDP is not fully mature, the existing results of the experts work can already be used for updating and upgrading respective national reference standards portfolios.

The future work is designed to bring the EHDP to a maturity that in the medium term could see the EHDP supersede national defence standards portfolios.

EHDP tool can be found at the following site contact:

<http://www.defense-handbook.org>

CEN BT/WG 125 'Standardization for Defence Procurement'



By **André Pirlet**,
European Committee
for Standardization (CEN)

Based on the consensus obtained in the EC Conference of November 2000 and as suggested by the EC services, CEN created in January 2001 the BT Working Group 125 (BT/WG 125), reporting to the CEN Technical Board (BT).

BT/WG 125 has ensured contacts between the CEN Members (National Standardization Bodies), the national defence procurement agencies and the defence industry. BT/WG 125 functions as a Forum, and facilitates the uptake by the European standardization system of any consequence of programming, planning or standards elaboration in this area. The development of new CEN standards has however been quite limited so far, although the potential for new initiatives is expected to increase as the number of new defence projects and initiatives grow under the umbrella of the European Defence Agency.

The participation of most interested parties has been achieved, including: CEN National Members, the services of the EC (mainly EC/DG Enterprise), Ministries of Defence (MoD), national procurement agencies and industry, in particular the AeroSpace and Defence Industries Association of Europe (ASD), the NATO Standardization Agency (NSA), the Organisation Conjointe

de Coopération en matière d'Armement (OCCAR), the EU Military Staff and the European Defence Agency (EDA).

The BT/WG 125 Chairman is Mr Philip Scammell (SELEX Sensors and Airborne Systems), and the Secretariat is held by the CEN Management Centre (CMC).

BT/WG 125 monitors all defence related standardization, detects new needs and ensures a high level co-ordination with outside bodies under the CEN Technical Board. CEN Workshop 10 is a separate open group, responsible for the Defence Procurement Handbook.

For further information on BT/WG 125 and the activities of CEN in the Defence and Security domain please refer to the CEN website:

<http://www.cen.eu/cenorm/sectors/sectors/security+and+defence/index.asp>

NATO & MSHT

Complementary Working

By Liva Veita,
MoD representative to the
Latvian delegation to NATO



In my previous article that appeared in the autumn 2007 Journal I wrote about duplication in standardization. In some cases we must continue to live with this. However, my personal view is that there are currently several ongoing initiatives in NATO and the Materiel Standards Harmonisation Team (MSHT) that will help to improve the situation. The aim of my article is to provide information on who is doing what and how the work is complementary.

If we are talking about NATO, then we need to talk about the NATO Standardization Organization (NSO), which contains several tasking authorities, and the NATO Standardization Agency (NSA) which is the supporting body for standardization. The structure of NATO is relatively well known and well documented. But a brief historical trip outlining the development of the Materiel Standardization Harmonization Team (MSHT) will be helpful.

The European Commission financed a study with the University of Sussex on standardization systems in the defence industries of the European Union Member States and the United States. The report was released in 1999 and became known as the Sussex Study, which was well received. It provided a number of recommended actions. The result was that CEN, the European Committee for Standardization, was asked to develop a European Handbook for Defence Procurement (EHDP).

To ensure there was a co-ordinated government input to the work of CEN, the Western European Armaments Group (WEAG) Standardization



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Team was formed. It did not take long before the WEAG Standardization Team transformed into the MSHT albeit with a broader scope of work and influence. The MSHT is independent, comprises government experts and other stakeholder experts. It supports the European Defence Agency (EDA) as a centre of expertise in materiel standardization.

When we speak about standardization in respect to NATO and EDA we need to remember that they have slightly different approaches. Traditionally standardization has been viewed as being split between operational and materiel standardization. Operational standardization is related to elements like tactics, doctrines and operating procedures to allow military units to work together, whilst materiel standardization has focused on the characteristics, performance and interfaces of equipment and the supporting processes. Operational standardization is driven by military alliances, most notably by NATO. The focus for the EDA and also the MSHT has therefore been on materiel standardization which until now has been like in a stepchild role, noting that there are still tasking authorities in NATO who also work in the area of materiel standardization.

Despite these different approaches, the aims of both organizations in respect to standardization are fundamentally the same:

- Interoperability
- Cost reduction
- Use of best practice
- Innovation

With this background I shall now turn to NATO & MSHT complimentary work areas.

Documents are approved by consensus in NATO and sometimes this can take a long time. To commence work on a new standard there should be at least 5 actively supporting nations. Therefore, there are occasions when new initiatives are not taken forward. For its part the EDA developed, on advice from the MSHT, the European Defence Standards Information System (EDSIS) which provides the possibility to create standards on a bilateral/multinational basis and also helps to find other interested parties such as industry who also have a need for new standards in the same field. Once these standards are completed they are expected to be considered as "best practice" and available for adoption by EDA participating Member States and also NATO nations.



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Both sides have realized that challenges exist in standardization management. NATO has created a management plan while the MSHT is developing a matrix on standardization management best practice. These challenges are not only in organizations but also in the nations themselves and something that is reflected in the MSHT's plans to develop a comprehensive "best practice" approach. The information gleaned in the MSHT helps for a better understanding of the future challenges in standardization and how these might be overcome. Hence since many of the MSHT representatives and nations also take part in the NATO NSO, their contribution at the NATO standardization meetings is also improved.

As second thing that both sides recognized as a problem area is identifying standards-related lessons learned from operations. It is often hard to identify these standardization lessons learned because they often go unreported. Anecdotal evidence would suggest there is scope for improvement here. Therefore in the NATO agenda it has become as important issue and the MSHT is working through the EDA to help improve the process of identifying material related deficiencies.

What interests all of us is "best practice". The MSHT is taking a lead in this area. There is already one good example - the European Handbook for Defence Procurement (EHDP) that will provide a catalogue of "best practice" standards and standard-like specifications. Also NATO is very active and at the moment in preparation of an update to Allied Administrative Publication AAP-3 "NATO Directive for the Production and Management of Standardization Documents", which will provide ways of working with standard recommendations.

Since the end of 2004 NSA has signed several technical agreements not only with civilian standardization bodies but also with regional standardization organizations, in that way avoiding the possibility of developing new standards when they already exist. Also EDA, who is responsible for maintaining and developing material defence standardization in the EU, declared in its Standardization Policy and Agenda that existing standards would be used to the greatest extent possible, which includes NATO standards and standard-like documents. The new action in NATO is STANAG transfer to the civilian side. At the moment this procedure is in a trial phase

Political considerations and different organizational structures and work methods of NATO, EDA and the MSHT are some of reasons why up until now some work has been done separately. However, I would like to say that the EDA and the MSHT have done their very best to ensure that their standardization initiatives are complementary to those of NATO. Both NATO and the MSHT are seeking to reach the same aim, so in the future I hope to see complimentary work strengthened. To achieve this not only depends on the will of the organizations but also on us, the Member States.



The 2008 NATO Standardization Conference: a huge success!

Latasha R. Beckman,
*Defense Standardization
Program Office,
Department of Defense, USA*



The 2008 North Atlantic Treaty Organization (NATO) Standardization Conference was a rousing success, as representatives from around the world came together to exchange information and ideas on standardization within NATO in support of interoperability. The United States Department of Defence played host to more than 200 attendees from 20 countries on 16-18 September 2008 at the National Conference Center in Lansdowne, Virginia. The conference theme, «Achieving Interoperability through Standardization,» served as an ever-present reminder of the need to develop innovative solutions in support of multinational force operations.

This two and a half-day conference, co-hosted by NATO Standardization Agency (NSA), Allied Command Transformation (ACT) and the United States Department of Defence, was an international forum for representatives from NATO member nations and Partner for Peace nations to present new approaches and ideas for standardization within NATO, to foster integration of the latest developments in allied transformation, and to facilitate the practical application of standardization in support of the Alliance. The essence of this conference was to provide a platform to bring together leaders, managers, practitioners and end-users to discuss standardization concepts and future ideas in order to capture and incorporate best practices within the framework of NATO. The conference provided over 19 presentations, and three panel discussions led by senior leaders and experts from NATO and its member nations, industry and civilian standardization bodies.

The conference focused on three main topics: Standardization Management, Standardization in Support of Interoperability, and The Way Forward. Inspiring and stimulating keynotes were given each day from a wide range of senior leaders representing the conference sponsors including: Mr. Alfred G. Volkman, Director, International Cooperation Office, United States Department of Defence; Vice Admiral Juan A. Moreno, Director, NATO Standardization Agency (NSA); Lieutenant General James Soligan, Headquarters Supreme Allied Command Transformation (HQ SACT); Mr. Richard Froh, Deputy Assistant Secretary General, Armaments, NATO; and Rear Admiral Sally Brice-O'Hara, United States Coast Guard.

With energy and enthusiasm, other presenters echoed a shared sentiment that now is a time of immense challenges, and that there is an inherent need to engage in policy discussions to streamline and simplify standardization procedures, shorten the time it takes to ratify Standardization Agreements (STANAGs), maximize the Bottom-Up process to deal with "real world" problems, work with non-NATO and civilian standardization bodies, and certify national implementation of STANAGs to ensure that the Alliance has the ability to operate in synergy. With these challenges comes a time of profound responsibility for NATO and its member nations, industry, and subject matter experts to be a part of the solution.



In addition to keynote addresses, conferees were offered the opportunity to share ideas on standardization practices and lessons learned, connect with colleagues, and get an in-depth understanding of the work being conducted under the auspices of the Allied Command Transformation (ACT), NATO Committee for Standardization (NCS), NATO Standardization Agency (NSA), Conference of National Armaments Directors (CNAD), NATO Consultation, Command and Control Agency (NC3A), and non-NATO bodies, such as the European Defence Agency (EDA). The conference also featured an exhibition and reception on opening day, and several networking coffee breaks to give attendees and presenters plenty of time to share experiences and exchange views on achieving interoperability within NATO.

After informative and educational plenary sessions, the conference concluded with a panel of senior leaders from NSA and ACT continuing discussions and fielding questions posed by the audience. The conference was a great success, with many interesting and thought provoking presentations and a great amount of interaction among the audience. Although the 2008 NATO Standardization Conference is over, you still have the opportunity to learn from the presentations. The conference proceedings can be downloaded on the NSA website at <https://nsa.nato.int/nsa/>.



Shifting the NATO Standardization Documents Development Paradigm or Revising the AAP-03

Pierre-Louis Bertrand,
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7265 on the Evolution
of the Standardization Concept



FOREWORD

Since the creation of the North Atlantic Treaty Organisation with the Washington Treaty of 1949, NATO creates military standards in support of its missions. These standards are mostly known under the names of standardization agreements (STANAGs) and Allied Publications (APs) and sometimes also under the designation of Multinational Publications (MPs). They are produced in three domains: “operations” (65% of the documents), “materiel” (25 %), and publications in support of administrative matters of the Alliance.

The transformation and the enlargement of the Alliance after the end of the Warsaw Pact generated many changes in the Alliance. Those in the field of management and coordination of standardization in NATO were far reaching: the NATO Standardization Organisation (NSO) was created in 2000. It is steered by a senior board, the NATO Committee for Standardization (NCS) and coordinated by a central agency, the NATO Standardization Agency (NSA/AON). This agency has the mission “to enhance interoperability and to contribute to the ability of the Alliance Forces to train, exercise and operate effectively together... through the harmonization and co-ordination of Alliance standardization effort”.

