

**Occupational safety and health put to the test**

**Final report of the general  
evaluation of the Joint German  
Occupational Safety and Health  
Strategy**

**- Executive summary -**

Further publications of the authors in the context of the general evaluation of the Joint German OSH Strategy (GDA), available at:

<http://www.gda-portal.de/de/Evaluation/Evaluation2008-12.html>

- (en.) Kooperationsstelle Hamburg IFE / TNS Infratest (2013); Lißner, L., Brück, C., Riedmann, A., Strauß, A. (Verf.): Executive summary of the interim report of the general evaluation of the Joint German OSH Strategy. Hamburg, München.
- (de.) Kooperationsstelle Hamburg IFE / TNS Infratest (2014); Lißner, L., Brück, C., Stautz, A., Riedmann, A., Strauß, A. (Verf.): Abschlussbericht zur Dachevaluation der Gemeinsamen Deutschen Arbeitsschutzstrategie. Hamburg, München.
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- (de.) Kooperationsstelle Hamburg IFE / TNS Infratest (2013); Lißner, L., Brück, C., Riedmann, A., Strauß, A. (Verf.): Zwischenbericht zur GDA-Dachevaluation. Hamburg, München
- (de.) Kooperationsstelle Hamburg IFE / TNS Infratest (2012); Lißner, L., Brück, C., Riedmann, A., Strauß, A. (Verf.): Kurzfassung des Zwischenberichts zur GDA-Dachevaluation. Hamburg, München.

## **Imprint**

### **Final report of the general evaluation of the Joint German Occupational Safety and Health Strategy**

#### **- Executive summary -**

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## **The Joint German Occupational Safety and Health Strategy**

The Joint German Occupational Safety and Health Strategy (*German - GDA*) is a long-term, national political strategy, which was established by the federal government, federal states and statutory accident insurance funds to promote health and safety in the workplace: The guiding principles behind the joint work on advice and supervision are cooperation, coordination, and focus. The GDA aims to develop and optimise public occupational safety structures, including legal elements and framework conditions. Occupational safety levels should be sustainably safeguarded and improved in enterprises and administrations. The focus of the GDA is on legislation, existing rules and procedures, institutional cooperation and operational activities, cooperation with third parties, as well as occupational safety competence in companies, and the health awareness of employees. A concept for the Joint German Occupational Safety and Health Strategy was agreed and confirmed in 2007 at the 84th Employment and Social Affairs Ministers Conference of the German Länder (*ASMK*) and by the executive bodies of the German Social Accident Insurance (*DGUV*).

### **Framework conditions leading to the occupational safety strategy**

Through the first period of the GDA 2008-2012, Germany was able to implement a key pillar of the EU community strategy for health and safety in the workplace 2007–2012. The strategy was also a response to criticisms received over the lack of strategic direction and harmonization in occupational safety institutions. The GDA has brought about a readjustment of the roles and definition of the functions of the public occupational safety institutions. Increased effectiveness of the OSH infrastructure shall be achieved by establishing coherent rules and procedures, through strengthening coordination of supervisory and advisory institutions, and by setting out common objectives, action standards, and work programmes. The responsible OSH bodies of the federal government and federal states, the accident insurance funds, social partners, and other suitable cooperation partners work together in the GDA, in order to reduce occupational accidents and diseases, work-related health risks, and to ensure humane working conditions. A further aspect of the work is the implementation of effective prevention measures for new or emerging risks.

### **Core elements and primary objectives**

The core elements of the GDA are

- the development of joint OSH objectives, the definition of priority action areas and key points for work programmes, as well as their implementation based on uniform principles;
- the evaluation of OSH objectives, action areas and work programmes with appropriate indicators;
- the establishment of an agreed procedure on advising and monitoring enterprises between OSH authorities at federal state level and the statutory accident insurance funds;
- the drafting of a clear, manageable and coordinated set of rules and procedures.

OSH objectives agreed for the strategy period 2008-2012 were: "reduction of the frequency and severity of accidents at work", "reduction in the frequency and severity of musculoskeletal stress and diseases", and "reduction in the incidence and severity of skin diseases". The implementation of the OSH objectives was primarily achieved through six national and five regional work programmes. Other GDA target areas were concerned with the relevance and effectiveness of institutional OSH at company level, as well as optimising cooperation between organisations in the dual OSH system, improving cooperation with third parties (within the GDA framework), and workplace prevention for health and competitiveness.

As part of the measures to optimise cooperation among GDA bodies in the dual system, the governmental OSH authorities and statutory accident insurance funds are committed to working together in a coordinated way to advise and supervise establishments. The key tools for achieving this are:

