Prevention Yearbook 2008 – 2009
Acting together – in shaping prevention
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Table of contents

3 Table of contents
4 Vision Zero – guiding principles for prevention
   A foreword by the Chairs of the DGUV Governing Committee
6 Prevention pays off: guiding principles for prevention

8 Prevention for plants
10 Each investment in safety and health pays dividends
   Dagmar Fritz-Kramer, Managing Director of Baufritz-GmbH
12 Corporate Social Responsibility
12 Collection of best-practice examples continues
13 Demographic factors in risk assessment
14 Measuring mental strain at the workplace
15 Prevention made to measure: health protection in SMEs
16 abba: preventing violence in job centres
17 TAQP: an innovative project for airports
18 The systematic integration of occupational safety and health
19 Modern concepts in the German OSH legislation
19 Legal reform of preventive occupational medical care
20 REACH and occupational safety and health
20 Mites and mould in contaminated indoor areas
21 Human biomonitoring in occupational medicine
22 Internet portal for the hazard of container freight
23 Guidance for safe machine controls

24 Prevention for educational establishments
26 Safe and healthy schools
   Henry Tesch, President of the KMK
28 Safe and healthy in children’s day-care facilities
29 The path to good, healthy schools
30 Healthy teachers, healthy schools
31 Violence in schools
32 Schools’ road safety
33 Healthy universities

34 Joint German OSH Strategy
   The Joint German OSH Strategy: becoming stronger, together
   Isabel Rothe, President of the BAuA
38 The Joint German OSH Strategy
42 Specific projects of the Joint German OSH Strategy
44 Prevention work in the regional associations
45 Guiding principles of risk assessment in the Strategy

46 Campaigns and prevention incentives
48 Prevention campaign for the most important 2 m²
49 The adverse effects of wet work
51 The “Fight the Risk” prevention campaign
54 A common objective: healthy employees
55 Incentive schemes promote prevention in plants

56 Training
58 Forward-thinking progress in initial and further training
60 Study of OSH professionals extended to the public sector
61 The “training” quality association
62 Ergonomics tuition modules for designer training
63 Training course: co-ordinator for management systems
64 Preventive training measures are effective
65 Continuing medical education at the BGFA

66 Research
68 Research and prevention are closely linked
   Prof. Dr. Hans-Jörg Bullinger of the Fraunhofer-Gesellschaft
70 Funding and co-ordination of research by the DGUV
71 Quality in prevention, “Research” sub-project
72 The reciprocal effects of prevention services
73 Healthy design of IT-supported workplaces
74 Collaborating robots

75 Research into nanotechnologies
75 Exposure to second-hand tobacco smoke in the catering sector
76 Use of the CUELA measurement system at the workplace
77 Non-invasive examination methods
78 Molecular markers for the early detection of cancer
79 Detecting cancer earlier, treating it effectively

80 International activities
82 International joint activity enhances prevention work
   Hans-Horst Konkolewsky, Secretary General of the ISSA
84 German-Turkish co-operation in OSH
84 ENETOSH
85 New Topic Centre at the European Agency
86 Quality in prevention: testing and certification
87 Work and health in an intercultural context
88 Standardization is not always standardization
89 Baling presses: safety requires a standard
90 EUROSHNET: European dialogue between OSH experts
90 Quality of skin-test solutions: the flour allergy example
91 Technical protection for non-smokers
92 In-situ penetration measurement of protective gloves
93 Interaction of occupational carcinogens and lung cancer

94 The organization
94 The DGUV
95 Contacts in the Prevention Executive Division of the DGUV
100 Legal information
Dear Reader,

We have a dream: a world without occupational accidents, schools accidents and commuting accidents. Does that sound utopian? Perhaps it is. We have made it the target of our work, however great a challenge it may be. We seek to gear all our measures to this objective. For this purpose, we have now drawn up guiding principles in a position paper on prevention issued by the autonomous administration. The guiding principles describe how our “Vision Zero” is to be reached. They were adopted unanimously by the Members’ Meeting of the DGUV in Fulda in November 2008, and have been in force since the following month.

Our guiding principles are intended as a response to the new challenges facing us. These range from the onward march of globalization, through economic restructuring, to aspects of social upheaval such as demographic change. New phenomena call for new concepts to address them. And here, we have a lot to offer. Our expertise and experience in the world of work make us perfectly qualified to deliver safety and health where it is needed: at work, in schools, and in voluntary service.

With the merging in 2007 of the two umbrella associations of the statutory accident insurance system to form the DGUV, we are now involved in prevention activity from childhood onwards, and in the process have become even more effective and efficient.

The position paper is intended to equip us even better and to improve the quality of our daily work further still – and measurably so. The guiding principles, however, are also a reflection of how we see ourselves: as a partner and service provider to commercial companies, public institutions and insured individuals. In this context, we therefore demonstrate that our prevention services not only permit safe and healthy work, but are also intended to contribute to the value-adding activity of companies.

Not least, the new guiding principles illustrate the intent of the autonomous administration to address the interests of the accident insurance system independently – an intent that political administrations had repeatedly challenged in recent years: first with the proposal that the DGUV be transformed into an umbrella association under public law; then with the attempt to place the association under the technical supervision of the Ministry of Labour. We have defended ourselves repeatedly and decisively against these proposals – and for good reason. For decades, the social partners have ensured that the needs faced in the field are reflected in the prevention work of the accident insurance institutions. This work has borne considerable fruit: never before have occupational accidents been as infrequent as they are today. With what justification, then, should this proven system now be placed under state supervision? What added value would have been gained by the state also giving its approval to solutions which have been developed by the very parties concerned? None that we can see. It is more likely to have resulted in the factual reasoning presented by the autonomous administration being displaced by political arguments.

These considerations have ultimately also prevailed in the legislative process, thereby preserving our scope for action in the area of prevention.

The DGUV Governing Committee

Employers’ and employees’ bodies enjoy equal representation with the same number of votes on the autonomous administration committees of all institutions of the German Social Accident Insurance (DGUV). The organs of the association are the Members’ Meeting and the Governing Committee. The Governing Committee elects its own chairs.

For the employees: Marina Schröder (BG for the energy, textiles and electrical sectors) and Lothar Szych (public-sector accident insurer for North Rhine-Westphalia). For the employers: Dr. Hans-Joachim Wolff (BG for the construction sector) and Hans-Gerd von Lennep (public-sector accident insurer for North Rhine-Westphalia).

From left to right: Marina Schröder, Dr. Hans-Joachim Wolff, Lothar Szych, Hans-Gerd von Lennep
Foreword

of prevention. Unfortunately, the same cannot be said for all areas of the reform of the German statutory accident insurance system. We have had to accept major constraints, no more so than in our right to issue OSH regulations ourselves. This has been accompanied by a painful loss in flexibility and effectiveness, since the former arrangements enabled us to adjust regulations continually to economic and technological developments. We therefore maintain our view that this new regulatory arrangement is inappropriate, and will continue to lobby for reasonable authority to implement regulatory instruments and for rules issued by the accident insurance institutions to be binding.

Altogether, however, the developments of recent years confirm both our desire and our duty to promote and disseminate the philosophy of prevention. For this purpose, we work hand-in-hand with many institutions, authorities and other bodies in order to attain even better results in partnership. Through public-information work, particularly campaigns, we heighten awareness for safety and health at the workplace.

As an equal partner of the German national and regional administrations and the accident insurance institutions, we are also active in shaping the “Joint German OSH Strategy”, which has now been enshrined in law by the UVMG (the law on modernization of the accident insurance system). Through the Joint German OSH Strategy, we are now able to make occupational safety and health and in particular the dual system of accident insurance institutions and state supervision even more efficient, effective and systematic.

Our core tasks continue to include training of the necessary skilled personnel, without whom competent action in the field would not be possible. Intensive research of our own assures that our prevention services are always at the cutting edge. And finally, networking with foreign partners also enables us to lobby for intelligent OSH measures at European and international level.

We are convinced that with this philosophy, we are on the right track to creating a safe and healthy world of work. We also count on the support of all who share our “Vision Zero”.

And now, we trust that you will enjoy reading the DGUV’s first Prevention Yearbook. You will find that the guiding principles form a common thread running through it. Examples of our diverse prevention activities can be found in each chapter. They are made tangible by specific examples, since it is our staff who put theory into practice, on a daily basis, and with considerable commitment and success.

Hans-Gerd von Lennep, Marina Schröder, Lothar Szych, Dr. Hans-Joachim Wolff
International competition and demographic change present German society and the country’s economy with major challenges for prevention. The world of work and educational facilities must be managed such that:

- All suitable means are used to prevent occupational, school and commuting accidents, occupational diseases and work-related health hazards (Vision Zero)
- Measures which are humane and conducive to good health equip people to be socially and economically productive, whatever their personal abilities
- Quality and productivity are raised as a result of safety and health at work

The networking of skills assures the quality and efficiency of prevention. By the uniting of the prevention and insurance functions and by acting through the autonomous administration, companies and insured individuals, the statutory accident insurance system promotes safety and health at work, in educational institutions and in voluntary activity. All under one roof.

What contribution do the accident insurance institutions have to make?

As the statutory accident insurance institutions, we set ourselves guiding principles for prevention. We combine these guiding principles with targets. We will report at regular intervals on the progress that has been made.

### 1. We act as consultants and service providers in partnership with companies, educational establishments, insured individuals and voluntary workers.

We therefore promote the consultancy skills of our staff through tailored qualification measures. We create intelligent technical and organizational solutions by which our consulting provision for the target groups referred to can be optimized.

### 2. Using all suitable means, we support and assess safety and health in plants and educational establishments, and monitor the results of in-plant prevention activity.

We therefore provide targeted support for the performance and documentation of risk assessment by the plants as a core element of prevention. We contribute to continual improvements in the quality of the conducted risk assessments and their level of implementation.

### 3. Through prevention measures, beginning in children’s day-care facilities and schools, we assure the safety and health of insured individuals. At the same time, we promote the raising of awareness among children, teenagers and young adults for safety and health.

We therefore promote models such as the “good and healthy school”, and continuously develop them. We train teaching and care staff in safety and health.

### 4. Safety and health should be integrated into training in vocational and technical colleges and all forms of higher education.

We shall therefore step up our dialogue with the Conference of the Ministers of Education and Cultural Affairs, with a view to making safety and health a permanent feature of the curricula. We support teaching staff in integrating safety and health into tuition. In vocational and technical colleges, we shall continue the “Youth experience” campaign.

### 5. Within the Joint German OSH Strategy, the statutory accident insurance institutions work side-by-side and on an equal footing with the German national and regional governments, and co-operate with the other social security institutions and all bodies responsible for schools and the world of work.

We shall therefore endeavour to ensure that the targets and issues of the Joint German OSH Strategy reflect the foci of our prevention activity.
6. Through the comprehensive involvement of employers and employees in the autonomous administration, we guarantee the sector-specific relevance and geographical proximity to companies, staff, and all other insured individuals. We therefore make suitable information resources available to the plants and educational establishments. Beyond these measures, we shall continue our efforts to involve representatives of enterprises/employers, members of works and staff councils, and other lobbies at plant level more closely in the prevention work of the accident insurance institutions.

7. Through our prevention work, we contribute sustainably not only to the retention of employees' health, but also to the process of value creation within enterprises. We therefore continually collect best-practice examples within the “Prevention pays off” scheme, and make them known to businesses. We subject our prevention products to a continual process of quality assurance. In addition, we shall review, consolidate and optimize our provision of further training for target groups in plants.

8. By means of campaigns, public-information work and financial incentives, we promote investments, measures and activity relating to safety and health. We shall therefore continue to promote and develop prevention campaigns, which have proved to be a successful prevention instrument. In addition, we shall extend our system of incentives for prevention.

9. As the largest non-state provider of education and training, we motivate and qualify some 400,000 disseminators each year. In so doing, we ensure that safety and health in education, training and work are in the hands of people with up-to-date subject expertise and methodical and social skills. We shall therefore step up the quality assurance of training measures, in particular by means of the quality association that has been created. Quality assurance in this context encompasses the planning and delivery of training measures and the assurance of transfer to plant practice.

10. Through in-house research, the sponsorship of third-party research, and evaluation and quality assurance, we assure the continual development of all prevention services. We are therefore strengthening the institutes of the DGUV and its members, and shall continue to develop and extend the funding of research. In addition, we are implementing the results of the “Quality in prevention” project.

11. We are engaged in the development of prevention at national, European and international level, particularly in testing, certification and standardization. We shall therefore continue our joint activities with international partners, in order for a standard of occupational safety and health to be developed worldwide which is comparable to that in the EU, and in doing so to contribute to making the world of work more humane, and competition fairer. In this context, we also support the work of the ISSA and are active on its committees, in particular in the prevention sections.

Adopted unanimously by the 2/08 Members’ Meeting of the DGUV in Fulda on 28 November 2008, and in force since 1 December 2008.
Prevention pays off. Safe and healthy at work – enjoying life. Because our consulting services, guidance documents and research are instrumental in the implementation of safety and health in plants.
Prevention for plants

Each investment in safety and health pays dividends
Interview with Dagmar Fritz-Kramer, Managing Director of Baufritz-GmbH & Co. KG

Ms. Fritz-Kramer, your company has a strong commitment to corporate social responsibility. Numerous awards for exemplary business ethics and social behaviour are evidence of this. In what ways does your company differ in this respect from others?

In many ways, we are doubtless not so very different from other medium-sized companies. Our location in a rural area, however, has led us to assume tasks ourselves which would normally fall to the public administration. Our product also gives us daily cause to consider the subjects of sustainability, ecology, and responsibility for the population and for nature. There is no doubt that this has been productive. In addition to our activities at our own location, such as the organization of health days, the sponsoring of sports, development of the local school’s kitchen by our trainee carpenters, etc., the creation and maintenance of our climate-protection forest certainly ties us to the local residents. The climate-protection forest was planted by company staff and customers in an ecological compensation area set aside by the local authority, and is available to it for local recreational and educational purposes. The pilot childcare project, conducted in co-operation with the local preschool childcare centre, is one of the less conventional but nevertheless pragmatic approaches to tackling the poor availability of childcare places in rural areas. Co-operation between public authority and enterprise functions smoothly in this example: the company provides the local authority with childcare places, and the local authority assumes responsibility for day care from preschool age upwards. Childcare is shared flexibly during holidays and illness. The result is a virtually seamless, flexible range of childcare services for the residents of Erkheim and for company staff.

How are activities within the framework of corporate social responsibility organized in your company? Are activities controlled and launched by staff, as well as at management level?

The impetus for the majority of such activities comes from staff. Very creative ideas often arise in response to small problems, via an ideas workshop or simply through conversations facilitated by the policy of an open door to management. For example, a request from a parent of four children who was also building a home and who became unfit for work owing to illness prompted a spontaneous campaign for donations with a raffle at our end-of-year party.

Great importance is attached in your company to the organization of work, motivation and the health of your employees. In your view, what activities have proved particularly successful, and which are you particularly proud of?

Our company’s highly flexible working hours arrangement, which is built upon the loyalty of our staff, is particularly worth mentioning. The number of weekly hours is defined, but can be divided up flexibly between employees. Each member of staff has a duty to find a colleague to replace him or her should they be absent. Where work can be performed from home, we offer home office workplaces. Should overtime be needed, the employee can take time off in lieu for the hours worked as soon as their colleagues are in agreement with their absence and are able to take up the additional workload. It goes

Dagmar Fritz-Kramer, born in Allgäu in 1971, has been the Commercial Manager of Baufritz GmbH & Co. KG, a timber construction company with approximately 250 employees, since June 2004.

The company, which has won many awards, was declared in 2008 by Ursula von der Leyen, Germany’s Minister for Family Affairs, to be Germany’s most family-friendly medium-sized company. In the same year, Dagmar Fritz-Kramer won the “Prix Veuve Clicquot” as 2008 woman entrepreneur of the year. The prize, created in 1972 in honour of Madame Clicquot, is awarded to businesswomen worldwide for their entrepreneurial flair and outstanding achievements.
without saying that we offer semi-retirement arrangements for older employees; we try, however, to keep employees on the payroll for as long as possible. It is important that suitable workplaces are offered to them; we therefore try to find other ways of exploiting the experience of these employees.

I am proud of our integrated children’s day-care centre. We even have a modest internal “baby boom”. Our seminar for non-smokers has also been a great success. Many seasoned smokers have given up smoking permanently. In addition, our ideas factory promotes and rewards the creative potential of our employees. Each idea is assessed according to a points system by a jury made up of members from various parts of the company, and is rewarded with a prize in kind. Points can also be saved and added together for a prize of higher value. For our 111th anniversary last year, we were able to create an ideas park with 111 implemented ideas using these staff suggestions—a great success for our staff, who won the award for creativity of the Fachschriften-Verlag publishing house in Stuttgart.

The fastest possible re-integration of our young mothers is a subject particularly close to my own heart, however. With a female contingent of 33 % and an average age of 35 years, it is important that we do not lose the expertise of these women during the period of parental leave. We therefore also offer staff the option of returning to work for only one or two half-days each week in order to keep the parental leave period as short as possible. I think that it is important that contact to the company is not lost, and for people who are looking after children to remain up to date.

Are there areas where the statutory accident insurance system could support your company even more effectively?

I think that in the area of prevention, there are a number of improvements that could still be made. Besides various safety training courses, other training courses and workshops with the active participation of the staff would be desirable, for example in the area of work-life balance or stress management. A few good tips would be helpful in order to enable staff to cope with the dual pressures which many of them face. Driver safety is another safety topic which in my view still enjoys too little attention. Both the very young employees and their older colleagues would benefit from opportunities in this area.

What advice would you like to give other companies who are seeking to make greater efforts in corporate social responsibility?

In my view, any investment in the health, safety and well-being of employees pays dividends. Even where such effects are difficult to quantify financially, our guests and customers all sense the esteem in which the company management holds its employees. This factor is of untold value.
Corporate Social Responsibility

Corporate social responsibility (CSR) refers to the behaviour of companies who consider the social interests of society and the importance of the environment in a considerate and sustained manner in their entrepreneurial market activities. This behaviour is based upon principles which, although set out by the companies themselves and observed voluntarily, go beyond the statutory obligations of the national and international body of regulations.

As a result of the globalization of economic processes, CSR is growing in importance, since consumers in the industrial nations are interested in environment- and resource-friendly production methods and exert pressure upon companies with sites in developing countries to consider social aspects. Governments worldwide have therefore committed to support companies in such efforts by “the full development and effective implementation of intergovernmental agreements and measures, international initiatives and public-private partnerships and appropriate national regulations”.

The International Standards Organization (ISO) has recognized the need for this process to be supported by the development of a guidance document. The guidance document, currently at the draft stage in the form of ISO 26000, “Guidance on Social Responsibility”, defines the term “social responsibility” (SR) and applies the principles of socially responsible action to organizations of all forms. The central themes are thus to be reflected not only in economic processes, but also in politics and society as a whole. ISO 26000 includes the observance of human rights, fair working and employment conditions, considerate use of environmental resources, fair competition on global markets, and the observance of consumer rights among the basic principles of social action.

The DGUV is represented with a seat and a vote on the German DIN mirror committee. It observes and comments on the ISO drafts with particular consideration for the interests of small and medium-sized enterprises, the prevailing corporate form in Europe. Globally active enterprises will have to find a balance between SR principles and standards which have already been implemented in binding form by industry in Germany and the rest of Europe through legislation. Companies’ SR commitment must not be allowed to result in this guidance standard opening the door to new certification procedures.

Further information: www.dguv.de (Webcode d56972)

Collection of best-practice prevention examples continues

Why bother with prevention? Is the personnel and financial expenditure for businesses worthwhile?

For several years, best-practice examples from the industrial BGs and their member companies have been published under the heading “Prevention pays off”. A result of the “Quality in prevention” project is that this collection of examples is now being extended to the public sector.

For this purpose, the BGAG Institute Work and Health has produced a catalogue of criteria for the evaluation of prevention examples. The catalogue has already been confirmed by the conference of prevention managers.

Accordingly, even greater attention is to be paid in the examples to their capacity for innovation and implementation in practice.

The selected examples must demonstrate their positive effect. This means that:

- A comprehensive, forward-thinking approach to problem-solving must be apparent.
- As many in-plant aspects and implications as possible must be considered.
- The example must take account of the wider concept of prevention within occupational safety and health.
- The effect of the example must be measurable or assessable, for example by commercial performance figures or a before-and-after comparison of other parameters.
- The aim of the measure is to convince businesses and public facilities that investments in safety and the protection of health are worthwhile. Improved working conditions and an esteem for employees’ efforts enhance their motivation and reduce absences from work, with a corresponding improvement in business performance. The relationship between occupational safety and health and the economic efficiency of a company thus becomes discernible.

The best-practice examples will be published regularly on the Internet and in the association periodical “DGUV-Forum”.

Further information: www.dguv.de (Webcode d33167)
Demographic factors in risk assessment

As they age, almost all people experience typical changes, but at different points in time and with different manifestations. In particular, physical strength and the sharpness of the senses deteriorate with increasing age.

