



International standardization

China: a developing global power in standardization

Content

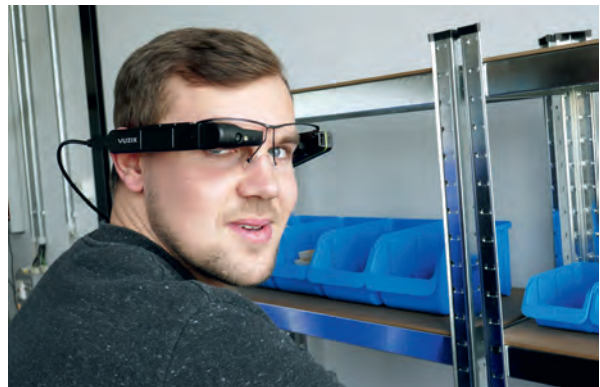


Lead topic

- 04 China: a developing global power in standardization

Themes

- 07 75 kg; the standard is not the norm
- 09 Standardization and the state of the art
- 11 Smart glasses: from pilot project to application in the field
- 12 KAN's contributions to occupational safety and health: the KANPraxis resources at a glance



13 In brief

Proposed EU regulations for machinery and artificial intelligence

Chlorination systems for swimming pools

New DIN/TS technical specification for the measurement of actuating forces

14 Events



[www_kan_de](https://www.kan.de)



Kommission Arbeitsschutz und Normung (KAN)



[_kan.insta_](https://www.kan.de)



KAN – Kommission Arbeitsschutz und Normung



Kai Schweppe

Chairman of KAN

Baden-Württemberg industry
and employers' association (UBW)

Chinese standards on the ascendency

China is increasingly using international standardization activity as a strategic instrument with which to cement its position as a technology leader. As part of the “China Standards 2035” strategy, SAC, the Chinese standards organization, is assuming more and more secretariats of ISO technical committees, and is posting Chinese experts in growing numbers to positions of responsibility on standards committees.

From an external and purely objective standpoint, China’s motivation here is entirely legitimate, since participation in standardization activity is in principle open to any stakeholder; indeed, this is an important basic principle of standardization.

Vigilance is nevertheless called for. In particular, it must be ensured that the global system of standardization continues to be governed by traditional values of consensus-based standardization, organized in accordance with democratic principles. Standardization has an important role in the functioning of the world economy. Precisely for that reason, it should not be abused for the furthering of national interests. The high level of safety in Europe, which of course includes Germany, must be maintained. «

China: a developing global power in standardization

The outline for the China Standards 2035 plan has startled standardization experts around the world. Notwithstanding the fact that the plan is a research project and the Chinese government has not yet reached a decision, it has become clear that the People's Republic has discovered standardization as an instrument of industrial, geostrategic and power politics. This has far-reaching consequences that also impact upon Europe.

China's aim is to become the world leader in technology by 2049, the year in which the People's Republic will celebrate its 100th anniversary. The Middle Kingdom is expected to have established itself as a world power in key technologies such as artificial intelligence (AI) as early as 2030. It is already the world champion in patent applications. At the same time, the government in Beijing has recognized the power of setting standards in order to assert its bid for technological supremacy.

The Communist government has adopted a multi-pronged approach. It is harmonizing the country's standardization system, placing growing numbers of Chinese experts in senior positions in international standards bodies such as ISO and IEC, and attempting to export its own standards through the New Silk Road (Belt and Road) initiative to the participating countries, particularly in Africa, Asia and Europe.

The standards race is about prestige, but also profit. Whoever owns the standard owns the market, as Werner von Siemens notably said. In addition to influence upon the direction of industrial policy, licence fees are also a factor. Since to date, the majority of proprietary standards in the technology sector have been created by foreign companies, China is the world's second-largest payer of licence fees.

Early industry standards were set primarily by European countries, including Germany. Standards for the Internet are primarily set by bodies located in the USA, such as the Internet Engineering Task Force (IETF) or the World Wide Web Consortium (W3C). Beijing aims to lead the way in the Internet of Things (IoT), Industry 4.0 and other technologies of the future, such as e-mobility.

The groundwork for the new strategy has been performed primarily by the Chinese Standards 2035 research project. The parties involved, including the Standardization Administration of China (SAC), the Chinese Academy of Engineering, and universities and research institutes, addressed for example the question of how the standardization system could support political objectives. They presented their findings to China's State Council in early 2020.

The principal recommendations are that a Chinese standardization strategy be developed and that the previous five types of standards be reduced to two: those



of national relevance and those of global relevance. The latter are to be developed by relevant institutions or associations and technology alliances. The parties to the project further recommended that the quality of Chinese standardization activity be improved and a standardization forum for the New Silk Road be established.

The project group has not yet published an official concluding report, nor has a government resolution appeared for a programme based upon it. According to reports however, an unpublished paper on the topic is being discussed in the State Council as a template for a national Chinese standardization strategy.

The Chinese embassy in Berlin has declined to comment directly. It has referred instead to the SAC's website, on which a work programme for national standardization activity in 2021 was published in April by the standards institute. The programme comprises 90 points and work requirements, and represents the beginning of the plan term up until 2025. It accords a stronger role to standardization, for example in reducing CO₂ emissions and revitalizing rural areas. Standardization is also to be promoted at various levels, with improved coordination between regions and sectors. The SAC is also calling for greater participation in international standardization activity, for national and international standards to be harmonized, and for cooperation in this field to be stepped up.

