



## **CLIMATE CHANGE AND OCCUPATIONAL SAFETY AND HEALTH**

# Content

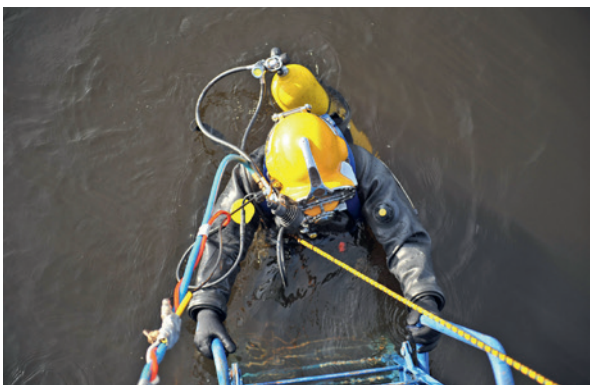


## Lead topic

- 04 Impacts of climate change on occupational safety and health and standardization
- 07 Three questions for: Axel Gutmiedl, Head of environmental management at the THW

## Themes

- 08 Management standards in the ascendency: a process to be managed.
- 09 Criticism of standards for gloves and clothing providing protection against pesticides
- 11 KANPraxis: Ergonomics lecture modules – knowledge platform now updated and extended
- 12 Vision Zero: with standardization, or instead of it?



## 13 In brief

- Training of scientific divers
- Third KAN expert discussion of the design of safe treatment tables
- Eighth EUROSHNET Conference in 2024 in Kraków
- Machinery: What changes arise from replacement of the Directive with the new Regulation?
- Searching for and finding standards on the Internet

## 14 Events

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KAN – Kommission Arbeitsschutz und Normung



**Benjamin Pfalz**  
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## Climate change: a challenge for occupational safety and health and standardization

The growing pace of climate change, and its far-reaching impacts, can be expected to present challenges for occupational safety and health. The widespread developments give rise to new requirements in the area of prevention. Above all, however, familiar topics such as protection against hazardous substances become even more relevant as a result of measures taken in response to climate change, such as the renovation of buildings.

Gearing occupational safety and health activity to the numerous challenging issues ranging, for example, from *hot work* to *insulating materials*, or from *UV radiation* to the *handling of refrigerants from heat pumps*, is essential if the potentially hazardous consequences of climate change for workers are to be tackled.

Standardization has a major role to play in this process. Work is being conducted intensively on technical standards in areas such as photovoltaics, electromobility and the sustainability of buildings. At the same time, standards addressing adaptation to the climate, risk assessment, up to and including management systems in these areas, already exist and are the subject of further development.

Occupational safety and health concerns must be actively presented in standardization activity. For this reason, KAN raises awareness of the issue among its stakeholders and other parties, and uses its networks to forge new, strategically important contacts. Climate change presents challenges to occupational safety and health; in turn, occupational safety and health promotes productive, safe and humane work as society adapts to a changing climate. «

# Impacts of climate change on occupational safety and health and standardization

The climate crisis is becoming increasingly apparent, and not only through extreme weather events such as heatwaves and floods. Occupational safety and health must adapt.

According to European scientists, 2023 was the hottest year in 125,000 years; the German Meteorological Service (DWD) has classified it as the hottest since records began. The consequences of the climate crisis are also being felt more and more sharply in Germany and elsewhere in Europe, in many cases literally. Extreme weather events such as prolonged heatwaves and the associated forest fires are becoming more frequent as a result of global climate change, as are heavy rainfall and flooding, including flash floods. UV and ozone pollution is rising. Invasive insects, such as species of disease-bearing mosquitoes and ticks previously unknown in our regions, are spreading. Lengthening of planting and blooming seasons increase the likelihood of allergy symptoms such as hay fever, asthma or contact dermatitis.

The aggravated climatic conditions also present a challenge to occupational safety and health and its existing regulations and standards. According to a report by KLUG (the German alliance for climate change and health) and the Centre for Planetary Health Policy (CPHP), commissioned by the German Federal Ministry of Labour and Social Affairs (BMAS)<sup>1</sup> and published in 2023, relevant risks to workers are likely to be more intense and occur more frequently as a result of climate change. To ensure that a long and healthy working life continues to be possible, timely preventive measures are therefore required, entailing both climate protection (mitigation) and adjustment to the consequences of climate change (adaptation).