In many cases, these processes of change can be compensated for by experience, decisiveness or social skills. Where the focus lies upon physical stress and workplace hazards or the handling of work equipment, however, social skills are less of an issue. In this case, employees are confronted more with the deterioration in physical performance associated with ageing.

A project conducted by the BGAG Institute Work and Health was able to demonstrate that many of the needs of older employees are already covered by an inherently favourable ergonomic design of the workplace. This includes, for example, the facility for adjusting the workplace to different heights of user; consideration for the range of the worker’s reach and vision; easy legibility of instructions; the avoidance of heavy loads; and adequate lighting.

Further measures may also ease the work of older employees, such as:

- Older persons require more light than their younger counterparts. A second lamp can for example be installed at the workplace by means of which the illumination of the working area can be increased.
- Older persons hear sounds at higher frequencies less well than younger people: acoustic signals, particularly warning signals, should be clearly distinguishable from each other, and frequencies should be selected for them which older persons are also able to register without difficulty.
- Older persons are no longer able to lift the loads they could when younger; for heavy loads, additional lifting aids can be provided which can be used when required.

Such “lifting aids” demonstrate clearly that the additional measures taken for older people form part of good ergonomic design which also benefits younger employees. In the course of demographic change, the more demanding tasks cannot simply be transferred to younger workers in order to ease the burden on their older colleagues, since good prevention means retaining the health and performance of all.

In conclusion, good ergonomic design of workplaces means prevention for all generations, and renders special “workplaces for older employees” superfluous.

Further information: www.dguv.de/bgag (Webcode e95049)

Older employees have the benefit of considerable experience, and often have a more laid-back approach to problems. Younger employees are familiar with innovative technologies and are comfortable with new media. I am convinced that we need both. I enjoy working in teams with colleagues of a range of ages.

Dr. Hanna Zieschang, BGAG – Institute Work and Health of the German Social Accident Insurance (DGUV)
As defined in ISO 10075-1, mental stress encompasses all assessable influences “impinging on a human being from external sources and affecting it mentally”. Mental stress gives rise to “mental strain”. This is the “immediate affect of mental stress within the individual depending upon his/her individual habitual and actual preconditions, including individual coping styles”. Impairing mental stress is mental stress leading to adverse mental strain.

The BGAG Institute Work and Health conducts training, research and consultancy on the subject of mental stress. The focus lies upon the subjective and objective measurement of strain. Objective measurements particularly study the psychophysiological strain.

Strain can be recorded by physiological means, for example by parameters of the cardiovascular system. Heart rate and heart-rate variability are employed as parameters for the description of strain. The heart-rate variability reflects the ability of a healthy organism to adjust to changing conditions within and outside the body. In contrast to the heart rate, this value drops under stress, and rises during physical and/or mental rest phases. It therefore indirectly provides information on the flexibility of the organism to respond to situations of differing stress.

An example of the measurement of psychophysiological values is the multitasking exercise developed at the BGAG. Multitasking affects both the work context and the private life of employees. Within a project conducted in 2008, the BGAG designed a task involving a computer-simulated car journey which demonstrates the difficulty of performing tasks in parallel. By the comparison of two journeys, with and without secondary tasks, the human body’s response to the stress can be presented in terms of the measured physiological values. This presentation shows that impairing mental stress leads to both physical changes and a drop in performance. Following successful use at trade fairs and in the field, the multitasking exercise is being used at the BGAG, particularly in seminars on the subject of stress and at health days in plants.

The BGAG’s multitasking exercise demonstrates the difficulty of performing multiple tasks in parallel.

Measuring mental strain at the workplace
Prevention made to measure: health protection in SMEs

Germany is home to around three million small and medium-sized enterprises (SMEs). They form the backbone of the German economy. In contrast to large corporations, SMEs do not generally have in-house OSH experts of their own, and therefore rely upon easily comprehensible guides and practical support in risk assessment.

Against this background, the DGUV’s expert committee responsible for physical effects and work-related health hazards (FA WIRK) focused its attention from the outset upon the development of guidance documents geared specifically to SMEs. The objective of the guidance documents is to tailor complex health topics in terms of language and subject-matter to the needs of SMEs, and to offer them solutions suitable for practical application. The guidance documents have been issued since 2007 under the umbrella of the new DGUV series of publications on the subject of health and fitness in small businesses. To date, the following informative publications have been issued:

- Beurteilung des Raumklimas (BGI 7003) (Evaluation of the indoor climate)
- Klima im Büro – Antworten auf die häufigsten Fragen (BGI 7004) (Climate in the office – answers to the most frequently asked questions)
- Klima in Fahrzeugen – Antworten auf die häufigsten Fragen (BGI 7005) (Climate in vehicles – answers to the most frequently asked questions)
- Tageslicht am Arbeitsplatz – leistungsfordernd und gesund (BGI/GUV-I 7007) (Daylight at the workplace – healthy and a boost to performance)
- Gesunder Rücken – Gesunde Gelenke: Noch Fragen? (BGI 7011) (Healthy back – healthy joints: any more questions?)

A null hypothesis test performed in SMEs in five different sectors prior to publication of the series showed that the editing of the language and subject-matter of health topics specifically for SMEs was accepted by the companies and that a further need existed for comprehensible guides to occupational safety and health. The sales figures, the number of hits on the DGUV’s regulations and rules database and reports from organizations serving medium-sized businesses confirm the unexpectedly positive response to the guidance documents among SMEs.

Against the background of OSH deregulation, custom prevention measures for SMEs are becoming increasingly important. The current developments at European and national level, which place the spotlight increasingly upon SMEs, serve as an encouragement to the statutory accident insurance institutions to continue their activities for SMEs.

Further information: www.dguv.de (Webcode: d69406)
The employees of the “ARGE” job centres created under Germany’s Hartz IV unemployment legislation are subject to considerable occupational stress. This begins with the nature and scale of the demands presented by the new and complex statutory principles associated with Hartz IV. Added to this are structural problems, such as different employers, associated differences in training and qualification, and unclearly defined responsibilities. Emotional aspects are also an issue. The number of threats and assaults by customers or staff at workplaces has also increased internationally (www.osha.europa.eu/publications/factsheets).

Aggression, however, is not limited to physical assault causing injury, wounding or even death, but also includes forms of verbal assault such as threats and insults. The abba project (the German acronym stands for workplace stress and threats in the job centres under Hartz IV) is a model project which is being conducted by five accident insurance institutions who are developing analysis-based practical measures in co-operation with public administrations. Structural and organizational conditions are also being examined and analysed, in addition to the stress arising under routine working conditions and particular hazards presented by assaults and threats. The preliminary survey has been completed in twelve participating ARGEs. Some of the ARGEs have already developed measures and begun their implementation.

The measures range from reorganization of the working processes, the training of personnel in professional communication and customer contact, the improvement of occupational safety, safety advice from the criminal investigation authorities, clarification of legal issues concerning the reporting of crimes, the arrangements for barring persons from entering the premises, and behaviour in extreme situations, up
I am pleased that with the TAQP project, we are able to support the shaping of processes of change within plants, and thus to contribute to integrating occupational safety and health into corporate innovation strategies.

Gerhard Strothotte, Safety and Health Department (SiGe) of the German Social Accident Insurance (DGUV)
The systematic integration of occupational safety and health

The systematic integration of occupational safety and health into plant operations has become an important OSH topic throughout the world. A consensus has arisen that occupational safety and health can be integrated more effectively into all corporate processes, and prevention tasks conducted systematically and sustainably, by means of OSH management systems.

The accident insurance institutions offer their member companies diverse support in this area: they advise companies and make guidance documents available which particularly address the situation in small and medium-sized enterprises. In order to guarantee that a harmonized procedure is followed by the accident insurance institutions, the “Organization of occupational safety and health” expert committee (FA ORG) of the DGUV has drawn up procedural principles for consultancy, appraisal and certification during the implementation of in-plant OSH management systems. The procedural principles were based upon the NLF, the national guidance standard for OSH management systems.

The “OSH management” FA ORG forum was held at the DGUV Academy in Hennef on 28/29 January 2008. It was attended by some 130 delegates, including OSH experts from commercial companies, the social partners, the German federal government, the regional administrations and the accident insurance institutions. The purpose of the forum was to promote a uniform, generally recognized and accepted procedure for the appraisal of OSH management systems, based upon the procedural principles within the area of responsibility of the accident insurance institutions. The pooling of experience gained during the introduction of in-plant OSH management systems with the support of the accident insurance institutions served as a practical basis for this purpose. Plants provided an illustrative demonstration of how OSH management systems had been introduced in enterprises of various sizes. In the examples shown, the requirements of the NLF had been implemented either directly, or indirectly by means of guidance documents provided by the accident insurance systems.

Once an OSH management system has been set up successfully within a plant, it can be appraised if so desired by the company. The successful introduction of an OSH management system is certified by experts from the accident insurance institutions.

Further information: www.dguv.de (Webcode: d69359)
Modern concepts in the German OSH legislation

With accident prevention regulation BGV A2, governing occupational physicians and OSH professionals, the BGs – the institutions for statutory accident insurance and prevention – launched a new concept in 2005 for the safety and occupational medical supervision of small businesses. The concept offers companies with up to 50 employees a choice between “standard” supervision and the alternative form of supervision, and at the same time promotes responsible independent action by the employer with regard to safety and health issues. For this purpose, a newly defined form of “standard” supervision was developed for plants with up to ten employees which no longer makes provision for fixed deployment times. Analogously to the “employer model” of safety supervision introduced in the mid-1990s, the alternative form of supervision has now also been extended to occupational medical supervision.

Only limited experience has been gained with the new supervision concept introduced by way of the BGV A2 for smaller businesses. For this reason, the responsible German government department has asked the affected accident insurance institutions to evaluate the new models of supervision. The concluding evaluation report is to be available in the first quarter of 2010.

During the overall reform of the system of safety and occupational medical supervision, a revision was scheduled for 1 January 2009 of the accident insurance regulation governing occupational physicians and OSH professionals. Its purpose was a follow-up reform of the standard supervision by OSH professionals and occupational physicians for companies with over ten employees (BGV A2/GUV-V A2, Annex 2). This follow-up reform has been postponed for two years. In order to prevent a legal loophole from being created, the BGs and the railway services accident insurer extended the expiry date of Annex 2 of the BGV A2/GUV-V A2 by two years, to 31 December 2010. Against this background, the DGUV Governing Committee and Member’s Meeting have agreed to incorporate the provisions governing the public sector at the pending amendment of Annex 2 of BGV A2 and thus to draft a harmonized accident prevention regulation for BGs and public-sector accident insurers for implementation of the German occupational safety act (ASiG).

Further information: www.dguv.de (Webcode d40257)

Legal reform of preventive occupational medical care

Regulatory simplification, legal security and transparency: these are the objectives of the regulation governing regulatory simplification and enhancement of preventive occupational medical care (ArbMedVV) which has been drawn up by the BMAS, the German Federal Ministry of Labour and Social Affairs. With its resolution passed on 1 October 2004, the German upper house had called for regulatory simplification of the numerous provisions governing preventive occupational medical care. With the ArbMedVV, a coherent body of rules and regulations governing preventive occupational medical care is to be created which encompasses all the grounds for medical check-ups within the scope of the German occupational health and safety act (ArbSchG) and the BGV A2 regulations.

As is already the case in existing German law (the regulations governing hazardous substances and biological agents, GefStoffV and BioStoffV respectively), a distinction is drawn between mandatory check-ups and those offered to employees as a function of the potential risk presented by the reason for the check-up. Optional check-ups in accordance with Section 11 of the ArbSchG are to be supported by subordinate legislation, by which improvements can be initiated in the areas which at present are inadequately covered by preventive occupational medical care (such as the musculoskeletal area).

The regulation governs the area regulated in EU legislation by “health surveillance”. In the first instance, the employees are to be provided individually with information and advice. Regulations and measures which apply to all employees and which contain occupational medical aspects are not affected. These include, in particular, provisions of the German occupational safety act (in conjunction with regulation BGV A2) and provisions for risk assessment and for the instructing of employees under the ArbSchG.

Sadly, the request was not met for driving, guiding and monitoring activities and tasks involving a risk of falls from a height to be covered by this regulation by way of offers of check-ups to employees.

ArbMedVV came into force on 24 December 2008. Conflicting provisions in regulation BGV A4, are therefore no longer in force. The DGUV has begun the task of annulling regulation BGV A4. With regard to voluntary tasks (such as voluntary fire crew personnel), however, the provisions cannot simply be annulled, since they are not covered by the scope of the new regulation. They must be regulated separately by appropriate means, for example by an accident prevention regulation.

The new regulation emphasizes the close cooperation between the new committee for occupational medicine which is to be created at the BMAS and other committees in accordance with Section 18 of the ArbSchG. The DGUV considers cooperation between this committee and the DGUV’s occupational medicine committee to be particularly important in this context.
REACH and occupational safety and health

The entry into force on 1 June 2007 of the EU REACH regulation governing the Registration, Evaluation, Authorisation and Restriction of Chemicals has prompted hopes that it will lead to improvements in the protection of health at work. Of the approximately 100,000 chemicals in use within the European Union, only a few thousand have been studied so well that their potential hazards to health and effective protective measures are known. REACH aims to change this situation. Manufacturers and importers must assume responsibility for the ‘whole life-cycle’ of their substances, from production through to disposal or recycling. They must pass information on possible hazards and risk management on to the users. Many employers hope that as a result, they will be better able to fulfil their statutory responsibility for the safety and health of their employees, which continues to apply without restriction. They must, however, also assume new responsibilities as a result of REACH. This raises numerous questions for a company. Are its operations, in fact, even affected by REACH? If so, does it have new obligations to meet? What is the relationship between the EU REACH regulation and the German occupational health and safety act (ArbSchG)? Can the company shift responsibility onto the chemical supplier?

Chemicals are used in the majority of plants in all sectors, including trade and service businesses. Even prior to REACH, the accident insurance institutions gave close consideration to health protection during tasks involving chemicals, and developed numerous tools, both for plants and in conjunction with them. They are now building upon this expertise, and offer their consultancy services to companies for the implementation of REACH in the context of occupational safety and health. This involves data and knowledge of forms of exposure, of the effectiveness and economic viability of protective measures, of substitute substances, etc. The accident insurance institutions have also gained a good reputation as moderators for sector-wide agreements between manufacturers and users: this is precisely the intensive communication along the usage chain that is called for by REACH. In order to support equality of opportunity in competition and at the same time to promote a level playing-field in terms of OSH, the accident insurance institutions make their expertise freely available to chemical manufacturers and users.

Further information:
www.dguw.de/bgia/reach

Mites and mould in contaminated indoor areas

Damp is an essential cause of mould fungi in indoor areas. Defects in the building fabric such as flood damage, incorrect ventilation or hygiene deficits in indoor areas may cause elevated dampness levels. An elevated level of mould infestation can therefore almost always be detected in buildings that have suffered damp. During tidying-up, demolition and remediation work, dust and spores are raised, resulting in high concentrations of mould in the breathing air, particularly during remediation measures. Under certain conditions, exposed persons with a corresponding disposition may then suffer symptoms of disease.

For this reason, the BGFA is developing methods for the measurement of exposure to mould and mite allergens. These measures permit assessment of the risk to employees who are conducting remediation work on buildings following damage caused by damp. The results are to be incorporated into the BGI 858 guide concerning health hazards caused by biological agents during building remediation work. Partners to the project are the institution for statutory accident insurance for the construction sector (BG BAU), the BGIA, the Dr. Lorenz-Institut für Innenraumdiagnostik, the Institute for Hygiene and Public Health of the University of Bonn, and the Allergo-Protect laboratory for mite research.

To date, tests have been conducted in buildings in which environmental physicians suspected a relationship between the complaints suffered by residents and microbial infestation of the building. Testing involved the taking of material samples and the vacuuming of dust samples from infested interior wall surfaces.

The results indicated mould levels which were in some cases extremely high and considerably above the data found in the literature. In a large proportion of the samples, various species of mite were also detected for the antigens of which the BGFA has developed specific detection methods.

In order for the subject to be examined further, samples were studied from a total of 50 buildings exhibiting damage caused by damp. Since in the vocational sphere, the issue of exposure to mites in particular is not limited to persons conducting building remediation work, but may also affect member companies of the institution for statutory accident insurance and prevention for the energy, textiles and electrical sector (BG ETE), the project has been extended. Mite antigens are now also being quantified in atmospheric dust samples taken at workplaces in the textiles sector, and compared with samples taken from domestic environments. This is to enable occupational and private exposure to be differentiated more clearly.

Further information:
www.bgfa.de (Webcode 530432)
Human biomonitoring in occupational medicine

Human biomonitoring can be used to demonstrate actual occupational exposure to hazardous substances. Unlike the measurement of pollutants in the workplace air, human biomonitoring is able to reveal the quantity of hazardous substances actually absorbed by the body (internal exposure). Human biomonitoring reveals exposures through all three possible intake routes: inhalative, dermal and oral. In addition, it can be used to determine the effectiveness of exposure-reducing measures at the workplace. Human biomonitoring thus constitutes a valuable instrument for individual prevention. In recent years, the BGFA has continually extended the spectrum of the corresponding analytical methods. These methods are employed in various studies conducted by the institute, including the Human Bitumen Study and the joint WELDOX-SALIA project.

In the Human Bitumen Study, the BGFA examines the health risks facing employees who are exposed to bitumen vapours. Bitumen is used in the construction industry and in road building. Employees are particularly exposed to bitumen vapours during the hot laying of mastic asphalt. It remains controversial whether these fumes have chemical irritative and/or genotoxic effects upon the respiratory tract. During the Human Bitumen Study, these effects were examined in consideration of internal exposure levels. To date, some 500 employees on over 70 construction sites in Germany have been examined.

The focus of the joint WELDOX-SALIA project lies upon the comprehensive assessment of occupational (WELDOX) and environmental (SALIA) exposures to carcinogenic metals. In the WELDOX sub-project, some 150 welders were examined in 13 production plants in a range of sectors. By the end of 2009, full exposure and laboratory data are to be available for around 200 welders. SALIA is a longitudinal study involving 400 test subjects who are over 70 years of age. The objective is to evaluate the predictive value of new biomarkers for potential future cases of cancer. The results are to contribute to the definition of health-based and risk-based limit values, and thereby to ensure that appropriate OSH measures are taken in plant practice based upon scientific and quality-assured results.

Results are expected in 2010 for both the Human Bitumen Study and for WELDOX-SALIA.

Further information: www.bgfa.de (Webcode: 510464, 449024)

Air measurements indicate an employee’s theoretical hazardous substance intake. Biomonitoring reveals what the individual has actually absorbed – not only through air but also via the skin, food, or other lifestyle factors. The results can sometimes be surprising.

Dr. Holger M. Koch, BGFA – Research Institute of Occupational Medicine of the German Social Accident Insurance (DGUV)
Globalization of the trade in goods has resulted in freight containers from all over the world finding their way into every last corner of Germany. Germany’s seaports alone handle some 15 million containers each year. Opening and unloading of the containers is associated with a wide range of hazards and health risks. The first of these are injuries caused by loads tipping or falling out of containers. These are followed by acute or chronic poisoning caused by residues of gas treatment agents or industrial chemicals, and allergic reactions caused by mould fungi. Anyone opening or unloading a container is at risk: customs personnel, employees in logistics companies, and the recipients of the goods.

The treatment of containers with gas agents is intended to prevent the decay of sensitive goods such as wood or textiles, or the transmission of pathogens and pests. Even more frequently, toxic industrial chemical fumes from the manufacturing process are encountered in the air within the container, with the result that considerable exposure to toxic substances may arise when the container is opened. Persons affected along the entire delivery chain are often poorly informed of the hazards, with the result that hazardous situations and accidents repeatedly occur. An exacerbating factor is that rescue and emergency services and doctors are also generally insufficiently informed. In order for all parties involved and affected individuals to be provided with better information than in the past on the diverse hazards associated with freight containers, the BGIA has compiled all relevant information and edited it for publication on a website.

The website provides information on the mechanical, biological and chemical
hazards to be considered during the opening and unloading of containers. It lists effective protective measures and provides practical guidance on the safe handling of containers. This includes model procedures, checklists for the commissioning and unloading of containers, and instructions for the performance of a risk assessment and on the use of instruments for the checking of containers.

Further information:
www.dguv.de/bgia/frachtcontainer

Guidance for safe machine controls

All machines placed on the market within the European Economic Area are required to satisfy the health and safety requirements of the Machinery Directive. On complex machines in particular, the safety of operating personnel is dependent upon the reliability of the machine’s control systems. European standards support the essential requirements which are to be met by machinery and control system manufacturers. The most important standard in control technology, EN ISO 13849-1, has been thoroughly revised in recent years. The BGIA played an essential part in this process. As a result, it was possible for the comprehensive experience gained by the institute during research and product testing to be channelled back effectively into the standards development process. The updated standard takes account of new technologies such as electronics and software. The very low average probability of a dangerous failure per hour of a control system also had to be determined. This revision places the development and assessment of control systems on a new footing. As a result, industry and test bodies require practical guides to its interpretation and application. The BGIA has therefore developed a number of tools, which are available free of charge:

BGIA Report 2/2008e, “Functional safety of machine controls”, describes application of the standard in practice. The institute has been evaluating control and protective equipment employing a range of technologies for thirty years. This expertise is compiled in the report. The interpretation of the standard and the numerous example circuits have been trialled in practice.

