

STANDARDIZATION IN GERMANY HELPS  
BUSINESS AND SOCIETY STRENGTHEN, DEVELOP AND OPEN UP  
REGIONAL AND GLOBAL MARKETS

# GERMAN STANDARDIZATION STRATEGY



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## Foreword

In late 2003, representatives from business, politics, research and standardization came together with the aim of developing a future-oriented approach to standardization which would be supported by all stakeholders. They discussed the future vision of German standardization and set out five strategic goals.

On 29 March 2004, a workshop gave a wider audience an opportunity for a critical discussion of these goals in the context of the vision of German standardization. The results of that workshop form the basis of the German Standardization Strategy.<sup>1</sup>

<sup>1</sup> See "Translator's note" on page 28 for the use of the terms "standard" and "standardization" in this English translation.



## Opening statement



As the export “world champion”, and the leading exporter of technology, Germany needs an effective standardization body. Standards play an extremely important role both economically and politically.

Standardization improves the domestic and international flow of goods and services, and removes technical barriers to trade by harmonizing the requirements for both material and immaterial goods. Standardization helps the rapid dissemination of technical knowledge and innovation, increasing the business competitiveness. Standardization has a deregulatory effect and eases the burden on the state, because its stakeholders have the expertise to develop technical standards rapidly and flexibly for legislation to refer to.

However, standardization is also extremely relevant for the individual participants in economic processes, since whoever makes the standards controls the market. In times of increasing globalization and rapid technological development, the role of standardization in opening up new markets will become increasingly important. In order to satisfactorily play its role in an economic environment shaped by ever shorter product life-cycles and development phases and with emerging economies entering the marketplace, the standardization system will need to adapt to changing conditions. The right decision has already been taken to undertake a systematic analysis of the environment in which standardization has an effect, and to use this as a basis for a strategic reorientation of the German standardization system.

DIN and the stakeholders in German standardization have taken a bold step towards realigning German standardization. It is now vital to pursue this goal consistently and tirelessly. Much must still be done to establish standardization as a cornerstone in all relevant economic sectors. The German Federal Ministry for Economics and Labour will remain a supportive partner in this task.

A handwritten signature in black ink, appearing to read 'Wolfgang Clement'.

Wolfgang Clement

*Federal Minister of Economy and Labour*



## Opening statement



Standardization is part of our culture, work done by and for society. In Germany alone, some 26 000 experts are actively involved in standardization, helping to establish the framework for future technologies and social progress. Standards open doors so that technologies and innovations can gain a foothold in the marketplace, and are thus valuable in helping businesses to secure competitiveness and sustainability.

Today more than ever, successful and sustained positioning of products and services in the marketplace also implies that they have justifiably won the confidence of customers, consumers and end users. Standardization makes a major contribution to this by involving all interested and affected stakeholders from the outset in standards work.

As a model of self-government in industry, standardization works to a principle so often lacking elsewhere today: the principle of subsidiarity. This encourages the individual not to turn away from something he can play a role in developing. The German Standardization Strategy demonstrates our willingness to accept this responsibility. One of the greatest challenges in a converging world is that of encouraging integration while simultaneously maintaining the cultural identities of all those involved. Standards play an essential role in this by taking into consideration the demands, wishes and expectations of members of diverse cultures and giving them a language all understand.

We are now seeing the positive results of this in Europe, where harmonized standards do much to simplify interactions and transactions in business. Standardization therefore has a central role to play in developing Europe as one of the most competitive economic areas.

As President of DIN, it is my desire to see German standardization fulfil its role in achieving the strategic goals set out in Lisbon.

The German Standardization Strategy shows us which direction to take.

A handwritten signature in dark ink, appearing to read 'Dietmar Harting'.

Dietmar Harting

*President of DIN German Institute for Standardization*





# Introduction

Wherever there is change, new opportunities show themselves. Success will favour those who take an active role in developments.

