

VISION ZERO – THE GLOBAL PREVENTION STRATEGY

Towards Safety, Health and Wellbeing at Work



VISION ZERO – THE GLOBAL PREVENTION STRATEGY FOR LIFE

Towards Safety, Health and Wellbeing at Work

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VISION ZERO – WHAT ELSE?

Every one of us has the fundamental right to life and physical integrity. However, the dramatic numbers of accidents at work and on the roads show that all over the world, we still have a long way to go when it comes to this basic humanitarian requirement. The purpose of this paper is to present a promising prevention strategy known as the VISION ZERO strategy. VISION ZERO reflects a fundamental attitude based on the idea that every accident at work or on the roads can be prevented if the right measures are put in place in good time. The same goes for occupational diseases, and there is a particular focus on preventing accidents that lead to fatalities or permanent damage to health.



Beginning with the historical origins of the strategy, its fundamental principles are explained. The prevention strategy of the German social accident insurance institution for the raw materials and chemical industry (BG RCI) is used as a national example to show how a strategy can be designed and put into practice.

We are pleased to say that VISION ZERO is becoming more and more widely known and pursued around the world. A lot of this is thanks to the work of the German Social Accident Insurance (DGUV), the International Social Security Association (ISSA) and the International Labour Organization (ILO). The heads of government of the seven most advanced industrial nations, known as the G7, also announced their commitment to VISION ZERO and their global responsibility at their annual meeting in 2015 in Elmau, Germany.

For further information on the VISION ZERO prevention strategy visit:
www.visonzero.global

A stylized, handwritten signature in black ink, appearing to read 'H. Ehnes'.

Helmut Ehnes
Secretary General ISSA Mining



THE VISION OF ZERO ACCIDENTS AND ZERO HARM – HOW IT ALL BEGAN

In 1799, Éleuthère Irénée Du Pont de Nemours (1771 – 1834) set sail for the United States, where he settled in Wilmington, Delaware, not far from Philadelphia. In July 1802 he invested 36,000 dollars to set up a gunpowder factory on the banks of the Brandywine River, employing 18 staff. Du Pont's gunpowder was used to blast the way for roads and railways, and quickly acquired a key role in the establishment and expansion of the new nation. Very soon, Du Pont found to his cost that producing gunpowder is not the safest of activities. On 19 March 1818 an explosion destroyed a large part of the powder works. 36 people were killed, including friends of Du Pont. The existence of his factory was in jeopardy, not least due to vociferous protests from the elders and townspeople of Wilmington. Their unwillingness to put up with such a dangerous factory became one of the first ever citizens' initiatives.

Du Pont considered this, and as a consequence of the accident he established a new philosophy of safety in what we would now call his corporate culture. He insisted that his production managers live on the company site, close to the powder mills – it seems like a drastic measure today, but it was effective. Of course, they were now directly affected, which made them aware of their responsibility to ensure safety at the plant. He also laid down the first safety regulations and invested in safer products and safe production technology. This is why Du Pont is regarded as the father of the ground breaking safety philosophy which we now know as the VISION ZERO strategy.

WHAT DOES VISION ZERO MEAN?

VISION ZERO is about nothing less than our life and health – our most valuable asset. But not only that: it's also about the success of enterprises, efficient production, and motivated, productive employees. Although it is sometimes also called a vision or a philosophy, VISION ZERO is in fact a strategy for more efficient prevention that is based on results and characterised by values. This strategy, which has become known as VISION ZERO in the past few decades, has its origins on different continents and in different eras, but as we have seen, it ultimately goes back to the chemical industry.

The belief that every accident is preventable has proved to be an efficient driver and incentive for prevention ever since its origins at Du Pont. Even today, the company is still considered a world leader in ensuring the health and safety of its employees. One very important part of this safety culture has always been to create working conditions where people can make mistakes without risking injury or death. VISION ZERO is thus based on four principles.



THE FOUR PRINCIPLES OF VISION ZERO

The first principle: Life is not negotiable.

Nothing is so important that it can be weighed up against human life. The right to life and physical integrity is central to the Basic Law of the Federal Republic of Germany – and VISION ZERO demands nothing less. But first let's look where we stand with this fundamental right, using Germany with a working population of some 40 million and a developed economy as an example. In 2016, the social accident insurance registered around 877,000 reportable accidents at work in Germany, in other words, accidents that result in more than three days off work. 424 employees died in accidents at work, and 3,214 fatal accidents occurred on the roads of Germany. Internationally, the ILO estimates that there are around 360,000 fatal accidents at work and more than 1.95 million deaths caused by diseases resulting from poor working conditions and exposure to carcinogenic or otherwise harmful materials and substances. So how far have we really progressed when it comes to this basic human right?

Protecting this right is everyone's duty – government bodies, accident insurers, as well as companies, managers and employees. Walter Eichendorf, President of the German Road Safety Council (DVR), raised an interesting thought experiment. He asked us the following: "Let's imagine E.I. Du Pont travelled from 1802 to the present and assume the motor car had not been invented. Now along comes Du Pont and tells politicians, the media and the public in Germany that having perfected gunpowder manufacturing, he has now invented a brand new technology which will revolutionise personal mobility using motorised, individually steerable vehicles. However, introducing this technology will bring with it a new kind of accident, namely road accidents. He estimates that on average there would be ten fatalities a day.

Now obviously, this technology would never be introduced and the inventor's proposal would provoke condemnation and even outrage. Surely no-one would want to be responsible for introducing a technology that cost ten lives every day! Politicians, society and the media would be united in rejecting it." Naturally, this is a made-up example – because even Du Pont could not have imagined what long-term consequences his invention would have. However, it does show the kind of compromises we have to make in order to preserve the basic right to life and physical integrity.

The second principle: People make mistakes.

VISION ZERO is based on the established fact that mistakes at work and on the roads can never be completely avoided. Studies of sensorimotor activity have shown how limited our capability is to perceive information from the environment, process it and compare it to memorised information. It is evident that the sheer quantity and density of information means that human error is the rule rather than the exception. As well as this, people make mistakes due to emotional, motivational and stress-related processes.

