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Stress - mind - health: The START procedure for the risk assessment and risk management of work-related stress

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Arbeitspapier **174**

Rolf Satzer

Stress – Mind – Health
The START procedure for the
risk assessment and risk
management of work-related
stress

Arbeitspapier 174

Stress – Mind – Health
The START procedure for the risk assessment
and risk management of work-related stress

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The present shortened English language translation, as well as the detailed German language handbook, are the result of a research project conducted by the Hans-Böckler-Stiftung: Psychological Stress in Working Life

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0 Foreward

Hans-Böckler-Stiftung

This booklet represents the short version of the START-procedure for the risk assessment of mental stress at work. This procedure has been developed in the framework of a research project funded by the Hans-Böckler-Foundation.

The research project aimed at developing strategies which practitioners at company level can use for the assessment of mental stress at work in order to reduce it or to eliminate it. In this context, importance was attached to develop a procedure to be used with the active participation of the employees themselves.

The START procedure was published as a manual for the first time in 2006 as a special edition by the IG Metall in the federal state of Baden-Württemberg. The same version was published as a booktrade edition. Due to the great demand for the book by company practitioners, a second edition was published in 2008. Meanwhile, the START procedure has been successfully used in a considerable number of companies of the metal working industry.

Moreover, the START procedure was integrated in a toolbox of methods published by the Ministry of Work, Health and Social Affairs of the federal state Nordrhein-Westfalen. The START procedure is also documented in the "Toolbox: Instruments for the assessment of mental workload", published by the Federal Institute for Occupational Safety and Health.

Publishing the present short version of the START procedure in English, the Hans Böckler Foundation wants to make available the collected experiences of good practice to practitioners at the European level. At the same time, it is intended to support the ongoing European risk assessment campaign.

Dr. Karsten Schneider
Referatsleiter, Forschungsförderung der Hans-Böckler-Stiftung

Foreward

Federal Institute for Occupational Safety and Health

The assessment of (inappropriate) mental stress in the workplace according to the requirements of the Labour Protection Law meets with problems in many companies. This concerns in particular the choice of suitable methods and the expenditure required to put them into practice in terms of staff, finances and time. On the other hand, up to now only a comparatively small number of company managers have seen the opportunities offered in implementing an overall risk assessment as an effective structuring of work.

The present report convincingly demonstrates that new paths have been successfully trodden in this area. The report sets out the results of a company health campaign conducted by IG Metall in Baden-Württemberg. In the framework of this campaign workers' councils from more than 200 companies attended training seminars on the topic of mental stress / risk assessment from 2001 on. Fifty companies took the initial steps in implementing measures, of which 30 are documented in the handbook. These companies represent about 300.000 employees. The examples set out here represent a process that is still ongoing, which in the majority of cases is incomplete, and whose progress will be monitored further. What is significant in this regard is that a successful start has been made in risk assessment.

Within the framework of the project, and with broad-based support from companies, the so-called START procedure (for the assessment of mental stress) has been developed. It reflects the needs and requirements of company practitioners and is intended to offer them a qualified start, in general analytic terms, with the

assessment of (inappropriate) mental stress. As a prelude to an ongoing process of improvement the department is also able to implement problem-solving measures, as is documented in the collection of company examples. It is to be hoped that the procedures and experiences set out here will inspire company practice in other sectors and regions.

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*Improvements to employee health protection are objectives
“which should not be subordinated to purely economic considerations”.*

*(Preamble to the European Safety and Health Framework
Directive 1989 – 89/391/EEC)*

1 Preliminary remark

Since 1996, a labour protection law in compliance with the compulsory statutory prescriptions of the European Union (Directive 89/391/EEC) has also been applied in Germany. At the heart of the law lies the intention to create a people-friendly structuring of work, and along with it, all-inclusive, effective and preventative occupational health and safety. Put in another way, it concerns a humanisation of work in order to make possible working conditions that not only prevent the occurrence of health problems and illnesses but also make it possible for employees to work in a safe and healthy way.

