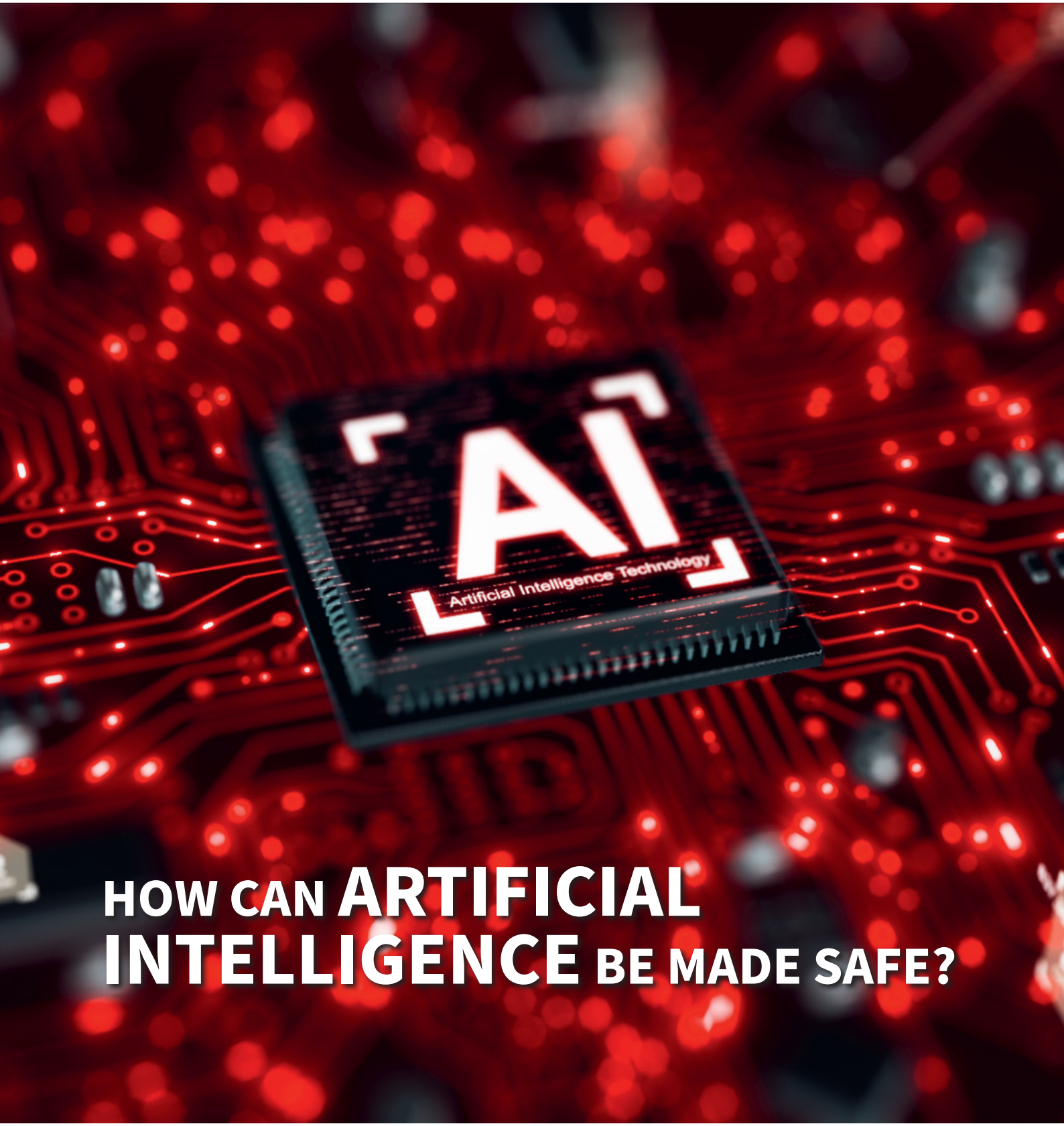
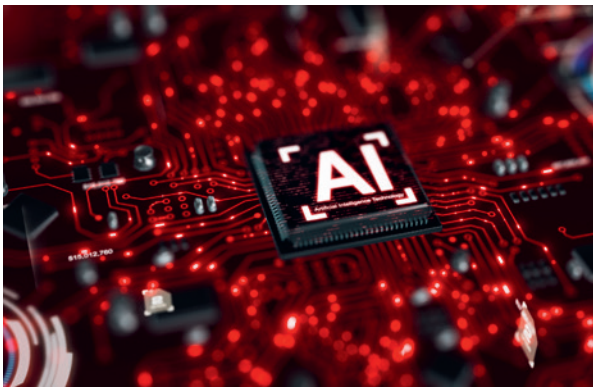
KAN Brief
Kommission Arbeitsschutz und Normung
3/22



HOW CAN ARTIFICIAL INTELLIGENCE BE MADE SAFE?

Content



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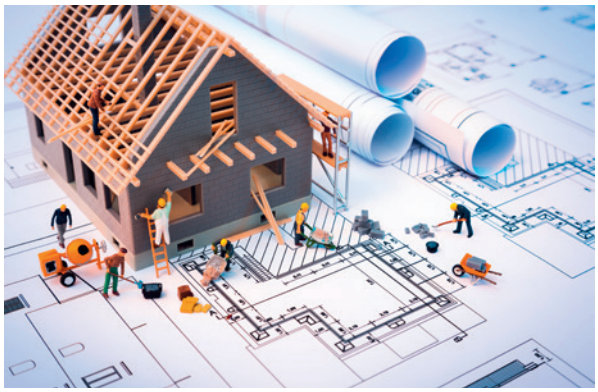
Lead topic



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KAN – Kommission Arbeitsschutz und Normung

Benjamin Pfalz
Chairman of KAN
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Human-technology interaction: the importance of occupational safety and health and standardization

Various forms of human-computer interaction (HCI), human-machine interaction (HMI) and human-robot interaction (HRI) have increasingly been on the agenda for occupational safety and health in recent years, and are now changing in nature owing to algorithmic controls and artificial intelligence.