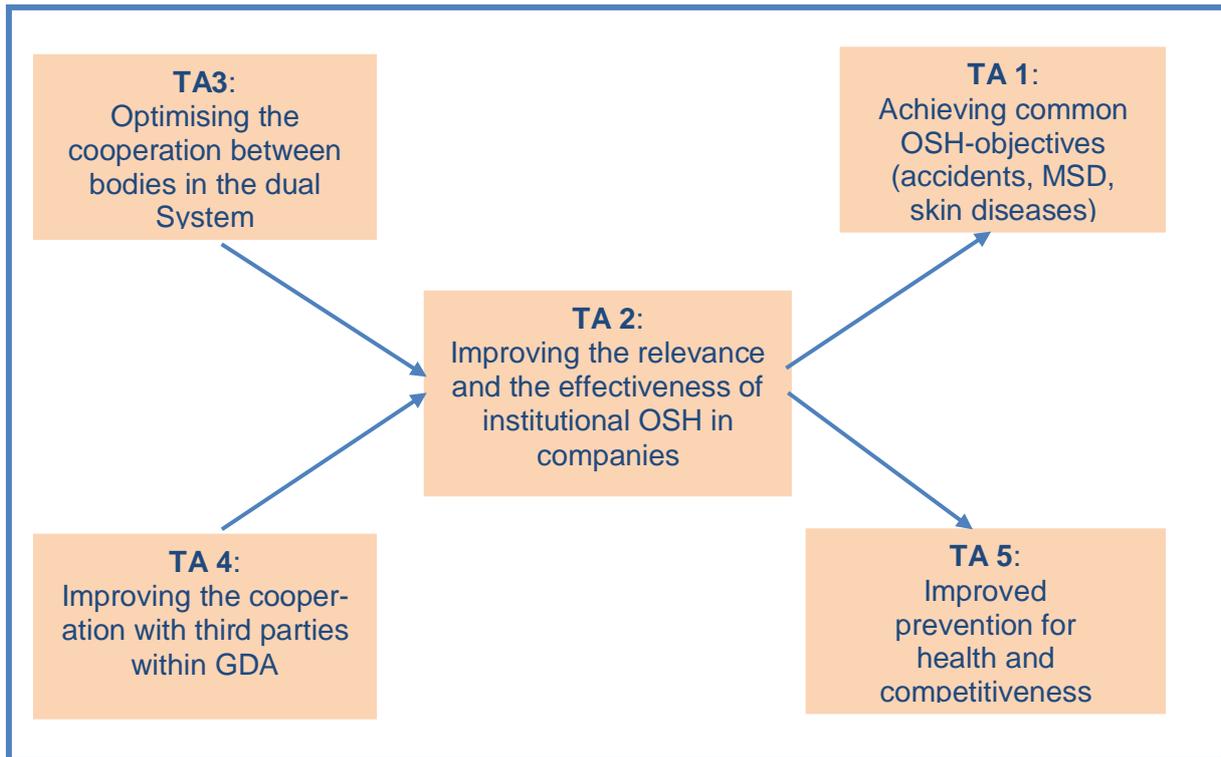
- Framework agreements on cooperation between government OSH bodies and the statutory accident insurance funds;
- Common guidelines for coordinated, systematic inspection practices and equal supervision of the implementation of OSH regulations;
- Promotion of data and information exchange on monitoring and consultation between federal states and accident insurers.

GDA guidelines were signed as common standards for coordinated and systematic inspection practices by the end of the first strategy period in December 2012.

## **Structures of occupational safety strategy and general evaluation**

The GDA is steered by the National Occupational Safety and Health Conference (NOSHC) and coordinated centrally. The NOSHC was constituted in December 2008 and is composed of three voting representatives of the federal government, the OSH authorities of the federal states, and the statutory accident insurance; three leading representatives each from employers' and workers' organisations take part in NOSHC meetings in an advisory capacity. Set up as an annual professional conference and OSH forum, the NOSHC advises the GDA on the performance of their duties. The evaluation of the OSH objectives (with appropriate indicators), areas of action and work programmes is another integral part of the GDA.

The Joint German Occupational Safety and Health Strategy is implemented at different levels, concerning different subjects, in different industries and fields of activity. The objective of the evaluation of the first strategy period 2008-2012 was not merely to determine the changes that GDA had effected in companies; it also considered the impact of the measures on the direction of institutional OSH itself. In the overall evaluation (general evaluation), a causal relationship is assumed between the different target areas (TA) and sub-targets (see below, figure 1). Institutional, organisational and legal conditions must be established between the players (TA 3 and 4), resulting in improved implementation at company level (TA 2), better employee health, reduction in number of working days lost, and lower direct and indirect costs for economic and social systems (TA1 and 5).



**Figure 1:** Target areas and expected causalities, GDA-period 2008 - 2012

The general evaluation drew on the results from representative quantitative and qualitative surveys as part of the GDA, as well as statistical data, determined independently of the GDA. The general evaluation also provided a summary assessment of the results of the eleven target area 1 work programmes, although the evaluation of the work programmes was conducted independently by the work programme executives. The reports submitted by the NOSHC and the event evaluation of the OSH forum have also been integrated into the general evaluation. This mixed methods approach is designed to meet the complexity of the GDA, to compensate for weaknesses in individual assessment methods, and provide answers as fully as possible. Based on the 2007 GDA technical concept for the first strategy period, a specification was made in the terms of reference requiring definitions of all target areas, health and safety objectives, appropriate sub-targets, action areas, indicators, data collection instruments, and data sources.

### **Target area “Optimising the cooperation in the dual OSH system”**

In the assumed causal relationship of the target areas, the optimisation of cooperation between responsible bodies in the dual system is regarded as a prerequisite for achieving the GDA’s OSH objectives. The terms of reference specified this in the four sub-targets: "Formulation of a coherent set of rules," "Coordinated enforcement", "Systematic and up-to-date exchange of essential information for monitoring and consultation" and "Steering cooperation at federal state level based on the framework agreements between states and statutory accident insurance funds".

The data from the testing sources makes it clear that GDA activities in this target area are highly relevant for GDA bodies - for their own structure and options for taking action. The measures and their implementation have had a significant effect on optimising cooperation. The August 2011 guidance paper on reforming OSH rules and procedures, signed by the GDA bodies and the social partners, adjusted the relationship between national law and the autonomous rights of statutory accident insurance funds, and described the procedures for ensuring coordination between the two legal areas. The leeway for statutory accident insurance funds to regulate themselves autonomously was significantly limited; needs-related examination procedures are already in place. Although there is still some lack of practical experience, the current state of knowledge leads one to assume that the measures taken are appropriate to achieve the stated objective of establishing a coherent set of rules.