The production of NATO standards is guided by principles specified in the NATO Policy for Standardization and realized in accordance with the procedures laid down in an Allied Administrative Publication, “Directive for the development and production of NATO standardization agreements (STANAGs) and allied publications (APs)”, better known under its acronym “AAP-03”. According to this directive, it is the prerogative of several Senior Committees (SCs), under the auspice of the North Atlantic Council (NAC), to supervise the production and the maintenance of STANAGs and APs by their subject matter working groups: Military Committee (MC) for operational standards, Conference of National Armament Director (CNAD) for material standards, NATO Consultation, Command and Control Board (NC3B) for

C3 systems standards, Senior NATO Logisticians Conference (SNLC) in the logistic domain, etc. All these Senior Committees are called the NATO Tasking Authorities (TAs). Approximately 1700 STANAGs and 500 APs are listed in a dedicated database, the “NATO Standardization Documents Database” (NSDD), an information technology tool that is administered by the NSA.

GENESIS AND DEVELOPMENT OF THE PROJECT

The NATO standardization system settled in the earliest stage of the Alliance was a good tool in a Cold War context with a limited number of member nations. The transformation and the enlargement of the Alliance heightened interoperability needs between nations engaging national forces in multinational operations. Interoperability has become an essential requirement grounding the development or the update of NATO standards. Furthermore member states were forced to adapt their forces and limit financial means for defence procurement. Therefore NATO promotes –since 2000- the use of suitable civil standards, whenever applicable. Civil standards are frequently a convenient support for the integration of commercial off-the-shelf (COTS) components into military systems. This new overall environment has a direct impact on the NATO standardization business.

In 2005, a streamlined NATO normative documentation architecture was presented to the NCS; it is based on two types of normative documents:

1. regulations, as binding and mandatory documents;
2. standardization documents, as recommended and voluntary documents.

In order to make the NATO standardization process more reactive and efficient, the NCS decided to establish an ad-hoc working group with the task to review the management of NATO standardization documents through the development of a revised edition of the AAP-03.

The Standardization Documentation Management Working Group (SDMWG) came into being early in 2006. It is composed of a team of standardization experts from member nations and NATO staff. It started its task with an analysis of the shortfalls of NATO standardization, taking into account the new challenges and assessing potential solutions to enhance the process. The result of this analysis was a set of requirement specifications, called “working principles”. The revision ‘Juliet’ of the AAP-03 is based upon these working principles to achieve the goals of the NATO standardization, which were agreed by the NCS in November 2003: “the development and implementation of concepts, doctrines, procedures and designs in order to achieve and maintain the compatibility, interchangeability or commonality which are necessary

- to attain the required level of interoperability, or
- to optimise the use of resources,

in the fields of operations, materiel and administration.”

A first set of working principles was endorsed early in 2007 and the drafting of AAP-03 (J) started immediately afterwards, first with a small core team, then with an increasingly large number of national experts from member nations, partner nations and NATO staff. The SDMWG finalised a first complete draft of “Juliet” in July 2008.

Today the SDMWG has permanent contributors to “Juliet” both from 20 nations and from NATO staff. The initial working principles have been updated, taking into account inputs from partner nations and NATO staff as well. These inputs have come on the occasion of the regular progress reports made by the SDMWG chairman at each NCSREP and NCS meetings. An update of the principles was submitted to the NCSREPs in the first half of 2008 and was approved by a vast majority of allied nations. Nevertheless, in NATO a vast majority does not mean consensus, as no one of the 26 members shall formally object!

Periodical information was made in various fora within NATO and externally, in particular at MSHT meetings and during the EDA seminar in November 2007.

PRINCIPLES OF THE AAP-03 REVISION

The scope of the AAP-03 is to establish the procedures for producing, maintaining and managing NATO standardization documents in order to achieve the two main NATO standardization goals (see definition above).

The development of NATO standardization documents is based on requirements managed through the NATO Standardization Programme (NSP). A revision of the AAP-52 is under preparation by another NATO Body and should streamline the procedures for gathering, coordinating and prioritising the needs identified:

- Top-down requirements, from the allied capabilities through an interoperability process which will interconnect the planning disciplines and the standardization process;
- Bottom-up inputs, mainly based on standardization shortfalls identified through the lessons learned on the use of NATO standards within the Alliance.

The new architecture of standardization documents proposes two covering standardization documents.

- **STANAG** (standardization agreement), linked to the standardization requirements which include interoperability requirements, cover standards, NATO or external, that nations should implement within their national units integrated into a multinational force. STANAGs are published after a ratification process: a Draft STANAG is submitted to the allied nations which are expected to formally reply with an implementation schedule. A STANAG cannot simply be adopted through a silence procedure as far as national implementation is crucial to achieve interoperability goals.
- **STANREC** (standardization recommendation), a new type of document similar to the civilian “code of practice”, would cover the best practice standards to ease the management of NATO activities. STANRECs would be adopted through a silent procedure as they do not require a formal statement of implementation by the nations. Standards covered by STANRECs would be used on a voluntary basis by the nations. Their use is rather foreseen in the materiel domain, in particular for the management of NATO common programmes.

The Allied publication is the NATO publishing format of the other NATO standardization documents:

- NATO standards, which will be compliant with the international concept of standards (see ISO/IEC guide 2), slightly tailored to the NATO context (operational standards);
- NATO standard-related documents, distinct from standards, to ease the use or the implementation of the standards.

The NATO standards reference system will take into account external standards, military or civilian, selected by experts to avoid duplication of efforts or dispute on intellectual property rights. These standards, selected in accordance with NATO standardization requirements, will be covered either by STANAGs for implementation (interoperability purposes) or by STANRECs as recommended practices. As such, the revised AAP-03 includes procedures for the implementation of the NATO framework for

civil standards and the increasing use of appropriate civilian standards for dual-use (military / civilian) purposes.

Further to these basic principles, the drafting team has tried to optimise the timeline for the development and the adoption of standardization documents. Nevertheless, it appears difficult to reduce the timeframe of the ratification process attached to the implementation of STANAGs: to state a commitment on implementation, nations must carry out a thorough analysis of the impact of the draft STANAG on implementation expenses: systems modification or procurement, reorganization, force training and education, etc.

The STANREC offers an option which will fasten the publishing of some recommended standards. In fact, the STANREC formalizes CNAD and NC3B practices, which sometimes has published technical publications without covering STANAG.

Other principles are related to the configuration management and the classification of the documents in order to ease their maintenance and their distributions amongst all users. Other new procedures prepared by the Civil Standard Management Working Group (CSMWG) will be implemented into the AAP-03 to support the cooperation between NATO and the Civil Standard Development Organizations (SDOs).

BENEFITS OF THE REVISION

Traceability between allied capabilities and standards: Every NATO standardization documents (listed within the NSDD) will be linked with their standardization requirements (managed through the NSP) and their interoperability requirements (future NATO Interoperability Programme). When the interoperability process is established, NATO standards will be traced back to the NATO capabilities (Force goals catalogue).

Standardization and interoperability: The revised concept of STANAG underlines the interoperability standards within the NATO standard reference system in accordance with the first goal of NATO standardization. As such, the importance of STANAG is reinforced for a better implementation amongst the nations.

A new option for decision makers: the creation of the STANREC offers a more flexible adoption system linked to the second goal of the NATO standardization. This option could fasten the publishing of standards, not interoperability related. This practice is similar to the way the private sector use standards.

A decreasing number of STANAGs: the SDMWG estimates that one third of the current STANAGs might be converted into STANRECs (e.g. STANAG 3838). A qualitative auditing of the NSDD should confirm this assumption. Reducing the number of STANAGs, the nations will have less ratification to perform, to concentrate their efforts on real interoperability standards. Ideally, most of the future technical STANAGs could be part of the European handbook.

CONCLUSION

The new approach offered by the revision would make the NATO standardization system more transparent, in particular in the field of material/technical standardization. Juliet is a first step towards the modernization of the NATO standardization system, which will help with the implementation of an ambitious interoperability process, the Alliances' challenge of the next three years.

Military Standardization is a Tradition in Germany: «De-Icing/Anti-Icing Fluids for Aircraft Runways»

André Siegl,
*DIN Deutsches Institut
für Normung e.V.*



Looking back on the cooperation of the Bundesamt für Wehrtechnik und Beschaffung (BWB, Federal Office of Defence Technology and Procurement) and the DIN Deutsches Institut für Normung e.V. (German Institute for Standardization) we should actually turn back time to the foundation of the DIN in the year 1917.

During World War I the ancestor of today's BWB, the Imperial Weapons and Munitions Procurement Agency (WUMBA) was first interested in the standardization of harmonized criteria for the industrial mass production of weapons and munitions.

The «Royal Fabrication Bureau» (FABO) was founded as a sub-organization of the WUMBA in 1916. Its main task was the development of standards for weapons and munitions in close cooperation with industry and its main association, the VDI (Association of German Engineers).

FABO's work resulted in the foundation of the Normenausschuss der Deutschen Industrie (NADI, Standardization Committee of the German Industry), the root of today's DIN Deutsches Institut für Normung e.V.

In March of 1918 the first German industrial standard, DIN 1 «Taper Pins» was published which was used, amongst others, for the well-known German MG 08/15 machine gun.

Further cooperation has continued until today and is anything but usual, rather it is contractually agreed between DIN and BWB and has become a story of success starting with the first German military standard in 1957, only two years after the Bundeswehr was founded. Since 1957 approximately 106 German military standards are published annually by the Beuth Verlag.

The military standards prepared in DIN bodies currently comprise approximately 1,500 military standards and more than 100 material specification sheets. BWB is currently involved in 104 military and 76 civilian DIN standardization bodies. The high-quality standards resulting from the cooperation between BWB, industry and DIN are also widely used in other European countries.

FIRST BILATERAL GERMAN AND UK DEFENSE STANDARDIZATION PROJECT

BWB approached the Aerospace Standardization Committee with an interesting standardization project.

The intention was to prepare a military standard complying with the specific requirements of de-icing/anti-icing fluids for runways on military airfields in cooperation with experts of the Wehrwissenschaftliches Institut für Werk-, Explosiv- und Betriebsstoffe (WIWEB, Bundeswehr Research Institute for Materials, Explosives, Fuels and Lubricants) and QinetiQ, an

international Defence and security technology company, responsible for preparing technological tasks etc. for government agencies, e.g. the UK Ministry of Defence as well as the UK Defence Standardization (DSTAN), the UK Ministry of Defence military standards agency.

Given the long-time excellent working relationship between the BWB-T5.5 team in Koblenz responsible for policy issues of national and international military standardization and the British UK Defence Standardization (DSTAN) partner agency in Glasgow and the great similarity of the BWB-T5.5 and the British DSTAN task conceptions regarding standardization, this cooperation was initially elaborated by a comparison of the two areas of responsibility (benchmarking).

This comparison illustrated the differences with regard to structure and action flow, but also the similarities regarding many individual issues. Based on the status determined by this comparison a mutual exchange of information on new Defence standardization projects was agreed. This was to yield options for cooperation if mutually desired. In the spring of 2005 a concrete cooperation option resulted from the proposal of the British partner to prepare a joint Defence standard for de-icing fluids to be used on air base runways.