The SISTEMA PC program computes the probability of failure of control systems by means of the analysis procedure described in the standard. Manufacturers of safety components are now providing the necessary values for their products in the form of SISTEMA libraries. With its multilingual interface, SISTEMA is in use throughout the world.

Together with the ZVEI (German Electrical and Electronic Manufacturers’ Association) and the VDMA (German Engineering Federation), the BGIA has developed the practical PLC disk. The disk assists in estimating the probability of failure of machine control systems.

These tools have now been widely adopted, and many manufacturers, industry associations, standards committees and accident insurance institutions have been made aware of them through lectures and personal consultation.

Further information:
www.dguv.de/bgia/13849e

I welcome machinery and installations being operated as safely as possible, and employees enjoying the best possible protection through innovative sensors and machine controls. Our user guides provide support in the manufacture of safe machines.

Dr. Michael Huelke, BGIA – Institute for Occupational Safety and Health of the German Social Accident Insurance (DGUV)
Prevention for educational establishments
Prevention pays off. Safe and healthy at work – enjoying life. Because we support the integration of safety and health in educational establishments, by means of informative publications and concepts and in co-operation with the Conference of the Ministers of Education and Cultural Affairs and other major partners.
In your opinion, what relevance does safety and health have for the quality of education?

A safe and healthy environment is a prerequisite for schools’ ability to fulfil their educational mandate. The German Social Accident Insurance (DGUV) makes an invaluable contribution in this area. With its accident insurance regulations, it provides school authorities and schools themselves with the premises and organizational measures needed for a safe and healthy learning environment.

Of no small importance to safety and well-being is a healthy school atmosphere in which teachers and pupils, parents, caretakers and other auxiliary personnel are able to resolve any conflicts as they arise and without aggression. The quality of education, however, can also be measured by how well pupils have learnt to prepare themselves, by healthy nutrition and exercise, for a life as free as possible from accidents and health complaints. The quality of safety, health, and exercise/sports education therefore constitutes an element of educational quality.

The development of children’s life skills is part of modern education work. Development of their risk-handling skills is of particular importance for accident prevention. For this purpose, an awareness of safety and health must be raised among children and young people. How can schools foster this process?

Raising awareness of safety and health is an integral part of teaching: in particular in science lessons (and in vocational schools, also in the practical subjects), in sport, and in road-safety instruction in primary schools. The prevention of accidents and the provision of information on health hazards are an integral part of the corresponding curricula. The objective is to instil skills in schoolchildren, for example in assessing risks in their contact with chemicals and hazardous substances, which will be useful to them in the further course of their lives beyond their schooling and training.

Mandatory safety instruction, from pre-school age through to completion of vocational training, promotes the safety-conscious behaviour of all parties to the educational process.

It is important that from an early age, schoolchildren be made capable of positive social behaviour with respect to each other. Considerate behaviour, the assumption of responsibility for themselves and for others, and participation in decision-making processes commensurate with the children’s age are practised consciously in lessons and school life in general, particularly on class trips and camps, and also contribute to the reduction of risks.

School sports, which are particularly associated with movement-related risks, make a notable contribution to the development of risk-assessment skills among children and teenagers.

How realistic is it for safety and health topics to be integrated into the curricula, for example in sports or science lessons, or in special subjects at vocational schools? How quickly can this be achieved?

Safety and health topics are already a part of schools’ everyday activities. Issues of safety and behaviour instructions are generally governed by the binding administrative regulations of the German regional...
governments. Safety instruction forms part of teacher training for the subjects of sport, the sciences, and – in a vocational context – the relevant subjects in vocational education. Extracurricular further training on safety issues is also conducted in consultation with the public-sector accident insurers of the German regional governments.

Responsibility for drawing up the curricula lies with the German regional governments.

The framework has been set out by the Conference of the Ministers of Education and Cultural Affairs (KMK): educational standards were adopted in 2004 for the intermediate secondary school-leaving certificate, and are currently being prepared for the upper level of grammar schools. It goes without saying that the competence profiles contained in this framework – for the science subjects at general secondary schools which are particularly relevant here – also require observance of the safety regulations.

The framework curricula agreed by the KMK for the vocational part of the regional curricula at vocational schools are co-ordinated with the federal government’s training regulations. Observance of the relevant national and international standards, rules and regulations constitutes part of the specialist skills, which are set out in detail.

Consultation with the DGUV and with the former Central Federation of Public-Sector Accident Insurers (BUK) concerning issues and provisions in the areas of safety and health has a long tradition. In March of this year, the 21st contact meeting was held. At it, the content relevant to the KMK of the position paper adopted by the 2/2008 Members’ Meeting of the DGUV was discussed.

The accident insurance institutions promote models such as the “good and healthy school”, and train childcare and teaching staff in safety and health. What perspectives do you see for such models?

Safety and health concepts and pilot projects of the accident insurance institutions are useful, supporting measures for teaching staff and schoolchildren. By way of example, consider the campaign on the lifting and carrying of heavy loads, which was conducted jointly by the responsible BG, students undergoing basic vocational training in the construction trades, and sports and manual skills teachers at approximately 60 vocational schools in Lower Saxony.

For some programmes, such as the Anschub.de project, preliminary results of evaluation are already available which indicate that the quality of schools can be increased considerably by appropriate consultancy regarding development of school organization. Of decisive importance here is consultancy by qualified co-ordinators from the schools sector who, with their knowledge of the needs in schools, purposefully seek co-operation with outside partners such as the public-sector accident insurers. They establish regional networks which can be used by schools sustainably and in the long-term. In conjunction with the public-sector accident insurers, high-quality further training courses have been developed and implemented for head teachers and other teaching staff. The public-sector accident insurers and the responsible education ministries should proceed together with this strategy.

Junior academics frequently assume leadership roles, and with them, responsibility for safety and health in plant practice. In your opinion, how can university education impart the skills needed for this function?

Specific education topics relating to safety and the protection of health are taught to young academics entering the teaching profession in the first phase of training for the school subjects which are particularly affected. Greater attention must be paid to the safety-related aspects of the lessons. In the second phase, the responsible heads of department and training staff teach the subject-specific safety regulations as recommended by the KMK’s safety guidelines for safety in lessons and the regulations of the statutory accident insurance institutions. Series of lectures on the subject of safety and health protection are recommended as part of university tuition for candidate trainee teachers.

What scope do you see for the education ministries and accident insurance institutions to contribute jointly to reducing the figure of 1.4 million accidents occurring in the schools accident insurance?

The avoidance of accidents in the schools sector and the reduction of accident hazards is a concern shared by all parties involved in the schools sector and with responsibility for it, and is a subject of long-term co-operation between the KMK on the one hand and the DGUV and the former BUK on the other. For accident prevention, detailed study of the accident statistics and research into the causes of accidents are relevant.

We support all measures aimed at improving social behaviour, the atmosphere in schools, and conscious acceptance of rules, and also measures for mediation of conflict in schools and in particular for the reduction of accident risks. Should new approaches emerge for tuition, public education or work involving parents, we would be very interested in further dialogue.
Climbing gardens, rope courses and similar equipment in children’s day-care facilities are not only fun for children: they also provide them with crucial experience of movement. They demand courage, concentration, force, exertion, and balance. By freely taking risks, children learn to face such risks and to judge their own motor abilities correctly.

This process contributes to the development of an awareness for safety and health at an early stage.

In order for these positive effects of the play equipment to be exploited and at the same time for hazards to be excluded, the children must be given skilled instruction in their use. Play areas and sports and play equipment must satisfy the latest safety requirements. Information on this subject and educational recommendations can be found in brochure GUV-SI 8082 on the subject of rope courses in children’s day-care facilities and schools.

Besides qualified instruction, the product safety of the equipment and the observance of structural requirements are important for safety on play equipment. The new accident prevention regulation (GUV-V S2) for children’s day-care facilities describes safety targets for outdoor play areas, playground equipment and natural play areas which are to assure the necessary safety.

The new provisions will be presented to experts from the accident insurance institutions in 2009 at a conference held by the DGUV team of specialists for prevention in the educational sector.

Safety and health in children’s day-care facilities concerns the employees as well as the children. Against this background, over 100 delegates met at the 3rd Dresden children’s day-care symposium on the subject of “remaining fit in stormy times”, held on 29 February and 1 March 2008 at the BGAG in Dresden, to discuss ways of coping with the daily pressures of their vocation. The focal topic of the conference

Safe and healthy in children’s day-care facilities

Children learn to judge their own motor abilities properly
At the 2/2008 Members’ Meeting, the accident insurance institutions adopted a position paper on prevention presented by the autonomous administration. With it, they set themselves the goal of assuring by means of prevention measures in schools and children’s day-care facilities that children and young people develop an awareness of safety and health from an early age. They are consequently promoting and continually developing models such as the “good and healthy school”.

The promotion of safety and health in educational establishments constitutes an essential aspect of the accident insurance institutions’ prevention activity. In order for schooling to be shaped such that it is safe and conducive to learning, the boundary conditions, such as target groups, the fabric of the premises, organizational and social conditions and system-related aspects of the school must all be taken into account. By making schools safe and healthy places, the learning, living and working environment within them enhances the quality of teaching and the health prospects of all parties involved. Based upon this principle, brochure GUV-SI 8028 concerning the promotion of safety as an element of the promotion of good health in schools was issued in 2001 and forms the basis of the work conducted by the DGUV’s team of specialists for education.

The current discussions concerning the German education system show that schools must change in order to be able to meet new challenges, such as competitiveness at an international level. These discussions also show however that the concept of the promotion of safety is an important and forward-thinking approach by which schools can be made safe and healthy. An essential aspect is that attention be given to research findings in the disciplines of health and education. Constructive changes to schools in their existing form must address the core task, namely fulfilment of the educational mandate (the shaping of tuition). For this reason, the team of specialists for education is developing a fundamental concept for good and healthy schools based upon the brochure on the promotion of safety.

At the same time, the DGUV intends to enter into discussions with representatives of the Conference of the Ministers of Education and Cultural Affairs in order for ways to be identified together by which the promotion of safety and health can be made an even more integral part of day-to-day schooling.

The goal of a good and healthy school is the shaping of school life in partnership with all stakeholders in such a way that an atmosphere conducive to health and performance is created in schools.

Further information:
www.dguv.de (Webcode d40002 and d10498)

The path to good, healthy schools

I attach great importance to the ongoing development of the DGUV’s concept for the promotion of safety and health in schools, which aims at good and healthy schools as a foundation for forward-thinking prevention work in the schools sector.

Ingo Zakrzewski, Safety and Health Department (SiGe) of the German Social Accident Insurance (DGUV)
Teachers’ good health is part of high school quality

Healthy teachers, healthy schools

Teachers are subject to various forms of demands at work. These range from physical stress, through exposure to physical and chemical effects, to risks of infection. Social factors, such as deterioration of their image, are also relevant. To these are added physiological stresses such as straining of the voice by vocational speaking or exposure to noise in schools.

The health of teachers is particularly promoted by high motivation, feelings of well-being, and the best possible working conditions. These enable them to attain their vocational targets and to consider their health needs. This has been confirmed by numerous studies conducted in the areas of occupational and organizational psychology and the health sciences.

Discussion of the quality of the German education system, which has been a focus of public interest since the PISA study, gives rise to new challenges to the teaching profession however, and also ties up resources. The number of employees must also be adjusted to demographic change. The DGUV has issued publication GUV-I 8760 on assessing risks and stresses at teachers’ workplaces, in order to support head teachers in identifying such stresses. The publication is currently being updated.

Teachers’ poor health impairs the quality of teaching and of the school as a whole. Demands for high-quality schools must be accompanied by promotion of teachers’ health. Against this background, a joint model project was launched by the accident and health insurance institutions. The objective of the project was to develop, trial and evaluate a concept for sustained promotion of the health of teaching staff. Results and experience have been incorporated into the handbook on the subject of teachers’ health: a cornerstone of a good and healthy school.

Further information: www.dguv.de (Webcode: d40329)
Violence in schools

Violence is encountered in many areas of society, including in the family, working environment and schools. Its forms are highly diverse, such as insults, extortion, bullying, or may be even more extreme in nature. In passive witnesses, acts of violence trigger feelings of dismay and concern. In the victim, they may lead to considerable stress or disruption of their physical, mental and emotional health. A generic definition of violence does not currently exist in Germany; too great is the interpretation of what constitutes violent behaviour. Owing to its significance within society as a whole, however, the prevention of violence should begin in preschool childcare facilities and primary schools.

Violence in schools is an enduring issue for the schools accident insurance, and corresponding statistics are recorded by the DGUV. Effective strategies against violence in schools are potentially conducive to safety and health, and should be oriented towards the development and maintenance of a healthy atmosphere in schools. The recent armed rampage at the Albertville secondary school in Winnenden (Baden-Württemberg) attracted considerable attention in the media, government, scientific circles and the public at large. Under such exceptional circumstances, the primary need is for effective crisis management (emergency care). Based upon the conclusions drawn after the armed rampages in Erfurt (2002) and Emsdetten (2006), the DGUV has therefore drawn up a guidance document on “crises and emergencies in schools” in conjunction with its members.

This document is to serve as a guide for decision-makers and skilled staff at the accident insurance institutions who are involved in prevention and rehabilitation activity relating to crisis situations in schools.

The subject of violence in schools must also be discussed in the context of their broader educational function. This automatically raises questions concerning the general conditions under which lessons take place and the factors which may favour violent behaviour on the part of schoolchildren. Attention is focused here above all on the more subtle forms of violence (such as harassment). These are an everyday occurrence in schools, and must be addressed in the interests of an efficient and effective violence-prevention strategy. An atmosphere in schools which is characterized by time and performance pressures, antisocial behaviour, and inadequate support or recognition presents a favourable breeding-ground for more open forms of violence. Bullying, exclusion, and ultimately arguments and physical violence in conflict situations are without doubt everyday forms of violence in schools.

The public-sector accident insurers are committed to preventing physical and emotional violence. In a number of regional initiatives, they promote projects in which the assertiveness of schoolchildren is to be reinforced, the atmosphere in schools improved, and violence thereby prevented. In order to support schools throughout Germany in the prevention of violence, a travelling exhibition (“respect at school”) was created and presented to the public for the first time at the Didacta fair in Hannover. The exhibition aims to raise awareness of the subject of “violence in schools”, and to promote discussion of it within schools. It presents the essential aspects of the topic in a readily comprehensible form. The focus lies upon scope for prevention for schoolchildren and teaching staff. The travelling exhibition can be booked by schools wishing to promote the prevention of violence. It is a project of the iga – Initiative Health and Work, and is headed by the DGUV’s BGAG Institute Work and Health. The subject-matter has been developed by prevention experts at the accident insurance institutions and the Safety and Health Department of the DGUV.

Further information:
www.dguv.de (Webcode d40322)

The “respect at school” travelling exhibition promotes the prevention of violence in schools.
Schools’ road safety

In the promotion of safety and health in schools, safety on the journey to and from school plays an important role. School sports make an important contribution here, by promoting essential abilities such as co-ordination, concentration and sense of balance. Beyond this, school road safety education in schools raises children’s awareness of hazards in road traffic and promotes safety-conscious behaviour.

During training for cyclists in Year 4 (children typically aged 9-10), police road safety instructors repeatedly observe that children’s co-ordinative and motor abilities have deteriorated significantly in recent years, and that without changes to the assessment scale, the children would attain fewer and fewer points. For this reason, anything which promotes these skills, even outside sports lessons, for example during afternoon care, is beneficial.

Publications issued by the German Social Insurance such as GUV-SI 8049 (on travelling together rather than moving haphazardly), GUV-SI 8055 (the blind spot) and GUV-SI 8056 (buses) support these efforts. During the 2010/2011 prevention campaign on safe driving and transporting, safe cycling will be a key topic for the schools sector.

Parents, schools and local authorities are responsible for safety. Through public information work, parents should be made aware of this problem and provided with specific advice on helping their children to learn to cope with traffic safely. A lexicon of safety aspects for journeys to school (GUV-SI 8057), provides all parties responsible with information on the journey to and from school, whilst brochure “traveling to school by bus” (GUV-SI 8046), provides essential information on organizing the transport of schoolchildren safely.

The co-operation with the German Road Safety Council (DVR) in the area of road safety education in schools is growing in significance owing to the merger between the HVBG and BUK. In particular, the public information work can be enhanced decisively here, and the safety of children and young people on their journeys to and from school improved as a result. In order to avoid duplication of effort and for familiarization with each others’ activities, the DGUV and DVR held a joint workshop in September 2008. The decision has been taken to hold a specialist event in 2009 in order for possible issues (sphere of activities) to be identified concerning traffic safety work for children and young people.

Further information:
www.dguv.de (Webcode d39841)
Healthy universities

With the changes in the German university system, the subject of health is becoming increasingly important for prevention work in universities. The switch to bachelor’s and master’s courses places greater demands upon students and teaching staff. Increasing time and performance pressure, uncertainties concerning the future, and the growing complexity of work may all impair safety and health. In consequence, new foci are arising alongside the traditional prevention topics such as the “safe handling of hazardous substances” (covered by publication GUV-SR 2005) or “safe work in chemical laboratories – an introduction for students” (GUV-SI 8553). The new topics particularly include the introduction and further development of OSH organization, OSH management systems at universities, and the integration of health promotion.

In order to support the prevention work of the accident insurance institutions, the Universities working group of the education section is developing a framework concept geared to universities. This concept is to formulate the essential framework conditions for good and healthy universities, such as the fabric and organizational and social conditions, in consideration of the particular aspects of the university system.

Together with sports accidents, commuting accidents constitute the most common category of accidents in the university sector. In conjunction with the team of specialists for education, the DGUV is therefore addressing the subject of safety during journeys to classes as part of the 2010/2011 DGUV prevention campaign. Through targeted measures agreed with the members, awareness is particularly to be raised for safe behaviour on the road.

In the context of the growing internationalization of universities, the DGUV/BGAG is organizing the “Safe and healthy university” event from 28 to 30 September 2009, in conjunction with the Higher Education Information System (HIS) in Hannover and the regional public-sector accident insurer of Lower Saxony. A key topic is the health of the students and university staff. An English translation of the information brochure on statutory accident insurance at universities is planned for 2009.

Further information: www.dguv.de (Webcode: d40281)
Prevention pays off. Safe and healthy at work – enjoying life. Because we set out goals and work programmes jointly with the federal and regional governments and the social partners within the Joint German OSH Strategy, in order to shape occupational safety and health in Germany more effectively.
The Joint German OSH Strategy: becoming stronger, together

Interview with Isabel Rothe, President of the BAuA

What significance does the Joint German OSH Strategy have for the German OSH system?

A fundamental significance, as I am sure all parties to the German OSH system would agree. A particular strength is the firm consensus between all the parties involved: we know that a collective, more strategic approach makes us stronger. On the one hand, we are reinforcing common targets and programmes; on the other, the various parties to the German OSH system are co-operating in different ways. The range of experiences gained on the ground in plants and in the labour inspectorate function are mutually complementary. The research institutions are also increasingly concerning themselves with fundamental issues.

This is also our strength, and will remain so within the Joint German OSH Strategy. We now have the task of adding content to the underlying philosophy of the Joint German OSH Strategy and of achieving results which will ultimately lead to greater dynamism.

Do you believe that the aspect of a common strategy is what distinguishes the Joint German OSH Strategy from past efforts?

Yes, because the individual parties to the Strategy produce solid, respectable work. The strategic approach and the agreement of common objectives is the decisive aspect and the source of new strength, enabling us to channel resources more effectively and ultimately to supervise and support the affected companies in a more consistent manner.

The Joint German OSH Strategy is based on co-operation between a number of institutions. How will this work?

The Strategy possesses a range of structures to ensure that it does. The National Occupational Health and Safety Conference (NAK) has been constituted. Systematic processes are in place within NAK by which experience, wishes and targets can be submitted. The OSH forum met for the third time last year, in Dortmund. The OSH forum is the widest form in which the various parties can be involved. The work programmes, which are to be implemented jointly and uniformly throughout Germany, are being developed in a number of working groups. The BAuA has set up the NAK secretariat, the launch of which has been very successful. The secretariat’s personnel are drawn on the one hand from the BAuA itself, and on the other, the accident insurance institutions have begun seconding staff. The secretariat serves as a work platform for the various players and institutions. Its success is dependent upon the involvement of sufficiently qualified people. I am pleased that it has begun so auspiciously and that the regional authorities also wish to second personnel. The initial constellation is promising.

How are the ideas of the organizations involved brought together? How is a decision reached?

As is often the case in life, the situation must be considered on a number of levels. On the one hand, the experience of those involved on the ground is exploited and channelled within the NAK. On the other, people are needed with both knowledge and the courage to use it in order to formulate an idea and put it into practice. Only then does a consistent strategy take form.

Since 1 November 2007, Isabel Rothe has headed the BAuA, the Federal Institute for Occupational Safety and Health, as its president. Ms. Rothe, 46 years old and a native of Bonn, studied occupational and organizational psychology at the TU university of Berlin. She then worked at GITTambh, an association for interdisciplinary technical research, technology consulting and job design. There, she supervised job design projects.