The German Standardization Strategy represents a timely adjustment of German standardization to meet the ever increasing demands of the marketplace and society, true to the vision of:

## > Standardization in Germany

**helps business and society strengthen, develop and open up regional and global markets**

Standardization is a task undertaken by its stakeholders that benefits everyone in one way or another. As such, it needs the active involvement of businesses, associations, other organizations and government in sectors such as efficiency management, quality assurance, consumer protection, environmental protection and safety.

This form of co-operation and networking in the field of standardization represents an annual benefit to the German economy of around 16 billion euros, or about 1% of the German GNP.<sup>2</sup>

In an economic context, standards contribute to the development of the free market and the ability of businesses to remain innovative. Common standards permit the free trade of goods and services, cutting out additional modification costs. This approach is followed by the European single market, where uniform, harmonized standards apply. In the European single market, with some 450 million consumers, and accounting for a quarter of the world's domestic product and 20% of world trade, use of standards creates openings for new, sustainable innovations.

In a political context, the incorporation of the results of the work of standards bodies in technical legislation makes the job of legislators easier, and standardization thus effectively contributes to deregulation.

In society as a whole, standards create transparency for consumers and increase their confidence in products and services.

Standards exist in a dynamic environment. The globalization of markets, emerging new business sectors, faster product development and shorter product life-cycles, as well as the increasing convergence of technologies, mean that national, European and international standardization now face many new and more demanding challenges.

New growth markets create new expectations and make it necessary to modify processes. For the German standardization system, this means examining structures and processes and aligning them strategically. This involves playing a leading role in their development at European and international levels.

With this German Standardization Strategy, German standardization is responding to the changing situation and new demands of a globalized world and a European single market, which, in terms of standardization, is now virtually complete. In Lisbon in March 2000, the Council of Europe set a strategic goal for the coming decade, for the European Union to become the most competitive and dynamic knowledge-based economic area in the world. This can be understood as an economic area which is able to achieve sustained development bringing more and better jobs and a greater social cohesion. The German Standardization Strategy plays a role in reaching these goals.

The German Standardization Strategy should be understood as a call to action for all stakeholders to contribute to its consistent implementation and ongoing development.

<sup>2</sup> These figures were established in the course of a research project on "The economic benefits of standardization" jointly carried out by the Fraunhofer Institute for Systems and Innovation Research (ISI) and the Technical University Dresden (TUD).



## GOAL 1

# Standardization secures Germany's position as a leading industrial nation

### **Intended outcome:**

Standardization is an essential aspect of German economic policy and secures Germany's position as a leading industrial nation. Germany has taken on a leading role in strengthening, shaping and opening up strategically important regional and global markets in both Europe and the rest of the world in the most important business sectors. Standardization in response to market demands supports the German economy in gaining strategic and economic advantages in a competitive international environment.

Standards which are developed on the basis of national, European and international consensus ease access to global markets. International standards already create the largest markets, ensure lowest production costs and achieve greatest worldwide prosperity on the basis of fair competition.

Germany plays an active role in developing the European and international standardization systems and promotes a worldwide implementation of the European standardization model (Vienna and Dresden Agreements).<sup>3</sup>

Innovation is supported at an early stage via effective collaboration between research, business and standardization.

<sup>3</sup> See Annex.



# Course of action

## **Increase awareness among decision-makers in business, politics and society**

The outstanding role of standardization in securing competitive advantages in global markets and in reducing costs must be brought home to decision-makers in business, politics and society. Standardization must be firmly established in Germany as a strategic instrument in both politics and industry.

## **Establish and develop networks between standards bodies, business, associations and politics**

For standardization to be accepted as a strategic instrument in the economy, concerted action by all its stakeholders is required. Existing networks at all levels between standards bodies, business, associations and politics must be exploited, and new and more extensive networks need to be created. It is particularly important to strengthen links with the European Commission, the World Trade Organization, the United Nations Economic Commission for Europe (UN/ECE) and to involve political bodies, such as the EU Senior Officials Group on Standardization and Conformity Assessment Policy (SOGS). Closer co-operation with embassies in growth markets (e.g. by appointing "standards attachés") and with local chambers of commerce abroad should be encouraged. Wide-ranging contacts within such networks should enable more effective agreement on, and assertion of, German interests via standardization. In this context, the role of associations and their members will become particularly important.