Besides design issues and evaluation and assessment of the safety of dynamic work equipment, these changes also raise new questions for occupational safety and health. These concern, for example, mental stress, ethical acceptance, and socially and technically suitable forms of implementation in companies. Good standards are the right response to some of these questions. If, for example, the mental dimension – the cognitive workload entailed by the interaction – is to be addressed in the forthcoming Machinery Regulation, and is to have an effect in practice, the corresponding requirement must also be supported in standards.

Digital ergonomics and human models are one means by which the potential offered by the technologies can be exploited proactively to improve occupational safety and health. A possible outcome of such efforts is that hazards are assessed prospectively before workers are actually exposed to them. For this to work, however, standardized methods and interfaces are not sufficient on their own: critical consideration must also be given to the body of anthropometric data and their suitability and use in digital models, and to whether the data are still valid in view of diversified user populations and changing body measurements.

When standardization concentrates on its strengths and delivers a consensus on measurement and test criteria as well as on quality requirements, the result will be beneficial to spheres of digitalized interaction and to occupational safety and health as a whole. **«**

Conflicting values: a challenge in the design of AI systems

The challenges arising during development of systems using artificial intelligence are not only technical in nature. Several economic and social values, which may in some cases conflict with safety requirements, are also a factor. The ETTO principle highlights potential conflicts and shows that these values need to be carefully balanced in order for artificial intelligence to be successfully established and its acceptance by society promoted.

The EU, originally established as an organization for enhancing economic development, has become a political community of 27 member states. It represents the European values of human dignity, freedom, equality, democracy, human rights and the rule of law. It has also assumed a role as one of the most influential international institutions – one that regards assuring safety as a key public interest. The EU Machinery Directive 2006/42/EC has become an influential means for securing the safety of products. Evaluations have shown that the Directive is serving its purpose, but that the rapid development of digital products and AI applications has created a need to complement it with additional measures.

Market stimuli and the public good – a potential conflict?

Attempts to formulate regulations that help boost the economy whilst at the same time safeguarding European values reveal the conflicts and discrepancies between important values. The consultations currently taking place regarding a European AI Regulation, which is to promote AI "made in Europe", are a good example. According to EU documents however, the potential conflicts between commercial, political and social values are often illusory, as the protection of citizens' rights is intended to serve as a competitive asset on the global market. This statement may, however, indicate a propensity to wishful thinking. Where economic interests conflict with the public good and core social values, regulatory measures or reconciliation of the interests of the stakeholders concerned can be beneficial. The use of regulation as a means to negotiate between various interests and important values may engender protests and suspicion. Some manufacturers would prefer recommendations and self-assessment tools to binding regulation and national

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legislation. The public may regard directives as a hindrance to easy access and use of products and services: for a typical Internet user, for example, the most tangible effect of the General Data Protection Regulation may have been to have made surfing the Internet and using different applications more cumbersome.

The emerging technologies are a source of both high hopes, and growing worries. In the current situation, the risk-based approach adopted in the EU to ensure both safety and the protection of its citizens' fundamental rights seems more warranted than ever. Awareness of the risks is a first step, but it must be complemented by ways of negotiating between diverse, possibly conflicting values. This is not an easy task in the world of AI, where the products and services change and develop as they are continuously updated, and where the borderline between products and services is often opaque.

The ETTO principle

The precautionary principle protects against unnecessary hype, but may also facilitate conceptual soundness and application of the reality principle during the design and development of new products and services. Erik Hollnagel, a well-known safety scientist, has developed a simple tool, the ETTO (Efficiency-Thoroughness Trade-Off) principle, for this purpose. The motivator of the ETTO principle is the fact that any human action, whether individual or collective, is curtailed by scarcity. Time, information, materials, tools, energy or labour are rarely available in abundance. However, people usually manage their tasks by adjusting their actions to the prevailing conditions. In doing so, Hollnagel says, they follow the ETTO principle.

Thoroughness requires planning, which by necessity postpones commencement of the task: the time spent on preparations reduces the time allocated to performance of the task itself. Realizing efficiency, for its part, implies minimizing the resources required to achieve an intended objective. Efficient functioning often requires at least some level of systematic planning, as it is impossible to be efficient without first being thorough.

The ETTO principle reveals how the attention given to thoroughness and efficiency in any activity is a trade-off. Investing in thoroughness reduces efficiency, and vice-versa. Concentrating on just one of these values is not an option, as it is not possible to complete any activity without both. The rational outcome of the trade-off depends on the priority assigned to each of the values associated with the task. Although maximum efficiency and thoroughness are mutually exclusive, each can be used to boost the other.

Usability versus safety

The relationship between thoroughness and efficiency resembles the relationship between usability and safety. Both are essential design values; it appears impossible however to maximize both simultaneously, since ensuring safety often makes the product more difficult to use. The dichotomy between thoroughness and efficiency and between safety and usability must be negotiated in consideration of an acceptable risk and a period of time for which a person can maintain their activity. The greater the risks associated with failure and mismanagement, the more important thoroughness and safety become.

The ETTO principle does not provide us with a tool for finding easy solutions to the trade-offs to be made between various design values and fundamental European values. Rather, its usefulness lies in the inherent paradoxes that it reveals. Many features of AI are great assets and at the same time deep vulnerabilities. We face choices, recognizing that pursuing some values often involves jeopardizing others. The planned AI Regulation is intended to support the Machinery Regulation with regard to artificial intelligence. Where AI systems are complex and lack transparency, in particular, legislation and standardization face the challenge of making the right trade-offs.