Inappropriate mental stress such as work-related stress due to heavy work load and time pressure is part and parcel of everyday working life for an increasing number of employees, with corresponding effects on their health. Estimates and scientific research reveal that in Germany around 20,000 cases of heart attacks have work-related causes. In relation to the amount of inappropriate mental stress, experts like the occupational health practitioner Professor Siegrist judge that 10,000 of these heart attack cases could be prevented by stress prevention at the workplace.¹

All the more important, therefore, are company preventative measures and corporate campaigns such as those that have been conducted within the framework of “The Company Crime Scene - psychological stress” by IG Metall in Baden-Württemberg. The experiences collected here show:

- A risk assessment of mental stress at a company level is made possible by the use of simple, comprehensible and practical tools.

This leads as a consequence to a marked improvement in the stress and health conditions of employees and can provide a springboard for an advanced preventative process.

The present Handbook presents an implementation strategy for risk assessment of mental stress which was carried out with positive results in numerous companies within the framework of the campaign. It sets out a handy procedure that has been tried and tested in company practice and which is recommended to employees, workers’ councils, employers and company occupational health and safety practitioners. The procedure is based on statutory requirements and norms. It can be modified, meaning that it can be tailored to varying working conditions and requirements.

1 See Siegrist 2002 and Heuchert inter alia 2001.

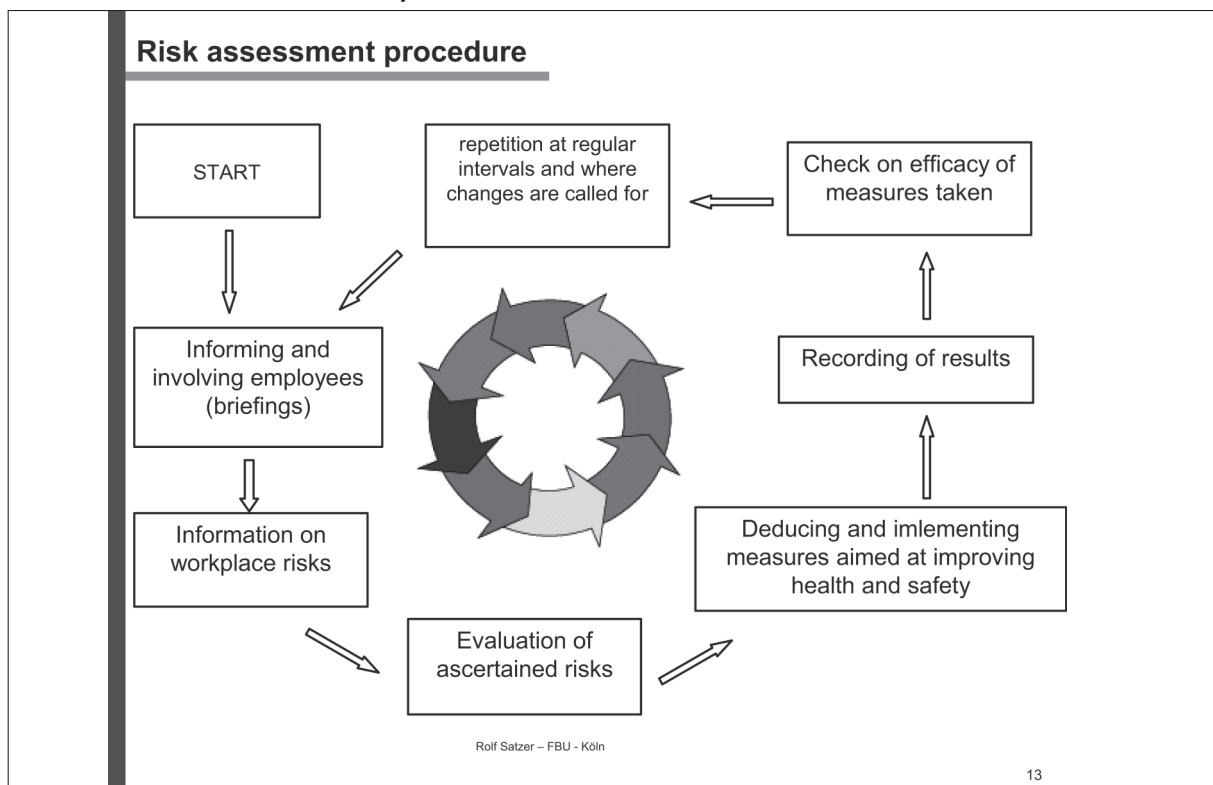
2 START procedure in the risk assessment and risk management of mental stress