## **Establish priority sectors with the highest development and growth potential for the German economy**

In a structured approach, politics and business via its representative organizations must identify those sectors with the highest development and growth potential for the German economy. In these sectors, key positions at operational and management levels in the standardization field should be filled by suitably trained and qualified German experts. Significant new economic areas need to be identified at the earliest possible stage in close collaboration between associations and

businesses and by way of political contacts, which are to be intensified. This network shall serve as a basis for agreeing and implementing at all levels rapidly operative strategic decisions in support of German interests.

## **Integrate standardization in research and development**

For German innovations to gain a rapid foothold in regional and global markets, standardization must become an integral part of the technical innovation process and related R&D activities. Existing schemes such as "Standardization at the R&D stage" should be extended, pilot projects launched, and information platforms established to improve the transfer of knowledge and technology between industry, research and higher education in high-innovation sectors. The "Standardization Research Network" should be expanded.

## **Promote the European model for adopting International Standards**

In the face of increasing market globalization and growing competition, the international standardization system needs to be strengthened as the basis for uniform regional and national standards. Alliances should be created to support the introduction of the European model of co-operation and adoption of International Standards (i.e. Vienna and Dresden Agreements) by other regions. This approach could effectively promote the goals of German industry in accessing regional markets.

## **Work to establish the European standardization system in emerging economies and new and future EU member states**

Given the importance of establishing German industry in emerging economies and in the markets of the new and future EU member states, appropriate action must be taken to gain an early market presence. A vital task in this context is to communicate an appreciation of the benefits of the European standardization system and to offer assistance in its adoption.







## GOAL 2

# Standardization as a strategic instrument supports a successful society and economy

### **Intended outcome:**

Decision-makers in all sectors of the economy are more aware of the effects of standardization, and its impact on business and markets is appreciated by management. Full-consensus standards continue to make a major contribution to health, environmental and consumer protection and also help to safeguard investments.

Standardization is used as a tool in operational technology and innovation management, and internal communication on matters concerning standardization has improved. Standardization is presented to future product managers and departmental heads as an integral part of company policy and forms a regular part of staff training programmes.

Political decision-makers are also more aware of the effects of standardization. Full-consensus standards have proved successful in assuring conformity to legislation and in this way actively contribute to deregulation (see Goal 3). Consumers have become aware of the beneficial effects of standardization on society and for the economy.





## Course of action

### **Increase targeted marketing**

The benefits of standardization must be brought to wider attention with the help of targeted marketing, sustained public relations efforts, and other informative measures. The term standardization must gain a positive connotation and be made more attractive for the general public.

In the case of target groups in industry and politics, the information given must be specific, with a clear explanation of the standardization process being accompanied by a lucid presentation of its micro-economic and macroeconomic benefits and its deregulatory function. Via case studies and examples of best practice suited to the target groups concerned, the concrete benefits of standardization (reduced costs, increased profits, easier market access, competitive advantages, deregulation) are to be indicated. The cost of active involvement in standardization should be explained, and a cost-benefit analysis used to compare this with non-involvement.

### **Create networks for public relations and information activities**

Networks are to be created linking business, associations, politics and standardization bodies to enable specific target groups to be addressed and information to flow freely (see Goal 1). Association meetings, joint seminars or the annual general meetings of organizations are to be used as platforms for keeping smaller companies and their management informed about standardization in their particular sector. This is a particularly good way of involving SMEs in standardization, and here the associations have an especially important function.

### **Improve the flow of information on standardization in companies**

By involving specially trained consultants in the network, the flow of information between standards bodies and corporate management, and the information on standardization available within companies, could be positively influenced. Such consultants could see to it that standardization departments are assigned a suitable position within the organizational structure and staffed with qualified personnel, so that standardization is considered not just as an aspect of operations, but as an instrument of corporate management.

### **Intensify education and training in standardization**

The significance of standardization in all its aspects (economic and deregulatory) should be incorporated in all relevant college and university courses (e.g. by funded professorships), and promoted by way of teaching modules (e.g. e-learning) as well as by making information material easily accessible.