That's why it would not be surprising if research into accidents on the roads and at work confirmed that the main causes of accidents can be found in human error, in other words in the conduct of employees. But this is precisely the wrong way of thinking, because if humans, with all the motor skills, coordination, perception and information processing skills that evolution has given them, are still often unable to cope with the demands of the modern workplace or roads, then we can't blame them if they make mistakes. As well as this, the preventive effect of a management culture where the company executives and management are aware of their responsibilities and act accordingly is something which is often neglected. A closer examination of the causes of accidents will almost always show that life-saving safety regulations were either deliberately ignored or that the system does not even allow the work to be performed safely. In both cases, timely intervention would have prevented the accident.

However, this also means that with almost all traffic accidents and a large number of accidents at work, we can expect to find human error at numerous places in the chain of events that led to the accident. Even so, VISION ZERO insists that mistakes must never cost lives.

The third principle: The ability to cope with physical and mental pressure is crucial.

Precisely because we accept that people will make mistakes, we must ensure that when accidents do happen, they do not cause serious injury. "Everybody gets there safe and sound" was how the German Road Safety Council (DVR) put it when it opted for the VISION ZERO strategy, thus committing itself to the development of design principles for vehicles and infrastructure that minimise injuries, including assistance and safety systems (such as airbags).

At the workplace, this becomes even more important considering that with the Internet of Things, for example, humans and (seemingly) intelligent machines will work side-by-side at many workplaces without protective barriers.





The fourth principle: Situational prevention comes first.

Road users and workers cannot create safe working conditions or traffic systems by themselves. This means we have to think further: the workplace and traffic systems must be adapted to suit human beings, not the other way around. In traditional occupational health and safety, we call this giving priority to situational prevention. However, it does not absolve individuals from their own responsibility. On the contrary, everyone must be aware of the risks to themselves and others as a result of what they do and what they fail to do. In Sweden, they call this “shared responsibility”. Individuals are responsible for obeying laws and regulations, while system designers must ensure that the system as a whole is safe. System designers are primarily employers, managers, machinery manufacturers, planners and authorities.

Critics sometimes claim that VISION ZERO is unrealistic. But there is a clear answer to that. Who wants to tell a person who has suffered permanent injury from an accident that the tragedy was unavoidable and more or less expected? If you want to achieve the best that is possible, you have to aim for what seems impossible. And there are success stories. In aviation and rail transport, VISION ZERO has long been the gold standard and its aims have largely been achieved. And in the rare event of a serious air crash or train accident, politicians, the media and the public demand investigations so that such accidents never happen again. In contrast, the smaller disasters that occur every day at work and on the roads barely merit a footnote.

But when critics resort to the cost argument, it's usually enough to point out the 30 billion Euros of damage caused by road accidents each year to the German economy. Damage caused by accidents at work will be at least as much, because payouts by accident insurers alone come to around 10 billion Euros each year. On the global scale, the ILO estimates that approximately 4% of the world's gross domestic product is lost with the cost of injury, death and disease through absence from work, sickness treatment, disability and survivor benefits.





The tripartite stakeholders of Luxembourg signed a national VISION ZERO charta in 2016.



VISION ZERO started its spread in road traffic, beginning in Sweden.

THE SPREAD OF VISION ZERO

VISION ZERO has only just arrived in Europe ...

In Europe, the idea of “zero accidents” did not gain ground in the development of political strategies for road safety until the 1990s. In Sweden, where the risks of the chemical industry were intensively discussed after the Seveso and Bhopal disasters, and a complete ban on the industry was briefly considered, the ministry of transport officially incorporated the basic tenets of the zero-accident philosophy into the field of road safety, coining the name “VISION ZERO”. According to a publication by the Swedish central office for road traffic, “Vision Zero is the vision of a future where no-one is killed on the roads or so seriously injured that they sustain lifelong injury.”

After the turn of the millennium, the new VISION ZERO strategy was taken up in numerous other countries, including Denmark, Norway, Finland, Switzerland and the UK. And the VISION ZERO wave keeps on rolling: On the occasion of the “Forum Sécurité-Santé”, March 2016, Luxembourg announced to adapt the VISION ZERO prevention strategy. Employee’s representatives and the Minister of Labor signed the agreement in the presence of the Grand Duke of Luxembourg.

Outside Europe, the pioneers in implementing the VISION ZERO strategy for occupational health and safety include Singapore, New Zealand, Korea, Australia and Canada.

... and now Germany

Since late 2007 the German Road Safety Council (DVR) has strongly publicised VISION ZERO and promoted the new strategy. The positive response has been very pleasing. In October 2008, the conference of transport ministers of the federal states declared: “The conference of transport ministers regards VISION ZERO as a suitable basis to serve the long-term quality aims for road safety.” Since then, the EU Commission has made a clear commitment to VISION ZERO in its white paper for a single European transport area.

The German Social Accident Insurance (DGUV) first made a clear commitment in 2008 by incorporating VISION ZERO in its principles for prevention. On 28 November 2008, the representatives of workers and employers unanimously agreed at the general meeting of the DGUV on a policy paper, whose reason for existing was contained in its title: “Prevention pays!” The new policy paper deals with the workplace, as well as educational institutions. The introduction sends a clear message: “Workplaces and educational institutions must be designed using all suitable means to prevent accidents at work, at school or on the way to and from work or school, as well as occupational diseases and work-related health risks (VISION ZERO).”


VISION ZERO. ZERO ACCIDENTS – HEALTHY WORKING! THE BG RCI STRATEGY

A good practical example of systematic implementation of the VISION ZERO strategy by an accident insurer is the prevention initiative of the German social accident insurance institution for the raw materials and chemical industry (BG RCI). During the reorganisation of the prevention section following the merger of six different social accident insurance institutions to form the BG RCI, not only was a new organisational form required, but a strategic discussion took place on the principle that the form of the organisation must reflect the strategic objectives.