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Safety in AI systems

Where AI-enabled systems cannot be assessed by conventional methods owing to their high complexity or capacity to develop autonomously, how can their functional and operational safety be verified? Assurance cases are the tool of choice when new, potentially safety-critical technologies are deployed for which the existing real-world experience is not sufficient.

Despite many years of discussion in the context of standardization and regulation, a consensus has still not been reached on what constitutes an "AI system". In the European regulatory sphere, there appears to be widespread agreement that an AI system is a certain type of software. However, it seems somewhat unclear how it should be differentiated from conventional software.

In autonomous and semi-autonomous systems, standardized procedures for assessing safety are increasingly reaching their limits. Even the simplest of safety concepts can become very extensive when complex tasks are automated in complex operational environments. A range of measures, such as management of uncertainties in environment recognition*, interact and form multiple layers of protection ("layers of protection architecture"). The operational environments and the tasks to be automated by these autonomous or semi-autonomous systems may be highly complex. This requires their protection layers to be based on software that under the European regulatory proposal is deemed to be an AI system.

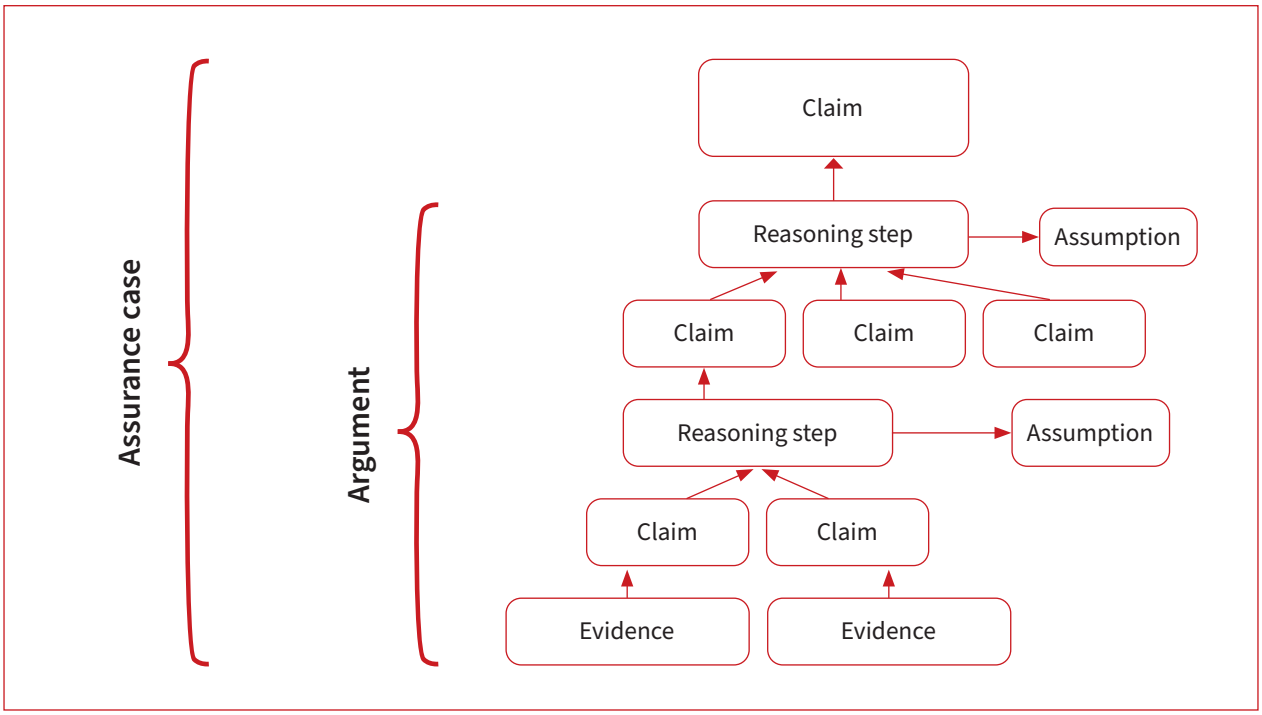
Safety argument employing assurance cases

For safety concepts of such complexity, a safety argument must be formulated that ensures that the overall concept is truly and sustainably valid. The assurance cases defined in ISO/IEC 15026 (Systems and software assurance) would appear to be a suitable approach for this purpose. These assurance cases are generally considered suitable where sufficient experience has not yet been gained with a particular technology in a safety-critical context*.

An assurance case comprises a claim, which is to be substantiated, regarding the desired level of safety, and an associated argument based on a body of supporting evidence.

Logical structure of an assurance case

As shown in the diagram, the argument can be structured hierarchically by the explicit formulation of discrete reasoning steps. Each reasoning step combines a claim to be demonstrated (e.g. that the product is safe) with premises (e.g. that the



Logical structure of an assurance case

electrical hazard is controlled). At the next level, the premises are treated as new claims and are predicated in turn in further reasoning steps on further premises (e.g. that the power cable is not damaged ← insulation is adequate).

Often, the logical predication of a claim on certain premises is valid only on condition that certain assumptions are made, such as that of a particular operational environment (e.g. the user possesses experience, electrical currents are below a certain level, etc.). These assumptions are formulated during development and documented explicitly in the assurance case. Any claim that is not further refined must be supported by evidence such as documentation or the results of verification.

A formulated assurance case offers a number of benefits. It merges, in modular form, all the elements (artefacts) required for the safety argument, and can be integrated into the software of the system as a whole by way of special program modules (digital dependability identities*). It thus enables the fulfilment of key assumptions and claims to be monitored during operation, weaknesses in the assurance case thereby to be detected early, and the assurance case to be continuously improved and adapted to changes in the operational environment*. In particular, however, assurance cases offer a high degree of flexibility in structuring of the argument. This enables specifics of the application under consideration and the technologies used to be addressed.