# 3

## GOAL 3

# Standardization is an instrument of deregulation

### **Intended outcome:**

Associations and standardization experts have made a concerted effort to encourage political decision-makers to adopt the principle of referring to standards when drawing up legislation and how this approach benefits the state is duly appreciated.

The New Approach<sup>4</sup> has proved its worth and has played a major role in establishing the European single market. Application of the same concept is now suggested for other sectors in Europe (e.g. traffic engineering, healthcare, services), and it is being propagated as a deregulatory tool worldwide.

The principle of standardization being the responsibility of industry is firmly established. There is an ongoing proactive dialogue with the European Commission and national ministries.

<sup>4</sup> See Annex and [www.newapproach.org](http://www.newapproach.org).



## Course of action

### **Seek dialogue with political decision-makers**

An intensive dialogue with political decision-makers (European Commission, government representatives, European and national parliamentarians) should be initiated to integrate standardization in the political process as a basis for specific actions and decisions. This dialogue should be conducted by the industry and trade associations (e.g. with a round table discussion involving top representatives of national and European industry and politics) and must stress the vital significance of the autonomy of industry as a fundamental element in any kind of standardization. Strategic marketing should be used to demonstrate the benefits of deregulation over an all-in approach to technical legislation. This implies balancing the deregulatory benefits of standardization against the potential cost to the state.

### **Make a clear distinction between standardization and legislation**

On the basis of progressive legislation, a clear line must be drawn between areas where regulatory measures are necessary and those where standardization can be effective (the state sets out a legislative framework in the regulatory sphere and defines essential requirements). Directives should, wherever possible, frame their specifications on an international basis in order to minimize restrictions for products, technologies, processes and services within Europe and in international markets.

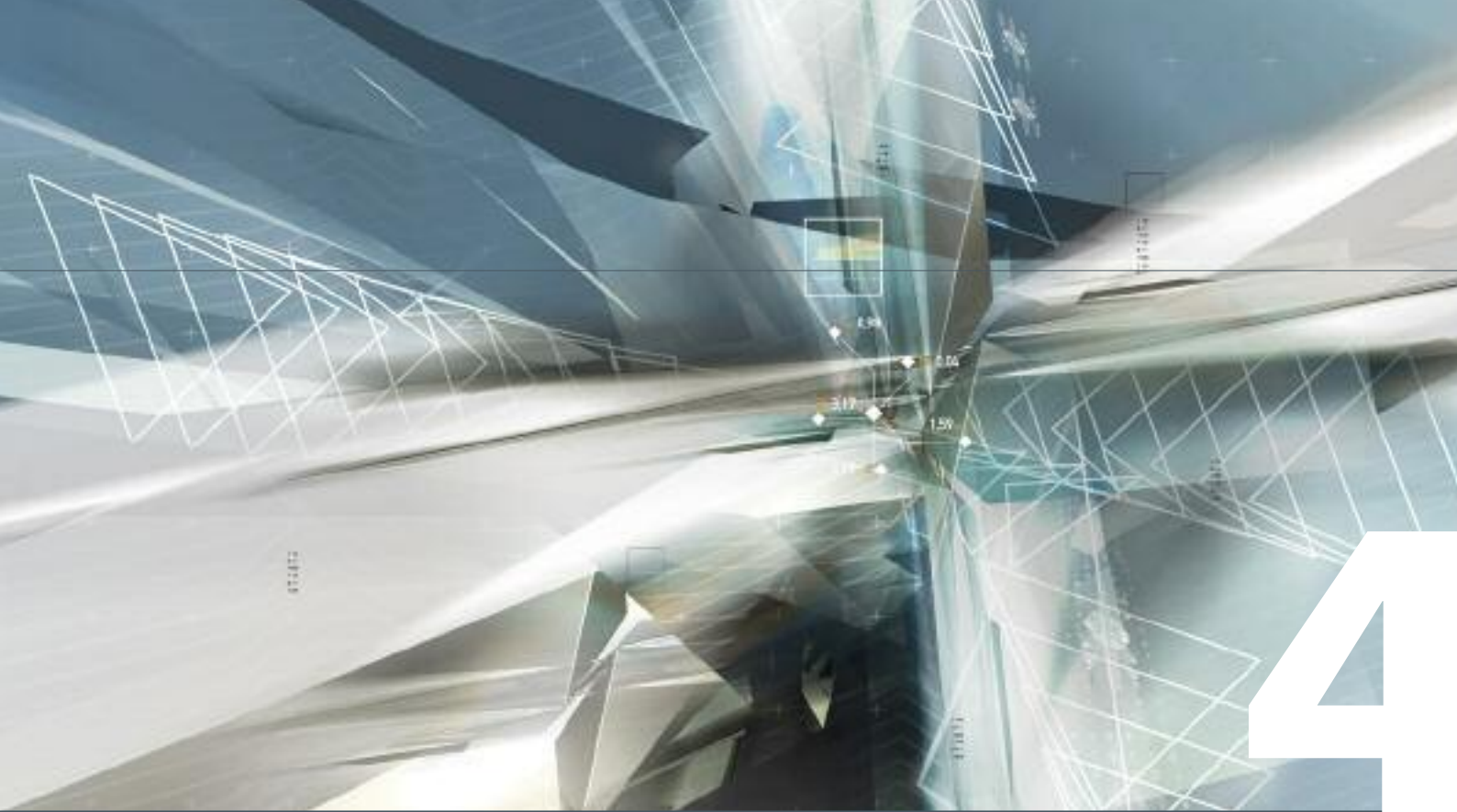
### **Improve the implementation of the New Approach**