After intensive discussions, the company representatives on the board of the BG RCI and at its representatives' meeting agreed that occupational diseases and accidents at work or on the roads are neither random nor unavoidable events, but have causes. "If we all work to eliminate these causes, then accidents and occupational diseases can be prevented", says the joint statement of the employers and employees. They consequently agreed to make the VISION ZERO strategy a guideline for action at BG RCI. In mid-2014 the senior management committees decided on the prevention strategy "VISION ZERO. Zero accidents – healthy working!" to ring in a new era for prevention. There was agreement that risks at work cannot be completely eliminated. This is why VISION ZERO does not mean "zero risks" – but that suitable measures must be taken to reduce and control risks so that they do not cause injuries or diseases.

In his opening speech at an information event on VISION ZERO for the employers' associations on 4 November 2015 in Berlin, the chairman of the BG RCI board, Hans Paul Frey, explained why a new approach was needed: "Because of our statutory duty of prevention, but above all out of personal conviction, we are committed to ensuring safe working conditions at our member companies and continuing to reduce the risks of accident and disease. The success of our prevention activities in the past has always been based on the shared commitment of all those involved – the employers and their staff, the employers' associations, the staff councils and the trades unions. Together we have reduced the number of accidents and occupational diseases, and there is a high standard of occupational health and safety at our member companies. Some people might ask why we don't just carry on as before. In response to this, here are some figures:

- Every year 78% of our expenses, that's around 1,000 million Euros, are spent on medical care, rehabilitation and pensions.
- In 2014, 94,000 people were receiving pensions from the BG RCI.
- These people received pensions totalling 64 million Euros every month.
- Every year, there are around 65,000 accidents – which means that one in twenty people insured with us suffers an accident at work or travelling there.
- Every year, 840 people from our companies are so severely injured that they suffer the effects for the rest of their lives.
- Every year, 20 people from our companies die in accidents at work.

A photograph of Hans Paul Frey, Chairman of the board of BG RCI, speaking into a microphone. He is wearing a dark suit, a white shirt, and a green tie. He has grey hair and glasses. He is gesturing with his right hand while holding the microphone in his left. The background is a light blue screen with text in German and English.

“And now I ask you: are we satisfied with that? Shall we accept that? I’m sure we all agree: no – we’ve got to do better. Accidents don’t just happen – they have causes. We must be able to continue reducing the number of accidents and diseases at work!”

Chairman of the board Hans Paul Frey explained why the German social accident insurance institution for the raw materials and chemical industry (BG RCI) commits to VISION ZERO for more than one million employees.

BG RCI'S 7 TARGETS OF VISION ZERO

As part of what is currently a 10-year initiative, the BG RCI has set seven specific targets for its VISION ZERO strategy to be met by 2024, and for the first time there are not only qualitative targets, but also quantitative ones.

Target 1 Reducing the risk of accidents at work by 30% by 2014

Target 2 Reducing the number of new pensions from accidents at work by 50%

Target 3 Reducing fatal accidents at work by at least 50%

Target 4 Reducing occupational diseases

Target 5 Increasing the number of companies with zero accidents

Target 6 Aligning prevention services more closely to actual needs

Target 7 Increasing the use of prevention services

For the 4th target, preventive measures must be taken to reduce the number of new confirmed and compensated cases of occupational disease due to exposure at the workplace.

To achieve these ambitious targets by 2024, the BG RCI intends to implement a total of 10 measures, or more precisely, collections of measures. These are the screws we need to tighten, so to speak:

Measure 1: Better analyses to identify priorities

A results-based approach requires a more detailed look at the accident statistics. More thoroughgoing analysis will mean that it can be identified in more detail where it is worth investing in prevention. Special factors, new risks and current developments must also be taken into account.

Example of outcome: As a first measure, a re-evaluation of 303 fatalities at work (2004 until 2015) was conducted, resulting in "12 LIVESVERS" for managers and employees each. Both sets span 12 frequently found causes of fatalities and explain the facts as well as very concise advice on prevention

Measure 2: The customer's needs are decisive

To better identify what member companies need and to communicate more directly, BG RCI carries out regular customer surveys on prevention services as regards demand and quality.

Example of outcome: As a first measure, systematic surveys have been conducted to find out specific requirements for different target groups in the companies, such as young employees.