2.1 Background – the basic model for modern occupational health and safety

The START procedure introduced here summarises practical experience in various companies. The procedure followed by business practitioners, and the accompanying pioneering company strategy in conducting the risk assessment of mental stress is - in spite of the differences in detail - in general strikingly similar.

What is new is that, among other things, mental stress also needs to be part of this risk assessment (or RA), and that RA fits into a modern, comprehensive concept of preventative company occupational and health protection. In general terms the model looks like this:

Illustration 1: Risk assessment procedure



As a result of the additional need to involve employees, the documentation of the risk assessment results and the check that must be carried out on the steps implemented (efficacy check), a cycle of company preventive health measures is clearly created. Since the whole risk assessment process needs to be repeated at regular intervals or where changes in the company are called for, this cycle becomes an ongoing process of improvement in working conditions and in the health protection of the employees. The aim is to achieve people-orientated working conditions. This no longer involves just the elimination of shortcomings, as is the case with traditional occupational work and safety, but also of prevention – that is, the preventative structuring of working conditions (§ 2 of the Labour Protection Law) in order to eliminate potential health risks at the outset.

The START procedure for risk assessment and risk management of mental stress that is proposed here ties in with statutory requirements and process-orientated logic:

The Health and Safety in the Workplace Framework Directive 89/391/EEC – and with it the Labour Protection Law – prescribes no special risk assessment procedure. Instead it only sets out the basic principle in terms of obligatory procedural steps, in particular the duties of the employer in deducing and implementing preventative health measures.

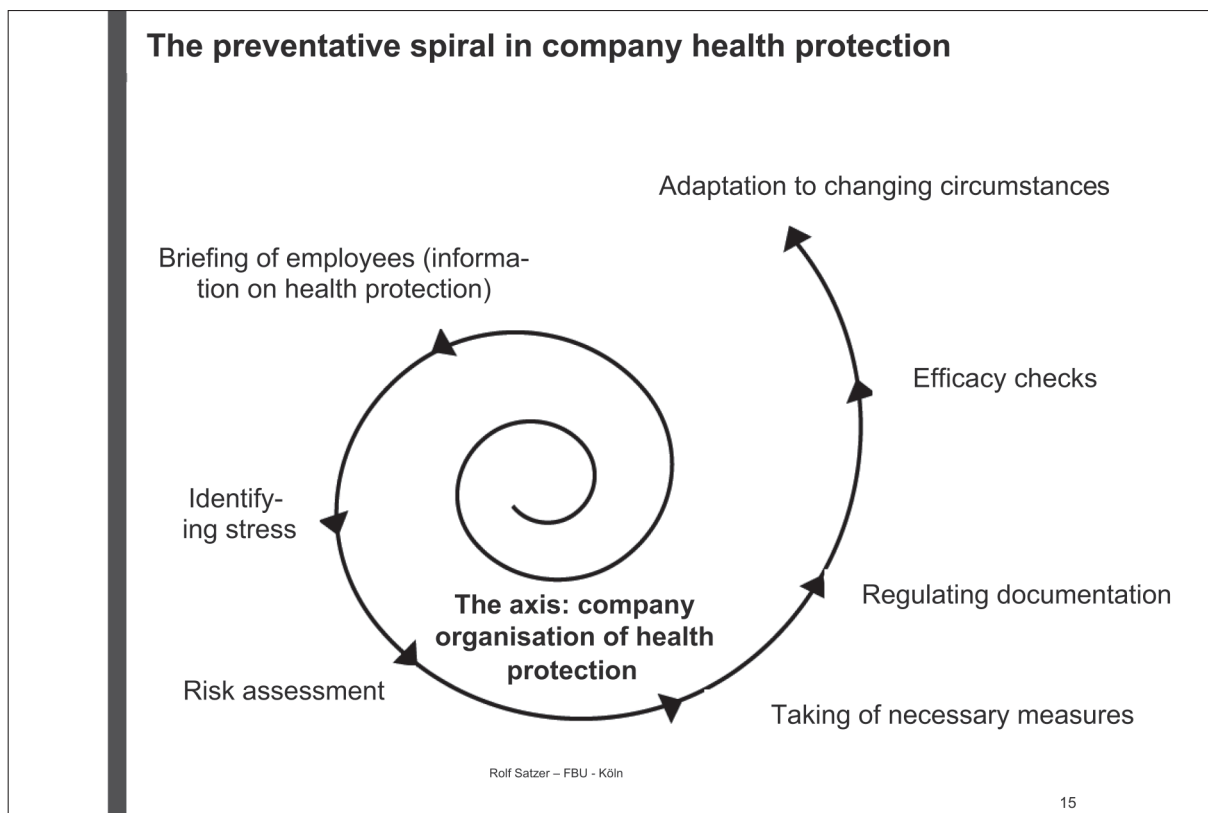
Pragmatic initial procedures are thus possible and desirable.