Governmental OSH authorities and statutory accident insurance funds are committed to working together in a coordinated way to advise and supervise establishments regarding the sub-targets "coordinated enforcement" and "steering cooperation at the federal state level, based on framework agreements". These framework agreements could be underpinned for the GDA-work programmes by joint implementation agreements, setting out the specific procedures and respective resources. In addition, a joint action structure has been set up, featuring top-level talks and exchange of experience. According to involved parties, comprehensive working capacity has been established on the steering as well as on the operational level. There were, however, delays in some areas, which adversely affected the launch phase of some work programmes.

Framework agreements on cooperation of OSH authorities of the federal states and statutory accident insurance funds contain common guidelines for coordinated supervisory practices, equal implementation of OSH legislation, and the procedures of data and information exchange between the federal states and accident insurers regarding company inspections.

An online survey of supervisory staff from the preventive services was conducted to find out how satisfied they were with the implementation of the GDA and the practical cooperation between organisations in the dual system. The respondents used the survey to share their insights and offer their (sometimes critical) point of view. The labour inspectors had to deal with the fact that not all of the GDA's instruments were ready at the scheduled time, as well as problems with establishing common ground at the beginning of the strategy period. This led, in some cases, to delays and coordination problems in the planning and execution of joint measures, e.g. in the work programmes. The OSH strategy was intended to (and could) achieve radical change and reorientation of regulatory practice, but it was not yet able to keep all the supervisory staff on board. Thus it was often perceived as just another task, pushing previous tasks into the background. There were also fundamental problems with the cooperation at the beginning, such as the IT-based data and information exchange, where the necessary legal certainty regarding data protection was not established until the end of the strategy period in 2013. Hence, the sub-target of "Systematic and up-to date exchange of essential information for monitoring and consultation" could not be met until the end of the first strategy period.

When supervisory staff from the preventive services was questioned about cooperation, the desire for shared information about the results of company inspections was high on their wish-list. The greatest room for improvement is considered to be in the sharing of information on previously conducted campaigns and coordination on joint GDA activities. The majority considers the different guidelines and ways that tasks are understood by supervisory services and statutory accident insurance funds, to be obstacles to full coordination. Although there is only limited mention of the lack of GDA guidelines as an obstacle to cooperation, many alternative proposals for new regulations were raised.

In virtually all GDA work programmes, cooperation between the responsible bodies is described positively. The reports contain such terms as "trusting and cooperative", "high culture of cooperation", "good and constructive working atmosphere", and "new quality of collective action". The assessment of cooperation in the work programmes is not always in line with that of the supervisory staff. However, even when work programmes occasionally report on conflicts regarding the demarcation of routine tasks, data exchange difficulties, or resource issues, there is always an emphasis on good cooperation and on the success of the work in the programmes. The supervisory staff was more critical on a range of issues.

### **Target area “Improving the cooperation with third parties”**

In target area 4 “improving the cooperation with third parties within the GDA framework” one objective was “to strengthen the importance of and the collaboration in regional networks”. The number of projects with third parties (and their share in relation to the total number of GDA projects), the number of newly developed project initiatives and the number of external cooperation partners served as indicators. Despite the fact that these were quantitative indicators there were no quantitative targets foreseen. Hence the quantitative indicators were completed by qualitative estimates about the cooperation as a whole, on the operational collaboration in the work programmes, on the advice of the GDA representatives in the OSH forum as well as on the measures taken in the first period by the NOSHC and its three voting representatives in order to strengthen the cooperation.

With regard to the exchange on expert level, there was a varied perception of the OSH forum - an instrument of exchange between experts and GDA organisations: it is an opportunity for internal staff to exchange opinions on the GDA; for externals, it is, above all, an important information forum. Participants in the OSH forum<sup>1</sup> target group survey expressed a desire for more vigorous workshops and increased involvement of practitioners. The number of external participants in 2013 was only slightly above the 2009 level. Ultimately, critical feedback to the OSH forum was becoming more manifest. However, the general perception remained positive.

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<sup>1</sup> The annual OSH forum shall ensure the early and active participation of senior experts in the development of the Joint German OSH Strategy. The OSH forum members advise the National OSH Conference accordingly, see <http://www.gda-portal.de/en/OSH-Forum/OSH-Forum.htm>

All work programmes of the first strategy period were able to integrate external partners, but the nature and extent of cooperation varied and the cooperation in work programmes was evaluated cautiously. Due to the resource-consuming approach in the work programmes, there was not much room left for initiating additional projects. Still, the desire for further cooperation was expressed in talks with the heads of the work programme, as well as in interviews as part of the survey of the target group of the OSH forum.

The new guidelines for GDA work programmes clarify what can be expected from increased cooperation in this context. Generally, the expansion of the instruments of cooperation is to be welcomed - both in terms of professional exchange and for future operational collaboration. With the consultation paper on target-setting, the newsletter and the talks among cooperation partners, new channels of exchange and information have been established. The measures, therefore, appear to be appropriate for furthering and deepening cooperation with the expert community and suitable partners.