The reality is that China's applications for standardization at both ISO and IEC have grown by 20 percent in recent years. In 2019, the People's Republic submitted a total of 238 proposals for international standards to these bodies. In the same year, it submitted 830 technical documents to the International Telecommunication Union (ITU), more than the next three countries – South Korea, the USA and Japan – combined. The proposal for a new Internet protocol ("new IP") by network supplier Huawei, which is at the centre of the 5G security debate, raised eyebrows in the West: China is seeking to make its model of a state-controlled network – one in which mass surveillance and filters are a feature, not a bug – acceptable, warns Sibylle Gabler, Head of Government Relations at DIN. In addition, Chinese companies are for example using the ITU to drive forward the standardization of biometric facial recognition, which is no less controversial.

In principle, Gabler welcomes the fact that the Middle Kingdom is becoming more involved at ISO and IEC. As she points out, transparency is assured in these organizations, and all experts worldwide have the opportunity to present their interests. "This is of course much more constructive than China attempting to establish its own standards globally. It is important however that the international standards are then also adopted and used unchanged by everyone." And therein lies the problem: according to the German Mechanical Engineering Industry Association (VDMA), China implemented ISO and IEC standards at the low level of 35 percent in 2010, and in 2019 the level of adoption had dropped further to 24 percent.

Gabler sees the People's Republic as having "all the factors needed for it to be very successful with its standardization programme": clear political goals, an understanding of standardization as a geopolitical/strategic instrument, and excellent technical experts of its own. The challenge here is that the Western tradition of standardization allows for a grass-roots approach, i.e. one in which the business community and other stakeholders set the agenda. This philosophy ensures that projects are close to the market. "It reaches its limits, however, when other regions take a powerful top-down approach."

According to Gabler, "China's array of standardization activities, at both national and international levels, coincides with limited resources on the part of European experts." Should nothing change in this respect, "our influence in international standardization activity will diminish in the coming years". Germany is still well positioned at present in terms of the secretariats and chairs it holds at the ISO and IEC.

*Stefan Krempf
(freelance journalist)*

“However, we are very much enjoying the fruits of past decisions,” warns Gabler, speaking as an insider. “Applications to fill new and vacant positions are now often submitted from other quarters. German experts are not always present in projects that are of strategic political importance.” Government bodies must help to “counterbalance the huge subsidies in China,” she said. Initiatives such as the German Standardization Roadmap on Artificial Intelligence, published in 2020 by DIN and industry associations in conjunction with the German Federal Ministry of Economic Affairs and Energy (BMWi), should be expanded to include areas such as the circular economy and hydrogen.

“Rather than disconnected measures, we need a strategic approach to our dealings with China,” says Simon Weimer, technical advisor at the Federation of German Industries (BDI). “Standards must be core elements of a European strategy on China.” German industry is very concerned by the wealth of proposals for international standards emanating from the People’s Republic. The BDI considers this to be “a strategic approach, intentional on the part of policymakers”, in which Beijing is investing large sums of money in order to exert selective influence on certain fields of technology. Europe is finding it more and more difficult to keep pace by the use of its own resources.

“Should a Chinese standard become established on the market, a risk exists of demand for German and European technologies falling, and innovative capacity and competitiveness thus being lost,” Weimer points out. “The EU must recognise the economic and political importance of standards and join with industry in working on a forward-looking strategy.”

Thomas Zielke, head of the standardization policy unit at the BMWi, intends to continue monitoring the situation: “At this stage, we do not expect the strategy to impact negatively on opportunities for German companies in China or on bilateral dialogues on standardization.” However, the department is taking a critical view of the New Silk Road, which could lead to national Chinese standards spreading to other countries, something that would contradict the approach of an international standardization process and thus be detrimental to China itself.



75 kg: the standard is not the norm

Many standards assume a weight of 75 kg for human beings, for example for the formulation of test methods or requirements to be met by products. However, a study by KAN has revealed a need for standards and EU legislation to be amended in this respect.