Routes to practical implementation

Practical tools exist with which this flexibility can be exploited productively. The **AMLAS** method* for example describes generic procedures for structuring a safety argument. However, AMLAS does not define what constitutes "sufficiently safe" for an AI system.

In the **ExamAI** project, a proposal has been developed for a form that test methods for AI systems might take. It is based on two independent lines of argument* The first aims to show that the safety risk has been reduced, as far as is practicable, by selection of the most effective combination of safety measures and their best possible implementation with consideration for the cost-benefit aspect. The second has the purpose of providing quantitative evidence that the attained risk reduction is in fact sufficient.

The current **LOPAAS** research project* combines these approaches with others from the research community. The project partners are also submitting the scientific consensus to standardization activities. These include the VDE-AR-E 2842-61 application rule for autonomous/cognitive systems, the ISO and IEC TR 5469 technical report on AI and functional safety, and BSI's PAS 8800 for safety and artificial intelligence in road vehicles.

Recommendations for action

First, regulation and standardization should develop consistent definitions for the terms "AI system" and "autonomous system." This is essential in order for the gaps in regulation and standardization concerning safety and other legally protected interests to be understood and closed. Second, research into assurance cases, and participation of the researchers in standardization, should be promoted and knowledge concerning assurance cases made available to stakeholders. Third, regulatory requirements should be formulated such as to provide a good starting point for the development and application of standards governing assurance cases. Regulatory requirements should focus on the claims that are essential for safety. These are usually located at the top level of an assurance case. Lower-level requirements, on the other hand, may present problems; depending on the argumentation or use case, they do not necessarily constitute part of a valid safety argument. Regulatory requirements governing such details may unnecessarily constrain the scope for implementation or give rise to unnecessary expense.

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* Links to specialist articles and further information on the topic of assurance cases can be found in the online edition of the article at www.kan.de/en/publikationen/kanbrief/3/22/safety-in-ai-systems

Highly automated agricultural vehicles

The development and use of highly automated machinery is growing owing to the efforts of agricultural machinery manufacturers and users in the most diverse of sectors. The German Social insurance for agriculture, forestry and landscaping (SVLFG) plays an active role from an early stage in the shaping of new technologies, with the aim of influencing them in the interests of occupational safety and health. The key objective of prevention in this context is to protect persons against hazards presented by highly automated machines.

In the future, highly automated guided vehicles will be common in agriculture and throughout the green sector. At present, two essential work environments are distinguished in agriculture: the farmyard and the field.

The farmyard work environment includes, for example, automatic feed systems (AFSs), manure scrapers and feed pushers. The self-driving or automated guided vehicle moves around different parts of the farmyard (livestock shed, silo storage area, yard area). The risk assessment must take account of requirements for use both indoors and outdoors.

The associated technical components such as feed bins, conveyor belts, mixing bins, discharge systems, etc. are often interconnected. Before a highly automated guided vehicle is put into service, a declaration of conformity for the entire installation in the agricultural enterprise must be produced in accordance with the provisions of the Machinery Directive. Without this declaration, the vehicle may not be operated.

For the field work environment, particular consideration must be given in the risk assessment to the higher travel speeds of automated or self-driving agricultural vehicles. For this application environment, tractors are available with highly automated functions, and may or may not feature a driver's seat. Further self-driving machinery without a driver's seat and capable of highly automated guided travel also exists. The range of vehicle types is broad. Studies of the market reveal products ranging from large tractors with over 300 horsepower to minute robots performing highly automated field work.

Environment recognition

Environment recognition is particularly important for any automated or self-driving vehicle. Decisions that were once the preserve of the farmer are now taken by the vehicle manufacturer. Detection of persons, objects and obstacles within the environment of the work to be performed must be ensured:

- in the direction(s) of travel; or
- in all directions.

The combination of tractors and attachments is a major issue. Where an attachment may be fitted to the base vehicle and the attachment significantly exceeds the base vehicle's width or turning radius, it is not sufficient for the manufacturer of the base vehicle to limit environment recognition to the direction of travel. This may result in collisions with persons in the direction of travel. Initiation of travel may also be a source of risks. Before the vehicle starts to move, it must be ensured that no persons are present either in the direction of travel or between the tractor and the attachment. This requires the environment of the base vehicle in combination with the attachment to be monitored, and not merely the environment of the base vehicle alone.

Sensor technology is of key importance in environment recognition. The SVLFG takes the view that certified systems should always be used for the detection of persons. Most modern object recognition systems are not suitable for ensuring that highly automated guided vehicles are operated safely. A distinction must also be drawn between person detection systems for indoor use and systems for the outdoor environment: the latter presents a much greater challenge. Changing light conditions, rain, snow, leaves and dust are among the many factors that the environment recognition system must reliably register and evaluate. This can often be achieved only by a combination of sensors.

Sebastian Dittmar provides further insights into the topic of Farm 4.0: **occupational safety and health in the era of digitalized agriculture,** in Episode 7 of the KAN Podcast: www.kan.de/podcast (in German).

Use in areas not accessible to persons

Automated guided vehicles that are used in safeguarded areas of the enterprise that are not accessible to persons can be compared to automated manufacturing equipment. Measures must be in place to protect persons entering parts of the safeguarded area, for example for the purposes of troubleshooting or maintenance. Under such circumstances, vehicles and other automated parts of an installation must be placed in a safe idle state. Components may then be moved – if at all – only individually and at reduced speed by manual control (maintenance mode). Departure from the maintenance mode must be possible only by means of manual confirmation effected from outside the safeguarded area, and only once it has been vacated by the persons entering it and after the access points have been closed.