In 1992, she moved to Schering AG, rising to commercial manager of the Berlin production site. At the beginning of 2004, she became manager of Jenapharm GmbH & Co. KG, a subsidiary of Bayer Schering Pharma AG. Isabel Rothe is the first woman to head the BAuA.
Both of these take place during the prioritization processes, which are a mixture of experience gained in the field and the resolve of the responsible committees, who in turn have institutions behind them which are conducting research and delivering results from it. This applies both to the national government with the BAuA, and to the research institutes of the accident insurance institutions. It is important that the two processes intermesh; in my opinion, however, this is working very well.

**What is your view of the co-operative relationship between the parties to the Joint German OSH Strategy?**

This co-operation is not new as such; what is new is a jointly co-ordinated strategy and action at the top, forming the framework and determining the course. It enables priorities to be set and focused. This is all based on a sound tradition of many years’ co-operation, both between the practitioners and between the researchers. We now have a great opportunity to take a common course. This is what is new. Together, we will be much, much better. This means setting common targets, implementing them, and measuring whether they have been reached. I believe that the key people within this system are convinced of this, and the conviction of all parties involved is much stronger than a good set of rules of procedure.

**Do you see particular obstacles in co-operation?**

Agreeing on common targets, assigning priority to concepts and targets, and using appropriate methods: this is running very well. Should we cease to communicate with each other on equal terms, it would spell the end of the joint project. I cannot see this happening, however. The important challenge lies ahead of us: implementation. It is one thing to plan everything perfectly; it is another for the priorities to be observed and the planned activities actually implemented on the ground. We must no longer give priority to our favourite measures, but to others. This is always a facet of good planning. The parties to the Joint German OSH Strategy can be very proud that they have brought the process this far. The institutions involved are very different in nature, and we need staying power, even more conviction, stamina and of course results.

**What support is the BAuA providing within the Joint German OSH Strategy?**

I have already mentioned the NAK secretariat. It must be remembered that the NAK secretariat is neutral. I am confident that it is in good hands with us. Our staff are also actively involved in the working groups of the Joint German OSH Strategy, and even hold the post of deputy group leader in six of them.

**The BAuA has considerable experience in evaluation. Is this area also within the capabilities of the institute?**

Evaluation is crucial to the philosophy of the BAuA, not only in the context of the Joint German OSH Strategy, but also as a fundamental principle of the sustainability of measures and campaigns. We are very active in this area and will continue to be so in future.

**You mention the future: where would you like to see the Joint German OSH Strategy in ten years’ time?**

By then, we should no longer be discussing rules of procedure or committees, or how to deal with conflict should it arise. These are merely birthing pains. In ten years’ time, the umbrella of the Joint German OSH Strategy should still be in place, and its existence unquestioned. The Strategy should explicitly be driven by its subject-matter. It should be so mature that it generates the indispensable OSH topics for Germany. Evaluation of its effectiveness will then be routine.

**What is needed in order for the Joint German OSH Strategy to gain acceptance at plant level?**

Modernization is also needed on the ground in plants. We need to shift away somewhat from practical application dominated by expertise towards a more all-encompassing prevention culture. I believe that subjects such as employees’ independent responsibility must be given greater importance, if we are first-class – and in my view, our strategy is first-class. The institutions behind the Joint German OSH Strategy would then be regarded more readily as partners than is currently the case – partners invited by enterprises who wish to put their own OSH and health management systems to the test. That is what the institutions behind the Joint German OSH Strategy are there for: they are consulted by businesses, they have high quality standards, and they can advise businesses competently.
The dual OSH system in Germany

The “dual OSH system”, in which the OSH administrations of the regional governments and the accident insurance institutions hold joint responsibility for workplace safety and health, has existed in Germany for nearly 125 years. Despite the evident success of prevention work conducted by the OSH institutions, closer examination also reveals deficits, for example in the co-ordination of the inspection work of the state OSH authorities and the prevention services of the institutions for statutory accident insurance and prevention (BGs) and public-sector accident insurers.

The OSH legislation, too, is regarded at enterprise level as being in some way opaque, impractical, and excessively bureaucratic at times.

At the same time, the requirements imposed upon companies and employees are changing in a way never previously observed: a new world of work is emerging with new vocations, bringing with them new challenges and in some cases also adverse effects. Mental factors such as high responsibility, time pressures, excessive demands and fear of job losses are rapidly growing in importance. The impacts of demographic change constitute a further major challenge for companies.

The EU Strategy on Safety and Health at Work

In the face of such trends in Germany and other European countries, the EU has set out an OSH Community Strategy and developed action plans which are founded upon the guiding concepts of high-quality work and prevention encompassing all areas of life. This EU Strategy on Safety and Health at Work is to run from 2007 to 2012. Under it, the European Commission calls upon the member states to support the EU targets with national OSH targets of their own.

In Germany, the socio-political discussion which had already begun in advance of the European initiatives led to the conference of the ministers for labour and social affairs of the German regional governments recommending a Joint German OSH Strategy (Fig. 1).

Development and objectives

The Joint German OSH Strategy has the objective of retaining, improving and promoting the safety and health of workers at work. In addition, it aims to contribute in the long term to reducing the financial burden upon companies and the social security systems.

With the Joint German OSH Strategy, occupational safety and health in Germany is to become more efficient and more purposeful. A fair division of labour is certainly more effective than uncoordinated work conducted in isolation. I therefore welcome the Strategy and am pleased to be involved in shaping it.

Michael Jansen, Central Prevention Division of the German Social Accident Insurance (DGUV)
Joint German OSH Strategy

Organ structure of the national Occupational Safety and Health Conference (NAK) (Figure 2)

National Occupational Safety and Health Conference (NAK)
NAK Secretariat

“Work programmes” steering committee
11 groups for the individual work programmes
Co-ordination of regional measures between the joint regional departments (GLS) and the OSH authorities of the regional governments

“Overall evaluation” steering committee
External institute to which overall evaluation is subcontracted
Evaluation of individual work programmes, by region: joint regional departments/accident insurance institutions together with regional government

Institutions party to the Joint German OSH Strategy (Figure 1)

Federal government
Federal Ministry of Labour and Social Affairs
Regional governments
Statutory accident insurance institutions
accidents” (OAs). In order to attain this target, adequate measures are also to be taken to reduce impairing mental stress and to promote systematic consideration of occupational safety and health within companies.

- OSH target No. 2, the “Reduction of musculoskeletal workloads and disorders” (MSDs), primarily concerns the common issues of “health service” and “tasks involving imbalanced stress or a lack of movement”. In these areas, the BGs, public-sector accident insurers and state OSH authorities are above all to compile and disseminate their expertise in the area of systematic prevention. Small and medium-sized enterprises (SMEs) will be targeted. The shaping of work from an ergonomic perspective and in consideration of older employees, impairing mental stress, and promotion of the systematic observance of occupational safety and health within companies are also to be given appropriate consideration.

- OSH target No. 3, the “Reduction in the frequency and severity of skin diseases” (SKIN), the focus lies upon work with or in damp environments (wet work) and contact with substances harmful to the skin (e.g. cooling lubricants, engine oils, organic solvents, cleaning agents). Particular attention is to be paid here to the use of substitute substances.

**Obligations in the context of implementation**

In the coming years, implementation of the jointly formulated targets of the Joint German OSH Strategy will play an important role in the prevention activities of the individual accident insurance institutions and of the DGUV. The accident insurance system’s statutory mandate continues to apply without restriction, however. The statutory accident insurance institutions and their partners therefore remain free to work on issues outside the work programmes of the Joint German OSH Strategy, provided such work effectively supports the shared OSH targets.

All parties to the Strategy are obliged to co-operate in its implementation; what capacity they make available for this purpose is however at their own discretion. They thus retain full control of their own personnel and finances. Since a key element of the Joint German OSH Strategy is however the systematic evaluation of the results attained, all parties to it will have substantial interest in the Strategy becoming a successful model.

**The NAK and the reform of the OSH system**

At institutional level, the Joint German OSH Strategy is guided by the National Occupational Safety and Health Conference (NAK) (Fig. 2). The NAK’s constituent meeting was held on 15 December 2008. NAK comprises three voting representatives each from the German federal government, regional governments, and the statutory accident insurance institutions, and up to three advisory representatives each from the umbrella associations of the social partners. A NAK secretariat has been set up at the BAuA (Federal Institute for Occupational Safety and Health) in order to support the NAK.

The NAK serves as a co-ordination platform which guides the policy of the Joint German OSH Strategy, develops it further, optimizes the entire process during its implementation.

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**The work programmes of the Joint German OSH Strategy (Figure 3)**

<table>
<thead>
<tr>
<th>6 projects, harmonized and mandatory throughout Germany, with maximum priority (“lighthouse” or “Category I projects”)</th>
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<tbody>
<tr>
<td>• Construction and fitting work</td>
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<tr>
<td>• Temporary work</td>
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<td>• Save driving and transporting</td>
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<tr>
<td>• Nursing care</td>
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<tr>
<td>• Office work</td>
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<tr>
<td>• Wet work and skin-damaging material</td>
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<tr>
<th>5 projects conducted according to criteria harmonized for the whole of Germany (“Category II projects”)</th>
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<tr>
<td>• School</td>
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<td>• Food industry</td>
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<td>• Precision assembly</td>
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<td>• Restaurants and hotels</td>
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<tr>
<td>• Local public transport</td>
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</tbody>
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implementation, and finally evaluates it. The involvement of the social partners ensures that the OSH targets are geared as closely as possible to the needs in the field and that their impact is felt within enterprises.

Besides the NAK’s guiding function for the process, the national OSH forum, which takes the form of a specialist conference, enables the Strategy’s subject-matter and results to be presented directly and regularly to OSH experts, players in associated areas of policy, and the scientific community and wider specialist public.

**Principal issues**

For the duration of the first Joint German OSH Strategy programme, from 2008 to 2012, the parties to the Strategy have agreed upon principal issues and work programmes based upon the common OSH targets. The issues and work programmes are to be implemented in accordance with uniform principles, and evaluated with regard to their effectiveness.

For the first implementation phase, beginning in 2009, six priority work programmes (Fig. 3) were agreed, to be carried out nationally in accordance with harmonized criteria (“lighthouse projects” or “Category I projects”):

1. Safety and health during construction and assembling tasks
2. Safety and health in temporary work
3. Safe driving and transporting (within enterprises and on public roads)
4. Safety and health in nursing care
5. Healthy and successful office work
6. Protection of health during wet work and tasks involving substances harmful to the skin

These projects are to be mandatory for all parties to the Joint German OSH Strategy and conducted uniformly throughout Germany.

Beyond the Category I projects, a further five work programmes (“Category II projects”) were adopted for implementation by the three parties to the Strategy. Key points were also agreed for these programmes.

Uniform implementation throughout Germany is however not a binding requirement upon all Strategy partners in this case.

"Awareness-rising of the subject of safety and health in schools” was for example agreed as a further work programme for the OSH target of “occupational accidents”. The decision was also taken to conduct four further work programmes for the promotion of safety and health in relation to tasks involving imbalanced stress or a lack of movement within the OSH target of “musculoskeletal workloads and disorders”:

- At production workplaces in the food industry
- At production workplaces in the area of fine mechanical assembly tasks
- At restaurants and hotels
- On local public transport

**Evaluation and public information work**

The target of the Joint German OSH Strategy is for the incidence of occupational accidents to be reduced by 25% in all sectors and areas in Germany within the short period from 2008 to 2012. Sub-targets and indicators are also to be formulated for all discrete targets and issues. Whether the parties to the Strategy are meeting these and other self-imposed OSH targets is to be reviewed regularly by means of objectifiable methods. An evaluation method conducted both during the process and following its completion is thus an elementary component of the Joint German OSH Strategy. Only by this means can mistakes be identified in good time and the effectiveness of the strategy improved.

A uniform presence in the media is to underline common aspects and to contribute to the Strategy being presented to the public as a model for success. The NAK has therefore decided to develop a common logo as a brand with high recognition value and an appropriate slogan. The logo of the Joint German OSH Strategy is to feature on all reports on the Strategy’s activities, and thus to promote awareness of them.

Further information: www.dguv.de (Webcode d2022)
Specific projects of the Joint German OSH Strategy

Reduction in the frequency and severity of skin diseases

Wet work and work involving substances which are harmful to the skin are essential causes of occupational skin diseases. One OSH target of the Joint German OSH Strategy is therefore the “Reduction in the frequency and severity of skin diseases”. The work programme has the heading “Protection of health during wet work and tasks involving substances harmful to the skin”.

Since December 2007, this topic has been addressed by a working group and the results prepared for implementation in enterprises. The working group comprises representatives of the BGs (the institutions for statutory accident insurance and prevention), public-sector accident insurers and state OSH authorities who possess expertise and experience in both the medical and technical spheres. In its activities, the working group is able to build upon the experience and success of the Healthy Skin Campaign conducted by the German statutory health and accident insurance institutions up until December 2008, and will also continue some of the work in this area.

A concrete objective of this target of the Joint German OSH Strategy is a measurable increase in the number of enterprises giving consideration to wet work and substances harmful to the skin during risk assessments of workplaces, and which correspondingly specify suitable protective measures in the enterprises and implement them at the workplaces concerned. In the course of agreed inspections and consultations, the labour inspectorates of the accident insurance institutions and state authorities will conduct a survey of the actual and desired situations in the enterprises in order to evaluate this work programme. A standardized questionnaire which has been agreed between the parties to the Joint German OSH Strategy will be employed for this purpose.

Reduction in the frequency and severity of musculoskeletal workloads and disorders

The common OSH target of a “reduction in the frequency and severity of musculoskeletal workloads and disorders (MSD)”, identified by the parties to the Joint German OSH Strategy, will constitute a particular focus during the first implementation phase of the Strategy from 2009 to 2012. Common issues for this OSH target are the health services and tasks involving imbalanced stress or a lack of movement.

In these areas, the BGs, public-sector accident insurers and state OSH authorities are above all to disseminate expertise for systematic prevention. Small and medium-sized enterprises (SMEs) will be targeted. The shaping of work from an ergonomic perspective and in consideration of older employees, impairing mental stress, and promotion of the systematic observance of occupational safety and health within companies are also to be given appropriate consideration.

An interdisciplinary working group was set up to handle this subject. In the group, issues and key points were developed for implementation within work programmes. The working group was led by a BG expert, and consisted of experts from the accident insurance institutions, the regional state OSH authorities, the German Ministry of Labour and Social Affairs (BMAS) and BAuA, and the social partners. This working group has drawn up six work programmes for MSDs:

The two work programmes of the Joint German OSH Strategy are as follows:
- Safety and health in nursing care
- Healthy and successful office work

These work programmes will be addressed nationally, in accordance with uniform criteria and indicators, as top-priority, i.e. “Category I” or “lighthouse” projects, for mandatory joint implementation.

Beyond these, the working group drew up four further work programmes of lower priority (“Category II”) for occupational safety and health relating to tasks involving imbalanced stress or a lack of movement:
- At production workplaces in the food industry
- At production workplaces in the area of fine mechanical assembly tasks
- At restaurants and hotels
- On local public transport

For these work programmes, too, the working group has developed key points and has specified indicators and parameters. It has drawn up concepts to underpin the six MSD work programmes, produced project plans, and communicated them to the National Occupational Health and Safety Conference (NAK).

Reduction in the frequency and severity of occupational accidents

A further target selected by the parties to the Joint German OSH Strategy which is to be addressed jointly is the “Reduction in the frequency and severity of occupational accidents, including the reduction of impairing mental stress and promotion of the systematic safeguarding of occupational safety and health within companies”. For this purpose, issues and key points were developed for implementation in work programmes. Experts from the accident insurance institutions, the regional OSH authorities, the German Ministry of Labour and Social Affairs (BMAS), BAuA and the social partners joined forces in the “Occupational accidents” working group. Further experts were invited for special topics.

For implementation of the common OSH target and its issues, the working group proposed six initial work programmes. Three of these projects will be conducted with the highest priority:
- Occupational safety and health and health protection in temporary work
- Construction and assembling work
- Safe driving and transporting (within enterprises and on public roads)

These projects were confirmed by a conference of the German regional ministers for labour and social affairs and of the
autonomous administration of the accident insurance system. The working group then drew up project plans to underpin the implementation of uniform projects throughout Germany.

The evaluation concept of the Strategy

One of the basic policy documents developed as a result of the consultative discussions between the parties to the Joint German OSH Strategy is the “basic paper on the Joint German OSH Strategy”, which in particular also forms part of the political resolutions passed on 16/17 November 2006 by the 83rd conference of the regional ministers of labour and social affairs. Among other things, the basic paper contains the explicit requirement that the targets of the Joint German OSH Strategy must be accompanied by quality assurance and evaluation.

Success monitoring of the deployment of resources

Projects on the scale of the Joint German OSH Strategy cannot be launched and conducted with the deployment of considerable personnel and other resources without the use of the resources being verified, evaluated and ultimately justified by scientifically robust monitoring of the results. This is even more the case in economically difficult times. For this reason, the evaluation of the Joint German OSH Strategy, i.e. monitoring of target attainment conducted on a validated and verifiable basis, is a strict component of the Strategy and is also enshrined in the act for modernization of the accident insurance system (UVMG).

The basic paper concerning the Joint German OSH Strategy states explicitly with regard to the procedure that an evaluation concept is to be drawn up. Accordingly, in December 2007, the summit meeting between the Commission for occupational safety and safety engineering of the German regional governments (LASI), the Federal Ministry of Labour and Social Affairs (BMAS) and the institutions of the statutory accident insurance system commissioned a working group comprising representatives from the three parties to the Strategy with the task of developing an evaluation concept.

Overall evaluation

The task of the working group relates to overall evaluation, i.e. it concerns the entire process. During the overall evaluation of the Strategy, the targets described in the agreed concepts are to be examined and evaluated in terms of their implementation and effectiveness. These generic targets concern issues of optimization of the dual OSH system, in particular regarding a co-ordinated procedure for inspections and consulting in enterprises; an orderly and reliable exchange of information between the parties; and an agreed and easily comprehensible body of rules and regulations, up to and including the desired relieving of the burden upon the national economy through improvements in in-plant processes which are to be attained by means of occupational safety and health. Ultimately, the overall evaluation must reveal which effects have been attained across the board by the Joint German OSH Strategy among the target groups of in-plant occupational safety and health.

Further evaluation levels

Evaluation will be conducted on other levels in addition to this “overall” evaluation. This will inevitably result in individual measures co-ordinated between the BGs and public-sector accident insurers and the regional authorities responsible for occupational safety and health having to be subjected to evaluation, i.e. examination of their effectiveness, at regional and company level. The parties responsible for operative implementation of the individual work programmes and campaigns must however ensure that this aspect is considered from the outset during performance of their measures.

In this respect, the concepts employed in overall evaluation of the Joint German OSH Strategy will relate initially only to the process as a whole, into which the evaluation of the individual measures will ultimately have to be integrated to form an overall result. Planning of evaluation will be verified and if necessary adapted in the short term by means of a feasibility study.

Launch of the evaluation

The first overall evaluation of the Joint German OSH Strategy is to be conducted in 2011 based upon a snapshot of the data as at 31 December 2010, and repeated at intervals of five years. The baseline survey will be conducted in 2009 and 2010. Performance of the evaluation in 2011 to 2013 will enable its results to be given consideration in decisions concerning the following period of the Joint German OSH Strategy.

Further information:
www.dguv.de (Webcode d2022)
Organization of operative prevention work in the regional associations

Regional director (extraofficial)

Prevention manager at the regional association (extraofficial)

Prevention co-ordinator (full-time, supports the prevention manager and regional director)

Steering committee
- DGUV (Central Prevention Division)
- Regional director
- Prevention manager
- One delegate for each of the industrial BGs, public-sector accident insurers, agricultural BGs and BG for the landscaping sector forming part of the regional association concerned

Joint regional departments (GLS)

Prevention work in the regional associations

The regional associations of the German Social Insurance (DGUV) carry out the common regional prevention and rehabilitation tasks of their member institutions. During the merger of the Federation of Institutions for Statutory Accident Insurance and Prevention (HVBG) and the Central Federation of Public Sector Accident Insurers (BUK), the autonomous administration reorganized the six regional associations as “regional bodies” of the DGUV. This step paved the way for new tasks and responsibilities which have taken shape through the act for modernization of the accident insurance system (UVMG).

GLS joint regional departments
In future, the “joint regional departments” (GLS) at the regional associations will therefore be involved in implementation of the Joint German OSH Strategy at regional, district and local level. They will strategically determine the course taken by the joint activities of the BGs and public-sector accident insurers in negotiations and agreements with the state OSH authorities. A particular new feature is that the GLS have the authority here to reach binding agreements on behalf of the statutory accident insurance institutions in their respective regions. These agreements are based upon a framework agreement drawn up by the parties to the Joint German OSH Strategy. The agreements already in place in many German regions between the regional OSH authorities and the BGs and public-sector accident insurers active in the region concerned will be amended to bring them into line with the provisions of the framework agreement.