### **Target area “Improving the relevance and the effectiveness of institutional OSH at enterprise level”**

OSH practice was studied; especially OSH organisation and risk assessment, as there were many targets and corresponding indicators in the GDA general evaluation terms of reference. Specifically, this is the ‘proportion of companies with systematic risk assessment’, ‘proportion of companies with an OSH management system / workplace health promotion (WHP) / entrepreneur model’, ‘proportion of companies where those responsible are familiar with and follow essential rules and regulations’ and ‘proportion of companies that rate the activities of the GDA support as appropriate / transparent / coordinated / expedient’. The two main data sources for this target area were enterprise and employee surveys and the work programmes’ reports.

It is difficult to provide general statements on the OSH organisation in establishments based on evaluation reports of the work programmes. This is due the heterogeneity in approaches and in the way data were gathered. The autonomy was intentional, to meet best the different conditions in the enterprises and sectors, and allow the GDA bodies leeway to make decisions according to their professional skills and resources.

Only 51% of the establishments carry out a risk assessment in Germany. The risk assessment situation needs to be improved in micro and small enterprises (1-9, or 10-49 employees). Only 41% of the micro and 70% of the small establishments questioned in company survey reported that risk assessments had been carried out. The poor result in micro-enterprises particularly affects the overall result. Similarly, the larger the company, the more likely they will conduct a risk assessment.

The company survey showed that the factors, which affect whether risk assessments are carried out, are sector, size and exposure. The private service sector industry groups VIII (communication, financial and other services) and IX (services for enterprises) have the lowest proportion of companies with risk assessments. The highest proportion is found in industry group I (food production). Supervisory visits also have a positive effect, as well as occupations involving heavy physical strains. Psychological hazards are generally poorly covered by risk assessments.

The work programme results on risk assessment were positive, although company size and sector made a difference. In the work programme reports results were not weighted according to size classes of the companies. Only a comparison of the work programme results with the unweighted survey findings (in general and from corresponding sectors) show similar values.

The positive development of company risk assessments in all work programmes that have carried out a second intervention can be seen as an indication of the effectiveness of the regulatory action; within the framework of the work programmes, the selected intervention methodology has provided an impetus for improvements at the workplace.

According to the company survey, there are significant gaps in safety-related support and occupational health care, again for micro and small enterprises: According to their own accounts, only 6 of 10 companies meet legal requirements for safety-related support, and only 4 out of 10 have a designated occupational health physician. Again, the results of the work programmes have been positive, and there is a similar (but smaller) positive effect between first and second interventions.

Work programme data suggest a close relationship between OSH organization and the quality of prevention in the workplace. Evaluation of the work programme for transport demonstrates a relationship between OSH organization and the number of OSH-related deficiencies in companies.

A two-thirds majority of companies rate the responsibilities of the labour inspectorates as clear, and their company processes are only slightly disturbed by the inspection activities. They also rate the consultancy services of the authorities as competent. Almost three-quarters of companies know the rules for key areas of OSH well or quite well; a quarter have low knowledge levels. Only a small minority of interviewees considered the OSH rules and regulations themselves to be inappropriate or useless. Criteria worthy of improvement were seen in details, in particular with regard to the practical applicability.

There are a number of indications that the interventions within the framework of the GDA had a positive effect on OSH efforts in the companies. The positive development of the risk assessment rate in all work programmes that carried out a second intervention can be taken as a hint for the effectiveness of the inspection approach. The intervention methodology of the work programmes has given an incentive for improvements. The question of effectiveness regarding interventions in the work programmes cannot be adequately answered at this point.

## **Target area “OSH targets and action areas”**

For achieving common OSH target area 1 objectives, the eleven work programmes of the first strategy period had a special significance. A distinction was made between six mandatory work programmes with nationwide implementation for all GDA bodies (category I) and five work programmes with optional participation of the GDA bodies (category II). The OSH objective "reduction in the frequency and severity of accidents at work" was pursued in the construction, temporary employment, and

transportation work programmes, as well as in the work programme for schools (with special methodology). "Reduction in the frequency and severity of musculoskeletal strains and disorders" was the main focus of the work programmes for care, office, precision engineering, food industry, hotels, and public transport, while "reduction in the incidence and severity of skin diseases" was the main task of the work programme for skin diseases. As far as it concerns the general evaluation, indicators were used to check if objectives had been achieved, in accordance with the terms of reference paper. As part of all work programmes, supervisory staff collected basic data from company visits, e.g. regarding the presence and quality of risk assessments, and on the suitability of OSH organisation. Work programme-specific technical data was also collected.

### **OSH target "Reduction of the frequency and severity of accidents at work"**

Due to the array of factors that influence accidents at work, care should be taken when using the routine statistics from the statutory accident insurance funds as indicators of how effective the measures are within the framework of the GDA. However, data on the number and rate of reportable accidents was an additional indication in how far the OSH objective of "reduction in the frequency and severity of accidents at work" was achieved. Analyses in the context of the work programmes at least indicated a certain influence of the GDA measures.

In Germany, the number of reportable accidents per 1,000 full-time employees in professional and trade associations has halved in the last 20 years; the long-term trend is that workplace accident rates are falling. The general evaluation compared accidents at work figures for the first five-year GDA strategy period (2008-2012) to figures for 2003 to 2007. This was done to estimate possible effects of interventions and to mitigate the influence of contextual factors. For the period 2008 to 2012, the average of reportable accidents per 1,000 full-time workers decreased by 7.4% to 25.88 per 1,000. Although the decline substantially corresponds to the general trend of the last two decades, it is nonetheless remarkable, as such reductions are always harder to achieve when the numbers are already at low levels. For the two five-year comparison periods, there was an even more marked decline (minus 14.9%) recorded for new industrial accident pensions (absolute numbers). Fatal work-related accidents declined still further, by 25.9% (absolute numbers).