Establishing objectives of prevention in standardization work

The SVLFG is involved in the current revision of EN ISO 18497:2018, Agricultural machinery and tractors – Safety of highly automated agricultural machines – Principles for design. The standard is to be restructured and developed further as follows:

- Part 1 is to set out design principles.
- Part 2 is to describe principles for object detection.
- Part 3 is to contain design principles for autonomous operating zones.
- Part 4 is to describe verification and validation methods.

The key aim of prevention is the reliable detection of persons. Protective equipment that deactivates the machine only when it comes into contact with a person (bumpers) is no longer acceptable on its own, especially for machinery with higher travel speeds. In view of the possibilities now offered by artificial intelligence (AI) and state-of-the-art environment recognition, the occupational safety and health sector now regards contact of such a machine with persons as unacceptable.

ISO 3991 governing the safety of robotic feed systems is currently being drafted. Prevention experts from the SVLFG are also involved in this project, in the interests of safety and health in the future.

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Self-driving vehicles working group

The use of automated or self-driving vehicles is also growing in other industries, where they present similar challenges. In the self-driving vehicles working group of the German Social Accident Insurance (DGUV), several individual accident insurance institutions discuss how harmonized safety requirements can be defined and introduced into standardization activity.

In its “Fachbereich AKTUELL” publication concerning automated guided vehicles in commercial areas, the DGUV’s Woodworking and metalworking Expert committee provides guidance on risk assessment and determining the requirements upon commercial areas, vehicles, systems and persons.

https://publikationen.dguv.de/widgets/pdf/download/article/4505 (in German)

Construction products: safety must not be reduced to an optional extra

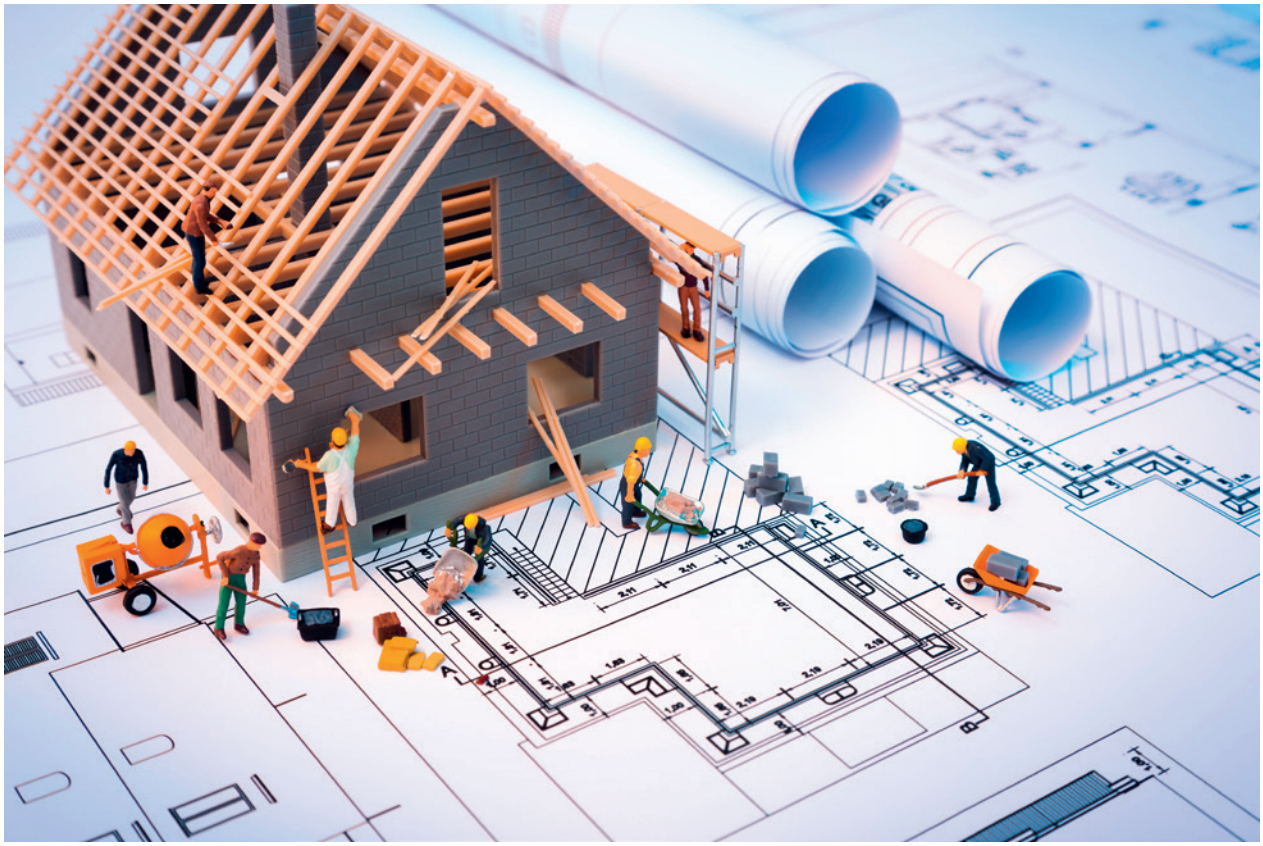
The EU Construction Products Regulation (EU CPR) of 9 March 2011 sets out harmonized conditions for the distribution of construction products in the EU. The Regulation is now to be thoroughly revised and adapted better to the current needs of the market. An important step with respect to occupational safety and health is that the draft now also makes provision for product safety requirements. This brings the Regulation into line with the other European legislative instruments governing the Single Market.

Up to now, the European legal provisions governing the safety of construction products have been very limited. For example, the EU General Product Safety Directive (GPSD) covers only consumer safety, and not the large group of persons working on construction sites. A particular major drawback is that the Directive has not had any influence upon construction products. Manufacturers thus have virtually no guidelines at their disposal on how to design their products to be safe, and must take the initiative and bear the costs themselves. As a result, the safety requirements of the GPSD have often had no effect in practice. A good example is that of skylights, which cause several fatal falling accidents every year in Germany alone. To date, neither general product safety nor the requirements for safety in use set out in the current Construction Products Regulation have assured adequate safety in this area.