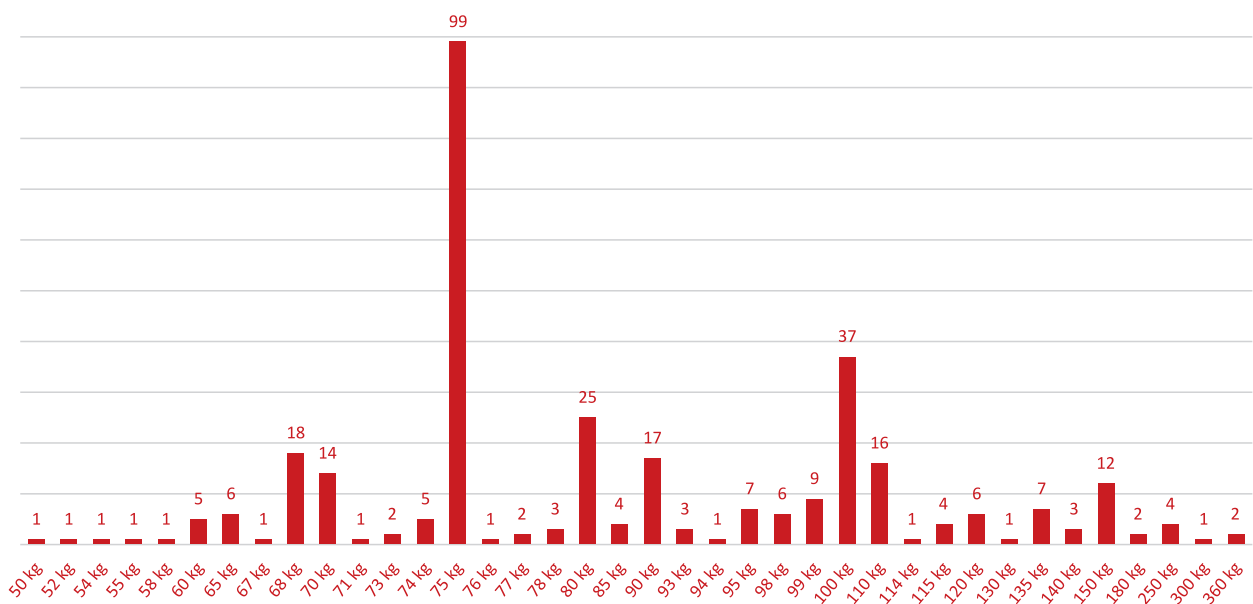
Have you ever noticed the sign in a lift showing the permissible total weight of its occupants, and worked out just how much, on average, an occupant of the lift is allowed to weigh? The answer is often 75 kg. But seriously, what do you think the average person weighs? Your guess would probably be: more than 75 kg. In the lift, this isn't an issue: if the permissible combined weight of the occupants is exceeded, the doors don't close and the lift stays put.

It becomes an issue for occupational safety and health however when products intended to carry or restrain people are designed based upon an assumed weight of the intended users and this weight is too low. In some cases, the maximum permissible weight is simply not apparent. Should the weight specified in the standards or the intended tests be 75 kg, the resulting products may present a hazard when used by persons whose weight exceeds this figure. Ambulances are a good example. The anchor points for the stretcher are tested for the weight of the stretcher and a test dummy with a weight of 75 kg lying on it. Should an accident occur and the patient weigh significantly more than 75 kg, an additional safety risk may arise if the anchor point fails as a result.

Many products exist that are required to bear or transport human beings. They include couches, stretchers, seats of various kinds, skateboards, floatation devices, medical devices, fire ladders and fall protection equipment, to name just a few. Anthropometric data obtained in recent scientific studies show that a human body weight of 75 kg no longer reflects the reality. In a statement issued at the request of KAN, the German Federal Institute for Occupational Safety and Health (BAuA) has stated that the weights in standards should be defined with reference to generic ergonomics standards. Accordingly, the 99th percentile should serve as a basis for applications relevant to safety (refer to the information box on page 22). It is also advantageous for products to be planned such that they can be used by as many people as possible.

For defining user's weights in standards and legislation, the BAuA therefore recommends that data from studies representative of the entire German population be used. A study¹ of the health of adults in Germany, conducted in 2012, indicated the following weights for the human body: the 99th percentile corresponds to a body

Distribution of weights stated in standards/EU documents (2019)



What are percentiles?

Anthropometric data often include percentiles (relative cumulative frequency in a group). Percentiles state the value, in this case that of a particular body dimension, that is not exceeded by the stated percentage of persons in a random sample.

For example, statement of a 99th percentile of 129.1 kg for the body weight of adult males means that 99% of the participants surveyed weigh 129.1 kg or less, whilst 1% have a body weight higher than this value.

You can find more information on the subject of anthropometric data in the KANPraxis guide to the use of anthropometric data (in German) <https://koerpermass.kan-praxis.de>

*Katharina von Rymon Lipinski
vonrymonlipinski@kan.de*

weight of 129.1 kg for men and 119.1 kg for women. The study examined around 3,000 persons of each sex, which cannot be considered representative of the entire German, much less European population. ISO 7250-3 however states 99th percentiles of 142 kg and 119 kg for men and women respectively in Europe. There is therefore much to suggest that a figure much higher than 75 kg should be used.