In consultation with the highest OSH authority responsible for the region concerned, the GLS guide implementation of the work programmes of the Joint German OSH Strategy, and are involved in evaluation of the results. In consultation with the regional OSH authorities, they also co-ordinate the accident insurance institutions in the inspection and supervision of enterprises. In addition, the GLS together with the regional state OSH authorities promote the development of a common online database of inspections conducted by the labour inspectorates of the German regions and the accident insurance institutions.

Restructuring of GLS activity
The DGUV’s Central Prevention Division is responsible for central co-ordination of the prevention tasks of the regional DGUV associations, particularly the implementation of the Joint German OSH Strategy through the joint regional departments (GLS). The regional tasks are to be assumed, as has generally been the case in the past, by DGUV officials who are employed in a primary function in the prevention service of an accident insurance institution. In order for the creation of new administrative structures to be avoided, the new edition of the German Social Code (SGB) VII makes explicit provision for the GLS to remain integrated within the organization of the DGUV’s regional associations. In conjunc-
An important goal of the Joint German OSH Strategy is the optimization of Germany’s dual OSH system. For this purpose, the resources of the accident insurance institutions and the regional authorities are being co-ordinated and their tasks apportioned. The aim is for inspection and consultancy elements of in-plant OSH activity to be made more efficient. In order for such a co-ordinated approach to consulting and inspection in the plants to function, common principles are required, together with a consensus between the regional labour inspectorates and the accident insurance institutions.

The first successful agreement of this kind was reached in 2008 in the area of risk assessment. A co-ordinating committee set up by a summit meeting between the Commission of the German regional governments for occupational safety and safety engineering (LASI), the accident insurance institutions and the German Ministry of Labour and Social Affairs (BMAS) drew up the guidance document entitled “Risk assessment and documentation” under the aegis of the DGUV. The guidance document sets out the consensus of the labour inspectorates concerning “risk assessment and documentation”.

The co-ordinating committee first defined the essential concepts in the area of risk assessment, i.e. risk, risk assessment and the resulting OSH measures, groups particularly at risk, and documentation of risk assessment. The procedure followed by the labour inspectors of the accident insurance institutions and regional authorities for review of risk assessment performed in the plants was described. The subject-matter includes the presentation of the principles by which employers are motivated to conduct risk assessments.

The annex of the guidance document also contains, for the first time, an overview of risk factors which has been agreed for Germany. The overview serves to define a uniform structure of risk factors for future use in guidance documents and in training documentation.

The guidance document was approved for use and publication at the summit meeting held on 11 June 2008 between the LASI, accident insurance institutions and BMAS. The observations and experience gained during the two-year launch phase will be exploited for further optimization of the inspection and consultancy activity.

Further information: www.dguv.de (Webcode: d2022)
Prevention pays off. Safe and healthy at work – enjoying life. Because we use campaigns to draw attention to topical occupational safety and health issues, and to provide incentives for people to take preventive measures.
Campaigns and prevention incentives

A good run for the most important 2 m² in life: the Healthy Skin Campaign, official health partner of the three largest German city marathons

Prevention campaign: the most important 2 m²

"Healthy skin – fewer cases of skin disease." This was the objective which the statutory health and accident insurance institutions had set themselves in their Healthy Skin Campaign. For two years, from the beginning of 2007 to the end of 2008, the campaign focused upon the largest organ in the human body: the skin. The reason: the skin of an adult human being, typically approximately two square metres in area, is subject to high stresses on a daily basis. Continual contact with moisture, contact with chemicals, mechanical stress and UV radiation all have an adverse effect upon the skin. The result: skin diseases, which beside personal discomfort and pain often also lead to ostracization: a person’s skin is, after all, their “calling-card”. In addition, skin diseases result in the statutory health and accident insurance institutions incurring high costs.

Skin diseases affect people of all ages and in all areas of life. Under the motto: “Your skin. The most important 2 m² in your life”, the German statutory health and accident insurance institutions therefore set themselves the goal of reaching the greatest possible number of people and of motivating them to give greater consideration to how they treat their skin. At the same time, the Healthy Skin Campaign was the first prevention campaign involving institutions from different branches of the German social insurance system. Well over 100 institutions, including all the institutions for statutory accident insurance and prevention (BGs) and public-sector accident insurance institutions, the agricultural social insurers, numerous company health insurance funds and AOK health insurance funds, and a great many other partners such as the German regional governments and dermatological associations, pursued the objectives of the prevention campaign through joint and individual activities.

(Continued on Page 50)
The adverse effects of wet work

The adverse effects of wet work upon the skin was a key topic of the “Healthy Skin Campaign”. Parallel to the campaign, the BGFA launched a project which addresses the subject from an occupational medical perspective. The focus lies upon employees who are regularly exposed to moisture at the workplace. These employees face a significantly higher risk of suffering skin disease, such as irritative contact eczema, of the hands. Wet work includes both work performed in a wet environment, and the wearing of impermeable protective gloves; both may damage the skin. Where gloves are worn, damage is caused by occlusion, i.e. the hermetic sealing of the skin from the outside air. The BGFA is conducting experiments into how the different forms and duration of exposure to moisture affect the skin’s epidermal barrier.

For employees in Germany who are regularly exposed to moisture for over two hours, occupational medical health checks are recommended. Where the task lasts for over four hours, these checks are mandatory. Up to now, recommendations have been made based primarily upon the evaluation of questionnaire surveys and relevant reports and assessments produced during investigations into suspected cases with occupational disease.

More recent studies have shown that data based upon patients’ own assessments frequently lead to wet work being over- or underestimated. At present, however, no clinical studies of skin physiology exist which are able to provide information on the onset and progress of damage to the epidermal barrier. In a pilot study at the BGFA, an experimental approach is to examine the duration and form of exposure to moisture which actually lead to reproducible changes in the skin’s barrier. The project will also address the question of whether groups exist which are at particular risk of certain forms of injury. A third approach will examine the extent to which additive effects currently under discussion are caused by the combined effect of “work in wet environments” and “occlusion”, which likewise have not yet been scientifically verified or reproduced. The results are to serve as a standardized basis for further studies into the nature and duration of different occupations involving exposure to moisture, and for the resulting prevention studies.

Further information: www.bgfa.de (Webcode 510976)
The activities were based upon a common detailed concept document. Besides a media-oriented umbrella campaign, the focus lay above all on dialogue-oriented campaigns conducted by social insurance institutions individually or in collaboration with other institutions for the insured individuals. The preventive activity proper was conducted in these individual campaigns. In events, seminars and projects and with media geared to the users, the institutions addressed their target audiences on their own ground: in nurseries, schools, companies, and public institutions.

For example, the BGs responsible for the industrial sector and seven public-sector accident insurance institutions took advantage of the world's largest trade fair for occupational safety and health in order to draw attention to the most important 2 m²: at the A+A in September 2007, skin protection was the key topic of the BG Boulevard, the fair stand of the statutory accident insurance institutions. Over 55,000 visitors from the sector were provided with insights into topics associated with safety and health at work.

A further positive example from the campaigns run by the institutions: for two days, the Delmenhorst, a landmark of the town of Delmenhorst near Bremen, was synonymous with the topic of skin. Eight partner bodies had joined forces in order to offer their concerted expertise on the subject of skin and skin protection; the BGW (the BG responsible for the health and welfare services), the AOK health insurance fund, the GUV Oldenburg (the municipal accident insurance association of the district), the University of Osnabrück, the Delmenhorst academy of further education, the Delmenhorst public health department, and the two local clinics. These bodies offered visitors a wide programme of events: the BGW and the GUV Oldenburg provided public information on the hazards associated with wet work, whilst the AOK offered personal cosmetic and skin-type advice. A further focus lay upon talks by experts, for example under the heading “Hygiene for the hands: a blessing or a curse for skin protection?”, or “Sunscreen: does the sun poison our skin?”.

An objective of the umbrella campaign was that of attaining a sustained media presence for the subject of skin. This was to be achieved by continual public-relations work. Press, TV and radio received regular reports on the most interesting aspects of the most important 2 m². By the end of the Healthy Skin Campaign, the participating institutions had counted over 3,000 references in the press, online media, and TV and radio – a result to be proud of.

The highlight of the umbrella campaign were the health partnerships with the three largest German marathons: in Hamburg and Cologne in 2007, and in Berlin in 2008. Two particular reasons existed for the partnerships. Firstly, skin diseases are a significant problem for many runners. Regular outdoor training places stress upon their skin, for example owing to UV radiation or to clothing which rubs against the skin, leading to blisters and inflammation. At the same time, the marathons served as a platform by which the institutions supporting the Healthy Skin Campaign were able to reach a total of over two and a half million people along the route with their message – an ideal cross-section of the entire population.

Evaluation of the Healthy Skin Campaign
The Healthy Skin Campaign took a number of forms. Which activities were most effective could be determined only by a systematic evaluation revealing the strengths and weaknesses of the various measures and activities.

The “Evaluation of prevention measures” department at the BGAG Institute Work and Health of the German Social Accident Insurance organized and carried out this process on behalf of the Healthy Skin Campaign. The evaluation was based on four aspects: analysis of the response to media work; pre- and post-campaign surveys in the wider population concerning skin protection; evaluation of the campaigns conducted by individual institutions; and process evaluation.

Analysis of the media response
The response in the press was analysed systematically whilst the campaign was still in progress. This enabled the parties involved to assess the campaign’s dissemination via the media, and its communicative success. The results are impressive: by the end of the Healthy Skin Campaign, over 3,000 articles had appeared, from which a total of over 300 million reader contacts can be inferred. A total of over 300 articles on the campaign appeared in the publications of the supporting institutions alone, which have a circulation of over 40 million.

Survey of the population
In order for more information to be obtained on attitudes, knowledge, behaviour and developments in the population, some 2,000 individuals in the wider population were questioned at the beginning of the campaign, and another 2,000 upon its completion.

The results of both pre- and post-campaign surveys showed the population to be already well-informed on the subject of skin. The attitude towards the significance of skin and to skin protection was also very positive in both years. The data recorded in 2006 regarding the behaviour of those questioned did however reveal scope for improvement.

In 2008, changes were noted in attitudes to the subject of protection against the sun. A general difference in attitude, knowledge and behaviour between pre- and post-campaign surveys was not confirmed, however. The umbrella media campaign was too short in its duration and the financial resources too limited for major changes to be brought about among the wider public. However, the results show clearly that individuals with a high degree of awareness for skin-related issues were more receptive for the campaign’s messages. This subgroup clearly demonstrated a more positive attitude, was more knowledgeable about the skin, and exhibited more appropriate behaviour with regard to it. It can be assumed that previous experience with the subject of skin had particularly raised awareness among this population group.
Support for the evaluations of the campaigns conducted by the participating institutions

More precise conclusions regarding changes among the selected target groups were obtained via evaluations performed by the participating institutions. Their surveys were related to specific measures. Accordingly, significant changes were identified within the target groups.

The support for the evaluations of the campaigns conducted by the participating institutions was crucial. These evaluations helped in deriving conclusions applicable to future prevention campaigns.

Process evaluation

Since a campaign supported by over 100 institutions requires robust structures and joint activity, this interaction was analysed by a process evaluation. The objective was to derive conclusions applicable to future prevention campaigns.

For this purpose, the Academic Data survey institute conducted a survey of all members of the project management team by means of a qualitative interview guide. Among other things, all members consulted reported positively that the subject of skin had been established successfully in the public consciousness, a range of partners with different prevention mandates had been integrated, and the corporate design had been established.

Further information: www.dguv.de (Webcode d69810 and e47043)

The “Fight the Risk” prevention campaign

The success of the “On the right foot” campaign, which in 2003 and 2004 resulted in a 25% decrease in workplace trip, slip and fall accidents, and the campaign under the banner “Your skin – the most important 2 m² in your life”, prove that campaigns are a successful instrument for prevention. They are an important element within the Common German OSH Strategy, and their use is now taken for granted in the statutory accident insurance institutions and their network of partner bodies.

In order to attain the Common German OSH Strategy’s goal of reducing the frequency and severity of occupational accidents, and the agreed associated mandatory work programme, coordinated throughout Germany, of safe driving and transport within plants and on the public highway, the next major prevention campaign is currently in preparation. It will be launched in 2010, and will once again have a duration of two years. The communication and prevention activities of the statutory accident insurance institutions will then be focused on a common topic, namely the prevention and reduction in severity of:

- Accidents occurring during transport and traffic within plants
- Accidents on public roads during business journeys
- Accidents involving schoolchildren on public roads
- Commuting accidents

I am convinced that campaigns have the effect of spurring on prevention activity, and that joint activity leads to valuable synergistic effects. Campaigns are exciting, living projects, and I find them very enjoyable.

Elke Rogosky, Central Prevention Division of the German Social Accident Insurance (DGUV)
A key aspect of the campaign will be the reinforcement of individuals’ responsibility for themselves and for others. In particular, the sense of responsibility among employers and management staff is to be addressed.

**Involvement of the German Road Safety Council (DVR) and German regional governments**

During preparation and conducting of the campaign, the statutory accident insurance institutions will be able to call upon a powerful partner: the DVR, which has assisted the statutory accident insurance institutions for many years in matters of road safety work, will actively supervise the campaign and provide advice to all parties involved.

The regional governments have already signalled their support for and involvement in the campaign. The activities of the Common German OSH Strategy will thus be meshed closely with the campaign on an even broader basis. Individual health insurance institutions have also indicated their interest in involvement.

**All parties are working towards a common objective**

In previous campaigns, a certain structure of the activities has proved effective: an “umbrella campaign” conducted jointly by all participating institutions, geared primarily to the media, draws public attention to the campaign. The umbrella campaign serves as a framework for the various prevention activities. Campaign activities by the statutory accident insurance institutions and individual German regional governments, aimed at specific target groups, bring the campaign into individual businesses and other areas of society. Sub-objectives to be defined by each supporting institution will be pursued. Close networking of the umbrella campaign and campaigns by supporting institutions is crucial to the campaign’s success.

**Whom are we hoping to reach?**

The target groups of the campaign are in the first instance the 70 million insured individuals and 3.6 million businesses and institutions who are members of the German statutory accident insurance system. In particular, employers, management staff and individuals responsible for prevention tasks are to be reached. Other particular target groups, such as professional drivers, drivers of emergency vehicles, persons carrying out transport tasks within plants, etc., are however also to be targeted.

**Objectives of the campaign**

As early as a year and a half before the scheduled campaign launch, a group of experts from the accident insurance institutions, the German regional govern-

*With our campaigns, we aim to attract the attention of our target audience. I am excited by this, since positive feedback shows that we are reaching the groups concerned.*

Martin Rüddel, Communications central department of the German Social Accident Insurance (DGUV)
Improvements to the safeguarding of loads is one objective of the 2010/2011 prevention campaign.

The DVR and the DGUV presented a detailed concept for the campaign. At the heart of the concept is the definition of the campaign’s targets and subject-matter. These were selected by means of the iga method, supported by data and expertise. In the foreground were criteria for selection such as “scope of influence upon preventive activity” and “scope for the communication of messages”. The definition of common objectives forms the basis for evaluation of the campaign.

The following objectives were ultimately identified for the joint umbrella campaign:

- Improvements in the safeguarding of loads
- Improvements to the safety of cyclists, particularly cycling children and teenagers aged between 10 and 16
- Increasing the safety of in-plant transport:
  - During the transport of loads (including loading and unloading/transfer)
  - In the combination of public and private routes
  - On transport routes within plants
- Implementation of traffic safety within risk assessment
- Improvements to the observance of rules
- Improvements to visibility

Beyond these objectives, further subjects can be recommended for the campaigns run by individual supporting institutions and aimed at specific target groups.

The campaign before the campaign proper

2009 will be marked by intensive preparatory work, in order for the campaign to be launched in the full media spotlight at the beginning of 2010. Concepts for the subject-matter and communication will be developed further. All supporting institutions will prepare media, activities, and not least, evaluations of the campaign. Effective communication in the run-up period with the institutions supporting the campaign is essential for a successful joint public presence.
Co-operation between the accident and health insurance institutions is rated “good” (2 on a scale from 1 to 6, where 1 is the highest). This is the conclusion of the survey conducted in 2006/2007 by the “Prevention in the world of work” working group of the umbrella associations of the accident and health insurance institutions. The positive development in both quantitative and qualitative terms is attributed to the mature structures and the good personal contacts between the different branches of the German social insurance system. The supporting institutions particularly value the diverse experience already gained with similar prevention issues, which complement each other well in practice. The positive conclusion nevertheless indicates scope for improvement, such as:

- Greater exchange of information and experience
- Further enhancement of the available data, which would enable correlations to be detected between working conditions and diseases
- Co-operation between statutory health insurance institutions
- Greater open-mindedness and acceptance on the part of the different bodies for their partners’ approaches and concepts

These proposals are also taken up in a new framework agreement governing co-operation between accident and health insurance institutions which sets out recommendations for the form which this co-operation should take. These recommendations were already scheduled for review owing to the German legislation for the enhancement of competition in the statutory health insurance sector: since 1 April 2007, workplace health promotion has been a mandatory function of the health insurance institutions, which they are required to conduct in conjunction with the accident insurance institutions.

At association level, co-operation between the statutory health and accident insurance institutions is institutionalized not only through the working group responsible for “Prevention in the world of work”, which is maintained by the institutions’ umbrella associations, but also through the iga – Initiative for Health and Work: the BKK-BV (Federal Association of Company Health Insurance Funds), AOK-BV (Federal Association of Local Health Insurance Funds), vdek (Association of Substitute Health Insurance Funds) and the DGUV are all active within this initiative. Each year, over joint 20 projects are run relating to occupational safety and health and to workplace health promotion. The results benefit the institutions for statutory accident insurance and prevention (BGs), the public-sector accident insurers and health insurance institutions, and the enterprises themselves.

In 2008, a comprehensive study of the scientific literature confirmed the effectiveness of measures for prevention and workplace health promotion. This provides both in-plant and external prevention experts with convincing arguments for their concerns. A model project is currently examining how the provision of company sporting activities for employees in small and medium-sized enterprises can be improved. Last year, a range of iga events examined health-related behaviour and ways of improving it sustainably.

Further information:
Incentive schemes promote prevention in plants

Incentive schemes are intended to motivate plants to make particular efforts in the area of prevention, over and above observance of the OSH rules and regulations and the requirements imposed by the state authorities. The “Incentive systems” sub-project, conducted within the “Quality in prevention” research project, studied the efficacy of such measures.

The most important incentive systems of the statutory accident insurance system are:
- A system of surcharges and discounts on premiums
- Bonuses for prevention measures
- Awards for special prevention activities (certificates, commendation with favourable publicity)
- Quality seals and other forms of recognition, for example for the introduction of an OSH management system

**Non-financial incentive systems**
These primarily include safety competitions, health awards, ideas competitions, etc. The motivation for entering such competitions primarily takes three different forms: financial incentives; the public-relations effect of an award from the accident insurance institutions; and the satisfaction and pleasure derived from developing proposals and ideas independently. The principal aim of these competitions is to raise awareness and interest in plants for occupational safety and health.

**Financial incentive systems**
The accident insurance institutions have two principal strategies for reaching enterprises with financial incentives and encouraging them to adopt preventive behaviour: by adjustments to premiums, and by bonus models.

Whereas all BGs (the statutory institutions for accident insurance and prevention) are required to offer a premium adjustment procedure, the offering of further incentives in the form of bonuses is optional. Longer-term experience with a bonus model has been gained to date only by the BG responsible for the meat-processing industry, which has operated such a scheme since 2002. The data available indicate that the model has also met with widespread acceptance among small and medium-sized enterprises. According to the BG responsible for the meat-processing sector, developments in the accident rate per thousand employees have been more favourable among the businesses taking part in the scheme than among those not doing so.

Further information:
www.dguv.de/bgag (Webcode e13766)

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**Various types of incentive scheme**

- **Intrinsic motivation**
  - Suppression/enhancement
  - **Non-material reward**
    - Recognition
    - Status
  - **Material reward**
    - Bonus
    - Image
  - **Award of a “sponsorship prize/health prize”**
Prevention pays off. Safe and healthy at work – enjoying life. Because we ensure that by means of qualified employees at the statutory accident insurance institutions and by qualified skilled staff in the plants, the criteria are met for competent and comprehensive supervision in companies and educational establishments.
Initial and further training in occupational safety and health and in health protection is a factor influencing the success of workplace prevention activity. Besides up-to-date expert knowledge, the parties responsible must in particular possess decision-making and implementation skills. The extension of these skills is currently a focus of the DGUV’s efforts. The principal targets are the promotion of sustainability and tangible improvements in practical relevance.

Harmonization of the training systems
Since the merger of the HVBG (Federation of Institutions for Statutory Accident Insurance and Prevention) and BUK (Central Federation of Public Sector Accident Insurers), the DGUV has continued to train OSH professionals and labour inspectors as it has done successfully in the past. This ensures continuity until new arrangements are made by the DGUV’s committees. Following the many years of practical training activity, a comprehensive assessment and review of its subject-matter, educational aspects and methods is now necessary, in order to ensure that the requirements will continue to be met in the future. For this reason, further development (harmonization) has already been launched with the objective of developing training systems of a high standard for both the private and public sectors. At the conference of prevention managers, the decision was taken to prepare a project by spring 2009 for further development of the existing training for OSH professionals at the accident insurance institutions for both the private and public sectors. This work will be based upon the key points of the paper issued by the German Federal Minister of Labour and Social Affairs on 29 December 1997 concerning the training of OSH professionals. The efficiency and sustainability of the training are particularly significant aspects.