Special analysis of workplace accident figures for the construction industry, comparing the periods 2003-2007 and 2008-2012, revealed a decrease of around 7.5% in reportable accidents per 1,000 full-time workers. This is almost exactly the value achieved in professional and trade associations. There was, however, a strikingly positive development in the accident rate in the construction industry from 2010 to 2012, where the rate per 1,000 full-time workers fell by almost 12%.

The work programme for temporary employment took the development of the accident figures from 2007 to 2011 as a basis for assessing the impact of the measures in their area of work. During this period, the relative frequency of accidents decreased by 19.5% in temporary work in the accident insurance fund for the administrative and service sector. This reduction cannot be assigned to the effects of the work programme, because it could only have an impact from 2010 onwards. Howev-

er, the decline in the rate from 2010 to 2012 (main phase of the work program) by just over 17% is considerable.

For the work programme for transport, a pure industry analysis would not be expedient, so consideration was given to the development of accidents based on accident characteristics that were typical for transport, and corresponding special analyses of the routine DGUV statistics, using the characteristics ascertained there. The rate of workplace accidents with cranes or when attaching loads decreased by 24.8%; the rate for work with continuous conveyors fell by 18.5%; and the rate of accidents involving trucks fell by 13%. Two of the three areas investigated for accident characteristics that can be allocated to the transport work programme, therefore, exhibit a significantly disproportionate fall of accident rates. It should, however, be noted that the number of first and second inspections by supervisory staff as part of the transport work programme fell from 2010 to 2012. The development in the number of accidents before 2010 cannot be attributed to these interventions.

The work programme for construction employed a traffic light model with the grades "green", "yellow", and "red" to assess the OSH situation in the establishments visited. Only about 30% of the companies were able to attain the positive 'green' result; 62% were 'yellow', while 8% were 'red', having serious deficiencies. In some of these 'red' cases, the result prompted targeted company talks about "setting a new course" which were evaluated in detail. Results show that in construction project planning there is still an urgent need for action to comply with the requirements regarding regulations for construction sites.

The supervisory staff in the work programme for temporary employment estimated that OSH organisation was appropriate in 75% of the enterprises visited. OSH organisation improves with the size of the company. 70% of enterprises visited had appropriate risk assessments. For an overall OSH assessment, inspectors employed a sliding scale from "1" (very poor) to "9" (very good). The difference between the overall OSH assessment for permanent employees and that for temporary workers was comparatively low. Around 9% of companies achieved a very good rating, about 60% were rated satisfactory to good, and about 30% were worse, indicating corresponding operational OSH shortcomings.

In the transport work programme, there were no complaints in just over half of the cases (51%). However, the supervisory staff gave overwhelmingly positive assessments of the OSH organisation in the establishments they visited. OSH organisation was found to be appropriate in 73% of enterprises, partly appropriate in 21%, and inappropriate in 6%. Risk assessments were found to be in order in 72% of enterprises; 18% carried them out, but they were judged inadequate; 10% of companies did not carry out risk assessments. The smaller the company, the greater the shortcomings observed in the risk assessment. Enterprises without safety-related supervision are five times more likely to lack a risk assessment than those with supervision by an OSH specialist.

In principle, it is true of all work programmes that companies that were given negative assessments were able to improve their OSH standards by the second visit. In many areas OSH levels were then achieved that essentially corresponded to the average of all companies in the initial inspection.

The focus of the work programme for schools was on both long-term cooperation between players in the education sector and those in the area of social policy, and also on developing a common understanding of a prevention culture for schools. Discussions between the statutory accident insurance and representatives of the conference of education ministers have been expanded: a platform for coordination processes was set up at the federal government level by the inclusion of two representatives of the federal committee for occupational safety and security (LASI). The establishment of OSH round tables in schools succeeded in 14 of the 16 states. Qualitatively, however, the goal was not achieved to the desired extent.

### **OSH target “Reduction in the frequency and severity of musculoskeletal strains and disorders”**

The selected indicator "Number of sick days due to musculoskeletal disorders (MSDs)" is not verifiable within the context of the GDA general evaluation. This is largely due to the diverse causes and long latency period of the diseases that fall under the term "MSD", making it impossible to provide an impact evaluation of the influence of GDA measures over a five-year period. The data shows no perceptible effect of the MSD work programmes on the number of sick days caused by MSD. This indicator should be considered as context information in future strategy periods. However, more appropriate additional indicators should be sought in the future, in order to more accurately determine the impact of interventions.

A closer examination was possible of the indicators for "Number of companies with prevention culture (in terms of number of companies inspected)" and "Number of health-literate employees (in terms of number of surveyed companies)". However, matters were complicated by the fact that GDA stakeholders did not achieve a common understanding neither on the definitions nor on the operationalisation.

Raising staff awareness is an important part of a culture of prevention, as is the example set by managers on OSH issues. The indicators collated in employee surveys show that the vast majority of businesses could put mechanisms into place right now to prevent safety hazards: There are clear safety rules, and deficiencies are to be reported and dealt with promptly.

However, there are even greater deficits in corporate commitment to long-term health; almost a third of employees do not believe that their company is doing enough to minimise long-term exposure. The results of the company survey show that only a minority of companies engage in health promotion in the workplace, which is an essential feature of a developed culture of prevention. In large companies, such measures are indeed more widespread than on average, but these many only be individual measures, without a declared strategy or clear concept.