The main problem areas can be selected according to company circumstances.

It is unnecessary to do everything immediately and at the same time; in the medium and long term, however, all workplaces must undergo a risk assessment.

The procedure, as a step-by-step optimisation process, can and should increasingly have the aim of creating people-orientated working conditions. From this viewpoint it is to be seen as a preventative spiral.

Illustration 2: The preventative spiral in company health protection



2.2 Terms and preconditions for the START procedure

Today, as in the past, uncertainty in company practice is to be observed whenever the term *mental stress* is used. The same applies to risk assessment. Employees, as well as their representatives (workers' councils), those responsible for health and safety and the representatives of the employers, in many cases presume that it is an issue relating to the taboo subject of psychological disorders, traumatic stress and mental illness, or even the analysis of individual "personal problems." Risk assessment of mental stress has, by definition and within the terms of the EU framework directive on employment protection and the corresponding laws, nothing to do with this. The central starting point for every risk assessment that relates to the EU directive

and its translation into national law is in particular the norm DIN EN ISO 10075, which has a Europe-wide application. This sets out a compulsory definition for everybody involved in occupational protection as to what is to be understood by mental stress.

The norm relates explicitly to the workplace and applies to the structuring of working conditions. It distinguishes between occupational mental stress and the demands of work, where occupational stress is to be understood as those factors that affect people. In contrast to this, mental strain represents the immediate (not long term) personal consequences of these work-related effects on people – that is, the short term results of demands on the body and mind. These definitions are, first of all, very general and neutral; that is, one can presume that there may be positive as well as negative stresses and demands. So the term stress, contrary to its use in everyday speech, is not employed in a negative sense but rather neutrally in the first instance. Stress can have positive as well as negative effects. Positive effects may for instance take the form of motivation, training, practice or the development of a skill.

Mental stress is defined in an equally neutral way in the two-part DIN norm (DIN EN ISO 10075-1 and -2):

Mental stress is here defined as “The total of all assessable influences impinging upon a human being from external sources and affecting it mentally”

The norm lists in an exemplary and concrete way what is to be understood by these influences from the occupational point of view. They come into being through:

demands made upon them by the task (e.g. the processing of information, unbroken concentration, shift work or risks);

social and organisational factors (e.g. the atmosphere in the company or the management structures);

physical conditions (e.g. noise or climatic conditions);

social factors outside the organisation (e.g. the economic situation);

In relation to the working process the factors that influence mental stress and its characteristics may be set out in the following manner; the figure represents a selection of the influential factors:

Illustration 3: Influential factors and characteristics

Influential factors	Characteristics
Work task and organisational framework	
Occupational activity	<ul style="list-style-type: none"> - completeness of the activity - responsibility - information - latitude in performing the activity in terms of time and content - cooperation/communication - transparency, predictability, suggestibility - emotional demands - physical variety
Work flow	<ul style="list-style-type: none"> - balance between workload and working hours - disturbances of, and interruptions to, one's work
Qualification Behavioural demands Working hours	<ul style="list-style-type: none"> - use and upgrading of qualifications - fulfilment and acceptance - duration - flexibility - night work and shift work - occupational limitations - organisation of breaks
Flexibility (e.g. telecommuting, temporary employment, short-term employment, project work)	<ul style="list-style-type: none"> - temporal - geographic - type of occupation
Social relationships	
Working climate	<ul style="list-style-type: none"> - leadership - group behaviour - co-determination on the part of employees
Personnel management	<ul style="list-style-type: none"> - opportunities for professional development - social options
Influences of the working environment	
Mental stress, such as caused by noise, cold, heat, exposure to electrical risks, or a possible combination of these	

Source: BAuA (Labour Protection Law) 2001.

As a general rule, mental strain caused by mental stress is defined in the norm as the

- “immediate effect of mental stress within the individual (not the long-term effect) depending on his/her individual habitual and actual preconditions, including individual coping styles

The norm furthermore points to the fact that any activity (i.e. also activities mainly involving physical workloads) can be mentally stressful. Regarding this, the norm states that psychological and physical factors within the working process are linked and cannot be treated separately:

“In this international norm the expression mental is used wherever processes operating in human experience and behaviour are referred to. “Mental” in this sense refers to human cognitive, informational, and emotional processes in the human being. The term “mental” is used because these aspects occur interrelatedly and can and should not be dealt with separately in practice” (DIN EN ISO 10075-1).

Simply put, “body” and “soul” belong together, even where workload and occupational demands are involved. How close this relationship really is, is made clear by the fact that mental factors do not (as the term suggests) simply lead in every case to psychological repercussions on health. Rather, psychological hazards primarily cause physical stresses or effects. This applies for instance to common and widespread illnesses such as **cardiovascular disease** or back illnesses, which may equally well be caused by psychological factors.

When it now comes down to negative results produced by the impact of mental stress, the occupational sciences mainly distinguish between three areas of direct negative (impairing) consequences of mental strain in the workplace:

- mental fatigue,
- fatigue-like states,
- monotony,
- reduced vigilance,
- mental satiation,
- conditions of stress.

The causes of these types of stress are for this reason also the subject of mental stress risk assessment. While the terms *mental* (or *psychological*) *fatigue* and *fatigue-like states* are defined in the first part of DIN EN ISO 10075-1, it (still) offers no definition for the term *stress*. This is due to the fact that historically quite different stress theories were scientifically developed, with the result that the term stress was also defined in different ways. In the last twenty years, however, a widespread scientific consensus has formed within occupational psychology which represents the position of scientific knowledge regarding the term stress. This may therefore be drawn on in connection with questions regarding occupational health protection:

Work-related stress is defined as “a reaction to adverse and damaging aspects of work, the working environment and organisation. Stress is a condition marked by high activation and load levels, and is often accompanied by a feeling of an inability to cope.”²

This definition of stress is clearly not at all so far removed from everyday language, in which occupational stress is seen principally as overload, hectic activity and time pressure. To take factors caused by stress (stressors) as one example, one can see clearly what company protection must tackle above all as far as mental stress and risk assessment are concerned. Such occupational stressors might be:

- Time pressure,
- Pressure to perform a task and an increased intensity of tasks,
- Increased intensity of work caused by a poor assessment of the personnel required,
- Encroachment into the private sphere by a continual increase in the number of working hours,
- Insufficient training,

2 European Commission, General Directive V 1997.

Too great a responsibility coupled with insufficient latitude for decision-making.

A lack of social support,

A bad working atmosphere and poor conduct on the part of management,

Noise and bad ergonomic structuring of the workplace,

Risk of accidents.

Since the term *stress* is defined neutrally by DIN EN ISO 10075, the START procedure always works with the term *inappropriate stress* if we mean negative stress that may result in corresponding negative demands. For example, a risk assessment according to the Labour Protection Law involves the elimination or minimisation of *inappropriate stress*.