Product safety is absolutely essential

Before now, the requirements of the Regulation applied solely to the final structure, and only by extension to the construction product. In the present draft for the revised Regulation[1], product requirements relating to functionality, safety, protection of the environment and sustainability in the context of the circular economy have been added in Annex I B/C/D, together with requirements concerning the information to be provided when a product is placed on the market. By including this extensive catalogue of requirements inherent to products which relate solely to the construction product itself, the European Commission is implementing a clear paradigm shift from previous regulations.

This step is urgently needed, for a number of reasons. With respect to the high level of safety and health required by Article 114 of the Treaty on the Functioning of the EU (TFEU), the existing EU Construction Products Regulation exhibits a



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KAN position paper

KAN has formulated a common position on the draft Construction Products Regulation and will present it during further negotiations at European level. This position particularly addresses the function of delegated acts and calls for product safety requirements to be enshrined in the Regulation in such a way that they can be transposed directly in standardization mandates and standards.

www.kan.de/en/what-we-do/construction-products

major legal deficiency: it makes no provision for safety requirements applicable to the products themselves. This is highly inconsistent, since various provisions in the national legislation of the EU Member States attach great importance to the safeguarding of health. Furthermore, accident rates are particularly high in the construction industry, a problem that is exacerbated by the exclusion of product safety from the legislation.

Comparison with other product areas shows that complex machines and systems, for example, must meet extensive requirements, and that efforts are also being made at present to apply suitable safety requirements to highly complex AI systems. There is therefore no evident justification for the safety of the products themselves not to be addressed by the Construction Products Regulation. On the contrary, there is much to suggest that construction products in particular lend themselves more readily to the addition of the necessary safety features.

The cost factor

The blanket objection to higher costs, raised by some manufacturers' associations, does not withstand closer scrutiny, since additional costs, for the most part probably moderate, are incurred only for construction products for which the need for additional product safety requirements actually arises. A modern approach to the issue of product safety is required.

Conversely, inadequate product safety may itself be a source of considerable costs. Against the background of dwindling human resources, private, trade and industrial users of construction products are dependent more than ever before on their use being safe. Quite apart from the aspect of human suffering, illness and lost working hours impact negatively on companies' profits. The companies using these products therefore welcome regulatory arrangements that enhance safety. The same applies to the accident insurance institutions, which must bear the consequential costs, in some cases considerable, of accidents and diseases caused by unsafe products that would be avoided by the introduction of product safety standards.

Delegated acts alone are not suitable

The view of the occupational safety and health lobby is that consideration of product safety in the draft EU CPR represents a major step forwards from the previous arrangement. However, the technical requirements stated in the Regulation take effect only once the European Commission has adopted delegated acts. These specify requirements for individual product families and categories together with the corresponding test procedures, and form the basis for standardization mandates. To increase the binding force of these requirements, it is crucial that a directly applicable general requirement for product safety (making reference to Annex I) be added to the draft. This would enable standards development to respond swiftly and without the separate coordination process associated with a delegated act.

Furthermore, the occupational safety and health lobby regards delegated acts as an unsuitable legal instrument for determining whether or not product safety should be considered; consequently, where no delegated act is adopted, it follows that product safety requirements are not set out. Based upon the practice followed with other regulations, use of the delegated act is more appropriate for supplementing and adjusting certain requirements.

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[1] https://ec.europa.eu/docsroom/documents/49315

Digital methods in the field of ergonomics

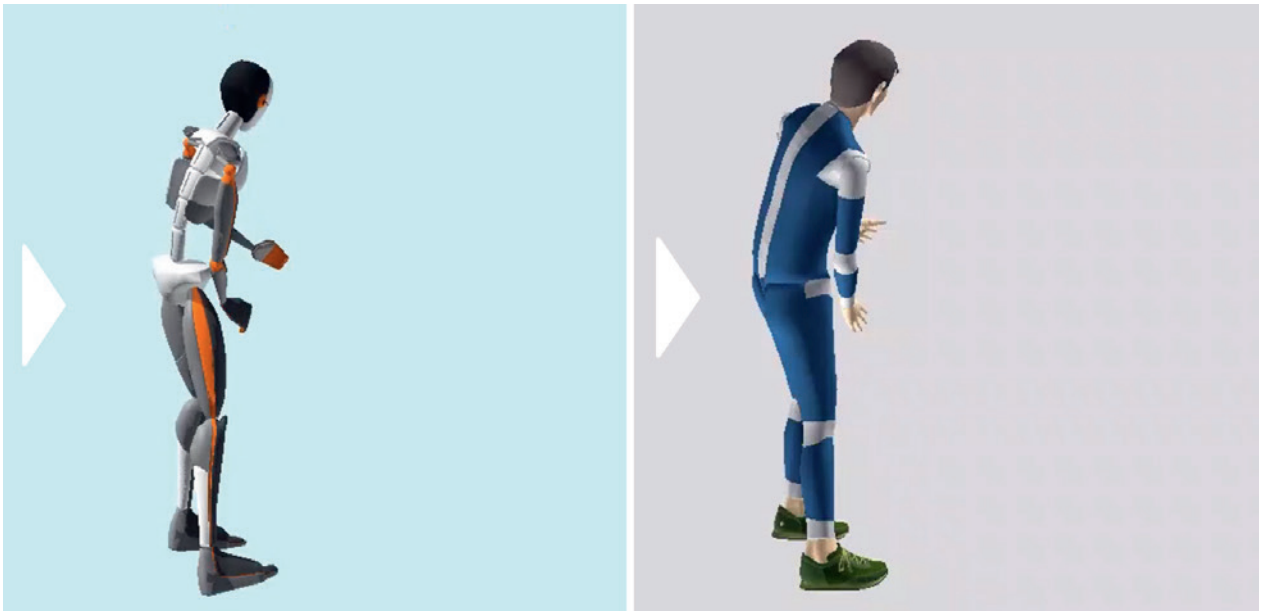
Digital models and methods can be useful for the ergonomic design of products and work processes. They include digital human models and the capture, evaluation and presentation of biomechanical data. Numerous solutions are already available on the market. Standardized, mutually compatible data formats and structures are however still lacking.