The results of the employee survey on health literacy show that there is a basis for health literacy among employees. The vast majority of employees adhere to OSH rules; they intervene when they see misconduct, and generally feel responsible for OSH. Around half contributed their own suggestions on OSH. However, the proportion of those who use voluntary OSH prevention services is lower, as is the number who admit to leading a healthy lifestyle in their private sphere; according to their own

statements, around a quarter of employees play no sports, do not follow a balanced diet, and do not go for preventive medical check-ups.

There are only very limited overarching statements that can be derived from the work programmes for the general evaluation, because the methodological approach was too varied. However, it can be said that an improvement in certain aspects of prevention culture was observed in the work programmes which carried out a second intervention. The evaluation of the work programme for care work also suggests a positive correlation between the implementation of OSH rules and the introduction of further prevention efforts.

The culture of prevention and health literacy on the whole can be improved. Activities carried out as part of the work programmes of the first GDA strategy period brought about some improvements in companies. How people act in their private lives can be influenced indirectly, at best. Analyses of employees' statements show a relationship between the quality of corporate information and individual health literacy. Good information on prevention is obviously a key success factor for developing health literacy and a culture of prevention.

For future strategy periods, it is crucial to clarify terminology at the beginning and to create a common understanding among stakeholders. This is not just necessary to promote the evaluation, but also to ensure stringent target tracking. If prevention culture and health literacy are specified as work programme objectives, they should be put into action as homogeneously as possible. Harmonisation of the evaluation criteria and the presentation in a common model would be a feasible solution. In order to determine health literacy, data should also be collected directly from employees, as was partly done for the precision engineering work programme.

### **OSH target “Reduction in the frequency and severity of skin diseases”**

For years there have been rises in the number of skin diseases which were proven or at least suspected as being occupational. There is no reliable evidence in the routine statistics that the work programme for skin diseases has been able to reduce the number of suspected cases of occupational skin diseases. The indicator “number of skin doctors' reports” turned out to be improper for the general evaluation.

For the reasons outlined above, it is very hard to prove the effectiveness of the GDA measures for this target area on the basis of routine statistics. These are, therefore, primarily used to describe the context and the overall trends. Positive effects could be identified in the indicators - related to the presence and quality of risk assessments and the appropriateness of OSH organisation - at the level of industry-specific, activity-specific, or hazard-specific work programmes, especially when a second visit took place. All other data can serve as baseline data, which can be used in the second strategy period for comparative purposes.

The essential source of the evaluation was, therefore, the final report of the skin diseases work programme. This work programme was implemented across industries and in recognised businesses where wet work and / or dealing with skin damaging substances were suspected. A suitable risk assessment was performed in 58% of the companies visited; shortcomings were recorded in 33% of cases; a specific risk as-

assessment considering wet work was not required in 9% due to the work situation. While staff training was relatively common (81%), operating instructions were only found in 70% of the companies. For the group of twice inspected companies, these figures from the initial inspection were improved by the interventions of the work programme in all aspects.

## **Target area “Preventive OSH measures for health and competitiveness”**

The final assumed effect of GDA is that prevention efforts will be strengthened, leading to improved workplace health and competitiveness. Three indicators were specified in the terms of reference: the “assessment of working conditions by workers”, “company acceptance of OSH” and the “reduction of working incapacity and long-term occupational illness and forced early retirement”.

Individual findings from the general evaluation and the work programmes suggest that the actions of the GDA have made a contribution to both preventive measures for OSH and competitiveness. As part of the general evaluation, numerical evidence for the positive effects of GDA on the highly aggregated economic and social data could not be provided. The effect of exogenous factors is extremely difficult to determine, and very hard to separate from the effects of the GDA.

## **Conclusions**

For the conceptual development, the GDA bodies called on their own experiences, as well as studies (up to 2008) and descriptions of the shortcomings of the German OSH system. These principally referred to difficulties in systematically improving OSH in companies.

The first phase of the strategy, in particular, required a process of self-discovery and repositioning for all stakeholders. They each had to accept and interpret the strategy and define the benefits for themselves. This autonomous approach can, in the medium and long term, lead to a more stable structure for the strategy, rather than overly detailed central control guidelines. This is not an unusual phenomenon that only or especially affects the German situation and the GDA; rather, it is typical during the first phase of complex strategies.

From the standpoint of successful steering in a pluralistic political field, the GDA – the cooperation between legally and organisationally separate institutions that have agreed an overall objective - is a big step towards coordinated joint action, with all the advantages for the effectiveness of existing infrastructure. As such, the specific procedures of the GDA and their demonstrably positive effects can be an inspiring role model for other similar policy areas.

The GDA can be characterised as a multiplayer and multilevel strategy, based on the strategy analysis of the five Northern countries: Many players - from official bodies, social partners, and professional association and institutions - are now working together in different ways across a range of topics - from the guidelines to OSH targets.

Due to the federal and dual structure of the OSH authorities and statutory accident insurance funds in Germany, these characteristics are obviously more pronounced in the GDA than in comparable strategies of states with central constitutions.

As an important core of the strategy, the individual work programmes were marked by diversity and autonomy of its executives. Although they were coordinated by one body where all participating organisations were represented, the work programmes could decide on instruments and approaches to make optimum use of their knowledge, and thus better achieve their targets. The main organisational leadership principle was to commission, not to direct. The selection of companies for visits was, for example, not standardised, and there were different definitions for key indicators (e.g. the terms for health competence and the culture of prevention) between work programmes with similar objectives.