2.3 The START procedure: starting points, methods, tools

2.3.1 Central characteristics of the procedure

In order to implement a risk assessment of mental stress, a whole series of different procedures needs to be developed. The START procedure for risk assessment of psychological stress uses a basic analysis ("screening"). For this reason it was developed on the basis of company practice and essentially brings together experiences already gathered by those responsible for occupational protection, workers' councils and staff in pioneering companies. The START procedure is mainly characterised by the following features:

Adherence to the German Labour Protection Law, applicable norms and to what is known in the field of occupational science.

Supervision by a company risk assessment team made up of equal participants.

The use of a simply designed, non-standard survey tool (a questionnaire).

An assessment strategy that uses statistics based on a logic that can be easily understood by lay persons.

An additional external assessment of the workplaces (a combination of company inspection, inspection of workplaces and interviews), using practical check lists.

Final development of measures with comprehensible comparisons of target and performance on the basis of applicable norms and the insights gained by occupational science.

A pragmatic strategy which can begin in the chosen pilot area and may if necessary be supplemented by the use of more penetrative analyses.

In the START procedure, a definite conception of the questionnaire is recommended and a suitable type of questionnaire is offered as a tool. This does not however preclude the questionnaire in use in any company being tailored by company practitioners to their own requirements, provided of course that certain rules are adhered to.

The simple, pragmatic and comprehensible composition of the START procedure ultimately permits the real involvement and participation of employees as required by modern occupational and health protection and the Labour Protection Law. By doing without comprehensive, standardised and unalterable tools, the logic of the law is followed for another reason. The ongoing cycle of improvement established here also requires that changes and additions to, and improvements of, the tools used are made throughout repeated risk assessments, or that the option to do so exists.

2.3.2 Before risk assessment

Before the START procedure can begin with the first step in investigating mental stress, it is obviously first necessary to clarify several questions and set down conditions. The most important steps in this direction are:

A clarification of the mental stress / risk assessment topic and the acquisition of basic qualifications.

Preliminary instruction, participation and involvement of staff (in connection with briefings, among other things.)

Clarification of the procedure to be followed by the various parties in the company, especially regarding the composition of the assessment team and the chosen field of investigation

Establishment of a company-internal assessment team for RA.

Training of the work protection practitioners within the company.

The clarification or establishment of the organisational conditions in the company.

Clarification of the need for advice from outside the company.

The START procedure recommends the following:

- if in general a risk assessment has not yet been carried out in the company, it is normally not advisable to begin with the complex topic of mental stress but rather first of all to carry out RA in the area of classic stress.
- Initial risk assessment, especially in larger companies, should be conducted as a pilot project in a selected research field (for example, in a particular department or for a selected group of employees).

A key component and an important condition for the implementation of the START procedure consists in setting up a company assessment team. In corporate practice, the work of such an assessment team has produced extremely positive results. The establishment of an independent assessment team is an obvious step, since company practitioners are for the most part entering new territory and those responsible for corporate health are generally not (yet) experts in psychological stress. The assessment team should be made up equally of employee representatives (workers' council) and representatives of the employer. Especially in the pilot phase of mental stress RA external experts are often involved, even if only selectively. In any case it needs to be agreed that the option exists to invite in-company experts and individual employees to sittings of the assessment team in order to clarify particular questions. The first run-through of a RA, especially, can be used as a training process for all those involved. Whereas the assessment team in smaller companies often conducts RA themselves, in larger companies the task is more often than not a controlling element in the overall process. The assessment team's tasks and method of operation need to be clarified among those in the company who are involved before RA is carried out, either within the framework of a company agreement or in a discussion of regulating procedures between the participating parties. A general rule to be observed is that the employer is responsible for RA and in no circumstances the representatives of the employees (the workers' council); it is he or she who has to implement the individual stages of the risk assessment.

Above all, the team tasks that need to be agreed from the outset include the following:

Organising the planning, control and implementation of RA, especially the planning of the survey phase, the assessment of the survey results, and the drawing up of a catalogue of measures to be taken.

Ensuring staff involvement and participation

Clarifying all detailed questions that arise during the RA.