According to the researchers, heat already constitutes the greatest threat to health in Europe. It is a cause of increasing work-related stress and absences from work, which in turn have far-reaching negative repercussions for productivity. The Policy



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Lab Digital, Work & Society of the BMAS warned as early as 2021<sup>2</sup> that regions where the temperature exceeds human beings' "operating temperature" on a significantly growing number of days can now also be found in industrialized countries, such as the "Sun Belt" south of the 37th parallel in the USA. This gives rise to physical problems such as dehydration, general fatigue and concentration impairments, cardiovascular complaints, kidney dysfunction, and potentially also heatstroke.

According to KLUG and the CPHP, hot conditions may indirectly increase the incidence of occupational accidents, not only owing to impaired concentration, but also for example owing to hands being wet with perspiration, or glasses becoming fogged. The increase in perspiration caused by the wearing of protective clothing at work may also impact negatively on physical well-being. The German Federal Institute for Occupational Safety and Health (BAuA) also states in a report<sup>3</sup> that the thermoregulation required by the human body may be placed at risk when work is performed under heat stress. Physical activity typically generates considerable heat in the human body, and personal protective clothing can have an insulating effect.

Conversely, failure to wear protective equipment increases the risk of exposure to harmful substances or pathogens. Heat may facilitate the release of thermally sensitive substances, such as formaldehyde from product materials or plasticizers from plastics.

A further exacerbating factor is that the sustainability required by EU chemicals legislation, for example, also applies to substances found in personal protective equipment and fire extinguishers. In addition, a ban on forever chemicals containing fluorine (PFASs) is being discussed in Brussels. The textile industry is concerned about the lack of alternatives at this stage for protective work clothing, for example for police officers, firefighters and medical personnel. This could possibly be resolved by the stepping up of research and standardization activities.

In addition to the risks posed by heat, rising solar UV radiation presents a challenge for occupational safety and health. Personal protective equipment for protection against UV radiation in areas such as construction, agriculture, delivery services, swimming pools and childcare also includes sunglasses, sunscreen and special textiles. The importance of these products can be seen from the growing incidence of skin cancer. A range of European and international standards already exist for the product characteristics of personal protective equipment.

Further standardization activity is also taking place in the VDI/DIN Commission on Air Pollution Prevention (KRdL). This body is already addressing issues such as the origin and prevention of emissions, disposal, residual materials, recovery of thermal energy, environmental meteorology, the exposure impact, and waste gas purification and dust technology. Experts working in the field, however, are still keen to address safety issues relating to recycling or re-use of materials associated with a risk of hazardous substances being released. The "safety by design" approach, i.e. the incorporation of protective measures directly into machines and products, is likely to be beneficial here.

The BMAS also points out that recycling and recovery of raw materials for the climate-friendly technologies required for the EU Green Deal<sup>4</sup> often takes place in developing and emerging economies. It therefore identifies the formulation and dissemination of joint relevant standards and the establishment of international rules for the observance of labour and social standards in supply chains as important areas of action. Demand is growing for integrated solutions across occupational, product and environmental safety that break the silo mentality. In particular, the BMAS views the digital transformation and establishment of the circular economy that is being driven forward by the EU as an opportunity to implement cross-disciplinary approaches of this kind with regard to international production, consumption and recycling regimes.

Adoption of structural and technical measures for summer heat protection is also a priority, emphasizes Stefan Bauer, expert on climate change and occupational



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safety and health at the BAuA. These measures include provision of exterior shades and blinds, energy-efficient and regenerative cooling technologies, and suitable urban planning measures such as the greening of exterior walls and open spaces to reduce indoor thermal loads. The German Ordinance on work places (ArbStättV), with its requirement for indoor temperatures to be conducive to good health, must be developed further into a broader requirement for a healthy indoor climate. In some cases, DIN is working on relevant standards, for example concerning the thermal insulation of buildings, and harmonized measurement and assessment methods; climate change has, however, yet to become a comprehensive integral part of standards. The pooling of experience across sectors must therefore be promoted, says Bauer, in order to contribute to climate-resistant standards throughout Europe.

DIN emphasizes that transition to a climate-neutral industrialized country requires a far-reaching green transformation in all areas of the economy and society<sup>5</sup>. This now includes new technical rules, and review and adaptation of existing documents. The reason is that standards engender confidence in new climate-friendly technologies during creation of a green and sustainable economy. They support development of new markets, and increase investment security for companies and the state. Finally, they define a common language and methods for creation of comparability, and enable the progress made in the struggle against climate change to be measured. DIN is working closely here with other relevant national institutes and the European and international organizations CEN and ISO.