The knowledge gains are a further positive outcome. There is a remarkable abundance of detailed information on OSH organisation and practice in Germany, supervisory practice, and the perspective and outlook of GDA bodies and potential cooperation partners. There is now more accurate information on a number of areas which previously relied on presumptions.

For this period, there is only limited evidence of the intended long-term effects on society as a whole, such as the reduction of work-related diseases, fewer sick leave days (and reduction in related costs), and increasing competitiveness. However, some indicators showed real qualitative or quantitative progress in the five target areas. It was shown that GDA interventions can improve companies' OSH practices, e.g. through appropriate risk assessments, and staff training/instruction. The findings also showed that companies that had experienced interventions in GDA work programmes outperformed those which had not. However, even with multivariate analysis, a causal relationship cannot be determined by means of the available data. By way of example, it is also conceivable that the correlations demonstrated can be partly attributed to selection effects within the framework of enterprises with GDA programme interventions. The question of the effectiveness of the measures, especially in the mid to long term, can therefore only be answered through long-duration measurement in combination with exemplary field surveys on specific action mechanisms.

Overall, we view the development of the GDA as a significant step forward, compared to the prior situation. This is particularly true for common priority setting and implementing the many approaches towards effective and coordinated supervision and consultation. There are also important efforts to get other institutions on board to work towards common goals. The "elements" of the German OSH are well on the way to sustainable and strategic cooperation.

## **Recommendations for the evaluation of the second period**

The general evaluation faced challenges on many individual questions. This chapter addresses these challenges and offers individual recommendations for the way forward, including an evolution of the methodology used in the first period when all indicators and instruments were tailored for the needs of the GDA. The points concern:

- A. Target areas and effect chain
- B. Indicators
- C. Implementation of a control group design
- D. Data access
- E. New developments and baselines
- F. Data collection time-points
- G. Timeliness of evaluation results
- H. Data collection in work programmes – Selection of enterprises
- I. Data interpretation - harmonisation of evaluation criteria

### **A. Target areas and effect chain**

The topics and technical focus of the five target areas of the first period can be largely continued. Individual target areas could be restructured as follows (see also below, figure 2).

Target area 3 on how official organisations cooperate should remain in place, becoming target area 1. Two aspects are added to this target area: First, the current target area for cooperation with third parties (so far TA 4), by assigning sub-targets and indicators from the previous target area to this new target area 1 for cooperation. Furthermore, this target area should be supplemented by sub-targets and indicators, describing the GDA-related infrastructure in the relevant organisations. The focus on cooperation between the organisations is not sufficient to evaluate individual GDA developments, concerning medium and long term aspects of infrastructure (education, training, qualifications, resource development), which can increase or reduce the effectiveness of cooperation with other organisations and the impact of the individual bodies within the framework of the GDA. This is not intended as an analysis of the organisations; rather, it's about the real and possible significance and function of the GDA within the structures of the relevant organisations. A possible name for the target area could be "GDA organisations, cooperation with each other and third parties".

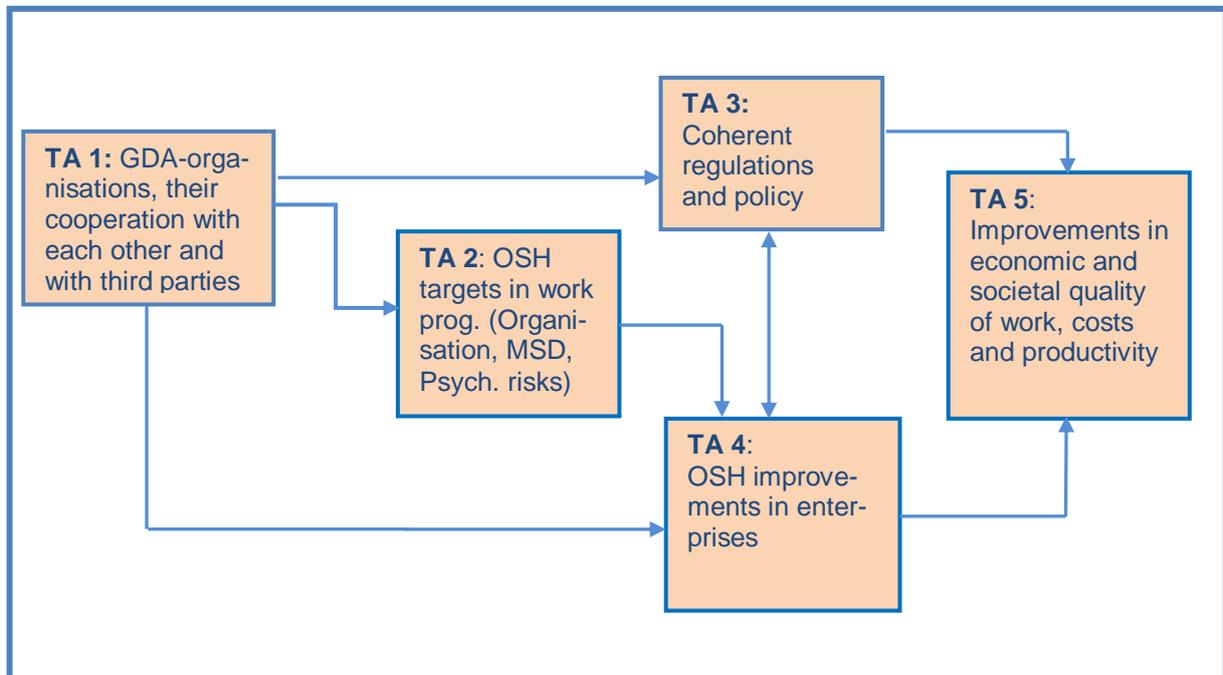
Target area 2 contains the OSH targets agreed upon for the second period in important action areas. This does not entirely correspond to target area 1 from the first period, but is structurally comparable.