In implementing the New Approach, efforts should be made to ensure that European Commission mandates given to European standardization bodies are based on existing state legislative frameworks and are clearly set out and practicable. The drafting of EU mandates is to be closely monitored and an active role taken in the process, wherever possible. The procedures adopted by the European standardization organizations to fulfil EU mandates need to be more efficient. In particular, the role of CEN consultants as mediators between the essential requirements of a directive and the details of technical specification needs to be critically discussed and clearly defined.

### **Expand into new sectors**

The successful principle of the New Approach is to be extended to other suitable sectors, such as service industries and some areas of public service (e-local government, etc.) or sectors in which state control is neither to the advantage of the economy nor to that of consumers (e.g. complaints management, codes of conduct, standards as a basis for consumer product testing).





#### GOAL 4

## Standardization and standards bodies promote technological convergence

#### **Intended outcome:**

Classic technologies are converging more and more. Many technologies today integrate elements from various disciplines, such as mechanical engineering, electrical engineering and information technology.

Standardization ensures that the innovative systems emerging from this technological convergence gain access to regional and global markets, thus realizing their full economic potential. The standards bodies have implemented the structures and processes required to achieve this. Existing structures in national associations and standards bodies have been systematically developed beyond current limits.

The links between industry associations are strengthened as regards their standardization policy.

Technological convergence is happening on a global stage, and Germany is taking a responsible role at European and international levels and seeking to optimize the structures and processes of the standards bodies at all levels.



## Course of action

### **Develop standards for systems**

In order to meet the requirements emerging from the convergence of technologies, and to actively support this process, standardization must reach beyond classic product standardization to the standardization of systems. The standardization of systems must begin with an overview of the whole system, its functionality and that of its components, and requires all interfaces to be defined.

### **Identify scope for action in converging technologies**

For standardization in Germany to become a motor for technological convergence, those sectors in which Germany aspires to be a leader must be identified in a continuous and prospective process. Representatives of converging technologies, of research institutes, and from politics and society should be brought together by DIN, the German Institute for Standardization, to discuss and assess the potential development of markets over the next three to four years. On the basis of this assessment, those areas are to be defined in which standardization could be applied at an early stage to promote technological convergence to the benefit of German products and systems. Associations have a particularly important role to play here. In many cases, they are already working with roadmaps and can use them to identify areas where there is a need for standardization.

### **Optimize structures**

Market-based system standardization requires structures to become more flexible in adapting to sector-specific requirements as well as improved co-operation between European and international standards bodies.