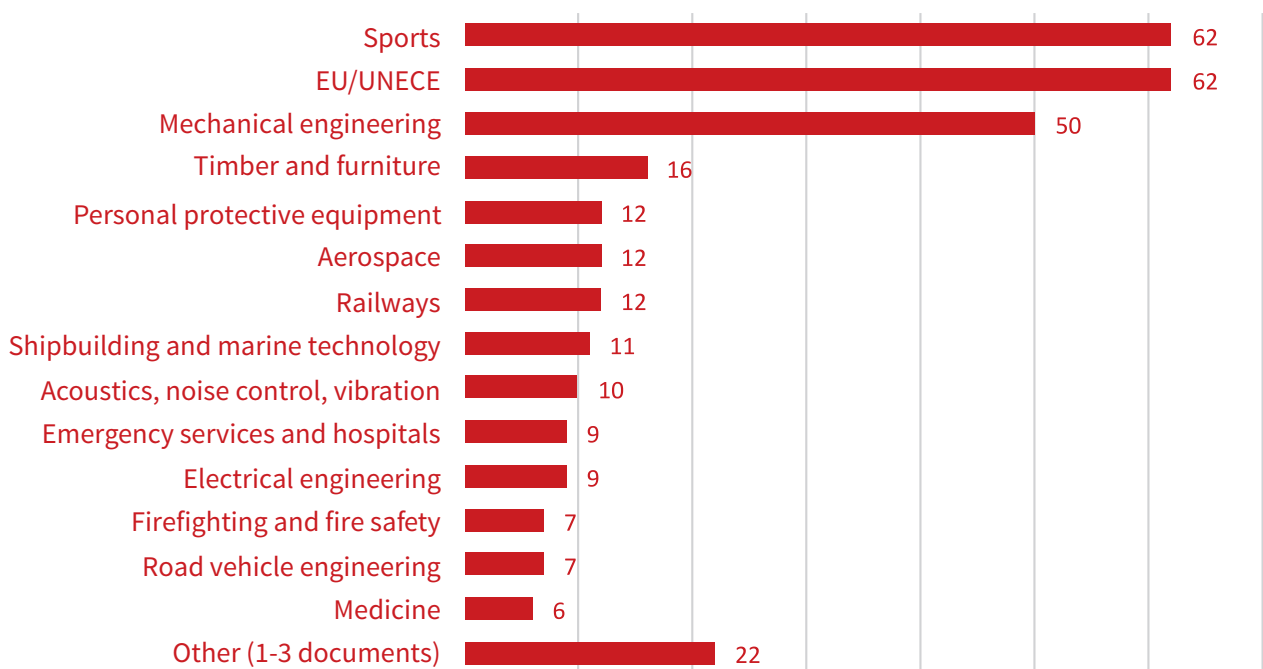
To enable the issue to be analysed in greater detail, KAN tasked DIN Software GmbH at the end of 2019 with surveying standards and European legislation for references to the weight of persons. Full-text searches were performed for terms concerning persons or test dummies in conjunction with statements of weight.

Analysis of the results showed 75 kg to be the value most frequently stated for the weight of a human being in standards and European regulations. The figure of 75 kg is stated in around 100 documents; in fact, over 50 documents state a figure below 75 kg. Documents stating much higher values were also identified, however: overall, the values stated for the weight of a human being range from 50 to 360 kg (see Figure 1). Key topics are the areas of mechanical engineering and sports, European directives and regulations, and UNECE regulations (see Figure 2).

Can the problem be resolved simply by replacement of the value in the standards with a different value? Unfortunately, the issue is not quite so simple. Applications exist for example for which the relevant value is not the highest assumed value. These include applications in which a triggering threshold must also be stated for low weights. This is the case for instance for seat suspension, or for a pressure sensor that switches off a machine when stepped on. The question also remains as to which value is the “right” value. The results of the survey are being discussed initially within KAN. The intention is for recommendations to be formulated for standardization activity, and also for influence to be exerted upon EU legislation (for example in the automotive sector), as this often serves as the basis for standards. The aim is for realistic values to be found for human body weights which correspond to up-to-date anthropometric data and which can be incorporated into the documents.

¹ www.degs-studie.de/english/results.html

Number of standards/EU documents with statements of weights for the human body (2019)



Standardization and the state of the art

A task for the standardization community

The state of the art plays a key role in product safety. The term “state of the art” is however often defined or formulated somewhat differently by different parties, including at European level. One question raised during standardization work is what technical level should serve as the basis for requirements in standards.¹

Since the “Kalkar decision” taken by Germany’s Federal Constitutional Court (BVerfG) on 8 August 1978 with respect to nuclear legislation, the state of the art has been defined within a widely accepted **three-stage model**²:

- **Generally accepted good practice** comprises principles and solutions which have been tried and tested in the field and have met with the acceptance of the majority of practitioners (refer also to the decision of Germany’s Federal Administrative Court (BVerwG), 30 September 1996).
- The **state of the art** is described at numerous points in legislation. The German Ordinances on Hazardous Substances (GefStoffV) and Industrial Safety and Health (BetrSichV) define the state of the art as the state of development of advanced processes, equipment or operating methods; in particular, use is to be made of comparable processes, equipment or operating methods which have been successfully proven in the field.
- The **current state of science and technology** describes what is technically feasible at the present time” (BVerfG, Kalkar decision, 1978).

The inherent objective of standardization

In accordance with the provisions governing international (ISO/IEC Directives, Part 2, 2021), European (CEN/CENELEC Regulations, Part 3, Clause 4) and German (DIN 820-2) standardization activity, the purpose of standardization documents is to provide clear and unambiguous specifications for the promotion of international trade and communica-

tion. For this purpose, documents are required among other things to:

- be produced in consideration of all available knowledge concerning the state of the art;
- take account of current market conditions;
- provide a framework for future technical developments.

The particular importance of the state of the art is evident from the need for a standard to be revised when new technology is sufficiently stable and has become established on the market, and can therefore be considered as the state of the art (ISO Guide 78, Clause 5.2; CEN Guide 414, 5.2). This is expressed even more clearly in the provisions of German standardization, such as in DIN 820-4, Chapter 7, which explicitly requires the content of a standard to be revised should it no longer correspond to the state of the art.