The sub-target for coherent rules and procedures of the previous target area 3 is upgraded to its own target area.

This restructuring would mean that the three core elements of the GDA – OSH targets, coordinated procedures (cooperation) and policy and regulation – would each be represented in a target area.

Target area 4 corresponds to the previous target area 2; this concerns the GDA initiated changes within companies. These changes may be a consequence of specific GDA interventions in the work programmes, or from a general change in the companies due to the aggregation of GDA activities (e.g. changes in acceptance due to instruction).

The new target area 5 corresponds to the previous target area 5, including long-term improvements in the sub-targets of quality of work, cost, and productivity. It could also be a sub-target of target area 2. However, from the perspective of the evaluation, other indicators would be required to describe progress, in order to justify a target area of its own.



**Figure 2:** Proposal for future target areas and causalities

The chain of effects can be described as follows: Improved infrastructural orientation and cooperation among the responsible organisations and third parties (target area 1) leads to improved achievement of OSH targets in target area 2; this then leads to a change of rules and procedures (target area 3) and to an improvement within companies (target area 4), either through the work programmes, other GDA activities, or rule changes.

The situation in companies also influences the rules and procedures, in terms of a reciprocal effect. This ultimately leads to measurable changes in highly aggregated data, such as productivity, working incapacity, or the quality of work at the societal area (target area 5).

## B. Indicators

The work programmes should mainly employ process indicators, rather than results-oriented indicators. Process indicators can be used to monitor activities and check if objectives therein have been achieved. These indicators allow us to draw conclusions on existing potential within companies; they relate to aspects such as resources, competence, awareness and organisation. They describe operating procedures that are generally considered to promote OSH.

New target area 1:

Development of common standards and inspection programmes, joint information services, working information exchange, cooperation projects with third parties, education, training and qualification profiles, resources.

New target area 2: The indicators must be target specific. They could be based on a three-step typology, roughly corresponding to a traffic light model.

- Minimum: Compliance with the rules;
- More positive: Further solutions (technological / organisational). Preventive solutions where there are options;
- Optimum: Further activities, such as increased participation or overall health promotion.

New target area 3: The indicators for rules and regulations correspond to the terms of reference from the first period.

New target area 4: The indicators are not programme-specific, but rather company-specific, according to the typology in target area 2.

New target area 5: Improvements in the economy and society: cost, productivity, quality of work:

- Quality of work - assessed by employees;
- OSH assessed by employer;
- Routine statistics from all social insurance categories.

### **C. Implementation of a control group design**

There are expected to be regional or sector-specific key activities within the framework of the second GDA period for OSH objectives. This could lead to a specific sub-evaluation, employing results-oriented indicators as part of a control group design. Cost aspects might also be considered in such studies, as cost generally influences the acceptance of OSH in companies.

### **D. Data access**

To provide answers to the evaluation questions, the evaluator should be provided with all data deemed necessary to review the indicators (e.g. complete data from the work programmes, background interviews, raw data from corresponding action areas). It would be helpful to sign a formal agreement on data access at the start of the evaluation.

### **E. New developments and zero measurements/baselines**

All GDA data collection methods are based on newly developed instruments – from the header sheets to company surveys. All initial surveys can therefore be considered baseline measurements. A wealth of new data is now available from GDA sur-

veys, e.g. on OSH organization, attitudes to prevention, stress/accident/health risks, and cooperation of supervisory services.

As we are still in the early stages of the GDA in terms of its effects, surveys from 2010 and 2011 can be considered as (reconstructed) baseline measurements. A longitudinal sectional comparison is ensured due to the repeated surveying in future GDA periods.

## **F. Data collection time-points**

From the evaluation perspective, it makes sense to start data collection at the same time; one shortly after the start of the GDA period and a second one shortly before the end. From the perspective of evaluators, it would be ideal to have a first survey for future periods (baseline measurement) for the new work programmes, also for company-related activities. A second measurement should be taken shortly before the end of the strategy period.

## **G. Timeliness of evaluation results**

This problem is common to all strategies which develop over successive periods. One possibility would be to upgrade the interim evaluation of each strategy period, in order to make possible readjustments in accordance with the findings, and to prepare the planning for the next period.

## **H. Data collection in work programmes – Selection of enterprises**

The transparent representation of the company selection process is crucial to assess the usefulness of this data for the general evaluation. The work of supervisory staff (company selection, introduction to GDA) should be harmonised nationally, where the subject matter is the same. Differences may be necessary between the work programmes, but here too it makes sense to maximise harmonisation. We also consider it sensible to prepare all supervisory staff for GDA related deployment in companies.

## **I. Harmonisation of evaluation criteria**

In view of the coming strategy period, coordination should be ensured between the approach taken in the work programmes and the planning of the evaluation. If general evaluation indicators are formulated that require overlapping work programme evaluations, the implementation in the work programmes should take this into consideration, whenever possible.

The quality of an aggregating evaluation mainly depends on the planning of data collection in the companies being at least partially harmonised, i.e. selection of companies, data collection procedure, selected terminology, and the assessment and evaluation of the data. It is useful to define quantitative and qualitative evaluation criteria that can be used consistently across work programmes, and to develop survey instruments based on these.



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