During a meeting between representatives of DSTAN, QinetiQ, WIWEB, BWB-T5.5 and the DIN Deutsches Institut für Normung e.V. the basic organizational and technical conditions for this pilot project were coordinated in April of 2005 and the following was laid down:

This first joint German - British standardization project shall be implemented in accordance with the regulations of German Defence standardization under DIN supervision.

As is normally the case with regard to German Defence (VG) and also Civilian (DIN) standards all interested parties, including the relevant industry sectors, shall be involved in cooperation and also financing.

In accordance with civilian standardization regulations this project should be implemented after three years at the latest. After initial drafts have been provided technical involvement particularly of the North European nations is planned.

Should the intended pilot project flow prove to be successful, further joint standardization projects under mutual authority were announced for the future. Apart from the primary effect of standardization on a broader basis the utilization of mutual financial and personnel resources could be improved.

DIN should act as coordinating secretariat in preparing this first joint German-British standardization project.

The secretariat tasked committee NA 131-08-02 «Ground Equipment» with the implementation since it already has experience with preparing European standard EN 12312-6 «Aviation Ground Equipment - Specific Requirements - De-icing and Anti-Icing Equipment».

Since the acquisition of experts within the interested parties showed that the clientele for this project is found within a different scope than EN 12312-6 which is concerned exclusively with de-icing of aircraft, a working group was established as a sub-committee unit.

«BILATERAL» BECOMES «MULTILATERAL»

Initial talks between WIWEB and QinetiQ experts regarding the technical requirements of the joint standard were held in July of 2005 in order to prepare a draft document for a first meeting. On one hand the requirements of the two nations, which are in part different, were taken into account and on the other hand those requirements which had proven not essential in practice were deleted. On this basis, the first meeting took place on 2 December 2005 in the Cologne DIN branch. This was the constituting meeting of the Aerospace Standardization Committee working group NA 131-08-02-01 AK «De-icing/Anti-icing Fluids for Aircraft Runways».

Since the meeting and correspondence language was English the body was named «BWB/DStan working group – De-icing/ Anti-icing Fluids for Aircraft Runways» by all participating parties. Representatives of de-icing agent manufacturers from the two initiating countries as well as representatives of manufacturers from the Netherlands and Norway participated in this first meeting.

The way ahead for the focus of this standard and its approval beyond the conventional BWB/DStan scope was set during the next meeting in May of 2006 in Glasgow. Apart from the abovementioned manufacturer representatives also military users from Denmark, Norway and Finland were present. In addition, a colleague from the civilian Oslo airport as well as a research assistant at the University of Helsinki (Finland) contributed essential findings to the BWB-DStan-DIN project VG 97000 (DefStan 68-118), regarding particularly environmental tests of runway de-icing agents and their effects on runway surfaces.

Considering the various interests, on the one hand of manufacturers of de-icers for runways and of users on the other, disagreements were unavoidable, particularly when it came to establishing requirements and relevant limit values. The secretariat under DIN direction and the two Chairmen of the WIWEB and QinetiQ always managed however to work out compromises and eventually a consensus in small steps. The discussions were always scientifically correct as well as objective and fair even if individual details were not resolved easily.

«HOT» DISCUSSIONS

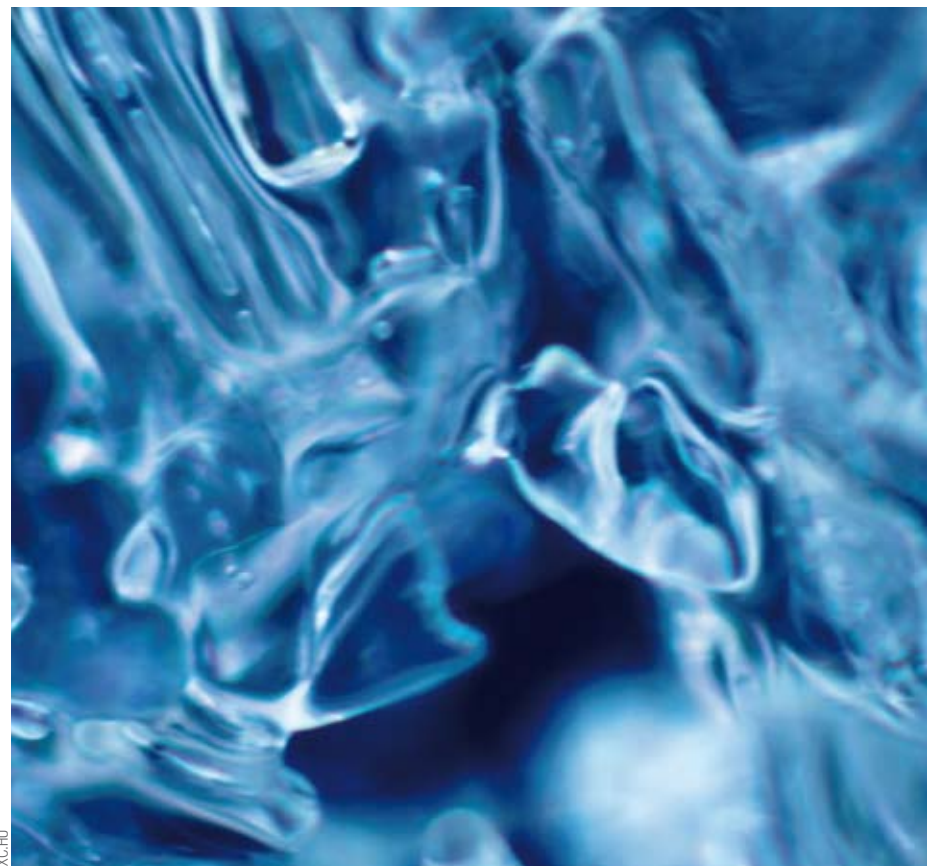
The problem here were the different perspectives regarding the impact on aircraft used for military purposes and the specific military material used or effects of de-icing fluids on runway surfaces. In autumn of 2006 the BWB/DStan working group including an additional expert of the Swiss Ministry of Defence met for another two-day meeting at WIWEB in Erding.

During a tour including practical demonstrations in the WIWEB laboratories the participants of the meeting were able to experience the WIWEB options as well as the test methods applied for testing the various material and fuels and lubricants used in aircraft.

The representatives of Finland introduced investigation results of the behavior of currently

common runway de-icing agents as well as results of the behavior of a newly developed product vs. metals and sealing materials of military aircraft. In addition, they presented the results of a university study on the effects on asphalt runway surfaces. This subject was discussed very controversially for a long time, also taking into account the experience and publications of other experts in this field. Eventually, the working group came to the conclusion that the amount of mineral aggregates as well as bitumen in asphalt can vary rather largely from country to country, but also within a single country. For this reason, it was not possible to establish a standardized test method or limit values in the military standard, apart from the physical characteristics and the determination of limit values for de-icing fluids, e.g.:

- storage,
- optical condition,
- density at +20 °C,
- refractive index at +20 °C,
- pH value at +20 °C,
- flash point,
- freezing point,
- apparent viscosity at $(0 \pm 0.5) \text{ °C}$ and $(-15 \pm 0.5) \text{ °C}$,
- surface tension,



The following critical topic was predominant and of the greatest interest to DStan:

Can a hold-over-time (HOT) value which is initially defined for aircraft de-icing agents (here: protection period against re-icing at least from the beginning of the icing process until aircraft take-off) also be determined for runway de-icers and which method can be used to determine values showing an acceptable repeatability or comparability?

The physical characteristics of de-icing/anti-icing fluids for runways were determined after long discussions.

STANDARD CONTENTS DETERMINED BY ROUND-ROBIN TESTS

The round-robin tests conducted by the experts of this working group during the project phase were an important instrument in determining limit values for the corrosiveness as well as the melting capacity of de-icing fluids. Corrosiveness was tested vs. an aluminum alloy, copper, steel, cadmium steel, galvanized steel and a magnesium alloy.

It was ensured that all participants in these round-robin tests were provided with the required test panels and all other utensils essential for conducting the tests.

Prior to these tests comprehensive preliminary tests had been conducted at WIWEB and QinetiQ. These had shown that even the procurement of reproducibly test panels can cause problems regarding cadmium steel as well as magnesium alloys. Conduct and participants of the round-robin test were determined during the 4th meeting of the working group in Glasgow in May of 2007.

The test panels as well as the test fluids for the tests including detailed work instructions and questionnaires were sent to the round-robin test participants by WIWEB and QinetiQ.

For the aluminum, copper and steel metals limit values were determined due to the round-robin test results for weight decrease and increase as well as the appearance of the test panels. With regard to the test panels consisting of cadmium or galvanized steel as well as the magnesium alloy the test results of the various participants showed large variations so no limit values were included in the standard and the determined values are only of an informative nature. Generous limit values not allowing a selection of the products were deliberately not included. It was agreed to work on this issue within the next two years until the next standard revision to achieve stable limit values.

In spite of restrictions regarding the corrosiveness test, VG 97000 (DefStan 68-118) is a guideline for testing de-icing agents, unprecedented in its compilation of requirements, test methods and test conduct descriptions. The requirements ensure that not only existing products, but also future new developments can be reviewed in accordance with this standard.

«MULTILATERAL» BECOMES «HOMOGENEOUS»

After not even two years of the project phase the planned last and fifth meeting took place on 30 and 31 October 2007 at DIN again. After the nearly completed round-robin tests there were again some content-related discussions on the first day of the meeting which indicated the different interests in this standard.

For the last time, the hold-over-time (HOT) was the subject of discussions. The participants of the meeting could not agree on a compromise in this respect as there is currently no method with regard to this requirement ensuring a reliable determination of HOT.

Finally, after a sightseeing tour of Berlin we met again in a famous Bavarian restaurant at the adjoining Europa-Center for a typical «German meal» and the former «multilateral» working

group which had meanwhile turned «homogeneous» extended the hold-over-time (HOT) so that the standard was finally adopted the next day.

The working group has brought the «pilot project» to a successful conclusion within the record time of two years. It should be noted that an exemplary standard of European Defence standardization was created with VG 97000 (DefStan 68-118) which also paved the way for the European Defence Standards Information System (EDSIS).

EDSIS is the European platform for publishing Defence standard projects of European nations with the aim of promoting bi- and multilateral cooperation between the European nations with regard to Defence standardization, saving national resources by avoiding parallel standardization activities and ensuring the involvement of all interested parties (government agencies and industry) in the standardization process.

DIN and others will participate for BWB in EDSIS by providing its expert standardization knowledge. The first VG 97000 (DefStan 68-118) project has already been brought to a successful conclusion.