<p>LIFESAVER 1: Know the facts – avoid danger to life!</p> <p>It is my responsibility to make my employees particularly aware of accident hazards posing a high risk potential. I ensure that company specifications are followed and work is accomplished safely.</p> <p>The facts: 90 percent of all fatal work accidents were caused through using the accident types like figure!</p> <p>In twelve years, these five accident types alone have cost 270 human lives.</p> <p>LIFESAVER 2: Risks: Identify, Manage, Preserve life!</p> <p>I am responsible that hazards are systematically determined for all activities, the necessary protective measures are specified and that the risks are managed.</p> <p>The facts: With every third fatal work accident there was either no or only an insufficient risk assessment.</p> <p>LIFESAVER 3: Act as a role model! Look! Act!</p> <p>I am aware of my function as a role model. My actions are consistent and predictable and I immediately intervene with unsafe methods.</p> <p>The facts: Consequences were involved with two out of three fatal work accidents. The hazard was so apparent that the managers and the person suffering the accident should have intervened.</p> <p>LIFESAVER 4: Routine, Experience, Can be fatal!</p> <p>I regularly observe the work behavior of the experienced employees. I encourage all employees to always give safety the highest priority and to never stop to rest.</p> <p>The facts: "Old hands" carry the greatest risk of suffering a fatal accident. More than every third person suffering an accident belongs to the age group of 40 to 54 years with particularly long experience.</p>	<p>LIFESAVER 5: Safe work: Specify! Instruct! Check!</p> <p>For all activities, I specify how work has to be performed safely. I ensure that the instructions are given comprehensively and understandably. I personally make sure that my employees have understood and follow the specifications.</p> <p>The facts: In one out of three fatal work accidents, the safe mode of work was either not or only insufficiently specified, or the instruction was deficient. Therefore, those suffering the accident did not have the necessary understanding for working safely.</p> <p>LIFESAVER 6: Safety devices, PPE, Essential for life!</p> <p>I ensure that the necessary company safety devices and the personal protective equipment (PPE) are available and always used. I am a good role model and immediately address incorrect behavior.</p> <p>The facts: Although the necessary safety devices or the personal protective equipment (e.g., safety belt, overalls, fall protection, lifting device) were in place and functional, they were not used with every fifth fatal work accident.</p> <p>LIFESAVER 7: Vehicles, Earthmoving machines, Forklift trucks, Danger to life!</p> <p>It is my responsibility to minimize the risks with the use of our vehicles through suitable measures. This includes a traffic concept, secure traffic routes, deficiency-free vehicles and a considerate behavior of all traffic participants.</p> <p>The facts: In one out of three fatal work accidents, vehicles (e.g., wheel loaders, trucks, dump trucks, forklift trucks, etc.) were involved. Twenty 100 individuals, including nearly 70 pedestrians, were killed.</p> <p>LIFESAVER 8: Malfunctions, Cleaning, Maintenance, Greatest danger!</p> <p>I am responsible for the planning and monitoring of safe working procedures with fault clearance, repair and cleaning work on machines and plants. I make sure that the specifications are observed.</p> <p>The facts: In this area, 40 people were killed due to lacking or ignored working instructions.</p>	<p>LIFESAVER 9: Functioning safety devices? Save lives!</p> <p>I ensure that the effectiveness of all safety devices is regularly verified and that deficiencies are resolved. In addition, I make sure that the safety devices are used as intended.</p> <p>The facts: 20 individuals were killed during work on machines and plants because the safety devices (e.g., safety light barriers, safety within, locking devices) had been disconnected or had been manipulated. The managers had either not noticed this or had even tolerated it.</p> <p>LIFESAVER 10: Falls kill! Prevent it from happening!</p> <p>I make sure that working at heights is performed safely through technical measures and that the necessary personal protective equipment is consistently used. As far as possible, we avoid performing works on ladders.</p> <p>The facts: 47 individuals were killed through falling from high working levels. The lowest fall height was less than one meter. Working on ladders and flat roofs (stepping through) can have a fatal outcome.</p> <p>LIFESAVER 11: Falling, Tipping, Collapsing, Danger to life!</p> <p>I instruct my employees to stay out of areas wherever possible where a hazard through tipping parts or falling objects cannot be completely excluded. I ensure that the storage and transport is performed in ways that nothing can fall or tip over.</p> <p>The facts: 40 individuals were much dead by tipping parts or falling objects. Often the situation was not given or tools were not secured against falling.</p> <p>LIFESAVER 12: Explosion hazards! Take measures!</p> <p>I carefully assess whether there are explosion or fire hazards in my area of responsibility and take the necessary measures. I make sure that the employees only perform works in hazardous areas after approval and exclusively with suitable tools.</p> <p>The facts: 12 individuals were killed through explosions and their consequences.</p>
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Plain facts: “12 Lifesavers” for employees and managers each explain concisely what needs to be done to prevent common causes of fatalities. This product is an outcome of the measure calling for improved analysis.

Measure 3: Better-quality prevention services

Based on responses from clients and analysis of accidents and occupational diseases, BG RCI intends to systemise, optimise and update its range of prevention products, and where necessary to expand it, or slim it down if there is clearly little demand for certain offers. This will help companies select the right services.

Example of outcome: As a first measure, various prevention packages and new lines of media have been created to streamline information to the required formats. An example is the media line “In a nutshell”, summarizing key facts in an easy-to-understand way and enabling for target action in short time.

Measure 4: Setting the right priorities

The priorities for future prevention work are identified by analysing accidents and occupational diseases, responses from clients and new risks that arise. It is already clear that the topics of health at work and avoiding or reducing mental stress at work will become increasingly important. To achieve progress as regards accidents on the way to and from work, a joint project with the DVR has been initiated to prevent accidents en route.

Example of outcome: As a first measure, road safety programs are included systemically into BG RCI’s prevention program, allowing drivers to improve safety skills in coaching programs in traffic.

Measure 5: Special assistance for small and medium-sized enterprises

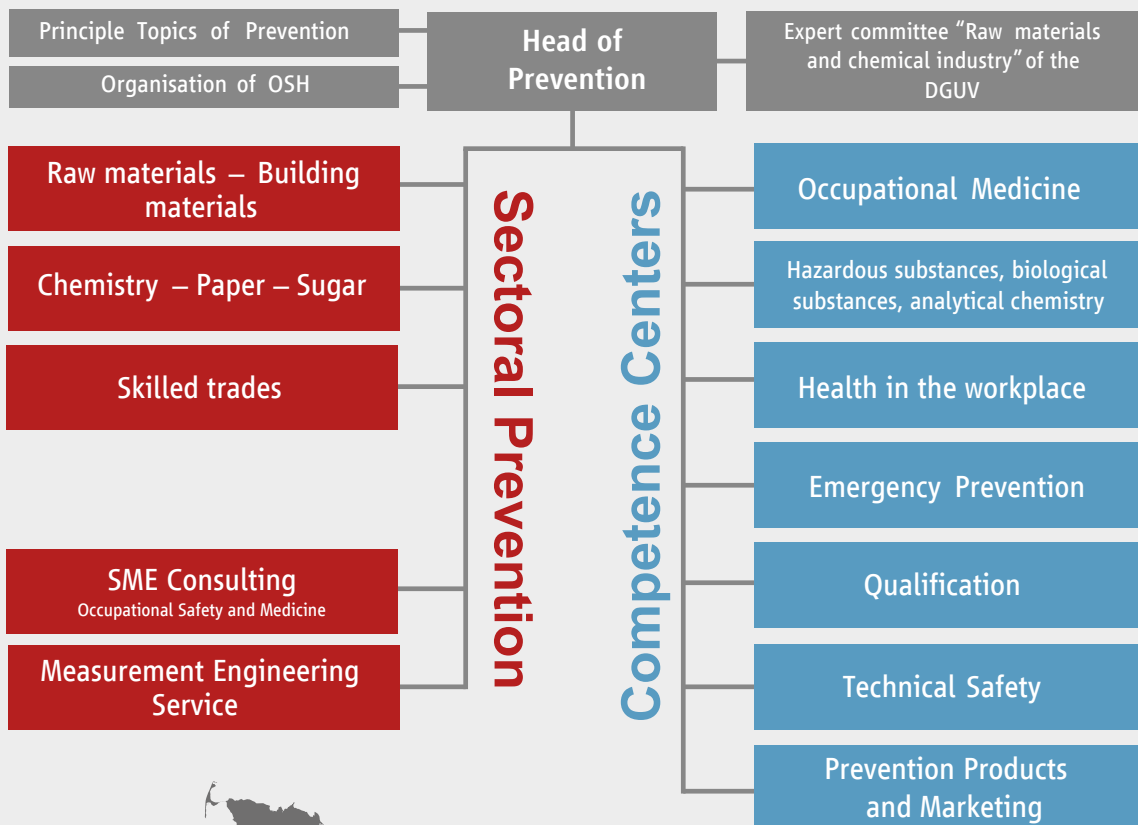
Investigations have revealed a tendency that the smaller the company, the greater the risk of accidents. Small and medium-sized enterprises (SMEs) are also more likely to have deficits when it comes to the internal organisation of occupational health and safety. This means the VISION ZERO strategy should set a priority here.