Forward-thinking progress in initial and further training

New examination regulations
In the area of labour inspector training, a dedicated project for their examination has been in progress since mid-2007. The impetus for the project was a resolution at the conference of prevention managers. A working group comprising managing directors, prevention managers and the chairs of the examination committees was set up for the formulation of common model examination regulations and a consensus on the occupational role of labour inspectors.

The aim is for the Members’ Meeting of the DGUV to adopt model examination regulations for labour inspectors by the end of 2009. These regulations are to contain all the provisions required for uniform examination of labour inspectors at the institutions for statutory accident insurance and prevention (BGs) and the public-sector accident insurers. An objective is for all
examinations of labour inspectors to be approved by a common examination committee from 2010 onwards. Transitional arrangements are planned for training courses already in progress.

**Quality assurance in the initial training of OSH professionals**

A further key task in the area of initial and further training is quality assurance of the existing training systems for OSH professionals and labour inspectors in the public and private sectors. Management of reform to the system of training for OSH professionals in the industrial sector will continue. The work is being conducted in the working group responsible for the optimization of the OSH professional function, with project management by the BGAG, and in conjunction with the Safety and Health Department in Munich. It has included, for example, the editing in the second half of 2008 of numerous training modules. In addition, both the entire contact-teaching material and associated media and the autonomous learning phases have been available on a DVD since May 2009.

Updating and quality assurance of the distance learning system for the initial training of OSH professionals in the public sector is assured by ongoing supervision by the advisory board responsible for initial, further and ongoing training of OSH professionals. All lessons, seminar materials and evaluations of learning success were amended continually in 2008 during basic updating of the training system.

In the face of the pending harmonization, further development of the two training systems will cease; all scope for the timely exploitation of synergistic effects in the area of subject-matter is being continually examined, however.

For the training of labour inspectors, quality assurance is being conducted in the industrial sector by the project group responsible for labour inspector training, and in the public sector by the advisory board responsible for labour inspectors.

**Initial and further training committee (AAW)**

In the future, the former committee for initial and further training (AAW) is to serve as the key specialist committee for all associated training issues. For this purpose, the committee is being developed further and reformed. In particular, representatives of both the public-sector accident insurers and the institutions for statutory accident insurance and prevention are to be active on it. The committee’s inherent purpose, its future organizational structure and its operational procedures are to be set out in internal rules of procedure. The draft rules of procedure were prepared and agreed in the spring of 2009 based upon a resolution taken by the conference of prevention managers.

The first task of the new AAW will be the further development (harmonization) of the training systems for OSH professionals and labour inspectors. In addition, it is to develop innovations in the area of prevention in response to the needs of DGUV members with regard to the training of particular vocational target groups, such as safety officers or management personnel.

**Conducting of seminars**

Since January 2009, all DGUV prevention seminars, particularly for the training of labour inspectors and OSH professionals, have been held at the BGAG Institute Work and Health in Dresden. In order to facilitate the move by trainee labour inspectors of the public-sector accident insurance institutions from Bad Hersfeld to Dresden, the BGAG and its practical facilities were presented to them once the processes had been agreed. As of 2009, OSH professionals from the public administrations are also being trained at the BGAG, at which the contact teaching events (introductory and concluding seminar, and from 2010 onwards also the interim seminar) are held as part of the distance learning course. In addition, the “New quality in consulting” further training course will be offered for all accident insurance institutions. The aim here is to professionalize the vocational task of OSH professionals.

**Further information:**

www.dguv.de (Webcode d2248)
The objective of the Sifa long-term study into the effectiveness of OSH professionals is to survey them representatively in their areas of activity and influence following new training, and to supervise them in their particular situations. The study is to run until 2011. The study was launched in 2005 by the BGAG Institute Work and Health, and its performance subcontracted to a research association headed by the Friedrich Schiller University in Jena.

With the baseline studies 1 and 2, which were completed to schedule in August 2008, a comprehensive picture has for the first time been obtained of the tasks and effectiveness of over 2,000 OSH professionals in the commercial sector in the first wave, and of over 1,100 in the second wave. A new aspect in 2008 was the representative survey of the OSH professionals of the public-sector accident insurers.

The first survey phase of the in-depth and validation study is currently in progress. For this purpose, the OSH professionals in over 300 companies were paired with their managing director or another leading member of the company’s management personnel, the company physician and/or a member of the employee representative council. This procedure was selected in order to compare the OSH professional’s own estimation of themselves with assessment of them by other parties in the plants. The results obtained to date show that changes in plant conditions also differ in the effects which they have upon the OSH professionals. The OSH professionals’ effectiveness is viewed positively, particularly by the managing directors. It was found however that the more OSH professionals are able to work hand in hand with management personnel and to assume an advisory role at planning and
In their role as non-governmental training bodies, the German accident insurance institutions provide training to approximately 400,000 people each year. They have a long tradition of delivering a range of training measures for the improvement of safety and health in companies. Both the subject-matter and the manner in which knowledge and skills are imparted are continually adapted to new developments and challenges.

In order to integrate these training activities into a process of continual improvement and to ensure an exchange of experience, a voluntary network of accident insurance institutions was formed in Frankfurt in December 2008 based upon an agreed quality framework model produced by the "Training" quality association.

The quality framework model for the prevention service of "training" comprises a consensus on quality and uniform quality standards. These apply to all training activities in the area of prevention: both for the fundamental elements (core processes) and for the framework conditions (management and service processes) of quality management, which encompasses the control and organization of the training measures.

The quality framework model constitutes a foundation upon which in-house processes with a sectoral orientation can be built. It is intended to assist the accident insurance institutions in managing their entire educational and organizational activity in the area of training in a co-ordinated and analytical manner. According to the requirements specific to each sector, details can and should be added to the standards by the individual accident insurance institutions in a variety of ways.

The "Training" quality association supports this process by providing mutual support and by the development of suitable instruments.

At first, it will particularly concern itself with the development of an audit guide and with the various possibilities for mutual assistance.

I am firmly convinced that quality-assured training measures of a high standard and consistent with the latest observations in the area of adult education facilitate sustainable prevention work. I am more than pleased to contribute to such work.

Sabine Richters, Safety and Health Department (SiGe) of the German Social Accident Insurance (DGUV)
Teaching materials: structure of the ergonomics modules

Module 1: Introduction to ergonomics
- Principles of ergonomics
- Benefits of ergonomics
- Areas of design work for design engineers
- Legal principles
- Good practice

Module 2: Technical content
Anthropometric and biomechanical aspects of ergonomic design

Module 3: Technical content
Consideration of selected work environment factors in solutions to ergonomic problems

Module 4: Technical content
Ergonomic aspects of the IT design of human-machine interfaces

Module 5: Complex application example
Design of products and workplaces for the needs of specific target groups

Ergonomics tuition modules for designer training

What ergonomic data must be considered during design and engineering of the working environment? Do standards exist in which ergonomic knowledge is formulated, and if so, how can designers find them? The knowledge obtained during academic study is generally inadequate in this area. For this reason, KAN (the Commission for Occupational Health and Safety and Standardization) has commissioned development of ergonomics tuition modules for this target group by two universities and in conjunction with the DGUV. The modules are intended to raise awareness for the importance of ergonomics from the outset, to provide basic knowledge in this area, and to offer pointers to where the necessary information may be consulted.

A survey of lecturers enabled the modules to be adapted to the actual needs, with a focus upon machine and installation construction. The course materials are designed to be used independently by lecturers in design theory at universities. In total, the teaching modules amount to approximately 5 ninety-minute lectures. They are divided into short sub-modules, and consist of Powerpoint presentations accompanied by substantial information for the lecturers. In addition, example exercises with solutions and test questions (including model solutions) are available, as are many practical examples – often in the form of short videos – and literature references.

Module 1 provides an introduction and essential criteria for the ergonomic design of work equipment. The benefits of integrating ergonomic findings are also illustrated, and legal and normative principles explained. Modules 2, 3 and 4 deliver specialist knowledge on the subjects of anthropometry and biomechanics, work-
With its training courses for in-plant skilled and management personnel, the BGAG Institute Work and Health supports commercial companies in the industrial and service sectors, and also public administrations, in the development of their personnel. Key aspects are the safety and health of employees at work.

In 2008, the BGAG developed a new course of training geared to the needs of companies: the "Co-ordinator for management systems". This course is geared to staff at plant level who have the task of setting up and/or optimizing complex integrated management systems. With it, the BGAG is responding to growing demand, particularly from among the ranks of OSH professionals. In an ongoing long-term study, for example, approximately 60% of some 2,000 OSH professionals consulted estimated that their effectiveness in plants would rise or could be enhanced were they able to assume strategic and planning tasks in their companies better than is the case at present.

Safety and the protection of health will therefore also need to be more firmly anchored in plant management in the future. A basic knowledge of OSH management is frequently no longer adequate for the requirements of companies.

The new training course has a duration of six weeks. Owing to the high standards which it embodies, it is conducted in conjunction with the DGQ (the German Society for Quality) and the IfG (Institut für Gesundheit und Management, institute for health and management). It comprises the following modules:

- Quality management
- Environmental management
- Principles in safety and health protection
- Health management
- Co-ordination of management systems

Individuals completing this new training course are equipped to set up management systems or to mesh existing management systems with each other, with the objective of creating smoothly functioning processes within the company. As skilled experts, they are in a position to co-ordinate plant activities and thus to assure greater efficiency and transparency in their companies.

Further information:
www.dguv.de (Webcode d12673)
www.kan.de/en (Webcode e3043) and www.ergonomielernen.de

In plant practice, the meshing of management systems represents a major challenge. With the training we provide for “Co-ordinators for management systems”, we assure greater transparency and contribute towards the optimization of plant processes.

Reinhard Zipperer, BGAG - Institute Work and Health of the German Social Accident Insurance (DGUV)
Preventive training measures are effective

Ongoing training in safety and health at work is a core function of the German statutory accident insurance system. Sound qualification of the parties responsible for workplace safety and health contributes to accidents and occupational diseases being avoided and work-related health hazards being reduced to a minimum.

Within the “Quality in prevention” research project, the “Training” sub-project studied the extent to which the initial and further training conducted by the statutory accident insurance institutions is purposeful and effective. Training measures are purposeful and effective when following the attendance of seminars, the trainees possess a higher level of knowledge, adopt the desired attitude to occupational safety and health, and are able to improve safety and the protection of health within plants or to maintain it at a high level.

Within the project, the participants in training measures and their superiors were consulted, both prior to and three months following attendance of the seminar. The participants were also consulted immediately following the seminar. The quality of the educational processes (teaching/learning quality), the increase in knowledge and the success of transfer to day-to-day plant activity were studied by way of example on five seminar types.

Following their attendance of the seminars, the trainees’ attitude to occupational safety and health was considerably more positive, and they were equipped to improve safety and the protection of health in plants and to maintain it at a high level. An increase in knowledge was observed.

Measurement of the effectiveness of training measures

Quality measurable as ...

- Attainment of prevention target
- Transfer
- Satisfaction and learning success
- Process quality
- Structural quality

Quality measurable at ...

- Insurer
- Plant
- Participants
- Lecturer
- Provider

Time
The BGFA’s activities are not limited to research: it also transfers its knowledge through teaching and activities in the field. In recent years, it has therefore continually expanded its programme as part of the medical school of the Ruhr University and as provider for continuing medical education in occupational medicine.

The programme of teaching for students at the Ruhr University in Bochum, in particular, has been substantially extended. Since 2007, students on the pilot medical degree course, which is offered in Bochum parallel to the standard degree course, have been taught by the BGFA in the subject of occupational medicine. The students’ training includes a series of lectures geared to the catalogue of learning targets for the subject, visits to plants in a number of sectors, and a series of seminars which also includes e-learning modules. In e-learning, the students have access via a dedicated Internet platform to subject-matter from the course of lectures on occupational medicine. Both systems offer interactive learning which at the same time permits independent monitoring of learning success. In the process, cases from day-to-day occupational medical practice are presented which also provide insights into how occupational accidents and diseases can be avoided.

In conjunction with the medical association of Westphalia-Lippe, the BGFA has also expanded its involvement in the continuing medical education of physicians, and since 2007 has offered the complete series of courses in-house. The tuition, totalling 360 hours, is part of the course of further training leading to the designated specialism or supplementary specialism of occupational/industrial medicine.

Continuing medical education is playing a growing part in the quality assurance of medical practice. Since 2008, the BGFA has offered – once again in conjunction with the local medical association – a further training course of occupational medical colloquia which takes up topical subjects in occupational medicine each month and invites competent speakers. This series of events also maintains the dialogue between the scientific community and the field.

Outside the medical faculty, scientific staff at the BGFA offer numerous events of relevance to examinations for biochemistry and biology degrees at the Ruhr University Bochum, particularly work placements and special placements lasting several weeks. This provision extends to bachelor’s, master’s, diploma and doctoral degree courses.

The results of the survey show the accident insurance institutions’ training measures to be beneficial and their transfer quality to be measurable and controllable.

Further information:
www.bgfa.de (Webcode: 506880)

The continuing medical education of physicians is an essential element of quality assurance in prevention. It’s determined by topical issues of practical relevance, which is appreciated by the individuals taking advantage of the training. I am pleased that a forum for scientific theory and practical application is emerging at the BGFA.

Dr. Volker Harth, BGFA – Research Institute of Occupational Medicine of the German Social Accident Insurance (DGUV)
Prevention pays off. Safe and healthy at work – enjoying life. Because we conduct research in order for work-related hazards and risks to be recognized at an early stage, and for diseases and accidents to be prevented.
The Fraunhofer institutes are synonymous with the development of new technologies, particularly regarding their relevance to practice. What topics do the institutions primarily address?

The work of our 57 institutes at 40 sites throughout Germany can be divided broadly into six areas: health, the environment, energy, safety, communication and mobility. At intervals of two years, we conduct an extensive strategy-finding process in which we seek innovative topics which we believe will also be of interest to society. In the health sector, for instance, this includes the subject of the "new heart"; in the environmental sector, distributed integrated management; in the energy sector, particularly the area of renewable energy, including solar and wind; in the area of safety, surveillance technology; and in the area of mobility, the development of hybrid materials.

What developments do you currently consider to be particularly outstanding?

We have developed a camera the size of a fingernail, which can be swallowed. It is guided by an external control system on the body, and can be rotated in all directions. Such developments are amazing: this is microelectronic expertise on the smallest scale. Another example are solar cells with an efficiency of 40%; before now, 20% has been the highest efficiency normally attained. We also hold the record for data transmission, at 2.56 terabits per second. This is equivalent to approximately 60 DVDs in one second.

For what area of research do you see potential in the future?

Some years ago, we were advised to devote more attention to the area of life sciences. We followed that advice, and it will continue to be an important area for us. Let us take the example of stem cells. We have created what is by a wide margin the largest database of frozen stem cells. We document animal cells as well as human cells. Should certain species become extinct or evolve at some point, we still have their complete blueprint. We use our plant database to study the effects of environmental influences upon the structure of plants. Our most recent creation is the Institute for Cell Therapy and Immunology, which we have set up in conjunction with the medical faculty in Leipzig. The objective here is not merely to freeze stem cells, but also to use them to treat diseases. A completely different example is our development of a fat-free sausage. It tastes just like a normal sausage, but has a fat component of 3% or less.

Are areas of occupational health and safety also taken into account during the research and development of new technologies?

Yes, that goes without saying. All Fraunhofer institutes are linked to university institutes. The Institute for Industrial Engineering, which I headed up to 2002, is even linked with the chair of work sciences and technology management. Altogether, the Fraunhofer-Gesellschaft has a well developed range of occupational safety and health activities. Unlike the DGUV, however, we do not possess an institute devoted solely to the development of products for occupational safety and health. Our efforts are channelled into developments in which for example one of our...
materials or control systems is used in an OSH product.

What research do you conduct in the area of prevention?

If you were to ask our staff: “Do you do occupational safety and health?”, they would probably answer with a confused “no”. Under closer examination, however, we see that one aspect of workplace safety is the observance of limit values. We have a whole range of activities associated with the evaluation of substances, hazardous substances and odours. In our Institute for Toxicology, for instance, we study the effect of toxic substances and gases upon the human body. Not, in the first instance, from an occupational safety and health perspective, but in very general terms. We also have at our disposal one of the largest databases of odours for the indoor area. Its archives include fumes given off by floor coverings, construction materials and adhesives. Our findings are useful for the manufacturers of these products.

Increases in industrial productivity often appear to be at odds with the safeguarding of health. Need this necessarily be the case?

In my opinion, no. Studies have shown that integrated occupational safety and health also brings economic benefits with it, at least in the medium term. An example is Porsche, the car manufacturer, who commissions noise studies from us. As you can imagine, a car must be quiet, but when you hit the throttle, you want to hear a throaty roar. “Sound engineering” shapes the car’s noise characteristics. We are also very active in the area of protection against noise.

What challenges does the development of sustainable technologies – including “green technology” – present for prevention?

Prevention is something that concerns an entire company. Where health protection is concerned, the emissions-related health hazards of these new technologies must of course also be considered. Solar energy is an example: the wind does not always blow with the same strength, and the sun doesn’t always shine; energy therefore needs to be stored. These energy stores are however based upon chemical processes. In other words, when we have too much electrical energy, we launch these processes, and when we need electrical energy again because there is no wind or the sun is too weak, we reverse the chemical process. The chemical store involves the handling of hazardous substances. This aspect must therefore be addressed, both organizationally and technically. Altogether, many aspects have to be considered.

Nanotechnology is currently highly controversial: some consider it completely safe, others regard it as tomorrow’s asbestos. And what is your view?

Since nanotechnology is new, it presents critics with a ready target. We know that nanoparticles can easily enter the lungs, and from there the bloodstream. The extent to which they are absorbed by the skin and mucous membranes is as yet unclear. That alone is of course sufficient to cause concern. It depends upon the material, however; one nanomaterial is not the same as the next. Were limit values to be laid down, they would have to be in the ultrafine dust range. Since owing to their size, nanoparticles have virtually no mass, it will not be possible to make use of the existing limit values; new limit values will therefore have to be defined. Besides that, however, I believe that it will be possible to classify nanoparticles clearly as hazardous substances, but only with completely different orders of magnitude, i.e. measured values. This will be an important task for the research community in the coming years.

What opportunities do you see in nanotechnology?

The opportunities lie in implementing all our achievements to date in the microelectronics sphere, a size smaller. As an example, consider the camera that can be swallowed, as I mentioned initially. In this case, too, the surface structures con-
The statutory accident insurance institutions and their umbrella association, the DGUV, conduct applied research primarily in their own research institutions, and support research projects conducted by third parties in the areas of prevention, rehabilitation and compensation. These research activities must be co-ordinated. Accordingly, the tasks of research co-ordination comprise:

- The management of information on research-related issues for the DGUV institutes of the BGIA, BGFA and BGAG and for research funding by the DGUV
- The co-ordination of research activities between the institutes and with third-party research sponsored by the DGUV
- Organization and promotion of co-operation between the three institutes and external research institutes concerning generic prevention issues
- Enhanced involvement by the accident insurance institutions in projects conducted by the European Agency and the European Commission
- Representation of the DGUV in European research panels
- Reporting in DGUV committees on generic research issues

These tasks are fulfilled jointly by the DGUV’s four research institutions. The BGIA bears responsibility for the essential elements of the infrastructure for the co-ordination of research. The role of co-ordinator has been assumed by the head of the BGAG, Dr. Pfeiffer, who follows Dr. Meffert in this function.

Third-party research projects are frequently initiated by the accident insurance institutions or the DGUV and for research funding by the DGUV. Increasingly, the DGUV invites external institutions to perform projects of its own conception. The sponsorship of third-party research follows a growing overall trend (see figure): in the past 10 years, the number of sponsored projects has doubled, and the scale of financing has increased even further. Diseases of the skin and the respiratory tract, workplace ergonomics, accident prevention, and the generic topic of quality assurance in prevention are key examples of sponsored research.

With the fusion of the umbrella associations, the DGUV has increasingly assumed the task of co-ordinating the research activities of its members whilst at the same time assuring their autonomy. A corresponding concept was first developed for prevention research. This essentially involves the formation of networks, the exchange of information, and representation of the accident insurance institutions’ interests to third parties.

Further information: www.dguv.de (Webcode e91768)
The prevention activity of the accident insurance institutions can be divided into a number of services. In the “Quality in prevention” research project, the quality of these services and their reciprocal effects are analysed, measured and evaluated. In the “Quality in prevention – Research” sub-project, the project team examined target values in the form of prevention managers’ expectations of research and development activity, and compared these values with actual values in the form of the results for 161 completed projects. A scale of 1 (low) to 5 (high) was employed for assessment in each case.