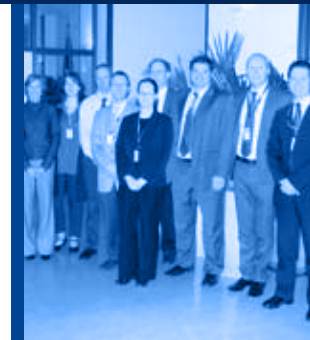
Source: DIN Mitteilungen + elektronorm, Beuth Verlag GmbH, Berlin, August 2008

BWB-DStan-DIN-Project
VG 97000 (DefStan 68-118)

The MidCAS

(Mid-air Collision Avoidance System)

By the EDA MidCAS Team



Operating Unmanned Airborne Systems (UAS) would benefit substantially from common and accepted standards to enable integration of unmanned traffic into non-segregated airspace. Non-segregated airspace is the widely used term for airspace where all traffic, including civil traffic is authorized to fly, and where both manned and unmanned traffic will be integrated according to established procedures. As presented in the European Defence Standardization Journal of Autumn 2007 ("Standards set to unlock Unmanned Air Vehicles Air Traffic Insertion"), the European UAV companies, the Commission and the European Defence Agency (EDA) met in 2006 and identified the common objective "to open European Air Space and have the required technology demonstrations in order to produce UAVs that can routinely fly across national borders". Following this an EDA Roadmap study was conducted during 2008. This study concluded that one of the main issues to be solved is (the requirements for) traffic separation and mid-air collision avoidance in non-segregated air space, also referred to as "Sense and Avoid".

Sense & Avoid (S&A) is defined as the process of determining the presence of potential mid-air collision threats and manoeuvring clear of them. For all air traffic today several layers of protection against mid-air collisions exist. Typically, these are categorized into three layers: strategic conflict management, separation provision and collision avoidance.

The first layer, strategic conflict management, is made up of procedures, regulations and flight plans to separate traffic. Separation provision is performed either by Air Traffic Control (ATC) or by the pilot depending on airspace class and flight rules. It may be categorized as "Do not scare other airspace users". The inner most safety layer is the collision avoidance function, which may be categorized as "Do not scrape paint". The ultimate responsibility for avoiding collisions lies always with the pilot in all classes of airspace. In "manned" aviation, this is mainly performed by the pilot's ability to "see & avoid", i.e. the pilot's eyes and ability to perform the correct decision and correct action.

The pilot's responsibility to «see and avoid» needs an equivalent mechanism in unmanned systems, i.e. a Sense & Avoid system to determine the presence of potential collision threats and manoeuvring clear of them. The global interest in flying unmanned vehicles in non-segregated air space has thus led to an urgent need for new technologies together with a standardized set of requirements in order to obtain acceptance for operating with all kinds of air traffic - civilian and military - in all different classes of air space.

To solve this important issue for future air traffic, numerous efforts have been made at national levels to identify and develop technologies for S&A which have been demonstrated in the recent years. However, to reach a common view on requirements and operating together with the acceptance for the solution(s) to the S&A issue, a common effort is required where

existing knowledge and conclusions are put together with a European and global perspective.

The purpose of MidCAS (Mid-air Collision Avoidance System) is to identify adequate technology, contribute to standardization and demonstrate a "Sense & Avoid" system for UAS able to fulfil the requirements for traffic separation and mid-air collision avoidance in non segregated air space. The intention is to demonstrate this capability by flying a UAS in non segregated air space at the end of the project, where the process of approval together with national Civil Aviation Authorities (CAA) for such a flight will be one of the main contributions to the standardization work.

MidCAS is an EDA Ad Hoc B project. Five Member States (France, Germany, Italy, Spain and Sweden) are heavily interested in this issue and presently negotiating a project agreement and drafting a technical specification. MidCAS is to be performed in close cooperation with European regulatory bodies to provide the technical background for them to establish "S&A" standards, hence standards and solutions need to progress in parallel. The project therefore will use an "interactive" dialogue with major stakeholders (both official services and industries) to inform about the progress of the work and allow for stakeholder feedback, in close connection with the works of standardization groups like EUROCAE.

The project logic will to a large extent be based on the development of a safety case which in turn will be supported by a large amount of evidence from simulations. Data from performed demonstrations and flight tests will be used to correlate the simulations for confidence. The goal of the project is to reach a level of the safety sufficiently mature to enable a final demonstration with a UAS flying in non-segregated airspace.

Performing the development and standardization for future Sense & Avoid technology in parallel with knowledge gained from EDA and national projects is considered a key contribution for the future integration of manned and unmanned aviation flying routinely in non-segregated airspace. This integration of manned and unmanned traffic will unlock the potential to use UAS in many military and civil applications.



From Theory into Practice - Standardization in the European Defence Environment

By Christian Schleippmann,
Senior Officer for Armaments Policy
European Defence Agency



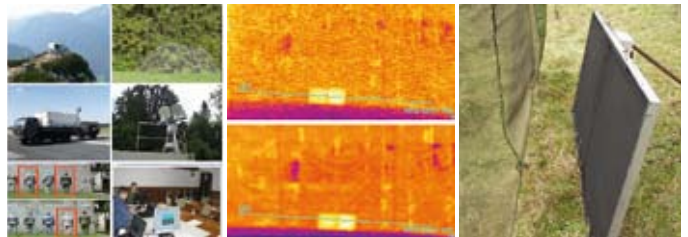
The European Defence Agency supports its participating Member States in many ways to achieve standardization and the advantages this brings in regard to interoperability, logistics, procurement and quality, to name just a few.

A group of experts from several EDA participating Member States are working on the standardization of multispectral camouflage for land systems. The challenge is to cover the capability needs of the user over a broad band of the electromagnetic spectrum that range from Ultraviolet, through Visible and Infrared up to radar.

Furthermore, this project expects to create a European cross-border Centre of Excellence for camouflage by building up a network of existing participating Member States' facilities. This shall enable participating Member States to better define and test their camouflage specifications as well as strengthen the camouflage sector of the European Defence

Technological and Industrial Base - especially its competitiveness - by establishing a set of open standards.

As for all activities in this field, and in particular with regard to standardization, the success of the project very much depends upon individual participating Member States. A defined standard will be more powerful if there is a common standard supported by a large group of shareholders. Thus, the greater the number of Member States willing to participate, the better the results will be.



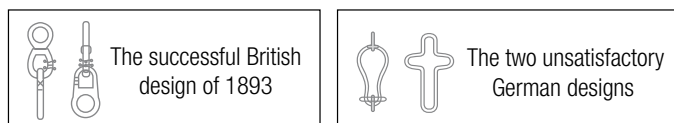
The German Navy has applied a UK Best Practice solution for 115 years

By Hans Kopold,
Bundesamt Für Wehrtechnik Und
Beschaffung - T 5.5, Germany

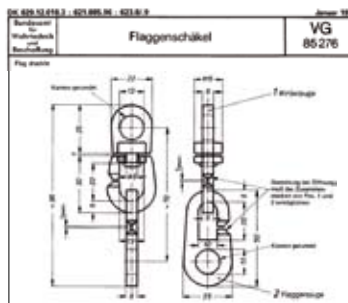


In 1893, the Imperial German Navy adopted a best practice solution from the Royal Navy, who had introduced an innovative model for a flag shackle.

Because tests with two German designs were not satisfactory, the Imperial German Navy tested the new British model and after a few modifications adopted it for use on their own ships. The British design allowed warships to change signal flags much faster than before which accelerated the transmission of orders from the commanding admiral to the ships of his fleet.



The speedier transmission of orders, enabled by using the British flag shackle design, may have also contributed to the successful manoeuvres of the German Admiral Scheer in the Battle of Jutland in 1916. He twice escaped an imminent "Crossing of the T" by the British Grand Fleet as a re-



sult of a 180° turn of the whole German High Seas Fleet.

This successful British flag shackle design is still in use by the German Navy and in 1964 it was standardized by incorporation in the German Defence Materiel Standard VG 85276 "Flaggenschäkel".

THE STANDARDIZED GERMAN DESIGN OF TODAY

Today – of course – Germany would post the intention to standardize a successful design like the British flag shackle on the EDA's European Defence Standards Information System.

A Uniform Use and Control System for STANAGs in Europe

By Dr. Gerhard Hubricht,
Rheinmetall



STANAG is the NATO abbreviation for Standardization Agreement. Standardization agreements are intended to set up processes, procedures, terms, and conditions for common operational or technical procedures, equipment and logistics between the member states of the Alliance.

Although the challenges have grown ever since its beginnings nearly 60 years ago, NATO standardization still has the same aim: that is, by implementing standardization agreements, nations can more easily achieve the required levels of interoperability; can better accomplish common missions and tasks in strategic, operational, tactics, and procedures of command; and can more efficiently employ techniques and defence materiel

This aim is still very timely and appropriate, but NATO's standardization activities are now more complex and challenging. For example, agreement needs to be found among 26 member states, new NATO members have to ratify

existing STANAGs and APs in relatively short timeframes, and transformation is impacting upon NATO in general and NATO standardization in particular. The situation is compounded by a general lack of standardization experts across Europe able to deal with the challenges. Additionally there are economic interests; a lack in time to have a deep look at the STANAGs in order to evaluate which are the crucial ones and which are more "standard-like" than "STANAG-like" (and therefore are candidates for a replacement by civilian standards or maybe directly replaced by those standards already selected as best practice standards), make it not very easy for standardization efforts to be successful in a short time. Nevertheless activities to come closer to civilian standardization have started, and in some cases even to go a step further for example reducing the proliferation of standards by the "best practice" approach is on its way. Overall, the problems mentioned and the challenges caused by transformation are already having a deep impact on the way

standardization is addressed now and will also impact how standardization is to be addressed in the future.

NATO's standardization activities have always been directly connected with the military environment. They are shaped by factors such as threats, operational needs, new forms of conflict, technical innovation, and transformation, as well as by the negative or positive evolution of financial means for defence procurement or stronger integration of civil components into military systems. This environment, together with an appraisal of future changes, is today's basis for NATO's standardization activities.

The overall idea of NATO standardization and of STANAGs has been and still is a good one. But the way NATO standardization is done through the agreement of over two dozen nations, necessarily means that the tangible results – about 1700 STANAGs and some 900 APs - are in some cases rather generalist in their wording





but their impact should not be underestimated. STANAGs are first and foremost a centralised standardization approach and therefore for their implementation to be effective they ideally need to be evaluated consistently against agreed, common test procedures. However, STANAGs habitually leave the scope for testing open and allow a variety of different test methods to be used.

An example of this is STANAG 4240 Ed.2 "Liquid Fuel/External Fire - Munitions Test Procedures". This STANAG requires kerosene to be the combustible, but it does not exclude the use of gas as the combustible in the associated AOP 39. This flexibility – kerosene or gas – generates considerable debate on whether the test results generated with gas as the combustible can be truly compared to test results generated with kerosene as the combustible. There are many other similar examples.

Industry promotes her military products stating "Tested according to STANAG xxx" or "In accordance with STANAG zzz", but more often than not, the way of testing will not necessarily be acceptable to the client.

The basis for a unified European market in the field of military equipment is certainly procurement by tenders which include the same standards (see European Handbook for Defence Procurement, EHDP, featured in a separate article in this Journal). However, it is not the standard which makes military equipment comparable to another for the potential client, but the test results concerning these equipments. Seen under this aspect it is sensible if Europe, following an agreement on the use of 'Best Practice Standards for Defence Procurement' also agrees on unified methods and procedures in the field of testing. Here, EDA's initiatives to harmonise the European Defence Test and Evaluation Base are an important step forward.