Digital human models are software systems or extensions with which users can simulate and study certain anthropometric, biomechanical and physiological properties of human beings in virtual development environments. The focus lies on analysis of ergonomic issues such as visibility (e.g. for construction machinery in accordance with ISO 5006), accessibility and usability (EN ISO 14738) and application of force (DIN 33411, EN 1005-3, ISO 11228) during the operation of machinery. Postures adopted during the performance of work, for example at control stations and in offices and production areas, are also considered.

Standardized ergonomic methods (for example in accordance with DIN 1005-4, OWAS body posture analysis[1] or key indicator methods[2]) are usually implemented in ergonomic digital human models by means of software. They enable health risks to be assessed and, based on the results, prospective or corrective measures to be determined by which a work system can be optimized (for example in accordance with EN ISO 6385).

Application of digital ergonomics methods requires the relevant information on the work activity to be imported into the software. Posture and body movement are particularly relevant here. Although digital human models do generally enable different body dimensions and workflows to be created manually, the process is very time-consuming. Digital motion capture technologies constitute a more efficient approach.

The first capture systems, which were mechanical in nature, now date back several decades. The systems have however evolved significantly over the past decade in their usability and accuracy. Inertial and optical capture technologies are now widely used in industry and research. Inertial systems process the data stream from multiple sensors (accelerometers and gyroscopes). These are fitted to the body and detect acceleration and changes in joint angles. Optical systems employ cameras that detect markers (reference points) applied to the body, or calculate the progress of motion from a series of still images (synchronized RGB or depth image data), without the need for markers.



Transfer of a recording of real-case work activity to a digital skeleton model and 3D model

KAN digital ergonomics project

KAN is currently planning a study for status review and evaluation of the digital human models and capture and assessment methods currently available. This in turn is to serve as the basis for a DIN/TR technical report describing approaches to standardizing interfaces and data formats.

Advantages and disadvantages of the different technologies

Markerless single-camera systems (e.g. Microsoft Kinect) are inexpensive and suitable for mobile use. Conversely, calibrated camera systems employing markers on the person for motion detection (e.g. OptiTrack, Vicon) may attain very high capture accuracies in laboratory environments. Inertial motion capture systems (e.g. XSens MVN) represent a compromise: although based on sensor systems that usually also require calibration, they do not require fixed installation in the room. The accuracy of inertial systems is comparatively high, but decreases with increasing recording duration.

Finally, the wide range of technical options for capture is accompanied by a large number of data formats differing in their structure and content. The content differs for example in the accuracy, number and type of geometric representations of the body segments (position, absolute rotation, relative rotation), the hierarchical structure of the digital skeleton and the resolution on the time axis. Structural differences can be found in the presentation of the data (tables or hierarchies), the readability and the terms of the licence for use. Some formats constitute a de-facto standard (e.g. Biovision Hierarchy/BVH) but are not suitable for universal use, since they are not fully standardized. For this reason, publicly available research results often employ specially defined data formats, in most cases in the form of plain-text tables (CSV, comma-separated values).

Harmonized formats and interfaces are required

ISO/IEC 19774 proposes a standardized data structure for representation of a human figure. It consists of two parts: the architecture and animation of the motion data. Part 1 also specifies different levels of detail, Part 2 the animation of the captured motion. This specification is based on the research field of computer graphics. To date, computer graphics have only rarely been implemented in digital ergonomics, not least because they have not yet adequately been able to model the particular characteristics of ergonomics.

Digital methods can be used for products or workflows – even at the development stage – for estimation of the anticipated strain on human beings and for assessment of the ergonomic quality. Resource-intensive changes to a finished product/during subsequent operation can thus be reduced or avoided altogether. Car manufacturers have already developed dedicated solutions for assessing, at an early stage of development, the ergonomic quality of the passenger compartment with respect to visibility and accessibility. Workplaces, too, can already be planned and assessed digitally. To date, however, only stand-alone solutions for specific applications have been implemented. If they are to meet with widespread adoption, the individual methods must lend themselves to combination. The use of defined data formats to standardize interfaces is both beneficial and necessary.

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[1] Ovako Working Posture Analysing System (OWAS)
[2] Method for evaluating diverse work processes against the four key characteristics of duration/frequency, load weight, posture and conditions of performance

CEN Sector Forum on Occupational Health and Safety: new Chair and secretariat

Angela Janowitz, Director of KAN, has been appointed as the new Chair of the Sector Forum for Occupational Health and Safety (SECT/SF OHS, formerly SABOHS) at CEN. DIN will assume the task of managing the secretariat.

The forum's tasks are to advise the CEN Technical Board on occupational safety and health matters, promote the pooling of information, and provide assistance to technical committees in the preparation of standards relevant to occupational safety and health.

As before, the forum's focus lies on implementing the CEN/SABOHS strategy and further establishing a new early information system for standards projects relevant to occupational safety and health.

Contract signed for the work of the HAS Consultants

The European Commission recently signed the new contract governing the assessment of harmonized standards. The contract was awarded once again to Ernst & Young (EY). The contractor is to manage the work of the Harmonized Standards Consultants (HAS Consultants). HAS Consultants have the task of assessing whether European standards intended for harmonization are consistent with the requirements of the EU directives and regulations that they are to support.