Example of outcome: As a first measure, the communication has been enhanced; as part of this, a media line was launched to communicate hot topics in a condensed and easily adaptable form.

Measure 6: Developing skills and expertise

The requirements for prevention are always changing – and naturally, the prevention experts of the accident insurers must always be aware of the latest developments. This is why another focus is on ensuring that consultants have an up-to-date combination of qualifications and develop their expertise, which means specific training on current topics and developments.

Example of outcome: As a first measure, the prevention team of more than 500 has been aligned, while information and communication are improving the abilities to act.



BG RCI's prevention team is aligned to combine a wide array of expertise for all insured companies nationwide.

Measure 7: Being present at the workplace

Paperwork can wait. Ultimately, prevention can only succeed if consultants visit the workplace and show where improvements can be made. In future, the different potential risks in different industries and companies must be taken into account when deciding how often to visit.

Example of outcome: As a first measure, the approximately 35,000 insured companies have been assigned to different risk groups, determining the frequency of inspections and consulting according to the assigned risk group. Higher risk – closer intervention.

Minimum Frequency of Consultation and Inspection			
	High Risk (including Mining)	Medium Risk	Low Risk
up to 49 employees	every 16 months	every 24 months	every 48 months
50 to 249 employees	every 8 months	every 12 months	every 24 months
250 and more employees	every 4 months	every 6 months	every 12 months

Measure 8: Targeted qualification

Training those responsible at the workplace is an effective way to develop companies' expertise in prevention. The BG RCI is increasing its seminar capacities in response to the great demand. As well as this, the seminars will be more closely connected to other prevention services, and additional seminars on VISION ZERO have been added. Particular focus is placed on training managers.

Example of outcome: As a first measure, VISION ZERO seminars were added for upper and middle management in insured companies as well as worker's councils. Along with this, the overall seminar portfolio is going through revision and extension.

Measure 9: Improving communication

Successful prevention is impossible without an effective flow of information. This is why communication with member companies and those on the ground is designed more intensive, faster and more focussed. In particular, electronic communication channels must be expanded.

Example of outcome: As a first measure, a VISION ZERO Newsletter was established, reaching several thousand subscribers in its first edition already.



Partnerships with important stakeholders such as the German association for the aggregates industry shown here are a vital element of filling VISION ZERO with life.

Measure 10: Extending partnerships – acquiring multipliers

To make sure VISION ZERO is practised everywhere, the BG RCI relies on partnerships with companies and stakeholders. Cooperation agreements are made increasingly with employers' associations, trades unions, businesses, internal interest groups and other multipliers to agree on shared objectives and activities.

Example of outcome: As a first measure, partnerships agreements have been signed together with some 30 companies and relevant trade associations and unions.



ISSA's Secretary General Hans-Horst Konkolewsky brings VISION ZERO and the 7 Golden Rules to a new level internationally.

VISION ZERO GOES GLOBAL – THE ISSA GETS ON BOARD

The International Social Security Association (ISSA) sets itself the task of ensuring social security for employees on the international stage. This includes every aspect of social security, from pension insurance to health insurance to accident insurance. It advises its 340 members in 157 countries on all matters regarding the sustainability of social security systems. In the field of accident insurance there are 13 international sections which are aligned to different industries and deal with the prevention of accidents at work. Its aim is to develop practical prevention solutions for the benefit of companies, managers and employees alike.

Accident prevention in mining: a humanitarian duty and an economic necessity

Mining is an area where the situation regarding occupational accidents and diseases is particularly unsatisfactory. The mining section estimates that the risk of suffering a fatal accident is eight times higher in mining than in other branches of industry. This not only leads to inconceivable human suffering, but also damages businesses and the general economy. In fact, the International Labour Organisation (ILO) in Geneva estimates that

VISION ZERO

7 Golden Rules – for zero accidents and healthy work

A guide for employers and managers



VISION ZERO 
Safety.Health.Wellbeing.

developed by



worldwide, around 4% of economic output is lost due to unsafe working conditions, accidents and diseases, and in some countries up to 10%. Luckily acceptance is growing that it is not only morally right to invest in safety, but also economically necessary. The factors that must be mentioned here include pit closures, breaks in production, quality problems, huge consequential costs of accidents, property damage, acceptance problems, lack of qualified staff and harm to the image of a company or the whole industry. Studies by the ISSA have shown that on average internationally, investment in prevention has a positive effect (return on prevention – RoP) of 2.2, which means every euro invested can potentially generate € 2.20.

VISION ZERO. Safe and healthy mining worldwide!

With this in mind, in 2012 the mining section of the ISSA decided to launch its new prevention strategy entitled “VISION ZERO. Safe and healthy mining worldwide!” and to base all its future prevention services and measures on it. This makes the mining section a pioneer among the 13 prevention sections. The prevention strategy “VISION ZERO. Safe and healthy mining worldwide!” conveys a clear message. It is based on the belief that preventive measures can achieve a working environment, even in mining and the mineral extraction industry, where occupational accidents are a thing of the past and no-one is killed or suffers lifelong injury at work.



VISION ZERO addresses global supply chains as well, determined to put an end to catastrophes such as the factory collapse in Bangladesh 2013 which claimed more than thousand lives.