The overall idea is to provide a centralised standardization approach with a set of associated standards which guarantees users a common understanding of the test results, avoids lengthy technical discussions and saves tax payers money by reducing the maintenance/ update costs for a bunch of more or less similar standards in favour of future harmonized and agreed European best practice standards.



Cooperation between the German Armaments Sector and DIN e.V.

Heinz-Peter Hecker,
DIN Deutsches Institut für
Normung e.V.



“Standardization is the planned harmonization of tangible and intangible items for the benefit of the public, jointly performed by interested circles.”

This principle also applies to the standardization in the armaments sector - where consensus-based standards are prepared by experts of the interested circles in a joint effort - as well as to the representation of German interests in the European and international standardization bodies.

CONTRACT BETWEEN THE ARMAMENTS SECTOR AND DIN E.V.

The contract concluded between the Federal Republic of Germany and DIN in 1975 forms the contractual basis for the cooperation between the armaments sector and DIN stipulating in particular the following:



- The Federal Republic of Germany recognizes DIN as the cognizant German standardization organization (§ 1(1)),
- The Federal Republic of Germany wants to promote standardization within the scope of available funds (§ 1(3)),
- Individual ministries / special departments may make additional arrangements with DIN (§ 10(1)),
- DIN will consider the public interest in its standardization work (§ 1(2)),
- DIN agrees to involve official agencies in its standardization activities (§3),
- The Federal Government will obtain seats in management bodies of the standardization committees upon request (§ 2(1)),
- Priority is given to the processing of standardization requests initiated by the Federal Government (§ 4(1)).

In 1977, a first contract was concluded between the Federal Ministry of Defence (FMOD), represented by the Federal Office of Defence Technology and Procurement (BWB) and DIN containing the following principal provisions:

- DIN establishes special standardization offices for the drawing up of defence materiel standards (so-called Verteidigungsgerätenormen – VG Standards).
- DIN runs these offices which assume secretarial functions for the relevant subcommittees.
- DIN ensures the sale of the military standards through Beuth-Verlag.
- The funding of the standardization offices is shared between FMOD/BWB, industry and DIN with a share of 50 % initially borne by FMOD/BWB.
- A representative of FMOD becomes a member of DIN's Presidial Board.
- The participation of BWB in civil DIN committees is free.

In January 2004, a new contract containing revised provisions was concluded between BWB and DIN with the main revision being that the scope of work will now be agreed for each year and will cover the following:

- a. First editions and revisions of VG standards with fixed prices agreed for each standard.
- b. The contract value results from the multiplication of the fixed price by the number of standards planned to be processed in accordance with the annual working plan.
- c. 5-yearly topicality checks of existing VG standards priced on the basis of hourly rates
- d. Secretarial services for the management of the Standards Review Office of the Bundeswehr (NPBw) and the standardization committee of the Bundeswehr (NABw) for cross-sectional standardization priced on the basis of hourly rates.
- e. Cooperation / support within the scope of military standardization activities on European and international level.

EXPECTATIONS WITH REGARD TO DEFENCE MATERIEL STANDARDISATION

The expected benefit of defence materiel standardization is mainly the same as for civil standardization, namely reduction of the variety of parts, interchangeability, secure spare parts procurement and safety. An important additional goal of defence materiel standardization is to secure interoperability which is of crucial importance for the joint operation of forces in international missions.

INCLUSION OF REQUIREMENTS FOR DEFENCE MATERIEL IN STANDARDS

This may be done in two ways:

1. **Priority** shall be given to the inclusion of requirements for defence materiel in civil standards by
 - active participation of representatives from the armaments sector (but also from other Bundeswehr activities) in the relevant civil DIN standardization committees,
 - objections raised by the armaments sector against drafted civil DIN standards,

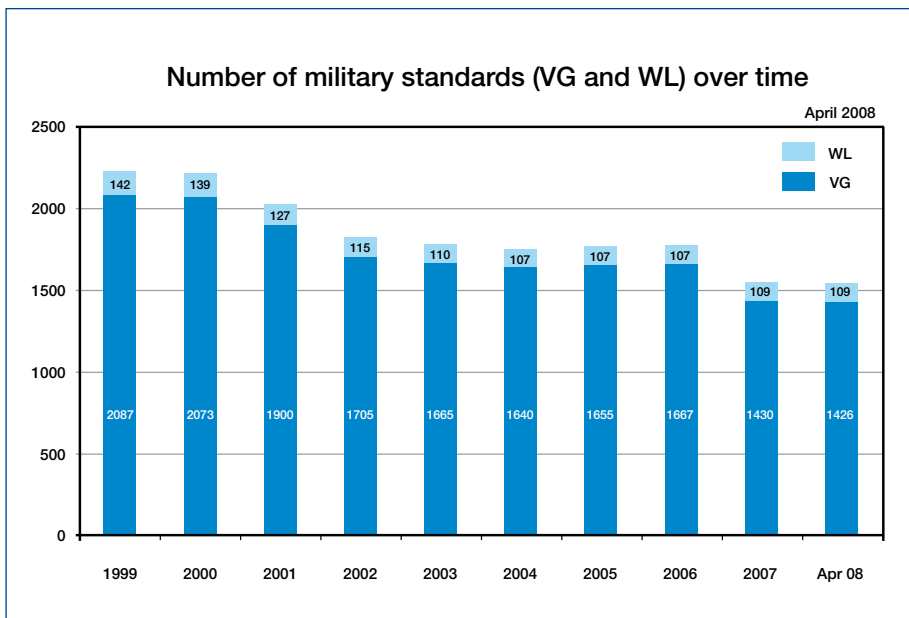
The aim is to have special defence materiel requirements taken into account in a civil standard. In this context the Bundeswehr is considered as belonging to the “interested circles”.

2. **Alternatively**, defence materiel (VG) standards and material performance (WL) sheets may be prepared under the following conditions:

- If special defence materiel requirements cannot be considered in a civil standard for reasons of principle (e.g. because the Bundeswehr would be the only user) VG standards may be prepared.
- An important reason for the drawing up of a defence materiel standard is also the implementation of cross-sectional aspects from NATO Standardization Agreements (STANAG) by incorporation in national procurement documents (in this case VG standards).
- VG standards are developed in the standardization bodies of the standardization offices "NE" (Normenstelle Elektrotechnik – dealing with electrical engineering in all fields of defence materiel technology) and "NSMT" (Normenstelle Schiffs- und Meerestechnik (Standards Committee Ships and Marine Technology) - preparing standards for the German Navy) where representatives from the armaments sector and industry are working together.
- As soon as a civil standard which satisfies the defence materiel requirements is available the respective VG standard shall be withdrawn.
- The costs incurred for the general military standardization are jointly borne by industry, FMOD and DIN.

The costs of cross-sectional VG standards prepared in the Bundeswehr standardization committee within DIN (NABw) are borne by the armaments sector alone.

NUMBER OF MILITARY STANDARDS (VG AND WL) OVER TIME



Presently, about 1,500 valid VG standards are available, most of them both in German and English. VG standards are also advertised in the DIN bulletin and listed in Perinorm. Just as civil standards they are regularly checked for their topicality. Their preparation is subject to the standardization principles laid down in DIN 820 and, additionally, to special defence materiel related standardization principles specified in VG 95820.

THE MAIN DIFFERENCES BETWEEN THE PREPARATION OF VG STANDARDS AND THE PREPARATION OF DIN STANDARDS ARE AS FOLLOWS:

- The need for a new VG standard must be evidenced by the presentation of a Request for Standardization in accordance with VG 95820.
- The "European Handbook for Defence Procurement (EHDP)" developed in the CEN Workshop 10 must be taken into account.
- The project must be announced in the European Defence Standards Information System (EDSIS)
- Cooperation with individual other nations, if required
- Consideration of NATO Standardization Agreements (STANAG),
- No publication of drafts for public comment
- Review by the Standards Review Office of the Bundeswehr (NPBw)
- Final approval by BWB,
- Publication of a bilingual edition (German/English).



DIN STANDARDISATION BODIES TO WHICH FMOD MAKES FINANCIAL CONTRIBUTIONS

The Normenstelle Elektrotechnik (NE) exclusively deals with the preparation of defence materiel standards for

- Electrical/electronic components
- Tools for electrical components
- Tests and testability
- Electrical systems
- Electromagnetic compatibility
- Lists (Database) of Approved Components (LZB)

Furthermore, NE assumes secretarial functions for the NPBw and the NABw for cross-sectional standards, like

- VG 95820: Principles, presentation, working procedure
- VG 95211: Qualification approval for products
- VG 95031: Modification of defence materiel

Further information may be obtained at www.ne.din.de

The Normenstelle Schiffs- und Meerestechnik (NSMT) deals with the preparation of civil and defence materiel standards in the following areas

- Shipbuilding
- Marine engineering
- Marine electrical engineering
- Materials and corrosion protection
- Basic standards
- Inland navigation vessels
- Small vessels

Further information may be obtained at www.nsmt.din.de

The Normenausschuss Feinmechanik und Optik (NAFuO) mainly deals with civil standards in the following areas

- Optics
- Precision mechanics
- Medical instruments

Additionally, the NAFuO merges defence materiel standards for medical instruments into DIN standards.

Further information may be obtained at www.nafuo.din.de



The Normenausschuss Luft- und Raumfahrt-technik (NL), in cooperation with the British Defence Standardization Office and other nations, developed VG 97000 «De-icing and Anti-icing Fluids for Airfields and Flight Decks».

Further information may be obtained at www.nl.din.de

DRAWING UP VG STANDARDS PROCEDURE

The subcommittees for the preparation of VG standards are generally composed of the relevant BWB experts, representatives of the component manufacturers, users/equipment manufacturers, defence materiel test centres (WTD), civil test agencies, the Bundeswehr Logistics Office (if required), the responsible DIN representative and representatives of other European armaments agencies, as required.



These subcommittees prepare basic standards, detail standards or test standards taking relevant NATO Standardization Agreements (STANAG) into account. In case of existing civil standards the defence materiel standards cover indispensable additional requirements.

Particularly the electrical engineering topics are dealt with in close cooperation with the German Commission for Electrical, Electronic and Information Technologies of DIN and VDE (DKE).

Many subcommittees also deal with the merging of defence materiel related requirements into civilian standards (DIN, CEN/CENELEC, ISO/IEC), for example:

- Resistors: in a joint committee of NE and DKE VG 95295-201 was merged into DIN EN 140401-802.
- Testability of military equipment: VG 95287-2 was merged into IEC 60706-5.
- Hose fittings: in the Piping and Boiler Plant Standards Committee (NARD) VG 95322 was first merged into DIN 2817 and then into the DIN EN 14420 standard series.

Just as for the civil sector, an important point which must not be underestimated is the possibility for the interested circles to exchange experiences on the “neutral ground” of DIN.

RECOGNITION AND APPLICATION OF GERMAN VG STANDARDS BY OTHER NATIONS

Many other nations use components qualified in accordance with a VG standard without subjecting them to additional tests. Therefore, close cooperation exists with other armament authorities / agencies, e.g. with Switzerland and the Netherlands in the field of batteries, cables and connectors, and with Finland, Norway and Sweden in the field of batteries. Within the scope of this cooperation more than 150 German VG standards have been endorsed by the aforementioned nations. It is intended to extend this cooperation to other technical areas.