The expectations of the prevention managers are high regarding time management, relevance to practical application and co-operation, and lowest regarding publications. With regard to relevance to practical application, expertise and overall satisfaction, significantly higher expectations are placed upon internally conducted R&D projects than on external project partners (refer to the link in the figure).

The evaluation of the R&D results by the initiators of projects yields a clearly positive image (see right-hand figure); it does not differ significantly between the results of internal and external projects. Differences become evident when the expectations are considered. This reveals that:

- For expertise, co-operation, publications and overall satisfaction, little or no need for action for the improvement of quality is evident. This applies to internal and external projects alike.
- With regard to time management, deficits are evident in both internal and external research.
- Relevance to practical application reveals additional deficits in internal research.

The reason for the greater need for action with regard to internal research institutions can be attributed to the greater expectations on the part of the prevention managers. This is understandable, since the accident insurance institutions not unreasonably expect to be able to demand greater relevance to practical application from their own research institutions.

Analysis of the free-text responses to the survey resulted in ten questions of principle against which the quality of R&D results can be measured in the future.

Further information:
Project summary: www.dguv.de/bgag (Webcode d13766)

Ten questions of principle:
www.dguv.de/bgag (Webcode d18601)
The reciprocal effects of prevention services

Examination of the tasks encompassed by prevention activity, such as regulation, consultation, training, research, etc., quickly shows that they are not independent of each other in their influence in plants, but that changes to one prevention service frequently have ramifications for the other services, and in turn for their impact. The services therefore act reciprocally upon each other, and at the same time have a collective impact upon the company.

The “Quality in prevention” project examined the individual BG prevention services and attempted to identify their reciprocal effects. Which services have the greatest influence or are themselves subject to the greatest influence? The studies show that the research activities of the BGs generate valuable input for the other prevention services. Research results, however, do not generally find their way immediately into in-plant OSH activity, since their subject-matter must first be prepared for transfer to the conditions in the field. This task falls to services which are more the subject of influence by other areas than they are the cause of it. Such services include consultation, information, communication and training. These “transfer functions” are performed by the prevention services in the accident insurance institutions. In many cases, a single BG employee fulfils a number of functions: he or she may advise companies whilst also serving as a seminar lecturer and editor of information material. Reciprocal influence between the services is thus direct in this case.

These results should now be followed by consideration of how subject-matter from the services with the greatest influence can be channelled effectively into the “transfer functions”. A systematic procedure on the part of the accident insurance institutions could ensure that valuable results are actually incorporated into BG prevention activity - comprehensively, swiftly and effectively.

Further information: www.dguv.de/bgag (Webcode e39676)

Qualitative estimation by BG prevention experts of the interrelationships between prevention services
Healthy design of mobile IT-supported workplaces

The trend towards mobile IT-supported work
They are a familiar sight to all of us: people on the train typing on the laptop on their knees, holding a Blackberry in one hand and writing e-mails on it with the other, or the delivery drivers with their portable terminals which can be signed for confirmation of the receipt of deliveries. Increasing numbers of employees rely upon laptops, PDAs and mobile phones, particularly business travellers or field service representatives. Those affected not only include business travellers with a “mobile office” in the form of portable information and communications technology, but also extend to numerous other groups, such as employees in the logistics and transport sector, technical service, and professional drivers. They are absolutely dependent upon being able to work effectively and efficiently with the technology.

Possible impacts upon health
If the working conditions are not appropriate, i.e. the technology is not ergonomic, the working environment is unsuitable, the work is poorly organized or no support is available in the event of problems and faults, the requirements of the work cannot be met. Considerable acute stresses for the nerves and the body may then arise, and in the long term lead to chronic health impairments. Mobile IT-supported work does not fall within the scope of regulations governing stationary VDU workplaces, and such provisions can be applied to these new forms of work only to a limited degree. Technology continues to develop apace, and is largely characterized by the requirements for its use during leisure and for entertainment.

Studies of mobile IT-supported work
To date, not only are systematic surveys lacking of the conditions and stresses of mobile IT-supported work, but also integral concepts for the organization of such work. How can employers meet their responsibilities for the safety and health of their mobile employees? Together with accident insurance institutions and businesses, the BGIA and BGAG have conducted preliminary field studies. During a project conducted for the European Commission, they systematically studied the technical development and use of mobile IT equipment, possible health hazards, problems of OSH management, and consequences for the body of occupational safety and health regulations. Design recommendations for monitors at drivers’ workplaces are the result of a pilot project conducted by the expert committee responsible for the organization of the health and safety of workers at work. Publication of the results in the form of a BG Information is currently in preparation.

Further information:
www.dguv.de/bgia (Webcode d26750)
Collaborating robots

Collaborating robots are complex machines which work hand in hand with human operatives. They reduce the workload of the latter. One example: a robot lifts and positions a heavy workpiece whilst a human worker welds light iron hooks to it. During such tasks, the robot and the worker may come into direct contact. A comparable situation can be found with mobile service robots, which are being used in increasing numbers in the world of work and in public or private environments.

In these robot deployments, protective guards are no longer used to safeguard certain working areas, with the result that the risk of collision between a robot and a human being can no longer be safely excluded. In this case, other forms of safeguarding must be used in order to determine the risk of collision continually and to reduce it to a minimum within the robot’s control system. A residual risk remains, however.

Should a collision occur, any risk of injury must be minor and tolerable. How severe a collision is permitted? The BGIA has conducted a survey of literature and databases from accident research and pathology. Data for human biomechanical/medical stress under external mechanical loading were evaluated. Before these data could be reviewed, impact and entrapment tests had to be performed for the purpose on a dummy (see figure). A working group then defined the permissible limit values for forces and pressures for the entire surface of the body in the event of a collision. Based upon these provisional limit values, manufacturers are now able to design their robots and the control systems more closely for the situation in practice. The objective of this and future research by the BGIA is to prevent accidents from occurring during the emerging working tasks involving collaborating robots and service robots.

Based upon these preliminary results, a guidance document for the design of collaborating robots has been developed at the instigation of the expert committee responsible for machine construction, production systems and steel construction work. The document contains technological, medical/biomechanical, ergonomic and work organizational requirements. Its content was agreed with expert representatives from the robot manufacturers.

Further information: www.dguv.de/bgia (Webcode e93466)

Impact and entrapment tests on a dummy
Research into nanotechnologies

Together with biotechnology and information technology, nanotechnology is regarded as one of the driving forces of a new industrial revolution which will impact upon all human beings in the various areas of their lives. According to estimates, nanoscale products or products manufactured by nanotechnology will account for trade to a level of $ US 1 trillion in 2015. The BGIA is involved in research projects into nanoparticles which are being conducted by the European Commission. A greater understanding of the exposure of employees to these substances contributes to the development of safe production methods. The current NANOSAFE2 (“safe production and use of nanomaterials”), NanoImpactNet (“European Network on the health and environmental impact of nanomaterials”) and NANOSH (“inflammatory and genotoxic effects of nanomaterials”) projects contribute towards attainment of these objectives.

Certain sunscreen products contain titanium dioxide nanoparticles. The number of particles present in the atmosphere during production of these particles was measured in the course of the NANOSH project. The overall exposure was found to be low: in the range of the general background exposure during normal operations. Sporadic product particles with dimensions of less than 100 nm were however detected.

In the Seventh Framework Programme of the European Community, the launch is planned of the NANODEVICE project concerning new concepts, methods and techniques for production of a portable and easily used system for the measurement and analysis of airborne artificial nanomaterials at the workplace. This system is intended to contribute to simplified measurement technology. The intention here is to enable not only selected specialists, but also a larger number of skilled persons to measure nanoparticles in the workplace atmosphere.

The experience gained with the measurement of nanoparticles at workplaces was incorporated into the report on the responsible use of nanotechnologies published by the NanoCommission of the German government.

Further information: www.dguv.de/bgia (Webcode e95204)

Exposure to second-hand tobacco smoke in the catering sector

Together, the BGFA and BGIA studied the extent to which non-smoking employees in the catering sector are exposed to second-hand smoke at work. During a working shift of the study subjects, the researchers took samples of the indoor air: the employees wore a sampling instrument on their bodies, and further instruments were positioned in the bar area. At the same time, biological monitoring was employed, i.e. the detection of hazardous substances and their degradation products (metabolites) in urine, saliva and blood.

In the laboratory, the air samples were analysed for nicotine and acrylonitrile, and the biosamples were analysed for nicotine and its metabolites in urine and for acrylonitrile-adducts on the haemoglobin. Nicotine and its metabolites in urine reflect the acute exposure to second-hand smoke, acrylonitrile-adducts the long-term exposure over 120 days. The values were compared with those of active smokers, persons not exposed to second-hand smoke, in order to obtain reliable data, the researchers developed highly sensitive analytical methods.

A further finding is the identification of a clear relationship between the nicotine concentrations in the atmosphere and the values in urine. Acute occupational passive smoking was detectable only by measurement of the nicotine level in urine. The haemoglobin adduct of acrylonitrile appeared to be a suitable means of mapping the exposure to passive smoke over the preceding months: it was clearly detectable in the blood of all catering-sector employees.
Use of the CUELA measurement system at the workplace

The CUELA system of computer-assisted measurement and long-term analysis of musculoskeletal workloads developed by the BGIA has been used effectively for over ten years for the prevention of work-related musculoskeletal diseases. With the support of the BGIA, the prevention services of ten accident insurance institutions use CUELA in plant consultations and research projects. The measured data on the musculoskeletal stress collected over entire working shifts are archived centrally in the BGIA’s OMEGA database. Searches of these data can be conducted during prevention projects, epidemiological research projects or assessments of suspected cases of occupational disease.

The measurement system has been developed further in co-operation with the Bonn-Rhein-Sieg and Remagen Universities of Applied Sciences and the German Sport University Cologne. Miniature sensors which can be integrated into clothing can now be used for the recording of body movements. The new CUELA-Activity system records movement activity at the workplace and permits precise estimation of the energy exchange. Physical activity and inactivity at the workplace can thus be quantified precisely. In the context of the Common German OSH Strategy, this system is to be used for the first time, in response to an initiative by the VBG, in an intervention study into prevention of insufficient movement at workplaces.

The Swiss research institute Agroscope Tänikon, the Canadian OSH institute IRSST and the Columbian private-sector accident insurance institute SURATEP have joined the international body of CUELA users. The results of the research projects, which are conducted jointly, flow directly into national prevention work and thus benefit the German accident insurance institutions. The prevention project conducted with SURATEP in the Columbian floristry industry, for instance, delivers valuable exposure data on the incidence of shoulder-arm diseases, particularly carpal tunnel syndrome (CTS). These data are of great value both for the improvement of working conditions in Columbia, and for an understanding of the causes of CTS, which recently gained formal recognition as an occupational disease and is a topic of discussion in Germany.

Further information: www.dguv.de/bgia (Webcode d5109 and e23653)

I welcome the successful development, in the form of CUELA, of a measurement system which is capable of recording stress upon the musculoskeletal system objectively, in detail, and comprehensively. Findings based upon such measurements are the starting-point for recommendations for selective prevention measures.

Dr. Martin Liedtke, BGIA – Institute for Occupational Safety and Health of the German Social Accident Insurance (DGUV)
Modern non-invasive methods are rapid and precise, and also increase acceptance among the insured individuals who are being examined.

Non-invasive examination methods

Biological and chemical substances inhaled at the workplace may lead to irritation or inflammation responses in the respiratory tract and lung tissue. Elevated or repeated exposure may even result in acute and chronic diseases of the respiratory tract and lungs. Biomarkers which are released during inflammation of the affected cells in the respiratory tract may provide early indication of the effect of hazardous substances even in otherwise clinically healthy individuals. This fact can be exploited for the prevention of exposure and diseases affecting the respiratory tract.

Highly invasive methods, such as bronchoscopy, have been used in the past for the recovery of material for the study of biomarkers on the target organ. Such methods are highly stressful to patients and may even present a health risk. For many years, the BGFA has been continually developing non-invasive diagnostics procedures which may be used as substitutes for the invasive methods. In past years, the following non-invasive methods have been established at the BGFA for description of the changes in the upper and lower respiratory tract:

- Induced sputum
- Nasal lavage
- Measurement of the nitrogen monoxide level in exhaled air
- Measurement of inflammatory mediators and of the pH value in the breath condensate

Preference for non-invasive methods may also improve the acceptance of diagnostic examinations and is therefore a criterion for their widespread application in the context of prevention. Through the combined use of these methods, work-induced effects which trigger diseases of the respiratory tract can be identified at an early stage.

In the subsequent project phase, the detection of further inflammatory mediators is established and existing methods improved on the one hand; on the other, existing methods are applied in other projects, for example during biomonitoring. Biomonitoring may facilitate the precise quantification of actual exposure to a hazardous substance at a specific workplace. This is possible only with markers and measured values which can be determined without intervention in the health of the insured individual. Prevention is an area in which changes in health can be detected at the biomarker level, before clinical complaints become apparent which frequently indicate that damage to an organ has already occurred.

Further information:
www.bgfa.de (Webcode 395776)
Molecular markers for the early detection of cancer

The number of cancer cases associated with asbestos continues to rise in Germany. This can be seen from the number of formally recognized cases of occupational disease in 2007: approximately 900 cases of mesothelioma and some 800 cases of lung cancer associated with asbestos (compared to around 650 and 700 cases in 2000, respectively). Tumours associated with asbestos are not generally detected until an advanced stage; by then, the first clinical symptoms have occurred and successful treatment is often difficult. By contrast, the chances of successful therapy are significantly higher if the condition is diagnosed early. Therefore, non-invasive methods are required that facilitate a reliable early diagnosis with no or little stress for the patient. Imaging methods with a sufficiently high resolution are promising but also expensive and frequently associated with not inconsiderable radiation exposure. In addition, they are not always readily accessible.

Molecular markers are an alternative and a supplement to conventional methods for diagnosis and early detection of cancer. Molecular markers are substances from the body itself, such as proteins or genetic material (DNA, RNA), which are produced in greater quantities or in modified form by tumours before being released into the blood circulation or other systems. They can be recovered easily from blood samples, urine, sputum and other body fluids. Their quantity is then determined with high accuracy in the laboratory by means of modern molecular biological methods. Since virtually no study has yet confirmed individual biomarkers as being sufficiently specific and sensitive for the diagnosis of cancer, the BGFA is following a multi-marker approach in which at least twelve different molecular markers are determined and then combined in a marker panel.

The BGFA has been working on the development of molecular markers for several years. The institute has now launched a study in which these markers are being tested on a larger group of exposed subjects. For this purpose, regular follow-up and post-exposure examinations were incorporated into the project with the cooperation of (at present) five institutions for statutory accident insurance and prevention (BG BAU, BG Chemie, BG ETE, BG Metall Nord Süd, MMBG). The study collective of at least 2,000 test subjects was recruited from among insured individuals with a recognized case of the occupational disease (BK No. 4103 (asbestosis or pleural disease caused by asbestos dust). To date, the extended examinations have been launched in the Ruhr, Aachen and Bremen regions.

Further information: www.bgfa.de (Webcode 509952)

Investigation of molecular markers

Early diagnosis based on molecular markers is intended to minimize the burden on the patient. This is the objective of our team’s work. I consider our study into the early diagnosis of asbestos-related cancers to be particularly important because it provides us with an opportunity to make a lasting improvement to preventive medical care.

Dr. Georg Johnen, BGFA – Research Institute of Occupational Medicine of the German Social Accident Insurance (DGUV)
Every year, some 28,000 people in Germany contract bladder cancer, almost 75% of them men. Over 80% of those affected are aged over 60. Among the causes of bladder cancer are aromatic amines, which are present, for example, in tobacco smoke. Occupational exposure occurred in the past, for instance, during the manufacture and use of certain paints and tar. If the tumour can be diagnosed and treated at an early stage of development, the patient’s chances of survival are high.

Because bladder cancer has no early indicative symptoms, the medical profession is beginning to employ tumour markers. These might be able to indicate a tumour even at an early stage, for example, by detection in a urine sample. Together with project partners, the BGFA is testing the scope for the use of such markers. For this purpose, it is using ODIN, an organisational service for post-exposure examinations at the institution for statutory accident insurance and prevention in the chemical industry (BG Chemie). Over 46,000 individuals who have been or still are exposed to carcinogenic aromatic amines at the workplace are currently registered with this service.

The participants in ODIN are offered an extended early detection programme in the form of an examination with three tumour markers. By these means, the BGFA aims to examine whether more reliable and more timely information can be obtained on the progress of a possible cancer case. Reliable marker findings may help to improve early detection and to reduce the number of unnecessary cystoscopies. The principle of the selected biomarkers is based on the detection of molecular changes in bladder cells that have been isolated from urine samples.

In addition, a brief questionnaire is used to obtain information, on smoking habits, urological and selected chronic diseases and other parameters.

In 2008, the BGFA obtained over 4,500 samples from some 1,500 patients. More than 200 samples showed at least one positive marker result. Bladder tumours were detected in a total of eleven study participants. These preliminary results indicate that urine-based tumour markers, particularly a multi-marker panel, i.e. the simultaneous detection of a number of tumour markers, improve early detection. The screening of a risk collective for bladder carcinomas satisfies essential criteria established by the World Health Organization for successful early-detection programmes.

Further information: www.bgfa.de (Webcode 315392)
Prevention pays off. Safe and healthy at work – enjoying life. Because we move the exchange of knowledge on occupational safety and health forward by a wide range of international joint activities, and because we are engaged internationally ourselves in effective occupational safety and health measures.
International joint activity enhances prevention work

Interview with Hans-Horst Konkolewsky, Secretary General of the International Social Security Association (ISSA)

Mr Konkolewsky, you have held the office of Secretary General of the International Social Security Association (ISSA) for four years. In your opinion, what importance does the German Social Accident Insurance have within the ISSA, particularly with regard to prevention?

With its activities in the area of prevention, the DGUV is an important member of the ISSA. Its commitment is substantial, particularly in the Special Commission on Prevention. Many of the international sections of this commission are led by German BGs, and numerous tasks are conducted within them. Dr. Breuer is Chairman of the Technical Commission on Insurance against Employment Accidents and Occupational Diseases.

The DGUV is closely involved in the World Congress on Safety and Health at Work, which is held every three years. It also has considerable influence upon the ISSA’s work within the area of prevention. The subjects of asbestos, demographics, occupational diseases and nanotechnology are particularly worth mentioning. The ISSA repeatedly calls upon the high level of knowledge in Germany and within the German accident insurance system.

In your view, what German proposals or developments are important to international co-operation, and effective within it?

The German system of occupational safety and health is highly regarded throughout the world owing to its high standards, efficiency and effectiveness, and particularly owing to its involvement of the social partners. It has chosen a good strategy for creation of a culture of prevention.

For this reason, Germany is now one of the benchmark countries in an international comparison. Numerous members of the ISSA visit Germany in order to forge contacts and to exploit existing knowledge. For many, the interesting aspect of the German accident insurance system is that it unites prevention, compensation and rehabilitation under one roof. Also to be welcomed is that through the Joint German OSH Strategy, a common denominator has now been found for all players in Germany’s dual occupational safety and health system. Presenting the German system in international dialogue was also an aspect of the international strategy conference held in Dresden in January 2009.

Do you have a suggestion to make concerning improvement to occupational safety and health in Germany?

Germany belongs to the world elite in occupational safety and health, but must face the prevailing challenges of globalization, demographic change, new forms of work and new risks. To this end, more knowledge must be gained on these new risks, for example through research – nanotechnology is just one possible example.

In addition, I observe a trend for the accident insurance system to move its focus towards workplace health and towards becoming a form of health insurance, in response to the actual shift in the risks. This concerns not only traditional prevention topics such as hazardous substances or noise, but also more recent areas such as ergonomics, the organization of work, and psychosocial stress. International cooperation, for which the ISSA fora offer opportunities, is effective in this area. 

Hans-Horst Konkolewsky has been Secretary General of the International Social Security Association (ISSA) in Geneva since 2005. In this function, he heads a programme of worldwide activities concerning issues of social security, research, data collection, etc., and works together with international organizations which are active in the area of social and economic development.

Hans-Horst Konkolewsky is a Danish citizen. After completing his studies at the University of Aalborg, he held various senior positions at the Danish Ministry of Employment and the Danish labour inspectorate. For ten years, he was headed the European Agency for Safety and Health at Work in Bilbao, before moving to the ISSA.
further trend which can also be observed internationally is that invalidity is increasingly being caused by a combination of occupational and other health risks. Nutrition, alcohol or drug consumption and lack of exercise may be factors.

Prevention strategies conducted jointly with the health insurance institutions are an important response. The objective of the European Network For Workplace Health Promotion, for example, is that working conditions should make an active contribution to health. Germany is also able to consolidate its leading position internationally in the area of occupational safety and health by pursuing holistic and integrated strategies.

In recent years, the German accident insurance institutions have stepped up their dialogue with Eastern European and Asian countries, particularly China. In what areas of prevention has this dialogue already been fruitful?

Investing in international co-operation is an astute policy by which knowledge can be shared with others and a higher level of safety and health thus established, developed and defended in a globalized world. It results in other countries, most particularly emerging economies and developing countries, receiving support in improving their occupational safety and health standards.