The European Commission is also pressing forward. In February 2022, it presented a new standardization strategy for exertion of greater influence on global development. With this strategy, the Commission seeks to ensure that standards support the digital and green transition. The climate protection legislation linked to the Green Deal requires net greenhouse gas emissions in the EU to be reduced to zero by 2050. Overall, the Member States should then emit no more pollutants than they offset, for example by reforestation or CO<sub>2</sub> storage. KLUG and the CPHP leave no doubt that there is no alternative to implementation of these ambitious targets. Germany's Occupational Health and Safety Act (ArbSchG) also states that hazards are to be combated at source. It therefore follows, in their view, that climate protection measures for limiting global warming constitute an important prevention measure in occupational safety and health.

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<sup>1</sup> [www.arbeit-sicher-und-gesund.de/fileadmin/PDFs/klug-gutachten-klimawandel-und-gesundheit-auswirkungen-auf-die-arbeitswelt\\_stand-feb-2023.pdf](http://www.arbeit-sicher-und-gesund.de/fileadmin/PDFs/klug-gutachten-klimawandel-und-gesundheit-auswirkungen-auf-die-arbeitswelt_stand-feb-2023.pdf)

<sup>2</sup> [www.denkfabrik-bmas.de/fileadmin/user\\_upload/Auswirkungen\\_Klimawandel\\_auf\\_Technologie\\_und\\_Arbeitssicherheit.pdf](http://www.denkfabrik-bmas.de/fileadmin/user_upload/Auswirkungen_Klimawandel_auf_Technologie_und_Arbeitssicherheit.pdf)

<sup>3</sup> [www.baua.de/EN/Service/Publications/Report/Gd108.html](http://www.baua.de/EN/Service/Publications/Report/Gd108.html)

<sup>4</sup> <https://ec.europa.eu/docsroom/documents/48598>

<sup>5</sup> [www.din.de/en/innovation-and-research/climate-change](http://www.din.de/en/innovation-and-research/climate-change)

# Three questions for: Axel Gutmiedl, Head of environmental management at the THW

Axel Gutmiedl, Head of environmental management at the German Federal Agency for Technical Relief (THW), talks about how the THW is dealing with the challenges of climate change, both technically and organizationally.

## What does climate change mean for work at the THW?

Climate change is making extreme weather events considerably more likely. Germany is also affected, resulting in rising numbers of THW deployments. Should the trend continue and greater efforts not be made to reverse the human contribution to climate change, floods that previously occurred on average once every 100 years must now be anticipated two, three or four times in the same period. As we witnessed in the Ahr Valley, providing help on the ground calls for enormous resources and capacity. Increasingly often, volunteer emergency crews must provide technical assistance in difficult weather conditions. The burden on personnel rises, and at the same time the willingness to volunteer is reduced. Disasters that occur gradually, such as droughts, also have an impact on the availability of resources. If shipping is suspended due to low water levels, for example, we have difficulties replenishing supplies for our technical equipment after multiple deployments.

I should point out that working in conditions of extreme heat or heavy rain or on cold winter days is nothing new for us. We're already suitably equipped for such conditions. But the effects also take other forms, for example of a social nature. One specific example is the huge increase in the hours for which we're deployed. We're extremely grateful to the regular employers of our emergency personnel for releasing them for service with the THW; this aspect is also governed by the dedicated THW legislation. At the same time, it is of course burdensome for many employers.

The higher number of deployments also result in much higher levels of material wear and tear, and in turn in considerably greater inspection and maintenance overhead for our equip-

ment. This, too, ties up resources, because work following a deployment is also performed by volunteers. Again, these personnel are absent from their regular jobs, or devote their weekends to the THW, to the detriment of family life. The same applies to rest periods: following a major deployment, volunteers return home late, and of course must first observe the rest period.

## Smart personal protective equipment is increasingly being made the subject of standardization. Is the THW already using smart PPE?

In the future, we certainly will. A THW project group has been working on the form multifunctional overalls should take in the future. We're currently at the procurement stage; care has of course been taken to ensure that the overalls can withstand extreme weather conditions. We've also carried out various long-term tests and tests in simulated deployment environments at the THW. The new overalls have the advantage of being a modular system, and we'll be able to integrate smart functions into them in the future, such as sensors for measuring vital data or ambient conditions. At the same time, we need to consider carefully what is actually needed for the assurance of occupational safety and health; the scenarios in which certain equipment is beneficial; and what we can happily manage without, at least for the time being.

## What role do standards play in the procurement of machinery, equipment or PPE?

What I do know is that when we procure our multifunctional overalls, for example, the temperature ranges that are tested often exceed the requirements in standards. Many manufacturers know that our deployments take place under conditions that are not always comparable with those of other workplaces. They also therefore



© THW  
Axel Gutmiedl

test at conditions over and above those set out in the standards. In some cases, we also define requirements of our own in the invitations to tender, in order to emphasize certain characteristics or to be prepared for specific situations. The market then aims to respond to these requirements and meet them. In some cases, this also goes beyond the requirements in standards.