2.4 Determining mental stress in the START procedure

The following can belong to those tried and tested and recognised methods by which mental stress is investigated:

Written questions for employees (questionnaires)

Oral questions (e.g. in health groups, health circles and similar groups)

External evaluation and observation of the workplace (e.g. with check lists)

Additional evaluation of all available company data (such as, for instance, accident and bank account information or statistics on staff sickness).

2.4.1 The START questionnaire

The START procedure expressly proposes the use of a simply designed written questionnaire for the assessment of stress. The results collected are then complemented by an external assessment made after a round of inspection of the company by the assessment team. A RA of psychological stress in accordance with the EU directive must investigate all workplaces. In view of the time needed alone this is – apart from in small companies – only to be achieved by means of written questions. The use of a START questionnaire has moreover further important advantages:

- A non-standardised questionnaire may, as already stated, be tailored to company circumstances and the language of the staff, which significantly contributes to its acceptance by all those involved.
- Questionnaires represent recognised empirical social research tools and have especially proved themselves in various forms within the framework of corporate questionnaire activities.
- Anonymous questioning of staff is considered in the area of modern work protection as a “valuable aid” (Federal Institute for Occupational Safety and Health).
- In spite of the anonymous questioning, the START assessment strategy makes possible a comprehensive approach to individual work areas, workplaces and activities.
- The investigative tool is comprehensible to employees and makes it possible to involve them directly.
- The inclusion of open questions allows employees to enter in the questionnaire more detailed comments than is possible with the necessarily limited list of questions. These can provide further important and concrete information bearing on the RA.

Even where experience with the use of questionnaires in the company is predominantly positive, there are special cases and conditions within the company where one may decide against using a questionnaire. In smaller or very small companies it would be possible to work with oral questioning and simple checklists or lists of questions without becoming involved in a quantity of extra work.

2.4.2 The conception of the questionnaire

The START questionnaire shown in the attachment gives users some idea of the procedure. Because it is not the intention to use a standardised form to collect information, the START questionnaire has a structure that illustrates the process criteria (cf. appendix). The questionnaire has been used in a similar form in companies and can now be further developed in relation to the respective requirements of the company using it.

Basic questioning rules need to be observed in designing the questionnaire. To these belong, for instance, the correct formulation of questions and the choice of answers, and the construction of the form with its assessment in mind.

Questions must be comprehensible and clearly formulated. The informants must understand what is meant. So if for example they are asked, “Do you consider the ergonomic organisation of your workplace satisfac-

tory?”, the concept might call into question whether all those being asked understand what is meant by the term ergonomic.

It is also difficult to make a start with general questions such as “How would you describe the atmosphere in the company?”. One will be able to derive little from the answers, since no attention has been paid to the various possible dimensions inherent in the answer. For this reason it is necessary to ask more targeted questions regarding the company atmosphere or the relations between employees, or (concerning the atmosphere in the company) the relationship between managers and staff.

In selecting categories of answers one needs to be aware that there is a tendency to answer questions with a “mid-way” answer. Especially when confronted by difficult questions, informants look for evasive answers if they are among the options on offer (half this / half that, and so on). Such answers are clearly of little value for assessment purposes.

The START questionnaire is not intended to be a scientific investigative tool. It must nevertheless, as an empirical social research tool, observe rules in order not to contribute to a faulty survey result and thus falsify the whole RA.³ As a general rule, it makes sense to carry out a pre-test with a draft of the questionnaire. As a test, a small group of employees should fill out the draft version in the run-up to the survey proper, in order to identify weak points, comprehension problems and similar shortcomings.

If the company lacks previous experience or basic knowledge, a draft questionnaire designed by the assessment team (for example) should be given to an expert to check, one with sufficient professional experience in dealing with company questionnaires. A general clarification is needed in advance as to who is to assess to survey and whether there are people within the company who are suitable and qualified to do this. Although the START questionnaire has been consciously constructed in a simple and practical way so that, if necessary, it can be assessed with in-company resources and suitable computer software, here too basic qualifications are required. If the survey is assessed internally, it will additionally be necessary to ensure that extensive measures are taken to guarantee data protection.