At the national level, the existing structures and processes of the German standardization system should be examined and their interconnections clearly presented. Any duplication of activities should be analyzed and duly eliminated; overlapping activities in different committees should be co-ordinated. Treatment of horizontal themes such as environmental and consumer protection shall be focused in interdisciplinary committees. Associations are to be closely involved in such considerations so as to broaden the contacts between them and the German standardization system.

A long-term goal is the establishment of an integrated finance and product policy in joint political and technical committees within the German standardization system.

### **Transfer to European and international levels**

The World Standards Co-operation (WSC)<sup>5</sup> is to be strengthened, and an active role taken in its development. The aim should be to create mirror bodies to WSC at European and national levels. Processes and structures within the German standardization system which have been optimized at the national level are in due course to be transferred to the European and international levels.

<sup>5</sup> See Annex.



## GOAL 5

# Standards bodies provide efficient procedures and tools

### **Intended outcome:**

With innovation cycles of new technologies becoming shorter and shorter, the corresponding standards need to be available more quickly than ever. Standards bodies provide efficient procedures and tools to meet these market needs.

The development process for standards with a limited consensus (specifications) are used more widely as a means to gain an early foothold in the market and a critical lead over competitors. Industry consortia and forums may be involved in this process.

Full-consensus standards and specifications are developed in line with market demands, with increased attention being paid to market relevance and the involvement of the stakeholders concerned. The quality of standardization is improved by involving well-trained and capable experts in the process.





## Course of action

### **Actively market the specification process**

The market penetration of the specifications developed by standards bodies has hitherto fallen short of expectations. The complementary role of specifications in relation to full-consensus standards must be clearly explained and communicated by active marketing. That also applies to their specific features and the process by which they are developed.

### **Encourage use of specifications**

In an initial step, the different standardization procedures for full-consensus standards and specifications should be distinguished on the basis of clear definitions, care being taken to indicate where they coincide with, and where they differ from, the work carried out by consortia and forums.

In a next step, use of specifications should be actively encouraged. This will involve consultation and clarification of their benefits and different areas of application. When is a full-consensus standard desirable? When is a workshop-based specification preferable? What are the benefits of Publicly Available Specifications? How does the work differ to that in consortia and forums? All these questions need to be addressed and the answers made public and explained to those involved in standardization. Guidelines to the respective use of full-consensus standards and specifications should be made available. Work on specifications should be integrated in the scope of standards committees, and the best way of proceeding should be decided on at the outset of each project, taking the technical innovation cycle into account.

### **Assess market relevance of new standards projects**

In order to continue to develop standards meeting market needs, criteria for assessing the market relevance of projects must be defined and taken as a benchmark. The expectations of stakeholders are here paramount.

### **Optimize processes**

The timely development of standards requires ongoing optimization of the processes involved. The consistent use of electronic media (electronic committees) will enable involvement in standardization to become more and more efficient in terms of time and cost.

### **Maintain quality of German standardization**

Maintenance of the high quality of German standardization, and the successful representation of German interests in European and international standardization, require the active involvement of well-trained and capable German experts. To place that on a sure footing, the first priority is to make top management aware of the benefits of involvement in standardization so that delegating the best experts for this purpose is regarded as integral to corporate strategy. Other points to be addressed are the funding of qualified experts in standardization, management of experts, e.g. by developing suitable networks, advance planning of succession, and training and qualification. As well as specialist skills, the administrative, linguistic and communication abilities of the experts should be assured. Appropriate training concepts should be developed.



# Annex

**Translator's note:** The German Standardization Strategy distinguishes in the German version between "Normung" covering the development process of full-consensus standards ("Normen") and "Standardisierung" covering the development process of documents with a limited consensus by standards bodies ("Standards"). In the translation, the terms "Normung and Standardisierung" are translated by the English term "standardization" to cover both activities. Consequently, whenever "Normen" and "Standards" are referred to in the German text, the term "standards" is used in the English translation to cover both. When it is necessary to distinguish explicitly between the German terms "Norm" and "Standard" (e.g. in Goal 5), "Norm" is rendered by "full-consensus standard" and "Standard" by the term "specification".