Most THW deployments are relatively brief. If I work outdoors for two or three hours, the chance of my equipment overheating is relatively low. But some deployments, like as those in the Ahr valley or during forest fires in the Harz mountains, keep us tied up for several days, possibly in extreme weather conditions. In these cases, we take various protective measures, such as setting up staging areas with mobile air filters with a cooling function, or heaters.



You can listen to the full interview in episode 13 of the KANPodcast (in German):

[www.kan.de/podcast](http://www.kan.de/podcast)

# Management standards in the ascendency: a process to be managed.

From a historical perspective, the success of standards is based on the traditional technical standardization of physical objects. In today's world, however, to reduce standardization to this sphere is to neglect a considerable proportion of standardization activity. Abstract topics such as organizational processes, services and quality assurance are already dominating the agenda of many (and more recently convened) standards committees.

“Management standards” immediately brings the major and familiar management system standards to mind: ISO 9001 for quality management, ISO 14001 for environmental management and ISO 50001 for energy management. Their harmonized structure (HS) enables all these standards to be integrated into a single management system.

## Occupational safety and health management

Occupational safety and health also has a standard of this kind: ISO 45001, Occupational health and safety management systems – Requirements with guidance for use. This standard was adopted in Germany in 2018 as DIN ISO 45001. It is currently in the process of being adopted at European level, despite the scepticism of other EU Member States. In particular, Member States that ensure a high standard of occupational safety and health through national rules see no need for technical support in the form of standards and private certifications.

ISO 45001 is flanked by a number of further documents issued by ISO/TC 283, the committee responsible. These address topics such as mental health at the workplace and safe working during the COVID-19 pandemic. These standards have not been adopted in the German body of standards. A standard is also being developed that can serve as a guide to assessing the performance of the occupational safety and health management system. It is expected to be published in 2024 in the form of ISO 45004.

## Risk management

Despite what might be inferred from their name, the risk management standards developed by the ISO/

TC 262 committee do not constitute management system standards within the HS. ISO 31030, Travel risk management, is among the standards of interest from an occupational safety and health perspective, as it defines measures for domestic and foreign travel by employees. This standard is being adopted as a DIN standard. To ensure that employees in Germany are covered by the statutory accident insurance when travelling, it is important that the provisions of the German Social Accident Insurance be observed and that users do not rely solely on the standard. The preface to the standard will include information to this effect.

## Road safety management

The work of ISO/TC 241, Road traffic safety management systems, addresses a similar topic. The standards developed by this committee are intended to support organizations in improving road safety. They are aimed in the first instance at organizations whose activity is performed primarily on public roads, such as delivery services, passenger transport and logistics. Delivery services in particular have gained greater relevance through platform work (e.g. Uber, Lieferando, Wolt, etc.). The ISO/AWI 39004 project currently in progress addresses the safety of these services' workers in road traffic. This will give rise to overlap and conflict with the German body of safety and health regulations. There are no plans for the standard to be adopted in the German body of standards.

## Personnel management

The harmonized structure is also missing from standards in the sphere of personnel management. The relevant committee in this case, ISO/TC 260, is currently responsible for almost 30 standards and technical specifica-

tions. With regard to occupational safety and health, ISO/TS 24179, which defines occupational safety and health metrics, is a notable example. Like the ISO 45004 project, this standard has the purpose of evaluating the performance of OSH measures in companies, but in this case based on predefined metrics. The metrics are intended to permit comparison between companies around the world, and also between timeframes. This, however, presents difficulties, as divergence in definitions between one country and the next prevent the accident statistics from being compared, give rise to statistical distortions, and create false incentives, for example to withhold information on reportable workplace accidents.

## Vigilance is required

ISO/TC 283 is the main forum for management standardization of relevance to occupational safety and health. OSH is, however, often affected by other management standards. Problems arise owing to conflicts between these standards and the German body of OSH regulations or basic OSH principles. Management standards must therefore be monitored rigorously, to ensure that key developments are not overlooked and that timely intervention is possible.

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# Criticism of standards for gloves and clothing providing protection against pesticides

Requirements, set out in standards, concerning gloves and clothing for protection against pesticides are less stringent than those for chemical-resistant gloves and clothing. INRS, the French occupational safety and health institute, has examined the differences more closely and expressed its concerns regarding the EN ISO 27065<sup>1</sup> and ISO 18889<sup>2</sup> standards and the test methods required by them.