At the same time, it reduces the risk of “social dumping” in international competition. From our Chinese members, I know that the German contribution to development and extension of the Chinese accident insurance systems is regarded very highly. The wide range of informative contacts benefited the Chinese system by building upon the experience gained in the German accident insurance system.

The dramatic growth in world trade gives rise to OSH issues which had long been considered resolved in Germany and the rest of Europe. How can proven solutions be transferred effectively to emerging economies?

International events and joint activities in regulation and training strike me as particularly important, whether at bilateral level or in co-operation with international institutions such as the EU and ILO or, of course, within the ISSA.

An effective exchange of information on good-practice solutions for implementation at plant level, to which the German accident insurance system makes a solid contribution, for example via the European Agency in Bilbao, is significant. The same applies to international standards, not least in sectors such as mining, agriculture or electricity.

A second aspect are possible imports of products which are unsafe or pose a threat to health, for instance because they contain hazardous substances such as asbestos. Where do you see scope for action to be taken jointly at international level?

This is a subject of concern throughout the world. I would therefore particularly like to mention the German commitment to the asbestos issue in this context. In Europe, we are aware of the terrible consequences of asbestos release, and we know how important it is to take preventive action. It is therefore very positive that in 2004, the Special Commission of the ISSA took the decision in Beijing to call for a worldwide asbestos ban, and to continue to work towards it actively and systematically, even in the face of opposing economic and political interests.

Are there milestones in international co-operation which you consider particularly important at present?

I would point to the Seoul declaration, which was signed at the last ISSA World Congress in Korea by 46 high-ranking representatives from government, industry, the social partners and the social insurance systems. In it, they acknowledge that prevention is an aspect of social responsibility, and commit themselves to developing a worldwide culture of prevention at the workplace. In their view, safe and healthy workplaces must be regarded as a human right.
German-Turkish co-operation in OSH

Agreement between the DGUV and the MOLSS

In August 2006, an official co-operation agreement was signed between HVBG and the Turkish Ministry of Labour and Social Security (MoLSS). Since then, a pooling of experience has been held each year, alternating in Ankara and Dresden (BGAG); papers are delivered in reciprocation at conferences; and joint work projects are conducted. In April 2008, it was decided that the joint activities would be continued in 2009. Since then, activities in this area have included the provision of information on risk assessment in schools; delivery of a paper at the 4th international OSH regional conference; and launching of a project for the translation into Turkish of information on risk assessment. Currently a prolongation of the co-operation agreement for another term of 3 years is in preparation.

Social dialogue in OSH in Turkey

Since the beginning of 2008, the DGUV has supported the further training of Turkish labour inspectors in a Turkish-German EU Twinning project for improvement of the Turkish labour inspection system. This work has been conducted in conjunction with several institutions for statutory accident insurance and prevention (BGs) and German labour inspectorates. Coordination of the project has been the responsibility of the GVG (Gesellschaft für Versicherungswissenschaft und -gestaltung e.V.), which has been mandated by the German Ministry of Labour and Social Affairs as a management institution for twinning projects. Within the project, very comprehensive further training seminars in key accident areas such as the construction, mining, chemical and metals industries were planned to be run in several Turkish cities in 2009 for the almost 600 Turkish labour inspectors.

A further focus of the supporting measures is the improvement of information and communication for all parties involved in occupational safety and health in Turkey. In addition to the development of a strategic communication plan for management of the labour inspectorate function within the MOLSS, efforts have been successful in enhancing social dialogue in Turkey. For the first time, the DGUV’s consultants were able to bring representatives of the Turkish social partners – the three largest Turkish trade union federations (TÜRK-IS, HAK-IS, DISK) and federations of employers’ associations (TISK, TESK, TOBB) respectively – to the table in joint workshops on the subjects of occupational safety and health and social dialogue. A key to this success was an open and innovative approach to communication which took up the ideas and opinions of all partners and accorded them equal consideration. This success was documented very impressively by the opening of official negotiations on collective agreements between trade unions and employers in which OSH aspects were to be addressed for the first time.

The European Network Education and Training in Occupational Safety and Health (ENETOSH) has been co-ordinated by the BGAG since October 2005. Launched as an EU project, the network now has 41 partners in 17 countries. The latest members of the network are the European Federation of Building and Woodworkers (EFBBWW), the Universities of Bratislava and Munich, the AWO (Workers’ Welfare Association) of Saxony, and KOSHA, the Korea Occupational Safety and Health Agency. Work has also begun on creation of a national ENETOSH network in Portugal under the aegis of the University of Porto.

ENETOSH is aimed at all bodies concerned with education and training in occupational safety and health. Based upon the central theme that safety and health are integral parts of lifelong learning, ENETOSH can be used at all levels of the education system. One aspect of this is the ENETOSH database, currently containing 406 examples of good practice, and also international network meetings and events offering opportunity for personal dialogue. Two network meetings were for example held in 2008 in conjunction with relevant international events: the 2nd international conference on the subject of education and training in a changing world of work, held in Prague, and the 8th “Training & Innovation” held in Dresden on the topic of intercultural dialogue in work and health.
A competence standard developed within an EU project is geared particularly to further improvements to the quality of teachers and trainers in the area of occupational safety and health. A common profile of requirements for teachers and trainers in Europe is now available for the first time in the form of the ENETOSH competence standard. The standard has been translated into ten languages, and can be downloaded from the ENETOSH website. In April 2008, work was begun on further development of this competence standard. The work will be completed in 2009.

Further information: www.enetosh.net

New Topic Centre at the European Agency

For over 10 years, the European Agency for Safety and Health at Work has gathered information relevant to occupational safety and health and has published it in reports and on the Internet. Information is identified for this purpose by searches, analysed, and prepared for publication by various experts’ working groups, termed “topic centres” (TCs). In the last four years, a “Risk Observatory” and a “Work Environment” Topic Centre have been in existence. The BGIA, supported by a number of accident insurance institutions, has been involved in this activity. In the “Risk Observatory” Topic Centre, Delphi surveys had the purpose of identifying emerging occupational safety and health risks. The most significant of these risks have been described in reports. The “Work Environment” Topic Centre has focused upon the subjects of young employees, workplace noise, ageing employees, hotels, restaurants and catering, freight, maintenance and repair work, and economic incentives for occupational safety and health.

In 2008, the European Agency merged the two topic centres to form a single “Occupational Safety & Health” Topic Centre, with an annual budget of approximately €1 million. The topic centre has the task of documenting occupational safety and health risks and of identifying future risks. It will deliver practical information on topical OSH issues through the Agency’s Internet portal. The publication of comprehensive reports is also planned. The topic centre is maintained by a consortium of thirteen OSH institutions from twelve EU member states, together with seven subcontractors from a further four member states. The activities are based upon the work programmes drawn up each year by the European Agency. For 2009, the key topics of the Risk Observatory are dedicated OSH measures for women, and the occupational safety and health of the self-employed and of emergency and rescue personnel. Maintenance work, road transport, health promotion and occupational safety and health in further education are being addressed under the heading of work environment monitoring.


I am pleased by our involvement with other parties in EU activities: it enables us to transfer examples of good practice to other countries, and in turn to learn from them. Effective occupational safety and health as it is practised on a sectoral basis in Germany thus acquires an international face.

Prof. Dr. Dietmar Reinert, BGIA – Institute for Occupational Safety and Health of the German Social Accident Insurance (DGUV)
The BGs have been testing work equipment for its health and safety characteristics for several decades. Within the “Quality in prevention” project, a sub-project with the title “Certificates” was conducted in order to determine whether this prevention service is still relevant for the member companies of the statutory accident insurance institutions. For this purpose, experts from member companies and from test and certification bodies were interviewed, and a comprehensive literature survey performed.

The results of the analyses show that the work of the eighteen test and certification bodies in BG-PRÜFZERT is both effective and economically efficient, not least owing to its close integration with other prevention services, particularly standardization.

How does testing and certification exert an impact? In their work, the test and certification bodies identify product deficits of relevance to occupational safety and health. The findings serve as important input for other prevention services; at the same time, they equip the manufacturer sustainably to design his products to be safe and healthy. The sectoral relevance of the test and certification bodies of the expert committees provides scope for practical solutions. BG-PRÜFZERT thus possesses a unique selling point which directly benefits the member companies.

By the networking of testing and certification with other prevention services, a closed loop is created which facilitates safe and healthy products and which has also received international recognition. An important function here is the evaluation of users’ experience and use of this experience as input for the test requirements.

The “Testing and certification” sub-project of the Quality in prevention initiative confirms how important this prevention service is.
I am pleased that intercultural topics now have a firm place in occupational safety and health: issues such as the preparing of employees for foreign assignments, prevention for persons with migrant backgrounds, and the management of intercultural teams.

Katrin Boege, BGAG – Institute Work and Health of the German Social Accident Insurance (DGUV)
Standardization is of fundamental importance for safety in the working environment. In areas governed by European directives, standards have for years now been developed almost exclusively at European or international level. Although standards projects are broadly similar in the procedures to be followed, areas nevertheless exist which present particular demands, above all in the area of public-sector services.

Voluntary fire services and organizations providing emergency services account for a large proportion of the voluntary activity performed for the common good. Standards must cover the many different circumstances of deployment and the particular requirements of the German fire services: the spectrum of their activity is unusually broad by international standards, ranging from firefighting to the rescue of occupants from crashed cars. The firefighters’ equipment must meet all these requirements. In response to a suggestion made by the team of specialists responsible for fire and other emergency services, DIN EN 469, “Protective clothing for firefighters”, describes the optional equipping of the protective clothing with retroreflective and fluorescent material, in order to take account of the frequent deployment of German fire services on public highways.

In the education sector, standardization work faces quite different challenges. The issues here is not one of traditional work places, the group of people to be protected extending to young children. Since children cannot always be expected to act rationally, special responsibility is required during formulation of the standards. The trend towards whole-day childcare extends the scope of relevant standards, particularly in the area of recreation and sports, where climbing walls or rope courses are popular. In order to assure the safety of this educational adventure apparatus, a standards committee dedicated to safety systems for adventure activities was set up in 2008 with the involvement of the team of specialists responsible for education.

An EN 12899 standard governing emergency safety showers in laboratories would have resulted in investments amounting to several million euro with no additional safety benefit, had this unnecessary provision not been rejected by the standards committee following pressure from the
I am impressed by what can be achieved in occupational safety and health when everyone pulls together. Advance co-ordination at European level is an important aspect here if we are to reach our objective, namely that of making work on channel-baling presses safer.

Dr. Michael Thierbach, Secretariat of the Commission for Occupational Health and Safety and Standardization (KAN)
EUROSHNET: European dialogue between OSH experts

Over 450 experts from more than 100 European occupational safety and health institutions make use of EUROSHNET, an international OSH network. Standardization, testing and certification: in all these areas, EUROSHNET permits straightforward dialogue and effective cooperation in occupational safety and health.

The network was born in Dresden in 2001: since standardization is increasingly being conducted at international level, it is becoming more difficult for the European OSH lobby to voice its own concerns and experience. New modes of communication were called for. At www.euroshnet.eu, EUROSHNET offers online discussion fora organized by topic. These enable complex OSH issues to be agreed and demands to be focused for presentation to international standardization activity. EUROSHNET thus contributes to greater mutual understanding and support across national borders with regard to the issues.

Where the provisions of standards can be formulated only inadequately, because requisite basic data are unavailable or unknown, EUROSHNET enables relevant research or study projects to be proposed or identified.

With regard to testing and certification, generic issues concerning conformity assessment are discussed in a dedicated forum.

Swift and topical interchange attracts attention from beyond the network. EUROSHNET lends itself to assuming a more defined role as a partner in Europe, for example by involvement on the Machinery and PPE committees of the European Commission.

Further information: www.dguv.de (Webcode: d36221) or www.kan.de/en (Webcode: e1524)

Quality of skin-test solutions: the flour allergy example

The skin-prick test is a fast, cheap, and when a standardized methodical procedure is followed – sensitive method for the diagnosis of immediate allergies. In a project conducted jointly with one Polish and six German partners, the BGFA examined whether qualitative differences existed between different commercial prick-test solutions for the diagnosis of flour and natural latex allergies. The project partners were supplied with defined commercial prick-test solutions for latex and for wheat and rye flour. The BGFA also supplied prick-test solutions of its own for wheat and rye flour.

In order for conclusions to be drawn regarding the atopy status of the patients, i.e. their propensity for further allergies, four commercial environmental allergens were also included in the test panel: grass pollen mix, birch, feline epithelia and house-dust mite. All prick tests were conducted by the parties to the project in accordance with a precisely defined standard method. The BGFA then analysed the results.

Around 130 bakers exhibiting symptoms and 20 patients with workplace-related breathing complaints associated with the use of latex were examined in the skin test by means of the corresponding prick-test solutions. The two latex prick-test solutions yielded specificities of the same level (92 %) at an optimum sensitivity of 100 %.

By contrast, the sensitivities of the commercial wheat and rye flour extracts varied very strongly (34 % – 95 %), whereas the variation in their specificities was only minor (77 % – 98 %). The flour skin-test solutions produced by the BGFA exhibited both the highest sensitivity and the best test efficiency. Since the quality of some of the commercial flour skin-prick test solutions was very poor, the BGFA conducted a laboratory test of further relevant occupational allergens. These commercial skin-test solutions, approximately 170 in number, also exhibited substantial discrepancies in their protein composition and in their protein and antigen concentrations. Skin-test solutions selected with reference to these results are currently being com-
Technical protection for non-smokers

Non-smokers must be protected against the hazards of environmental tobacco smoke (ETS) at their workplaces. Exceptions are legally possible in Germany where permitted by the nature of the business and the form of employment. Smoking bans may be imposed in order to effectively protect employees in businesses. Since smokers can be found in almost any company, however, this may result in tensions within the workforce. Technical solutions enable a level of protection for non-smokers to be attained which is comparable to a smoking ban.

At present, non-smoker protection systems such as cabinets are employed. The systems differ widely, and up to the middle of 2008, it was not clear to users which systems were effective in collecting and filtering the tobacco smoke. In recent years, the BGIA has therefore been asked whether such systems can be tested. In response, a working group which included manufacturers developed criteria for the testing of non-smoker protection systems. The test examines the collection and filtration of the tobacco smoke; this includes analysis of the marker substances such as nicotine, carbon monoxide, aldehydes, and the total volatile organic compounds (TVOCs, including benzene).

Tested non-smoker protection systems enable smokers and non-smokers to use a room at the same time. In some of Germany’s regions, the use of HVAC systems is being considered for the protection of non-smokers. At present, the legislation governing the protection of non-smokers makes no provision for this solution. Since many of the laws are currently being revised, however, other engineered solutions may in future be able to satisfy the needs of protection for non-smokers. The technical and financial expenditure entailed by suitable HVAC systems is considerable, however, owing to the complexity of their installation and to their running costs.

Testing began at the end of 2007. In June 2008, the first list was published of approved tested non-smoker protection systems. Interested parties thus have an effective guide to the selection of suitable systems. The Austrian Ministry of Labour has also adopted the BGIA’s test limit values and test mark for use by the labour inspectorate in relation to technical non-smoker protection.

Further information:
www.dguv.de/bgia (Webcode d26935)
In-situ penetration measurement of protective gloves

For type-testing and classification of the performance of materials employed in chemical protective gloves, penetration by chemicals is measured in the laboratory in accordance with European standard EN 374.

The specified test temperature for such measurements is 23 °C. In practical operations, however, the body temperature raises the temperature of the glove material to around 10 °C above room temperature. At this elevated temperature, the penetration time of the glove may be reduced by more than half. The maximum duration of wear for the gloves in practice as determined from the results of the type test is therefore subject to constraints.

In order for data more reflective of practical conditions to be obtained, it was necessary to determine whether increasing the test temperature to 33 °C alone yielded an improved and adequately reliable estimation of the gloves’ duration of wear for the workplace. For this purpose, a measurement system was developed and optimized for direct measurement of the penetration time of substances in the glove during wear (“in situ”). This was to enable the glove’s “true” duration of wear to be determined under real-case conditions.

The test method was also employed under test laboratory conditions and, in co-operation with the BG ETF, at actual workplaces in two member plants. At present, it is suitable for use only with organic solvents. Comparative measurements show that compared to laboratory measurements at 33 °C, the in-situ method yields penetration times which in all cases are slightly to considerably higher, i.e. the chemicals penetrate more slowly. The studies performed to date thus indicate that estimation of the duration of wear based upon the penetration time measured at the elevated temperature in the laboratory may be regarded as adequately reliable, provided the processing temperature of the chemicals does not lie above this temperature. Efforts should be made to revise European standards in consideration of this.
Interaction of occupational carcinogens and lung cancer

Lung cancer is the most common form of occupational cancer. At many workplaces however, employees are exposed not merely to discrete carcinogenic substances, but to substances in combination, such as asbestos and polycyclic aromatic hydrocarbons, quartz dust and ionizing radiation, or nickel and chromium. To date, this interaction has not been the subject of adequate scientific study. It is however of great relevance to prevention and to compensation made for occupational lung cancer.

Within the international joint SYNERGY project and in conjunction with the BGIA, the BGFA is therefore conducting systematic research with a number of international experts into the combined action of selected occupational pulmonary carcinogens. For this purpose, the data available from several major epidemiological lung-cancer studies conducted in accordance with Good Epidemiological Practice in different parts of the world have been compiled into a powerful database of lung cancer cases and controls. Comprehensive, quantitative estimations of past occupational exposure are being performed for the first time for this purpose. Measured airborne concentrations values from a number of international exposure databases, in particular from the BGIA’s MEGA database, are employed for creation of a job-exposure matrix. The project is being headed jointly by the International Agency for Research on Cancer (IARC) and the BGFA, and funded from the DGUV’s research fund.

The SYNERGY project is divided into three work packages (WPs) of scientific activity. In WP 1 epidemiological data from the selected studies are pooled into a common SYNERGY database. WP 2 will create the exposure database and will provide the job-exposure matrix for risk estimations in WP 3. The third work package involves statistical analysis of the data for estimation of the interaction of occupational carcinogens in the development of lung cancer in order to quantify the combined effects for the selected hazardous substances.

Altogether, five pulmonary carcinogens are to be evaluated: asbestos, polycyclic aromatic hydrocarbons, fine quartz dust, and chromium and nickel compounds. At present, the SYNERGY database contains information on over 13,000 cases and over 16,000 controls of sociodemographic characteristics, and on occupational and smokers’ histories.

Further information:
www.bgfa.de (Webcode 515584)
The DGUV

Since 1 June 2007, the statutory accident insurance institutions for the industrial sector and the public-sector accident insurers have been represented by a common umbrella association: the German Social Accident Insurance (German abbreviation DGUV). At the beginning of June 2007, the members’ meetings of the Central Federation of Public-sector Accident Insurers (BUK) and the Federation of Institutions for Statutory Accident Insurance and Prevention (HVBG) approved the formation of a common umbrella association. The HVBG and BUK thus became the DGUV. The DGUV has its head office in Berlin, and maintains further offices in Sankt Augustin and Munich. The DGUV also maintains institutes and academies at sites in Bad Hersfeld, Bochum, Dresden, Hennef and Sankt Augustin. In addition, the DGUV is active in KAN, the Commission for Occupational Health and Safety and Standardization, which is funded by the VFA, the Association for the Promotion of Occupational Safety in Europe.

The DGUV assumes responsibility for the common interests of its member institutions and supports their tasks in the interests of both the companies and the insured individuals. As the umbrella association of the institutions for statutory accident insurance and prevention (BGs) and the public-sector accident insurers, it represents the statutory accident insurance institutions in their dealings with government bodies, regional, national, European and international institutions, and employers’ and employees’ representative bodies. The BGs and the public-sector accident insurers insure over 70 million people in Germany against occupational and commuting accidents, accidents in schools, and occupational diseases. The insurance cover they provide extends to all salaried employees, schoolchildren, students, and voluntary workers, particularly members of the voluntary fire services. The statutory accident insurance system has the function of preventing occupational accidents, occupational diseases, and work-related health hazards. Prevention is of decisive importance, and is among the statutory functions of the BGs and public-sector accident insurers.

In the area of prevention, foci of the association’s work particularly include:

- Performance, co-ordination and support of joint measures and of research relating to the prevention of occupational accidents, occupational diseases and work-related health hazards.
- Preparation, formulation and updating of model accident prevention regulations; involvement in the issuing of accident prevention regulations, and measures for the assurance of legislative uniformity.
- Involvement in testing, certification and standardization at national, European and international level.
- Decisions concerning all fundamental technical and legal issues which ensure that the legislation is applied uniformly within the statutory accident insurance system, and the provision of expert consultancy and of information to members; promotion of the pooling of their experience.
- Drafting of principles and performance of initial, further and continuing training of employees of the member institutions and of the umbrella association, including the review and approval of promotion and aptitude examinations under the civil-service legislation and the promotion and co-ordination of initial and further training measures performed by the member institutions.

The acceptance of the work performed by the BGs and public-sector accident insurers is a substantial reason for their success. The DGUV and its members therefore consider it very important to inform decision-makers in government and industry and the public at large of their activities.
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