2 Identify hazards – control risks

Risk assessment serves as the essential tool for the timely and systematic identification of hazards and risks and to implement preventive actions. Accidents, injuries and near misses should also be evaluated.

You are smart, you use risk assessment that helps you to identify hazards and risks before accidents and production downtimes occur, and it assists you with evaluating the risk potential as well as establishing and documenting the required protective measures. That is why this tool is used around the world today.

Properly done, a systematic risk assessment is ideal for practical instruction of employees in your enterprise. Evaluating occupational accidents, injuries and near misses is important for identifying main focus points or potential improvements.

How do things look in your enterprise?

	Individual Rating	Overall Rating
1 I make sure that a risk assessment is prepared in my enterprise, documented and updated at regular intervals. My managers know that they are obliged to prepare the risk assessment and to take all possible risks and hazards into account. My employees, the Board, the occupational safety and health officer, company doctor and other OSH experts are involved. I have established the basic approach for preparing a risk assessment: 1. Recording the organizational structure of my business 2. Specifying and defining activities performed 3. Determining activity-related hazards and risks 4. Evaluating hazards and risks 5. Establishing preventive measures 6. Implementing preventive measures 7. Verifying the effectiveness of preventive measures Maintenance, upkeep, troubleshooting and repairs as well as the activities of contractors and external companies and the procedure in case of emergencies are taken into account as well. Our risk assessment also encompasses health aspects, including mental health. Measurements of hazardous substances, noise and vibration are initiated as needed. I have established the intervals for updating the risk assessment.	○○○ ○○○ ○○○ ○○○ ○○○ ○○○ ○○○ ○○○ ○○○ ○○○	○○○ ○○○ ○○○ ○○○ ○○○ ○○○ ○○○ ○○○ ○○○ ○○○
2 Occupational accidents, near misses and critical incidents are reported, recorded statistically and evaluated to determine the potential for improvements. I am informed immediately of all occupational accidents, near misses and critical incidents in the enterprise, and of any impacts to the health of my employees. Occupational accidents, entries in the first-aid log, near misses and critical incidents are carefully investigated to determine their root causes and implement preventive measures. We maintain statistics in order to identify trends and focal points. The three most common causes of accidents in my enterprise and the resulting costs are known to me. The results of these analyses are incorporated in the risk assessment and prevention programmes. I am aware that the number of near misses and critical incidents that are reported demonstrate the culture of trust in my enterprise.	○○○ ○○○ ○○○ ○○○ ○○○ ○○○ ○○○ ○○○ ○○○ ○○○	○○○ ○○○ ○○○ ○○○ ○○○ ○○○ ○○○ ○○○ ○○○ ○○○
3 We use the insights gained from the risk assessment and from accident analysis to make improvements. I personally verify on a sampling basis whether the established protective measures are effective. The results of the risk assessment are used to make improvements in the enterprise. Personal instructions are carried out and work instructions are prepared on the basis of the risk assessment.	○○○ ○○○ ○○○ ○○○ ○○○ ○○○ ○○○ ○○○ ○○○ ○○○	○○○ ○○○ ○○○ ○○○ ○○○ ○○○ ○○○ ○○○ ○○○ ○○○

To meet these challenges, the ISSA understood that a lack of regulations is rarely the problem; what is required is clear and systematic guiding of business owners and executives to implement prevention. The „7 Golden Rules for Zero Accidents and Healthy Work“ support stakeholders worldwide.



VISION ZERO for all ISSA sections

Due to the very positive response to the new strategic approach for the mining industry, the idea of VISION ZERO has since gained even more ground. In June 2015, at a meeting of the ISSA Special Commission on Prevention in South Korea, all sections unanimously decided to join up to the VISION ZERO strategy and the workplace implementation strategies. This brings in a new era of cross-sector co-operation between the ISSA sections which will lead to notable synergies in future.

Starting with the launch of the new approach at the XXI World Congress on Safety and Health at Work in Singapore 2017, the sections published a common guide on implementing VISION ZERO in companies, which will be translated into more and more languages. In addition, electronic versions of the guide promote its global use. World-wide seminars on introducing the VISION ZERO strategy at the workplace were developed jointly.



The global approach was launched by the ISSA 2017 on the occasion of the XXI World Congress on Safety & Health at Work in Singapore.

The VISION ZERO Guide introduces 7 Golden Rules for implementation at the workplace

How can VISION ZERO be successfully implemented at the workplace? What can employers, managers, staff representatives, foremen or department supervisors do? This question is regularly discussed – wherever in the world the need for a new approach is understood and accepted.

To provide tips and inspiration about what everyone can do in their own field of responsibility, the VISION ZERO Guide has been developed. One thing is clear at first glance: you don't always need to spend a lot of money to improve health and safety at work. Often, all it takes is careful conduct and consistent management, or simply making use of the services offered by the social accident insurance provider.

In developing the VISION ZERO Guide, plenty of new ground was broken. 700 employers, managers and workplace experts were asked in workshops what simple measures they had positive experiences with, and what measures are effective. In addition, 300 prevention experts were asked what, in their experience, were the most important preconditions for safe and healthy workplaces. Their answers were included in the Guide – so you could say it had 1000 different authors. The aim was to create a lean and manageable instrument, because there are already more than enough thick textbooks and legal documents. The Guide is aimed at employers and managers and is broken down into seven groups of topics, known as the 7 Golden Rules:

Golden Rule 1 Take leadership – demonstrate commitment

Golden Rule 2 Identify hazards – control risks

Golden Rule 3 Define targets – develop programmes

Golden Rule 4 Ensure a safe and healthy system – be well-organized

Golden Rule 5 Ensure safety and health in machines, equipment and workplaces

Golden Rule 6 Improve qualifications – develop competence

Golden Rule 7 Invest in people – motivate by participation

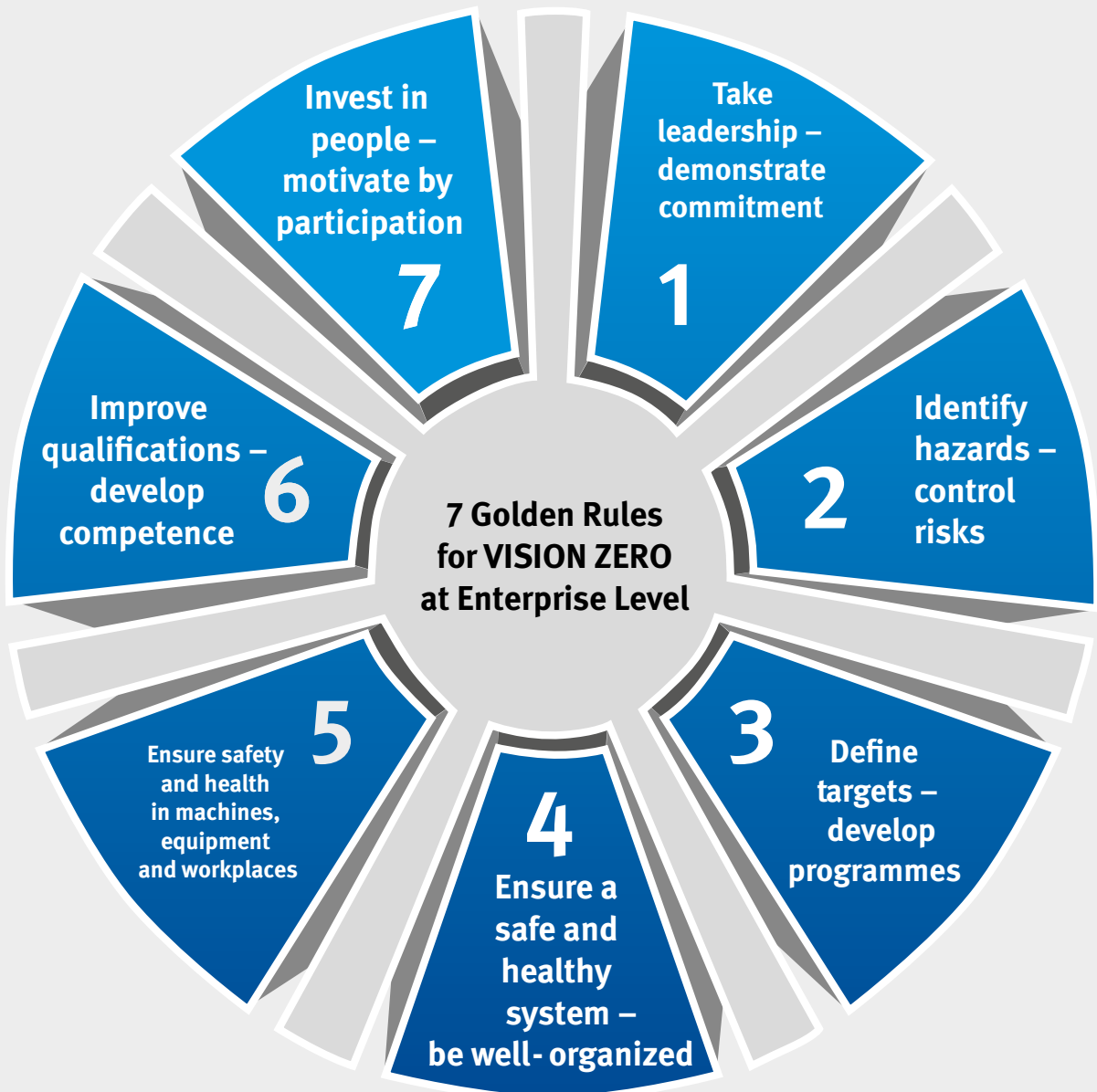
For each of these 7 Golden Rules, the Guide contains a brief introduction, followed by simple tips for checking what has already been successfully implemented at the workplace and where there is room for improvement. It provides a quick and easy overview of the status as regards safety at the company, which leads to a prioritised list of measures based on an evaluation of the various questions.

Golden Rule 1 Take leadership – demonstrate commitment

Be a leader – wave the flag! Your conduct as a leader is decisive for the success or failure of safety and health in your company.

Every employer, every executive and every manager is responsible for safety and health in their enterprise. The quality of leadership not only determines how safety and health are practiced in the enterprise, but also how attractive, successful and sustainable it will be. Leadership demands open communication and a clear management culture. Good leadership is exhibited for example by predictability, consistency and attentiveness

Executives and managers are role models: they lead by example. They establish the rules, and they follow the rules. They make sure that everyone knows the rules and that they are followed. Violations of the rules need to be addressed immediately – look at things! Pointing out hazardous conditions is to be rewarded. What managers do, tolerate and demand sets the standard for other employees.



Golden Rule 2 Identify hazards – control risks

Risk assessment serves as the essential tool for the timely and systematic identification of hazards and risks and to implement preventive actions. Accidents, injuries and near misses should also be evaluated.

You are smart, you use risk assessment that helps you to identify hazards and risks before accidents and production downtimes occur, and it assists you with evaluating the risk potential as well as establishing and documenting the required protective measures. That is why this tool is used around the world today.

Properly done, a systematic risk assessment is ideal for practical instruction of employees in your enterprise. Evaluating occupational accidents, injuries and near misses is important for identifying main focus points or potential improvements.

Golden Rule 3 Define targets – develop programmes

Success in occupational safety and health requires clear goals and concrete steps for implementation, which should be established in a programme.

Occupational safety and health has many facets. Prioritize, establishing clear goals for OSH in your enterprise and striving to implement them over the medium term – for example in a three-year programme.

Golden Rule 4 Ensure a safe and healthy system – be well-organized

Systematically organizing occupational safety and health in your enterprise is a good idea. It pays off and is easy.

With well-organized occupational safety and health, every enterprise runs more smoothly because disruptions, production downtime and quality problems are reduced. These are all good reasons for you to make sure your OSH organization is effective – it pays off!

Checklists can help you. Those who want to do more should implement an OSH management system that allows for continuous improvement. Once everything is in place, a successful audit is rewarded with a certificate and recognition.

Golden Rule 5 Ensure safety and health in machines, equipment and workplaces

Safe production facilities, machines and workplaces are essential for working without accidents. Health effects have to be considered as well.