To fulfil their protective function, chemical-resistant gloves and clothing must form a physical barrier through which hazardous chemicals are unable to pass and reach the skin. To evaluate the effectiveness of this barrier, a range of harmonized European standards have been adopted over the last thirty years. They define types of chemical-resistant gloves and clothing, and the test methods and performance criteria to be met in the tests. Resistance to chemicals takes two forms: resistance to the passage of chemicals through pores, material defects and seams (penetration resistance), and resistance to the molecular diffusion of chemicals through the material (permeation resistance).

Besides these two mechanisms, contact with chemicals may also give rise to degradation processes. These can impair the mechanical strength of the material, favour the permeation of chemicals or even cause the material to break down.

### Test methods

In accordance with EN 374-2 and EN ISO 17491 Parts 3 and 4, standardized test liquids are used to assess the resistance of gloves and protective clothing to liquid chemicals. The test methods include visual testing for the passage of air (for gloves) or liquid (water in the case of gloves, standardized test liquid for clothing). EN ISO 6530 contains a special procedure for penetration testing on clothing that is not liquid-tight. This type of clothing is used where a risk exists only of small quantities of non-hazardous liquids being sprayed.

Resistance to permeation by a liquid at the molecular level is assessed in accordance with EN 16523-1 and EN ISO 6529 by means of a permeation cell. The cell is divided into two chambers by a sample from the personal protective equipment under test. Once the sample has been placed in contact with the liquid, permeation can be monitored as a function of time.



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Resistance to degradation is more difficult to assess. To date, only one standard for this purpose has been published: EN ISO 374-4, governing gloves for protection against chemicals. However, this standard states by way of introduction that the degradation test described is to be supplemented by other tests to permit more precise assessment of the degradation processes.

#### Level of protection to EN ISO 27065 and ISO 18889 not sufficient

EN ISO 27065 and ISO 18889 set out requirements for gloves and clothing worn by users of pesticides. They refer in turn to further standards describing test methods for chemical resistance that differ significantly from the reference test methods described above for chemical-protective gloves and clothing:

- The penetration of materials that are not leak-tight is evaluated against ISO 22608<sup>3</sup>. The new test method described for this purpose differs from the reference method of EN ISO 6530 in its test arrangement, the procedure followed and the quantity of test liquid used. The quantity of liquid specified by ISO 22608 is lower by a factor of 50 to 100. Such small quantities can lead to high measurement uncertainty. Where items of clothing under test are highly absorbent, the liquid volumes may even be too low for penetration by the test liquid to be detected.
- Resistance to permeation is assessed against EN ISO 19918<sup>4</sup>. The method described in this standard differs from the reference method for chemical-resistant gloves and clothing in its test arrangement, the procedure followed, collection of the liquid and duration of the test (being shorter by a factor of 8 to 32). The penetration kinetics are also not considered. This method is not suitable for permeation testing, as it is unable to determine the maximum duration of resistance to diffusion of the liquid through the sample. In addition, EN ISO 19918 states in Annex E that the measurement uncertainty may be as high as 38%.

Furthermore, it is sufficient for the gloves and clothing to pass the new tests with only a single chemical in order to be certified against ISO 18889 and EN ISO 27065. The chemical in question is not even a pesticide, but merely a product claimed to be similar. In view of the chemical diversity of the pesticides available, this minimum requirement appears to be far from sufficient.

INRS is of the opinion that the path taken with the EN ISO 27065 and ISO 18889 product standards should not be pursued further, and that EN ISO 27065 should at least lose its status as a harmonized European standard. Instead, the existing standards for chemical-protective gloves and clothing should be used as a basis for the specification such products for protection against pesticides, including higher performance levels for certain properties, or additional performance criteria that are tailored more closely to the contact with pesticides. For example, high tear resistance or ergonomic criteria such as breathability are important parameters for the protection of workers in agriculture or similar sectors.

#### Full version of the article on the INRS study (in French):

[www.inrs.fr/dms/inrs/CataloguePapier/HST/TI-NO-36/no36.pdf](http://www.inrs.fr/dms/inrs/CataloguePapier/HST/TI-NO-36/no36.pdf)

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<sup>1</sup> EN ISO 27065, Protective clothing – Performance requirements for protective clothing worn by operators applying pesticides and for re-entry workers

<sup>2</sup> ISO 18889, Protective gloves for pesticide operators and re-entry workers – Performance requirements

<sup>3</sup> ISO 22608, Protective clothing – Protection against liquid chemicals – Measurement of repellency, retention, and penetration of liquid pesticide formulations through protective clothing materials

<sup>4</sup> EN ISO 19918, Protective clothing – Protection against chemicals – Measurement of cumulative permeation of chemicals with low vapour pressure through materials

# KANPraxis: Ergonomics lecture modules – knowledge platform now updated and extended

KAN has updated and extended the German version of its lecture modules on ergonomics. The slide sets are now optimized for accessibility, and a podcast series has been added to the free resources at <https://ergonomie.kan-praxis.de/en>. The English version will be updated in the coming months.