The courts’ view of standardization

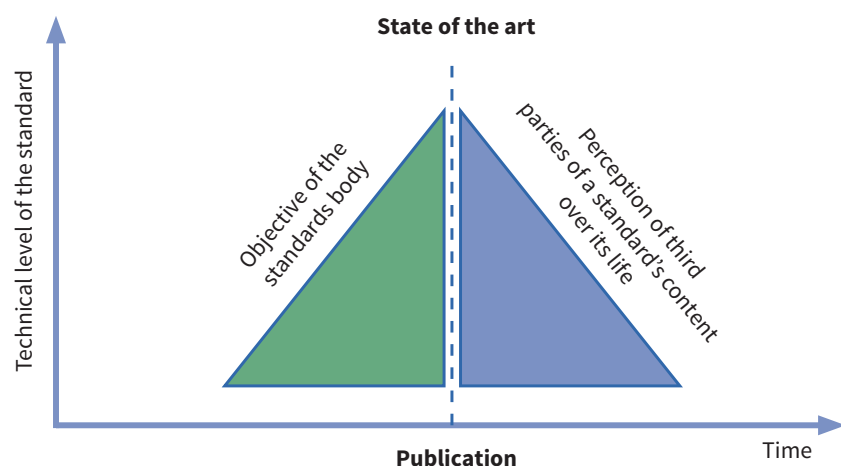
DIN standards reflect current accepted good practice in the affected circles and are thus particularly suitable for determining what, according to prevailing opinion, is deemed necessary in the interests of safety (German Federal Supreme Court (BGH), 1 March 1988). At the same time however, the German courts clearly emphasize the inherently dynamic nature of standardization. Standards do not by their mere exist-

ence have the quality of accepted good practice and do not warrant any claim of exclusivity (BVerwG, 30 September 1996): DIN standards may reflect accepted good practice, or may lag behind it (BGH, judgement of 14 May 1998, case VII ZR 184/97).

In its judgement of 10 March 1987, the Federal Supreme Court draws attention to a further important point, namely that standards do not constitute legislation. Critical analysis of their application with consideration for the current state of the art is expressly permitted. This is particularly the case where the standard in question is a new standard or has only recently been introduced, and has yet to prove itself as “accepted good practice”.³

The legislator’s view of the state of the art

In product safety law, the state of the art is an abstract legal concept. Under the EU Product Safety Directive, a product is deemed safe for consumers when it complies with the legislation of a Member State, harmonized European standards, other standards, the **state of the art and technology** or the safety which may reasonably be expected. The German Product Safety Act also states in Section 34(1) that systems requiring regular inspection must be designed in compliance with the **state of the art**.



Although the “state of the art” is not defined in the relevant EU legislation, the concept is of significance, for example in EU New Approach directives⁴, which among other things govern CE marking. Annex IX, paragraph 9.2 of the EU Machinery Directive for example stipulates for machinery subject to type examination that the manufacturer is responsible for ensuring that the machinery meets the corresponding **state of the art**. Recitals 6 and 14 of the directive also emphasize that standardization must take account of the state of the art.

The European Commission’s “Blue Guide” on the implementation of EU product rules states that in the absence of standards, a manufacturer must “develop solutions in accordance with **general engineering or scientific knowledge** [...] in order to meet the essential requirements of the legislation in question” (Blue Guide 2016, 4.1.2.2). A special role is accorded to harmonized European standards, which can be assumed to reflect the “generally acknowledged state of the art” and whose presumption of conformity would otherwise have to be withdrawn (Blue Guide 2016, 4.1.2.5).

What is a manufacturer required to do?

With regard to the actual expected implementation. Section 161 of the

requirements correspond to the **state of the art** if:

- they employ the most effective technical means;
- these means are available at the time for a cost which is reasonable taking account of the total cost of the category of machinery concerned and the seriousness of the harm the risk reduction is required to address;
- such technical solutions are generally available on the market. Manufacturers of machinery cannot be expected to implement solutions that are still at the development stage.

Manufacturers must therefore take account of technical progress and implement the most effective technical solutions suitable for the machinery concerned as soon as they become available at reasonable cost.

Consequence for standardization

Standardization is an essential element for supporting the – initially abstract – legal concept of the state of the art. In the context of this statement, the inherent objective of standardization, the view of the legislator and the view of the courts are consistent.

Inconsistencies in the interpretation of this concept arise from the fact that standardization bodies and legis-

ers the legal impact of a completed standard upon third parties. By its nature, this impact changes dynamically from the day of the standard’s publication as the state of the art progresses, independently of the standard and departing from its content.

Consequently, if standardization activity is to meet the demands made of it in full, a standard must reflect the state of the art, at least at the time of its publication. Those involved within standards bodies must be conscious of their great responsibility and actively seek technical solutions that satisfy the demanding requirements imposed by the legislation and legislators. Where decisions are contentious, those involved are not at liberty to resort to the lowest common denominator, which is often much easier to determine. The maxim that “less is more” does not hold true in this context.

*Michael Robert
robert@kan.de*

.....

¹ This article is not intended to constitute a legal opinion. The references to court decisions are taken from a 2016 KAN expert report by Dr Thomas Wilrich on case law concerning technical standards. www.kan.de/en/publications/kan-studies

² <https://lexetius.com/1978,2>

³ It is however not universally the case that standards do not have binding force. Exceptions exist, for example in European construction legislation or where through direct referential legislation. In addition, EU regulations on essential requirements for product safety are supported by



Smart glasses: from pilot project to application in the field

Researchers have been tasked by the BGHW with studying the occupational safety and health issues that must be considered during the use of smart glasses.