Effective occupational safety and health strategies include technical, organizational and personal measures. Technical measures should take precedence. Therefore it is essential to keep machines, facilities, equipment and also the workplaces up to current OSH standards, and to also exclude or minimize detrimental effects on health. Naturally, it is not always possible to use the latest technology.

This is where retrofitting is required. Informing purchasing that safety comes first and that the principle that safety equipment must be part of any activity has proven itself. It should be borne in mind that most accidents occur in the course of troubleshooting, repairs or maintenance because design and construction is often not applicable to these tasks and also because safety devices are bypassed or fail to function. Preventing this is a management responsibility.

Golden Rule 6 Improve qualifications – develop competence

Invest in the training and skills of your employees, and make sure that the required knowledge is available at every workplace.

After an accident one often asks: How could this happen? Technical facilities and production machines are becoming increasingly productive and faster, but also more complex and prone to malfunctions. This makes it all the more important to systematically deploy well qualified and trained persons at the workplaces. It is a top management responsibility to make sure that a detailed description of the qualification requirements for every position in your enterprise has been made and that every worker is able to perform the duties of his or her position.

The workplace changes constantly. The half-life of knowledge is growing shorter and shorter, and the skills of workers need to be refreshed at regular intervals. More than ever, providing training and continuing education is a must, while leadership and management need to be learned too!

Golden Rule 7 Invest in people – motivate by participation

Motivate your staff by involving your employees in all safety and health matters. This investment pays off!

Motivating your employees to act in a safe and healthy manner is one of your most important leadership responsibilities. Enterprises that show appreciation for their employees and also actively involve them in safety and health within the enterprise are tapping into important potential: their knowledge, abilities and ideas.

When employees are consulted, for example while conducting the risk assessment or in the development of operating instructions, their willingness to follow the rules is improved. Motivation is promoted through regular interactive events or awareness days where safety and health can be “lived” or “experienced”. It costs nothing to praise employees for safe behaviour, ask them about their ideas, and express interest in difficult work tasks and also to address unsafe actions or near misses immediately. This can shape the personal attitude of the employees and motivate them to work safely and with awareness and above all, confidence.

The goal is for everyone to look after their colleagues as well as themselves – “one for all – all for one!”



Healthy workplaces are not an option, but a basic human right, reminded ILO Director-General Guy Ryder at the XX World Congress on Safety and Health at Work 2014 in Germany.

WHERE ARE WE GOING?

Occupational diseases and accidents at work or on the roads are neither random nor inevitable – they always have causes. The VISION ZERO strategy grasps this fact and aims to create a working environment where nobody is injured, gets ill or is killed. The strategy is based on the conviction that every accident can be prevented if the right thing is done in good time. The benefits of safe and healthy working are obvious. Successful accident prevention not only prevents human suffering but also protects the most valuable thing we have: our health. Successful prevention also has a positive effect on staff motivation, on the quality of work and products, on the image of the company and on the satisfaction of employees, managers and customers.

VISION ZERO is already well known in the international mining industry and in the member companies of the BG RCI. It is especially praised for its clarity, how easy it is to understand the strategy, and the convincing package of measures comprising the 7 Golden Rules. The main reason for the continued spread of the strategy and its use by other insurers and all the ISSA sections is that it creates a clear framework and provides an opportunity for all those involved in occupational health and safety to finally speak with one voice when it comes to prevention. This will certainly significantly boost public perception of the message.

For decision-makers – keep it simple!

Another positive effect is that decision-makers at companies, in other words those in charge of occupational health and safety, would be more easily reached with a clear and consistent

message and a simple implementation concept than with a deluge of detailed regulations. It could be said that recently we have left the topic of health and safety at work too much in the hands of specialists, and slightly forgotten the CEOs, employers and managers. In continuing to implement the VISION ZERO strategy, we should therefore place greater emphasis on the emotional messages regarding the preservation of life and health, and concentrate on implementation tools that are easy to use.

What do major politicians say?

A milestone in the political perception of VISION ZERO and the call for a new culture of prevention was the 20th World Congress on Safety and Health at Work in August 2014 in Frankfurt. Guy Ryder, Director General of the ILO, Errol Frank Stoové, President of the ISSA and Andrea Nahles, the German Minister for Employment, staked a clear and unanimous claim: there is no alternative to the VISION ZERO strategy and a new culture of prevention. Guy Ryder said: "We need a culture of prevention, because this is the only way to achieve the aims of VISION ZERO."



It is also notable that the world's seven largest industrial nations turned their attention to decent working conditions for the first time at their summit meeting in the Upper Bavarian town of Elmau in June 2015. In the wake of the latest major catastrophes, such as the factory collapse in Bangladesh which claimed 1,127 lives, they talked about acceptable working conditions. Their final communiqué stated: "We support a VISION ZERO fund to be established in cooperation with the ILO." It continued: "The aim of the fund is to introduce sustainable business practices that help prevent work-related deaths and serious accidents." We can justifiably claim that VISION ZERO has already ensured that the topic of working conditions is now being addressed by senior politicians.

All ISSA Prevention Sections with one voice

After VISION ZERO and the 7 Golden Rules were officially adapted by all of ISSA's prevention sections in June 2015, the ISSA developed a website, seminars and the "Guide". The new joint approach was launched at the XXI World Congress on Safety and Health at Work 2017 in September 2017 in Singapore, introduced to an audience of several thousand prevention experts from across the world.

VISION ZERO – Yes we can!

Establishing the VISION ZERO strategy is an ambitious project. It requires commitment, hard work and cooperation between many people. But one thing is already clear. Ultimately, whether it succeeds or fails depends on committed employers, motivated managers and executives, and vigilant employees at the companies. We must make it clear all over the world that effective prevention is not just a humanitarian duty, but also a sensible investment in a humane future with decent working conditions, and a guarantee for the success of the company. We are personally convinced that VISION ZERO is possible. Let's make our world better – it's in our hands!

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- ISSA Mining Network – explaining what we do and how we do it
- VISION ZERO Strategy – Basic knowledge on the VISION ZERO prevention strategy
- VISION ZERO Practice – Tools to put the 7 Golden Rules into practice in mining companies

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