## **STANDARDIZATION (in accordance with DIN EN 45020 "Standardization and related activities")**

Activity of establishing, with regard to actual or potential problems, provisions for common and repeated use, aimed at the achievement of the optimum degree of order in a given context.

**Note 1:** In particular, the activity consists of the processes of formulating, issuing and implementing standards.

**Note 2:** Important benefits of standardization are improvement of the suitability of products, processes and services for their intended purpose, prevention of barriers to trade and facilitation of technological co-operation.

## **STANDARD (in accordance with DIN EN 45020 "Standardization and related activities")**

Document, established by consensus and approved by a recognized body, that provides, for common and repeated use, rules, guidelines or characteristics for activities or their results, aimed at the achievement of the optimum degree of order in a given context.

**Note:** Standards should be based on the consolidated result of science, technology and experience, and aimed at the promotion of optimum community benefits.

## **SPECIFICATION PROCESS**

In the German Standardization Strategy the development process of specifications under the auspices of national, European or international standards bodies is termed "Standardisierung" to distinguish it from "Normung", the development process of full-consensus standards. Examples:

**National:** Publicly Available Specification (PAS)

**European:** Workshop Agreement (CEN/CENELEC-CWA)

**International:** Publicly Available Specification (ISO/IEC-PAS), International Workshop Agreement (ISO-IWA), Industry Technical Agreement (IEC-ITA)

**Note:** DIN will take into consideration the varying usage of the German term "Standardisierung" when revising the DIN 820 series of standards.



## > Annex

### **VIENNA AND DRESDEN AGREEMENTS**

Harmonization of regional and global standardization.

**The Vienna Agreement** covers technical co-operation between the International Organization for Standardization (ISO) and the European Committee for Standardization (CEN), in particular their parallel voting system for adopting the results of each other's standardization activities.

**The Dresden Agreement** covers technical co-operation between the International Electrotechnical Commission (IEC) and the European Committee for Electrotechnical Standardization (CENELEC), in particular their parallel voting system for adopting the results of each other's standardization activities.

### **NEW APPROACH**

The New Approach stems from a EU Council Resolution of 7 May 1985 and is based on four fundamental principles:

1. In harmonizing regulations across Europe, EU Directives will specify only essential requirements to be met.
2. The EU mandates European standardization organizations to develop the technical details relating to the essential requirements.
3. The application of harmonized standards published by European standardization organizations remains voluntary.
4. Compliance with harmonized standards implies a presumption of conformity with EU Directives, i.e. if national authorities doubt whether a product manufactured in accordance with a harmonized standard fulfils the essential requirements, the burden of proof rests on them.

The advantage over the former approach, whereby EU Directives covered the technical details as well as the essential requirements, is that the specification of technical requirements by the relevant experts is faster and more efficient in the European standardization organizations. EU Directives with all their concomitant requirements often took many years to complete, and any modification to

the technology required a corresponding amendment of existing law. Nowadays the technical requirements are developed quite independently from the legislative process by the European standardization organizations.

In October 1999, the positive effects of the New Approach were acknowledged in a EU Council Resolution on standardization, to the effect that the standardization system in Europe and the New Approach have proved efficient and have made a major contribution to the development of the single market. In March 2002, the Council noted in its final conclusion on standardization the important role of standardization in the internal market and its contributions to important sectors of European policy such as EU governance, e-Europe, strategies for sustainable development, as well as to world trade.

### **WORLD STANDARDS CO-OPERATION (WSC)**

The World Standards Co-operation (WSC) is a joint initiative of ISO, IEC and ITU-T, launched in 2001 with the aim of consolidating and promoting the international standardization system by following specific policies, co-operating closely and communicating freely.



## Further Action

By virtue of an agreement with the Federal Government, DIN is recognized as the national standards body for Germany and as the representative of Germany in supranational standardization organizations.

The President of DIN will appoint a steering committee to monitor implementation of the German Standardization Strategy. Suggestions relating to its content may be addressed to the Director of DIN: **torsten.bahke@din.de**.

The German Standardization Strategy is conceived as a “living” document. As such, its vitality and ongoing development will derive from its stakeholders.

### IMPRINT

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