Ergonomics is the scientific discipline describing the interaction between human beings and their working environment, including their work equipment. It encompasses the design of products, product details, workstations and complex work systems, against criteria which are determined by human characteristics and performance conditions. Its objective is to enhance human well-being and the performance of the system as a whole. The human operator should be the yardstick for the product rather than having to adapt to it.

Users appreciate, whether consciously or unconsciously, the benefits of safe, healthy and comfortable design and user-friendly operation. This is evident from everyday products such

as cars, kitchens, mobile phones, tablet PCs, airliner seats or lawnmowers. Usability is also an important criterion for the decisions taken by companies when purchasing work equipment, since a machine that is well adapted to its human operator can reduce the physical stress, resulting in fewer absences from work and shorter processing times. Consequently, it can make the production process more cost-efficient.

Where products are designed for human beings, it is therefore important for ergonomics to be considered from the outset and the content of ergonomics standards implemented during the design process. However, designer training often pays insufficient attention to ergonomics exper-

tise, despite the need for machinery and work equipment to be designed in a way that permits safe and healthy work. Ideally, knowledge of ergonomics and the relevant standards should be a firm part of designers' training and academic study.

### Content of the KANPraxis: Ergonomics lecture modules

As early as 2008, KAN began supporting teaching staff by producing lecture modules on ergonomics. These have now been updated once again. The modules include an overview of ergonomics in general. Their focus lies on machinery and plant construction; much of the content can, however, be applied to other sectors. In particular, they frequently make reference to ergonomics standards.

The KANPraxis: Ergonomics lecture modules can be downloaded in full free of charge at <https://ergonomie.kan-praxis.de/en>.



	The project	Tuition modules	Service	Contact
Basics	Module 0	Beginners		
	Module 1	Introduction to ergonomics		
	Module 2	Technical content	Module 3	Module 4
Specialist knowledge	Module 5	Application example	Module 6	Module 7

Teaching staff can draw on some or all of the eight modules for their courses. The content can also be used in private study. The resource includes descriptions of the modules, over 500 Powerpoint slides with lecturers' notes, bibliographies and exercises. As an additional service for teaching staff, KAN offers examination questions with sample solutions, which are available from KAN on request.

### Update 2023 by the ASER Institute

The slides' accessibility has been improved, and the module structure has been modified to increase the usability further. A particular highlight of the update are the KANPraxis podcast episodes: you can now simply listen to the contents of individual modules (in German). The KANPraxis podcast can be found on the website at <https://ergonomie.kan-praxis.de> and on all major podcast platforms.

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## Vision Zero: with standardization, or instead of it?

With its “Vision Zero”, the International Social Security Association (ISSA) has been promoting healthy and accident-free work for many years, and has formulated guidelines for this purpose in the form of seven “Golden Rules”<sup>1</sup> (see box). Standardization has considerable potential to support these rules, but also has its limits in certain areas.

Golden Rule 5 of Vision Zero relates to a core objective of standardization. With its design specifications, safety requirements and test procedures, standardization plays a role in reducing hazards, organizing systems effectively, designing machines and other work equipment to be safe, and testing them reliably. By making standardized test procedures available, standards can also support Golden Rule 2. Such procedures assist employers in meeting their obligation to identify and assess workplace hazards (such as vibration) in order to take suitable protective measures.

### Limits of Vision Zero and standardization

Golden Rule 4 requires safety and health to be assured by good organization. ISO 45001 addresses aspects such as the responsibility and role model function of senior management, the communication of occupational safety and health measures, and co-determination involving workers’ representation. The standard can therefore contribute to workplace safety and the prevention of occupational accidents and diseases. However, it also touches on aspects of the safety and health of workers at work – aspects that lie outside the scope of standardization and are to be regulated at national level. Since the publication of ISO 45001, the standards committee responsible (ISO TC 283, Occupational Health and Safety Management) has produced a number of other standards. These include ISO 45002 on occupational health and safety management in small and medium-sized enterprises, ISO 45003 on psychological health and safety at work, and standardization projects concerning occupational safety and health indicators. These and other management standards have confirmed the fears of German OSH stakeholders that ISO 45001 was merely the prelude to further standardization activities encroaching upon the safety and health of workers at work.

The European Commission and the standards organizations expressly support service standards. Such standards are intended to facilitate comparison between services, and to ease cross-border trade. Although assuring the safety and health of service providers is rarely their primary purpose, it is considered a criterion for the quality of a service – even when this aspect is governed by other rules and regulations. Contradictions in this area may lead to users satisfying only the standard, and disregarding the binding statutory requirements.