HARMONIZATION OF DEFENCE MATERIEL STANDARDIZATION IN EUROPE

In early 1998, the European Commission, Directorate General III (EC/DG III) tasked the University of Sussex, UK with a study on the «Standardization Systems in Defence Industries of the European Union and the United States».

At the end of 2000, EC/DG III convened a conference on the subject «European Defence Procurement in the 21st Century - Improving Efficiency and Enhancing Competitiveness - The Role of Standardization». The aim of this conference was to present the results of the study to a wide circle of official and industry representatives. The study which comprised over 400 pages gave 32 recommendations on the harmonization of military standardization in Europe. EC/DG III proposed further discussions within a CEN workshop.

In May 2001, the constituent meeting of the CEN BT/WG 125 “Standardization for Defence Procurement” was held; its task were as follows:

- Discussion and opinion forming with the aim of implementing the recommendations given by the EU study,
- Setting up a business plan for the planned CEN workshop,
- Acting as steering and control body for the future CEN workshop.

In mid-May 2002, the CEN BT/WG 125 adopted the final version of the business plan on the basis of which CEN requested the release of budget funds from the EU allowing to hold the workshop “Standardization for Defence Procurement — European Handbook”.



THE WORK PROGRAMME OF THE WORKSHOP WAS DIVIDED INTO FOUR PHASES:

Phase 1: «Publish an Initial Handbook containing information on the national military standardization policies and procedures including portfolios of standards and standard-like specifications used in defence procurement»: Completed in October 2003.

Contributions to the Initial Handbook were provided by: Belgium, Finland, France, Germany, Italy, Norway, Poland, Spain, Sweden, United Kingdom and NATO. More than 10,000 military standards and specifications were collected in a data base.

Phase 2: «Identify the important processes and technologies that are widely used in defence procurement. These processes and technologies should be agreed with defence procurement authorities, the WEAG Standardization Team, and other customers including industry.» Completed by the end of 2003.

Note: WEAG was disbanded in the meantime and the subject of defence equipment standardization is now handled by the newly established European Defence Agency (EDA). The standardization strategy of EDA is largely identical with

the military standardization principles of BWB, i.e. use of civilian standards or participation of FMOD representatives in civilian standardization bodies in the first place before setting up a military standard.

Phase 3: «Identify the related standards and standard-like specifications commonly used in support of these important processes and technologies in defence procurement contracts regardless of their origin (e.g. military, international, regional, national, industrial, etc.)» Completed in October 2004.

Phase 4: «Develop recommendations for future users by consultation with experts, such as procurement authorities and industry, on the use of the references resulting from phase 3, considering status, economic efficiency and interoperability.» Completed in October 2005.

Within the framework of Workshop 10 the following eight technical areas to be studied by expert groups (EG) were initially defined:

- EG 1: NBC detectors (for nuclear, biological and chemical agents)
- EG 2: Explosives
- EG 3: Petrol, oils and lubricants
- EG 4: Batteries
- EG 5: Packaging
- EG 6: Electrical interfaces
- EG 7: Electromagnetic environment
- EG 8: Environmental engineering

The expert groups worked out recommendations specifying the standards which should be used in the future as "Best Practice Standards" in the respective field of application when developing and procuring defence equipment.

In the meantime, the European Handbook for Defence Procurement (EHDP) containing the work results of the first phases has been published and is available under <http://www.Defence-handbook.org/>. A CEN Workshop Agreement (CWA) with the recommendations given has been published under the number CWA 15517. A CWA is a European document which can be compared with a "Publicly Available Specification (PAS)".

For the next phase which will be completed by the end of October 2008, the following additional eight technical areas have been specified and handled in the respective expert groups:

- EG9: Armoured land vehicle technology
- EG10: Ammunition
- EG11: Paints and coatings
- EG12: Fluid handling systems
- EG13: Life cycle management
- EG14: Life cycle technical documentation
- EG15: Quality of electric power supply, portable electric power generators
- EG16: Terminology.

Also in these expert groups Germany was well represented. Since the individual nations will be obliged to apply the «European Handbook» in the development and procurement of defence equipment the participation of German experts is absolutely necessary.



Since 2007 the Vice Chairman of the CEN/WS 10 is a member of BWB.

Further involvement of the DIN standardization bodies to the European harmonization process, among others by assuming secretariat functions for the CEN WS 10 expert groups, e.g. for the "Ammunition" expert group, is endorsed by the German armaments sector.

The maintenance of the handbook with respect to best practice recommendations may possibly be performed under the direction of the European Defence Agency (EDA).

EUROPEAN DEFENCE STANDARDS INFORMATION SYSTEM (EDSIS)

Projects which appear to be suitable for bi-national / multinational cooperation are entered in the European Defence Standards Information System (EDSIS). The concept of this information system was developed in close cooperation between BWB and DSTAN and has been installed at the European Defence Agency (EDA).

<http://www.eda.europa.eu/edsisweb/Projects.aspx>

SUMMARY

- Defence materiel standardization enhances the interoperability of defence equipment
 - Defence materiel standardization relieves BWB of the necessity to describe technical details (Government relieving effect – Objective No. 3 of the German Standardization Strategy (DNS)).
 - Defence materiel standardization simplifies the development and procurement of defence materiel by resorting to components jointly standardized by industry and the armaments sector.
 - DIN / DKE support BWB in its effort to include additional defence materiel related requirements in civilian national, European and international standards.
- First signs of success of the European cooperation in the field of defence materiel standardization are visible, looking for example at
- the results achieved by CEN/WS10,
- the activities of the European Defence Agency (EDA) in the area of standardization,
- the installation of the European Defence Standards Information System.

Source: DIN Mitteilungen + elektronorm, Beuth Verlag GmbH, Berlin, October 2008

Cooperation between the French MoD and AFNOR

By **Philippe Cambraye**,
Centre de Normalisation de Défense, France



Standardization in France is steered by the Decree 84-74 of January 26th, 1984 which defines the French principles and the organization. The French Ministry of Industry notably establishes the general direction together with directives which must be followed throughout the standards development process. This governmental authority checks and monitors the work of the French standardization bodies. It defines the orientation of national policy of authorities in standards according to an international perspective. For its task, it is helped by an Interdepartmental Standardization Group, which consists of standardization representatives from departments. Mr Champart, director of the French MoD Standardization Centre is the official representative of the French Ministry as RMN (Standardization Representative of Ministry).

This decree assigns the general mission of French standardization to the Association Française de Normalisation (AFNOR).

AFNOR: METHOD OF WORK



The AFNOR steering board develops a yearly standardization work plan taking into account needs and requirements collected from partners (Industry, MoD, GNO ...)

The French draft standards are prepared by standardization committees including representatives of the various categories of stakeholders, in particular consumers' representative organizations. These committees work within standardization sectorial bodies.