Smart glasses have been in use for some years now in a range of sectors, including warehouse logistics, assembly, product planning and as aids during medical interventions, particularly in the context of pilot studies. It is the logistics sector however in which their application has gained considerable momentum in recent years, with large companies implementing the first pilot projects in their operations. A range of benefits are claimed for smart glasses when used for this purpose. These typically include increased efficiency, higher availability and visualization of data, facilitation of inclusion, and the correction and elimination of unfavourable body postures. The range of potential negative impacts of smart glasses, however, is no less broad - i.e. their impacts upon the occupational safety and health of the workers who are to use them in future on a daily basis as work equipment. These aspects include acceptance by workers, exposure to electromagnetic fields, impacts upon the eyes, and scope for distraction indirectly giving rise to an accident risk, for example an increase in falling, slipping and tripping accidents caused by the device's influence on the wearer's balance.

Each of these issues raises numerous questions to which clear answers cannot readily be found. This can be seen for example from a selective literature search concerning the acceptance of smart glasses. Some studies have examined the acceptance of smart glasses among the wider population; others their acceptance among students at the university concerned. Few studies have been conducted with experts, such as logistics experts in companies.

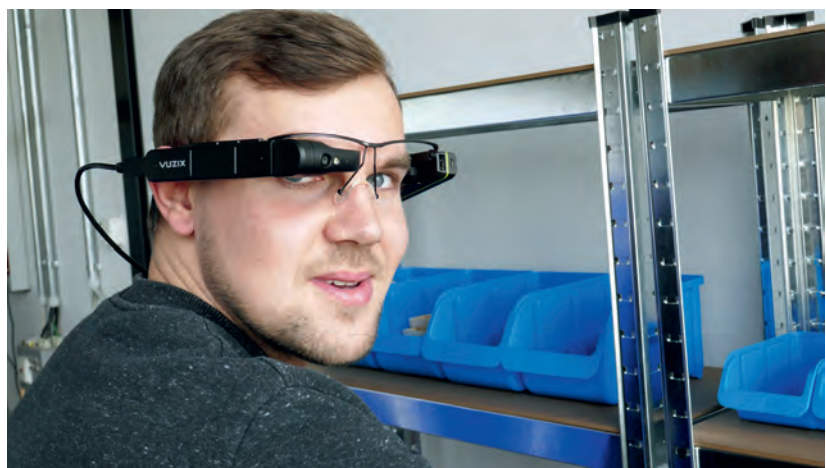
Analysis of the overall literature survey results shows that users of smart glasses consider data privacy and protection of wearers' health to be critical issues. Wearer comfort, a function of the weight of the smart glasses and the arrangements for holding them on

the head, is a further frequent subject of criticism. This aspect appears to be associated on different levels with the devices' acceptance. For example, flexible positioning of the display and a high display resolution are desired by users. They also attach great importance to the information being presented ergonomically: although the principles of software ergonomics are described in general terms in the EN ISO 9241 series of standards and also apply to new media, they present software developers with the challenge of implementing them on a new medium. More than a few developers therefore dismiss these questions. One recommendation resulting from a study by Kim et al. was that the presentation of information should be graphics-based. A survey conducted by Koelle et al. of 51 experts predicts that smart glasses will have met with greater acceptance by 2026. Utility, functionality and ease of use are identified as the most important factors for acceptance in the long term. Remaining usability problems must be addressed by the introduction of new modes of interaction and visualization technology. The issue is however even more complicated. In their study, Terhoeven et al. report that the acceptance of smart glasses depends on the specific application. Whereas workers using smart glasses in order picking tend to have a negative opinion of them, they are regarded positively by

workers using them in an assembly application. Wille et al. further observed that the opinion of the new technology depends on the respondents' affinity to technology in general.

The example of acceptance shows how many questions have yet to be answered. For this reason, Koblenz University of Applied Sciences, the Institute for Occupational and Maritime Medicine (ZfAM), South Bank University London and the Institute for Occupational Safety and Health of the DGUV (IFA) were tasked some years ago by the German Social Accident Insurance Institution for the trade and distribution industry (BGHW) with conducting the ADAG project (impact of smart glasses on occupational safety and health) in order to find answers to these important questions through studies under real-case conditions. The aim of this project is to provide employees and employers with recommendations for action based on the results, in order for introduction of the new technology to reap economic rewards whilst at the same time assuring compliance with occupational safety and health.

*Daniel Friemert
Visiting associate professor in
the Faculty of Mathematics
and Technology at Koblenz
University of Applied Sciences
friemert@hs-koblenz.de*



KAN's contributions to occupational safety and health: the KANPraxis resources at a glance

Under its KANPraxis brand, KAN provides occupational safety and health experts with the best possible support: the brand encompasses ergonomics tuition modules, and tools for searching for standards, applying anthropometric data and designing machinery ergonomically.

NoRA: searching for standards

<https://nora.kan-praxis.de/en>

The functions of the NoRA OSH standards search tool have been enhanced. The database, which is updated monthly and contains bibliographic data and information on over 10,000 standards relevant to occupational safety and health, has been redesigned and now meets the requirements for accessible website design.