Qualification requirements to be met by service providers and of relevance to safety are also repeatedly addressed in standards, for example those concerning railway track construction, the safe handling of chemical and biological substances by pest controllers, or the work of tattooists. These aspects all concern the safety and health of workers at work, which raises the question: is this really a task for standardization?

Problems also arise when standards are to address new technologies or immature concepts, the full ramifications of which are not yet known. An

example is DIN SPEC 67600, Complementary criteria for lighting design and lighting application with regard to non-visual effects of light. When the DIN SPEC was first published, sufficiently validated scientific findings concerning the non-visual effects of light were not yet available, and detailed planning recommendations could not therefore be issued. In this case, too, the safety and health of workers at work was affected.

Standards are most beneficial to Vision Zero when they focus on defining verifiable requirements concerning safe machinery, work equipment and workplaces. In other areas, OSH stakeholders must recognize that limits must be imposed on standardization where it fails to add value, adopts immature concepts, imposes excessive management or other requirements, or infringes upon the competence of national or international regulators.

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<sup>1</sup> [www.issa.int/sites/default/files/documents/prevention/17\\_024\\_Broschuere\\_Vision\\_Zero\\_web-223106.pdf](http://www.issa.int/sites/default/files/documents/prevention/17_024_Broschuere_Vision_Zero_web-223106.pdf)

## VISION ZERO

### 7 Golden Rules of Vision Zero

1. Take leadership – demonstrate commitment
2. Identify hazards – control risks
3. Define targets – develop programs
4. Ensure a safe and healthy system – be well organized
5. Use safe and healthy machines and equipment
6. Improve qualification – develop competence
7. Invest in people – motivate by participation

## Training of scientific divers

The draft of the EN ISO 8804 series of standards, Requirements for the training of scientific divers, which comprises three parts, reached the public enquiry stage in autumn 2023. However, the training of scientific divers is already governed in Germany by DGUV Rule 101-023 (deployment of research divers), which contains much stricter safety requirements than those of the draft standards.

Two applications by an expert from the BG BAU for membership of the responsible standards committee were rejected in 2022, even though the occupational safety and health lobby was not represented on the committee. Only after several discussions did the committee accept the expert as a guest member, also seconding him to the ISO committee. By this point, however, the standardization work had already reached an advanced stage. As the content of the standards in the series differs substantially from that of the DGUV Rule, the BG BAU's representative asked the KAN Secretariat for support during the public enquiry.

The KAN Secretariat reached and submitted a unanimous vote by the KAN stakeholders. This prevents DIN from voting in favour of the standards at European and international level. Accordingly, DIN abstained from voting on all three parts of the standard at ISO level. Despite this, the series of standards was adopted at international level, and is to be adopted in parallel as a European standard and thus also in the form of a DIN EN ISO standard. The series of standards is expected to be published this year and will include the requirements considered inadequate by the occupational safety and health lobby. The KAN Secretariat is preparing a national foreword drawing attention to the requirement for the regulations of the state and the statutory accident insurance system in Germany, with their stricter provisions, to be observed.

## Third KAN expert discussion of the design of safe treatment tables

Following two fatal accidents on treatment tables, KAN organized two expert discussions between the stakeholders (the accident insurance institutions, the German Federal Institute for Drugs and Medical Devices, the German regional authorities, operators of treatment tables, social partners, standards bodies) in 2019 and 2020. Those attending discussed ways of making treatment tables safer. Numerous activities have been launched, and some hurdles have already been overcome.

On 12 October 2023, the stakeholders met once again for a third expert discussion. In the stakeholders' view, the problems still to be resolved include those of market surveillance, and the retrofitting of existing tables with safety features. For example, what action must an operator take when the manufacturer can no longer be called in? What changes made to the tables by an operator result in the latter being deemed a manufacturer?

The existing national pre-standard is useful for German manufacturers. However, it has no relevance in the European Single Market for medical devices and machinery, and is largely unknown among manufacturers in other countries. For this reason, an explicit call has been issued among European stakeholders, including the CEN Sector Forum/SF OSH, for participation in the planned European standardization project, which is due to begin shortly in CENELEC TC 62, Electrical equipment in medical practice. KAN will continue to campaign for safe treatment tables and support the development of the European standard.