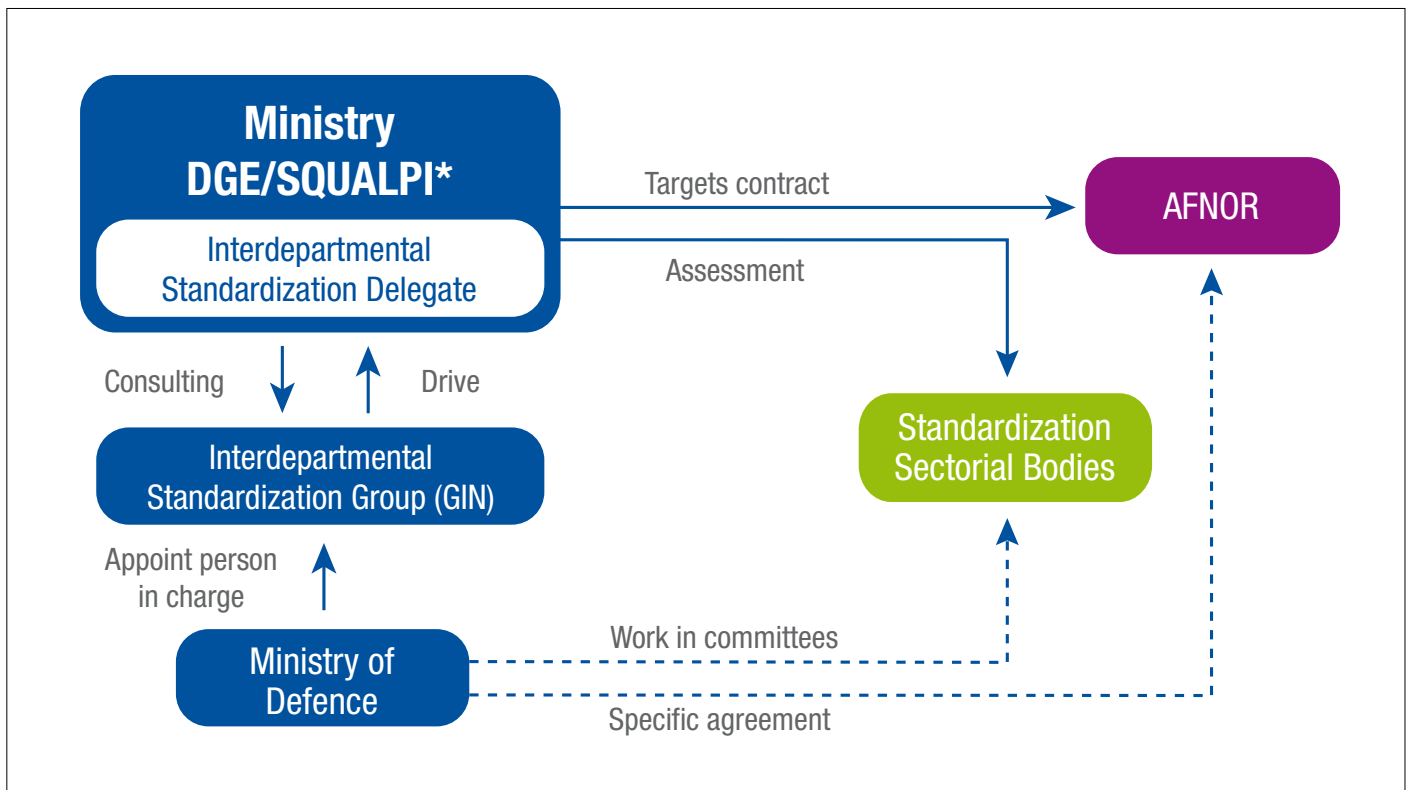
FRENCH MOD IN MAIN BRANCH STANDARDIZATION BODIES

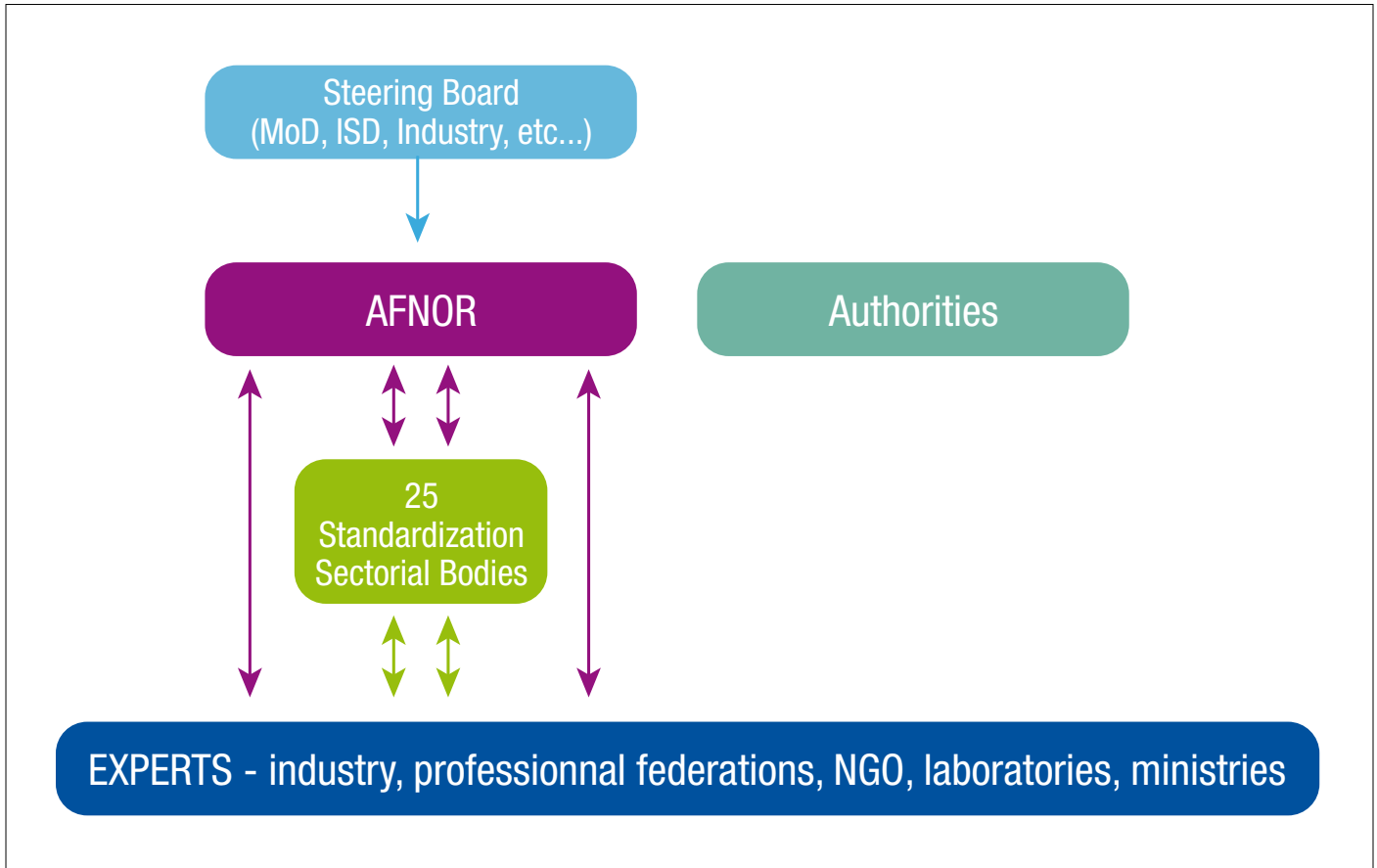
French MoD is member of the AFNOR steering board. It is also involved in other steering boards related to some specific and strategic offices of standardization such as BNAé, UTE.

CHALLENGES FOR THE COOPERATION BETWEEN THE MOD AND AFNOR

The main challenge of the cooperation between the French MOD and AFNOR is to meet defence standardization requirements in the best cost effective way in:

- Identifying the standardization needs in cooperation with AFNOR and the sectorial bodies (UTE, BNAE, ...) which are interested in defence field;
- Encouraging the development of European and International dual-use standards via the civilian standardization structures (CEN, ISO) of which AFNOR is a mirror-structure;
- Developing and maintaining a Defence standardization database for Defence Project Managers.





STATUS OF THE COOPERATION BETWEEN THE MOD AND AFNOR:

It exists through several contracts or agreements with AFNOR and with other standardization sectorial committees.

- The current trend is to increasingly enhance integration of MoD Experts in National, European and International civilian Committees (CN T70M « Energetic materials for defence », CEN/WS10 « EHDP », ISO 9001 « Quality management systems – Requirements ») with the view to systematically develop the best synergies in a partnership way in order to follow a dual-use approach as far as defence standardization is concerned.
- French Mod is a partner in a strategic group following international standardization works: the Forum « Homeland Security ». The group's mission is to contribute to the active participation of MoD experts in the current works within ISO TC 223 « Societal Security » and CEN WG 161 « Security of the Citizen' ».
- There are some contracts between French MoD and AFNOR. The most important is devoted to the elaboration and the maintenance of intra and extranet databases gathering the French RNPA (French Armament Standards System of Reference) and a large amount of civil standards dedicated to Defence Program Managers.

The future objective is the reinforcement of the operational and strategic cooperation between MoD and AFNOR in order to improve and strengthen the coordination and to optimize the efficiency of the monitoring of defence work items. An integrated approach between civilian standardization world and defence standardization world is being substituted to the previous traditional fragmented vision.

Cooperation between Bulgarian Ministry of Defence and Bulgarian Institute for Standardization

by LTC Petar Panayotov,
*Head of Military Standardization
 and Codification Sector,
 MoD of the Republic of Bulgaria*



The Bulgarian Institute for Standardization (BDS) is the national executive body for standardization in the Republic of Bulgaria. BDS is an independent non-governmental organization. The superior governing body is the General Assembly, electing the members of the Managing Board from the representatives of those organizations who are members of BDS. As a non-profit organization BDS operates for the public and the benefit of society.

BDS develops, accepts and approves Bulgarian standards, and participates in the work of international and European organizations for standardization.

BDS GENERAL STRUCTURE

THE BDS STRATEGIC OBJECTIVES ARE FOCUSED ON:

Promoting the role and importance of standards;

- Increasing the trust of customers in the technical content of standards;
- Improving the quality of BDS services, standards and other standardization documents;
- Maintaining effective relations with the European and International standardization organization in the framework of BDS membership and representing the interests of the Bulgarian national standardization in the European and International standards development process;
- Ensuring continuous improvement to the satisfaction of BDS' customers.

- For the implementation of these objectives, BDS harmonizes national standardization with international and European standardization. This process is based on international and European principles and rules of work.

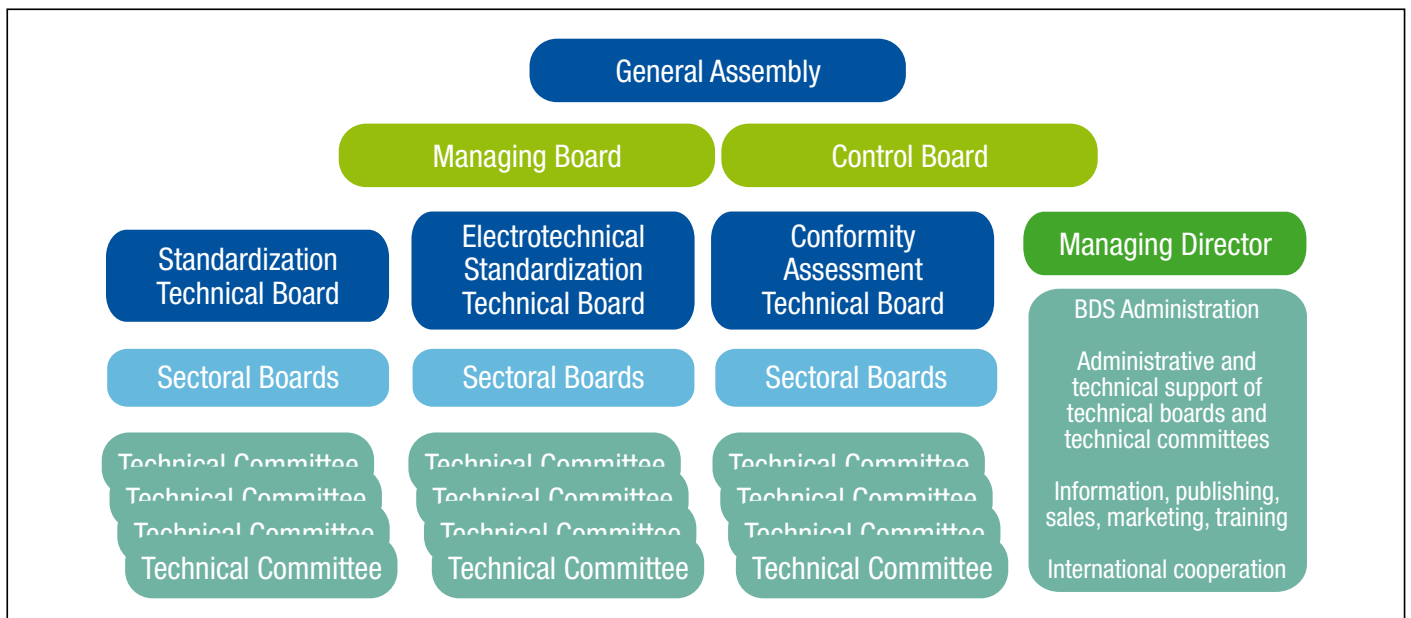
SOME OF BDS BASIC ACTIVITIES ARE DIRECTED TO:

Developing a close collaboration with foreign standards organizations from other countries;

- Playing the role of National Enquiry Point responsible for the notification of technical standards in the framework of the Agreement on Technical Barriers to Trade;
- In line with the Directive 98/34 provision of regular information on the drafts of national standards to the European Commission, European standards organizations and to the national standardization bodies of the countries members of the EU;
- Developing and approving the rules and procedures of work on national standardization in compliance with the principles and rules of the European and international standardization system.

THE RELATIONS BETWEEN BULGARIAN MOD AND BDS ARE BASED ON THE LAW ON NATIONAL STANDARDIZATION. IN GENERAL THAT LAW REGULATES AS FOLLOWS:

- BDS structure and management
- Organization of national standardization activities
- Elaboration, adoption and approval of BGR standards



- Introduction of European and International standards as BGR standards
- Development and approval or introduction of BGR standardization documents
- Amendment and repeal of BGR standards and BGR standardization documents
- Copyright and distribution rights
- Property and financing

According to the law, military standardization is on departmental level (not national), which means that the MoD has the right to establish the rules for management of military standardization, of course taking into account the rules of national standardization, but to the degree it wishes.

Within the Bulgarian MoD the body responsible for military standardization is the Armaments Policy Directorate and in particular the International Technical Cooperation, Military Standardization and Codification Department (ITCMSCD). The Head of that Department is the MoD representative on the BDS Managing Board. He takes part in the Managing Board meetings and more importantly in the decision-making regarding priorities of work on national standardization, BDS Standardization Programme, management of the Technical Committees' activities and others.