NoRA offers functions for conducting searches of standards according to hazards or areas of applications (subjects). The hit list also contains the tables of contents and abstracts of the standards. ErgoNora provides additional support specifically for searches for standards in the sphere of ergonomics. Subscribe (free of charge) to the NoRA ticker to receive a monthly overview of standards that have recently been published, revised or withdrawn or that are at the public inquiry stage. The overview is customized to your particular areas of work. In the course of the revision, the ticker has now also been made available in English.

Modules: learning ergonomics

<https://ergonomie.kan-praxis.de/en>

Standards governing ergonomics can assist in the design of work equipment and organization of safe workplaces. However, in order for standards to be applied from the design process onwards, comprehensive information on their content must be imparted during the training of designers. In order to improve training in the field of ergonomics, KAN offers lecture materials, focusing on mechanical and plant engineering. The eight modules, which are available free of charge and contain over 500 slides with video sequences, cost-benefit analyses and case studies, communicate the principles of ergonomics and in-depth knowledge of special application cases. Test questions with model answers are also available for teaching staff.

Machinery: finding ergonomic solutions

<https://maschinenergonomie.kan-praxis.de/en>

Ergonomic design of machinery is expedient if work on machinery is to be optimized for the workers concerned. The KANPraxis resource provides a catalogue of good-practice

examples from the spheres of machine tools and in-plant transport equipment. Selective searches for machines, issues and detailed solutions enable the factors determining a well-designed machine to be identified and the relevant aspects to be considered during the design process. The catalogue of examples is useful for the standardization and design of machines and for manufacturing and purchasing.

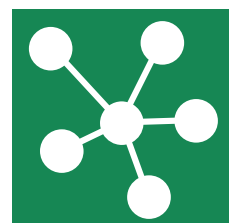
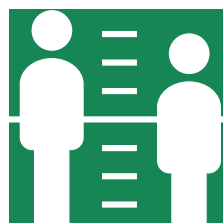
Guide: applying anthropometric data

<https://koerpermass.kan-praxis.de>

Taking anthropometric data into account during the design of work equipment is a part of adapting products to the needs of the human body. This free online guide provides support to engineers and members of standards committees in selecting and applying anthropometric data during product development and the drafting of standards. With its user-friendly format, the guide provides information for example on where up-to-date data can be found and how they can be evaluated and best applied in practice.

*Valentina Rössel
roessel@kan.de*

KAN PRAXIS



Proposed EU regulations for machinery and AI

In April, the European Commission presented two long-awaited proposals for regulations. The proposal for a regulation setting out harmonized rules for artificial intelligence (AI) contains provisions for the development, placing on the market and use of AI systems in the European Union in accordance with a risk-based approach. They require AI systems presenting high risks to meet strict specifications before the systems are placed on the market. Requirements include suitable systems for risk assessment and mitigation, data records of high quality, comprehensive documentation, clear information for users and adequate human supervision for the purpose of reducing risks to a minimum.

At the same time, the European Commission presented a proposal for a new Machinery Regulation, which is intended as a replacement for the Machinery Directive 2006/42/EC. Together, the Machinery Regulation and the AI legal framework are to ensure that a high safety level in the use of machinery is maintained, and to extend this to new technologies. Certain requirements concerning traditional technologies would also be updated. In future, the Commission would have the authority to amend the list of high-risk products by a delegated act. The proposal sets out criteria for risk assessment and resolves inconsistencies with other EU legislation in the area of product safety. In addition, the Commission's intention is for the new regulation to create greater legal clarity and reduce administrative overhead.

Interested parties have at least until 2 August 2021 to submit comments on the two proposals; these are intended to contribute to debate of the legislation. The next step is now for the Member States and the European Parliament to begin work on the legislation.

<https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives> → Machinery/Artificial intelligence

Chlorination systems for swimming pools

An update of DIN 19606, Chlorinators for water treatment – Technical requirements for equipment, installation and operation, was published in January 2020. The German Social Accident Insurance Institution for the health and welfare services (BGW) and KAN had been involved in the revision process and had pointed out that the extensive requirements in the standard regarding the safety and health of workers at work must be set out in a separate chapter as requirements concerning the operating manual.

In its published form however, the standard still contains a controversial requirement for the use of respiratory masks. The standard specifies a higher particle filtration level than that provided for in DGUV Rule 107-001 concerning the operation of swimming pools and DGUV Informative publication

203-086 concerning the chlorination of drinking water. KAN has initiated dialogue between the standards committee and the DGUV's Swimming pools and baths subcommittee, drawing attention to the provisions of the policy paper by the BMAS (German Federal Ministry of Labour and Social Affairs) on standardization concerning the safety and health of workers at work and the accident insurance institutions' regulatory prerogative. The wording of the requirement is to be amended and published shortly in a supplement to the standard.

In the next revision of the standard, selected passages relating to operational procedures must likewise be moved to the chapter governing the operating manual.

New DIN/TS for the measurement of actuating forces

In May 2021, DIN published technical specification DIN/TS 35444, which defines a method for measuring the manual actuating forces required for technical reasons on manually operated control elements. By comparison of the measured values with the known maximum forces that defined target populations are able to exert, it can be determined whether a specified user population is actually capable of performing a certain task. DIN/TS 35444 is not suitable for use in risk assessment, since it fails to address factors such as the frequency and duration of force application, body posture, or the ergonomics of the actuation operation.