For more information on treatment tables, listen to episode 17 of the KAN podcast: [www.kan.de/podcast](http://www.kan.de/podcast) (in German)

## Eighth EUROSHNET Conference in 2024 in Kraków



The eighth European conference on standardization, testing and certification in the field of occupational safety and health will be hosted by the EUROSHNET occupational safety and health network on **13 and 14 June 2024** in Kraków (Poland). Registration for the conference is open until 29 May. The conference will consider the impact upon occupational safety and health of the EU's new political and regulatory spheres of activity, such as the EU Green Deal, the circular economy, the AI Act, the Cyber Resilience Act and the Machinery Regulation.


Join us at the conference to learn how standardization and certification should respond to these fundamental changes and challenges. Abstracts for the accompanying poster exhibition can be submitted up to 30 April 2024.

For more information, visit [www.euroshnet.eu/conference-2024](http://www.euroshnet.eu/conference-2024)

## Machinery: What changes arise from replacement of the Directive with the new Regulation?

Following publication of the EU Machinery Regulation in June 2023, EUROGIP and ETUI published an annotated comparison of the Machinery Directive 2006/42/EC with the new EU Machinery Regulation 2023/1230. Additions, amendments and deletions are displayed clearly and highlighted in colour.

The annotated comparison is available for download in English, French and German on the EUROGIP website.

[www.eurogip.fr/en](http://www.eurogip.fr/en)  machinery

## Searching for and finding standards on the Internet

KAN has compiled an overview of websites on which you can search for standards, standards committees, standardized terms and other information relating to standardization. The websites cover standardization at international, European and the German national level, and can be accessed free of charge.

[www.kan.de/en/standardization/searching-for-standards](http://www.kan.de/en/standardization/searching-for-standards)

# Events



16.-17.04.24 » Online

Seminar

**CE-Kennzeichnung im Maschinen- und Anlagenbau**

VDI Wissensforum

[www.vdi-wissensforum.de](http://www.vdi-wissensforum.de) CE-Kennzeichnung

16.-18.04.24 » Porto

Forum

**Regional Social Security Forum for Europe**

International Social Security Association (ISSA)

[www.issa.int/events/rssf-europe2024](http://www.issa.int/events/rssf-europe2024)

14.-16.05.24 » Köln/online

Seminar

**EU-Maschinenverordnung (EU) 2023/1230**

MBT

[www.maschinenbautage.eu/seminare/maschinenverordnung](http://www.maschinenbautage.eu/seminare/maschinenverordnung)

05.-06.06.24 » Zürich

Fachmesse

**ArbeitsSicherheit Schweiz 2024**

Arbeitsicherheit Schweiz

[www.arbeits-sicherheit-schweiz.ch](http://www.arbeits-sicherheit-schweiz.ch)

09.-13.06.24 » Dublin

Konferenz

**IOHA 2024: Protecting Workers From Health Hazards: Advancing in This Changing World**

OHSI/BOHS/

[www.bohs.org/events-networking/events/upcoming-events/detail/ioha-2024/](http://www.bohs.org/events-networking/events/upcoming-events/detail/ioha-2024/)

11.-13.06.24 » Pforzheim/online

Fachkonferenz

**CE-Praxistage**

IBF Solutions GmbH

[www.ce-praxistage.com](http://www.ce-praxistage.com)

12.-13.06.24 » Tampere

Konferenz

**Safety of Industrial Automated Systems – SIAS 2024**

Finnish Society of Automation

[www.automaatioseura.fi/sias2024](http://www.automaatioseura.fi/sias2024)

13.-14.06.24 » Krakau

8th EUROSHNET Conference

**World in transition – Europe in adaptation – OSH under pressure**

EUROSHNET

[www.euroshnet.eu/conference-2024](http://www.euroshnet.eu/conference-2024)

17.-18.06.24 » Online

Seminar

**Funktionale elektrische Sicherheit von Maschinen und Anlagen**

MBT

[www.maschinenbautage.eu/seminare/elektrische-sicherheit-von-maschinen-und-anlagen](http://www.maschinenbautage.eu/seminare/elektrische-sicherheit-von-maschinen-und-anlagen)

26.-29.08.24 » Online

Crashkurs

**EU-Maschinenverordnung vs. Maschinenrichtlinie**

VDI Wissensforum

[www.vdi-wissensforum.de](http://www.vdi-wissensforum.de) Maschinenverordnung

22.-25.09.24 » Dresden

12th conference Working on Safety

**Building a resilient future towards sustainable safety in a rapidly changing world**

Working on Safety / DGUV

<https://wos2024.org/home.html>

22.-26.09.24 » Oxford

Conference

**International Society for Respiratory Protection Conference 2024**

ISRP

[www.isrp.com/events/next-international-conference](http://www.isrp.com/events/next-international-conference)

## Ordering

[www.kan.de/en](http://www.kan.de/en) » Publications » KANBrief » KANBrief subscription (free of charge)



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