ITCMSCD manages MoD representation on BDS Technical Committees (TCs). It is considered an important way to pursue MoD policy and interests in the development of civil standards. The representation is regulated under BGR Military Standard 0-1:2007 "Military Standardization. General issues." Currently there are 55 MoD representatives that take part in the work of 36 BDS Technical Committees, which is a good achievement bearing in mind that BDS has in all 93 TCs. MoD representatives are experts from

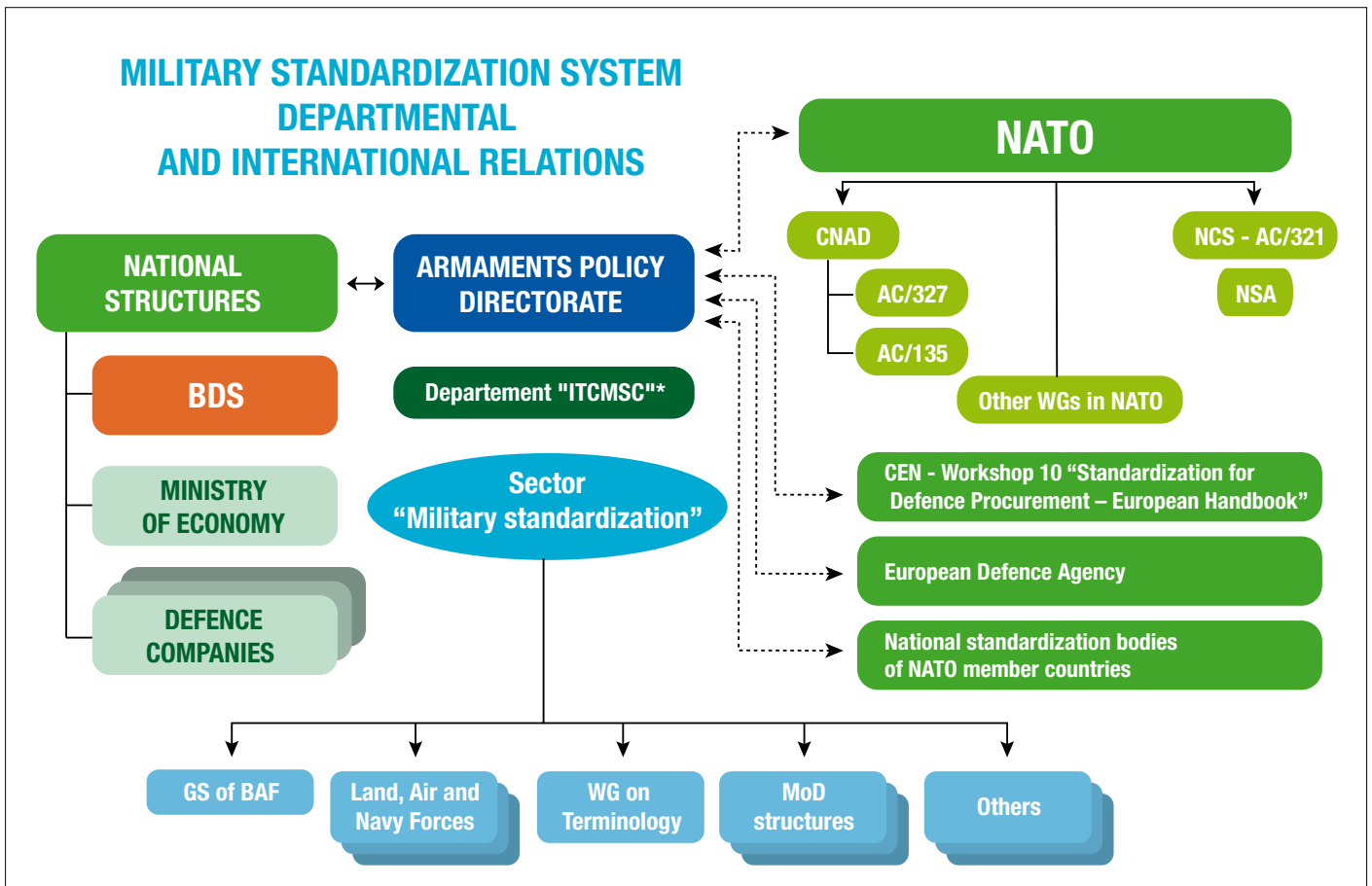
MoD, the General Staff, the Services or other Bulgarian Armed Forces bodies and are nominated based on their expertise in specific areas. The management of MoD representation on BDS TCs includes:

- Organization of the nomination and appointment of MoD representatives (for that purpose annually an Order of the Minister of Defence is issued)
- Maintenance of the data base with all MoD representatives and their activities in the committees
- Provision of comments for draft civil standards that are considered defence-related
- Planning of the financial resources for the representation
- Maintenance and moderation of an Internet forum for the MoD representatives

The close interaction between the MoD and BDS benefits the quality and feasibility of defence products, supports the removal of trade barriers in the defence sector, and increases the battle readiness of Bulgarian Armed Forces and ultimately their interoperability with forces of other nations.

By provision of reliable standards, military standardization seeks to increase the capabilities of the Bulgarian Armed Forces and to contribute to Bulgarian defence products and services to be used in allied joint operations as well as to optimise the expenditure of materiel and operational resources.

The Bulgarian MoD has always appreciated the good relationship with the Bulgarian Institute for Standardization and continues to actively strengthen this cooperation. BDS is perceived as a reliable partner in facing all military standardization challenges.



Slovakian Workshop: An Integrated Approach To Standardization Management

8-9 SEPTEMBER 2009, BRATISLAVA, SLOVAKIA

By Miroslav MARUSIN

*Defence
Standardization Codification
and Government Quality
Assurance Authority, Slovakia*



Slovakia would like to invite MoDs, Defence Industries and other interested defence material standardization experts to join us at the next Slovakian Workshop on 8th - 9th September 2009 in Bratislava. This is the second event of its type and follows on from the very successful European Defence Agency (EDA)/Material Standardization and Harmonization Team (MSHT) Standardization Management Workshop held on 25/26th September 2007 also held in Bratislava.

With the theme "An Integrated Approach to Standardization Management", the workshop will be an excellent opportunity to exchange information, ideas and experience on building functional links between defence and civil standardization bodies and the Defence Industries; it will also provide the opportunity to discuss present and future standardization management in depth.

The Workshop agenda is still under development but will be based on practical issues from national and international perspectives and covers the following 4 themes:

1. Standardization Strategy and Operating Methods
2. Standardization Products and Services
3. Products and Services Delivery
4. Communication Strategy and Tools

The detailed agenda is currently being developed along the lines of the opposite/below.

Further information on the arrangements for the workshop can be obtained from the author by e-mail (Miroslav.MARUSIN@mil.sk)

Slovakia, as the host nation, is committed to ensuring that your stay in Bratislava is both worthwhile and pleasurable.

We hope to see you in Bratislava.

PROPOSED AGENDA FOR THE 2009 SLOVAKIAN STANDARDIZATION WORKSHOP

1. STANDARDIZATION STRATEGY AND OPERATING METHODS

1.1 National Stakeholder engagement at the strategic level

- a. Joint MOD/Industry/Civil Standards Organisation Committee
- b. Engagement with NATO
- c. Engagement with EDA
- d. Development of a Best Practice Model
- e. Others as identified during 2008/09

1.2 International Stakeholder engagement at the strategic level

- a. Joint MOD/Industry/Civil Standards Organisation Committee
- b. Engagement with NATO
- c. Engagement with EDA
- d. Others as identified during 2008/09

1.3 National Stakeholder engagement at the working level

- a. Civil/Defence Interface
- b. Industry/Defence Interface including output from EDA Industry Study
- c. Others as identified during 2008/09

1.4 Potential study candidates with the aim of addressing problem areas and enhancing standardization management

- a. As identified during 2008/09

2. STANDARDIZATION PRODUCTS AND SERVICES

2.1 National

- a. Defence standards
- b. Standardization guidance

2.2 International

- a. Utilisation of EDSIS
- b. Implementation of EHDP
- c. Opportunities for further centralisation e.g. helpdesk, training
- d. Others as identified during 2008/09

2.3 Problem Areas

- a. Incorrect use of standards
- b. Insufficient advice to Project Managers
- c. Use of performance/prescriptive standards

3. PRODUCTS AND SERVICES DELIVERY

- a. Accessibility of the various types of standards/standards-like documents
Methods (to be expanded)
Problems (to be expanded)

4. COMMUNICATION STRATEGY AND TOOLS

4.1 Stakeholder Identification

- a. Communication gaps
- b. Others as identified during 2008/09

4.2 National Tools

- a. Internet/Intranet
- b. Helpdesk
- c. Publications
- d. Others as identified during 2008/09

4.3 International Tools

- a. European Journal
- b. EDA Seminars and Workshops
- c. MSHT/MSG Forums
- d. Others as identified during 2008/09

The Sussex Study

By **Dave Wilkinson**,
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Since November 1999 when the 410-pages Study on “The Standardization Systems in the Defence Industries in the EU Member States and the USA” (Sussex-Study) was presented to the stakeholders from governments and industries, comprehensive changes in the European defence materiel standardization environment have taken place.

Although not all findings and recommendations provided with the study report were appropriate for realisation, the 32 recommendations given by the study gave the necessary impetus for the development of a common approach of all stakeholders towards harmonisation and cooperation.

Important contributions towards this common goal were made by:

- a. CEN Workshop 10 and the development of the “European Handbook for Defence Procurement (EHDP) which should become the commonly agreed future reference for the selection of Best Practice Standards for defence materiel procurement;
- b. CEN BT/WG 125 which - beside WS 10 – has already started a number of further Workshops in the area of security and defence;
- c. the establishment of the “WEAG Standardization Team” which after the founding of the European Defence Agency (EDA) evolved into the Materiel Standards Harmonization Team (MSHT). This team for the first time provided a forum for governmental defence standardization experts to commonly discuss and decide on a common approach in the area of defence materiel standardization;
- d. the founding of EDA, which provided the framework and support for the MSHT;
- e. the establishment of the EDA Materiel Standardization Group (MSG) to discuss and decide on strategic issues in the area of European materiel defence standardization.
- f. the formulation and the further development of the “EDA Standardization Agenda” which, among others, provides “harmonised European criteria for the retention and civilianisation of defence materiel standards”;

- g. the establishment of the “European Defence Standards Information System (EDSIS)”, which provides transparency and the basis for multilateral cooperation in the development of necessary defence materiel standards. It is proposed to develop EDSIS far beyond its present functionality into a comprehensive European Defence Standardization Information System.
- h. the EDA/MSHT Standardization Management Workshop held in Bratislava, Slovakia on 25th-26th September 2007, where an initiative was started to develop a Best Practice Model for a defence materiel standardization management organization;
- i. the successful organization of a number of other workshops / seminars to address defence materiel standardization issues amongst the main stakeholders;
- j. the issue of a EDA Defence Standardization Journal which is planned to be repeated on regular basis. The journal is an important means for promoting developments in defence materiel standardization.

In all of these activities and developments, the MSHT and its members played an active role or have - in cooperation with other stakeholders – indirectly influenced the course of these developments. For the future, it is recommended that:

- a. the MSHT should continue its very successful pursuit of the goals which, were to a great extent, initiated by the findings and recommendations provided by the Sussex Study;
- b. the MSHT should continue to pursue the more far-reaching goals that have been identified during the practical cooperation of all stakeholders;
- c. the Sussex Study should now be put to bed as far as the MSHT is concerned as all the recommendations that can be pursued by that group are either ongoing, completed or surpassed.

**The European Defence Standardization Journal
is published by the EDA**

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