Many standards contain information on average and maximum forces for the operation of control actuators. These values are generally determined empirically. Before now however, manufacturers of the products concerned did not have access to a standardized method for measuring these actuating forces; neither national nor European/international standards existed for the measurement of body forces on control actuators or machine parts such as flaps or steps. Based upon these findings from its study, Operating forces on agricultural machinery, KAN launched development of the DIN/TS in the DIN Anthropometry and biomechanics standards committee in 2017.

The committee is to discuss shortly whether the subject-matter should also be submitted to standardization activity at European level.

Internet

EU-OSHA thesaurus

EU-OSHA's multilingual thesaurus contains around 2,000 terms relating to safety and health at work. The terms can be searched both alphabetically and by subject. The thesaurus contains synonyms and antonyms of the terms, and in some cases also definitions.

<https://osha.europa.eu/de/tools-and-resources/eu-osha-thesaurus>

Events



06.-09.07.2021 » Online

21^e congrès international de psychologie du travail
Changement et innovations au travail : quels enjeux pour les personnes et les organisations ?
AIPTLF
www.aiptlf2020.fr/inscription/fr/accueil/3

01.-03.09.2021 » Dresden

Seminar
Normungsarbeit im Arbeitsschutz weiterdenken – AufbauSeminar
Institut für Arbeit und Gesundheit der DGUV (IAG)/KAN
<https://app.ehrportal.eu/dguv/> 700139

19.-22.09.2021 » Online

International Congress
XXII World Congress on Safety and Health at Work: Global Forum on Prevention
ILO / ISSA / International Conference Services
www.safety2020canada.com

22.-24.09.2021 » Dresden

Seminar
Manipulation an Maschinen und Anlagen: Risiken erkennen, Maßnahmen ergreifen
Institut für Arbeit und Gesundheit der DGUV (IAG)
<https://app.ehrportal.eu/dguv/> 700089

23.-24.09.2021 » Friedrichshafen

GfA-Herbstkonferenz 2021
Zeitbezug und Transformation - Ergonomie im Wandel des Fortschritts
Gesellschaft für Arbeitswissenschaft (GfA)
www.gfa-herbstkonferenz-2021.de

28.09.2021 » Hannover

Kongress
Kongress für betrieblichen Arbeits- und Gesundheitsschutz LAK Niedersachsen
www.lak-nds.net/index.html

04.-07.10.2021 » Hannover

Conference
55th Annual Conference of the German Society for Biomedical Engineering
VDE/DGBMT
www.vde.com/de/veranstaltungen/veranstaltungsuebersicht/veranstaltung-detailseite?id=19339&type=vde%7Cvdb

06.-07.10.2021 » Online

Seminar
Das ergonomische Arbeitsplatzsystem – Produktivität, Motivation und Gesundheit steigern
Aktion Gesunder Rücken (AGR)
www.agr-ev.de/de/konzept-industriearbeitsplatz/schulung

07.-08.10.2021 » Stuttgart

Seminar
CE-Kennzeichnung – Anforderungen und praktische Umsetzung
VDI
www.vdi.de/veranstaltungen/detail/ce-kennzeichnung-anforderungen-und-praktische-umsetzung-3

12.-15.10.2021 » Köln

Konferenz
Maschinenbautage 2021 mit Maschinenrechtstag
MBT Ostermann GmbH
www.maschinenbautage.eu/konferenzen/konferenz-maschinenrichtlinie-2021/

26.-29.10.2021 » Düsseldorf

Fachmesse und Kongress / Trade fair and Congress
A+A 2021
Messe Düsseldorf / Basi
www.aplusa.de

10.-12.11.2021 » Dresden

Seminar
Grundlagen der Normungsarbeit im Arbeitsschutz
Institut für Arbeit und Gesundheit der DGUV (IAG)/KAN
<https://app.ehrportal.eu/dguv/webmodul/index.jsp> 700044

Ordering

www.kan.de/en » Publications » Order here (free of charge)



Gefördert durch:

Bundesministerium für Arbeit und Soziales
aufgrund eines Beschlusses des Deutschen Bundestages

Impressum

Publisher
Verein zur Förderung der Arbeitssicherheit in Europa e.V. (VFA)
mit finanzieller Unterstützung des Bundesministeriums für Arbeit und Soziales.

Editorial team
Kommission Arbeitsschutz und Normung, Geschäftsstelle
Sonja Miesner, Michael Robert
Tel. +49 2241 231 3450 · www.kan.de · info@kan.de

Responsible
Dr. Dirk Watermann, Alte Heerstr. 111, D – 53757 Sankt Augustin

Übersetzung / translation / traduction
Odile Brogden, Marc Prior

Photos
www.stock.adobe.com: ©Mike Mareen (1), ©MicroOne (4), ©stanciu (10), ©pio3 (2), ©Kalyakan (2, 6),
www.shutterstock.com: © Alexxndr (13) | © Hochschule Koblenz (2, 11) | KAN

Publikation
vierteljährlich / published quarterly / parution trimestrielle
ISSN: 2702-4024 (Print) · 2702-4032 (Online)