The HAS Consultants are now to resume their work as soon as possible. During the gap between the contract terms from February to August 2022, the technical committees were not able to submit standards for assessment. The resulting backlog of documents is now to be worked through according to a priority list:

1. Documents submitted for final voting
2. Documents submitted before or during the public enquiry
3. All other documents, e.g. documents at the draft stage or at the pre-publication stage and not yet assessed

Further information on the work of the HAS Consultants can be found on the CEN BOSS portal: https://bit.ly/3dQFkdu

Blue Guide updated

On 29 June 2022, the European Commission published its revised Guide to the implementation of EU product rules (the "Blue Guide") in the Official Journal of the EU. The Blue Guide explains how directives and regulations based on the New Approach, now covered by the New Legislative Framework (NLF), are to be implemented. The aim of the guide is to explain the different elements of the New Legislative Framework and market surveillance.

This is the third update to the guide and follows the updates of 2014 and 2016. It addresses the recent changes to the legislation and, in particular, the adoption of a new regulation governing market surveillance. A need also existed for Brexit and the controversial James Elliott judgement to be addressed. The latter has resulted in the harmonization of standards becoming a much more formal process, one which is still being optimized by the European Commission and European standards organizations.

Blue Guide in all official EU languages: https://bit.ly/3IQbeSG

Artificial intelligence: EUROSHNET conference in Paris

If artificial intelligence systems are to be used effectively in the world of work, careful consideration must be given to their impact upon the shaping of work and the safety and health of users. The 7th EUROSHNET conference, to be held on 20 October 2022 in Paris, will look at AI's areas of application, discuss the criteria to be met for its safe use, and provide a perspective on the possible contribution that can be made by standardization, testing and certification. Experts from across Europe will be attending and contributing. Be one of them!

www.euroshnet.eu/conference-2022

KAN at Arbeitsschutz Aktuell

The Arbeitsschutz Aktuell trade fair will be held in Stuttgart from 18 to 20 October 2022. KAN will be represented by a focal point on the DGUV's joint stand, G1.018 in Hall 1, where you can find information on topical issues relating to its work.

"Standardized human beings don't exist – except in standards!" will be the KAN topic in the "Safety and health talks and discussion", which will take place on Tuesday, 18 October 2022 on the DGUV's joint stand.

Tickets to the trade fair are available free of charge at www.messe-ticket.de/hinte/arbeitsschutzaktuell2022/en. To obtain your ticket, select "Redeem voucher code " and enter the code: **AA22-KAN**. We look forward to seeing you there!

Internet

Ergonomic solutions in the construction industry

The BG BAU has created an online portal on which it presents ergonomically sound solutions for a range of work steps in 33 trades. These solutions can be used to reduce high physical workloads. They demonstrate for example how heavy loads can be transported, how activities usually performed kneeling can be performed standing, and how work performed overhead can be made easier. The BG BAU subsidizes the purchase of certain work equipment.

www.bgbau.de/service/angebote/ergonomische-loesungen

Events

06.10.22 » Online

Webinar
Informative Annex ZA/ZZ for Machinery Directive
CEN/CENELEC
www.cencenelec.eu/news-and-events/events/2022/2022-10-06-annex-za-zz-machinery-directive

10.-12.10.22 » Dresden

Seminar
Manipulation an Maschinen und Anlagen: Risiken erkennen, Maßnahmen ergreifen
IAG
https://asp.veda.net/webgate_dguv_prod/ 700089

11.-13.10.2022 » Köln

Konferenz
Maschinenbautage 2022 mit Maschinenrechtstag
MBT Ostermann GmbH
www.maschinenbautage.eu/konferenzen/maschinenbautage-koeln-2021/

12.10.22 » Online

Informationsveranstaltung
Licht am Arbeitsplatz
BauA
www.baua.de/DE/Angebote/Veranstaltungen/Termine/2022/10.12-Licht.html

17.10.22 » Online

Konferenz
Networking event of the G7-OSH institutions – Climate Change meets Occupational Safety and Health
DGUV/BauA
www.dguv.de/g7-osh/home/index-4.jsp

18.-20.10.22 » Stuttgart

Fachmesse
Arbeitsschutz Aktuell
Messe Stuttgart
www.arbeitsschutz-aktuell.de/de/fachmesse-2022

20.10.2022 » Paris

7th EUROSHNET Conference
Artificial intelligence meets safety and health at work
EUROSHNET
www.euroshnet.eu/conference-2022

24.-27.10.2022 » Dresden

Seminar
Mensch und Arbeit: Grundlagen der Ergonomie
IAG
https://asp.veda.net/webgate_dguv_prod 700010

25.10.22 » Sankt Augustin

Vortragsveranstaltung
Gefahrstoffmanagement online – Digitale Praxishilfen für die Gefährdungsbeurteilung
IFA der DGUV
www.dguv.de/ifa/veranstaltungen/gefahrstoffmanagement-online/index.jsp

10.11.2022 » Online

Seminar
Maschinensicherheit und Produkthaftung in Europa, Asien und den USA
DIN Akademie
www.beuth.de Produkthaftung

14.-15.11.22 » Bilbao (E)

Konferenz
Healthy Workplaces Summit 2022
EU-OSHA
https://healthy-workplaces.eu/de/media-centre/events/healthy-workplaces-summit-2022

21.11.22-27.01.23 » Online/ Dresden

Seminar
Normungsarbeit im Arbeitsschutz weiterdenken – Aufbauseminar
IAG/KAN
https://asp.veda.net/webgate_dguv_prod/ 570139

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) with the financial support of the German Federal Ministry of Labour and Social Affairs

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Publikation
published quarterly

ISSN: 2702-4024 (Print) · 2702-4032 (Online)