2.4.3 Selected areas of enquiry

The questions contained in the START questionnaire are not intended to embrace all the characteristics of psychological stress. The chosen areas of enquiry represent a selection which was undertaken by assessment teams or workers’ councils in the RA mental stress pioneering companies. The way the main points are set out can vary from company to company. Experience shows that a variety of kinds of inappropriate mental stress can be investigated with this type of questionnaire, which can then be subsequently treated in the further RA stages. Also from the point of view of decisions on the measures that need to be taken, establishing the key points and limiting the areas of enquiry is generally essential. A survey with a very detailed questionnaire would lead to a flood of data and results which could no longer be reasonably processed with a view to implementing them within the company. With an eye to the ongoing cyclic RA process it is neither necessary nor reasonable to ask about all aspects in a first survey. The START questionnaire here fulfils, in the true sense of the word, its function of sparking the RA into action and getting the process going.

The areas of enquiry contained in the START form, such as vocational training, managers, available space, time pressure, division of labour, recognition and so on moreover make clear that a large number of key mental stress risk areas are covered in a rudimentary way, as named in the EU directive or in the norm referred to (cf. chapter 1.3.1).

2.4.4 Anonymity of the survey and the ensuring of responses

There is no question that the RA of mental stress is a topic which even today is sensitive and ringed with a large number of taboos and misunderstandings – and that includes the way it is perceived by employees. It is therefore all the more important to provide advance information and to involve staff by, for instance, briefing them on risk assessment beforehand in order to prepare them for the RA. Apart from this, the START

³ cf. the basis of Satzer’s 1997 survey technique.

procedure works with an anonymous questionnaire; that is, the questionnaire is filled in without a name and is assessed anonymously. In this way, assessment is carried out in a form that does not allow one to draw conclusions as to the identity of individuals, a procedure which again has proved itself in the corporate reality. The concerns of the informants regarding sensitive data – which most definitely have to be taken seriously – can be cleared out of the way right from the start, which leads to a greater readiness to fill in the questionnaire and participate in the RA. This readiness, accompanied by the increased questionnaire return rate, further benefits from the fact that the informants complete the survey of their own free will. In this way, START seizes on recommendations by the Federal Institute for Occupational Safety and Health (BAuA), as well as the practical experience of the pioneering companies whose assessment teams and workers' councils have decided on this procedure as a consequence of the positive results obtained.

Finally, reference must again be made to the character of the START procedure. Especially in larger businesses that are just beginning with the RA of mental stress, it is anyway not possible to cover all stress factors in all workplaces, and to implement them, at the same time. Concentrating on particular workplaces is unavoidable, even where it will be necessary as time goes by to gradually cover all of them. As a general rule, the questioning of all employees, and their cooperation with the RA of mental stress, is essential with every procedure. If they are afraid, however, practically nothing can be achieved by force. Coerced participation in the written survey would simply lead to a certain percentage of the informants filling out the questionnaire only superficially, in a consciously falsified way, or not at all. Instead of working with coercion, all possibilities should be exploited in order to achieve a high return rate of the survey. This mainly means:

- participation, involvement and cooperation of the employees,
- carrying out briefings in order to prepare for the RA,
- detailed and sufficient advance information for all participants,
- a voluntary and anonymous survey,
- the adoption of a central role in the RA on the part of the employees' representatives (the workers' council), including a guarantee that the results will be assessed anonymously and that data protection will be safeguarded,
- simply designed, transparent and comprehensible questionnaires,
- notification of the information derived from assessment of the questionnaires,
- properly organised distribution and collection of the questionnaires.

Procedures regarding the last point, as well as whether the form should be filled out in the company or at home, can only be decided on the basis of the background to the conditions within the company. In order to ensure a high return rate, it is generally recommended when using START to have the workers' council distribute and collect the questionnaires, in doing which anonymity is of course to be ensured by using envelopes and so on. The personal distribution and collection of forms by someone who is trusted increases the return rate, makes it possible for queries to be dealt with, and so on. It should be borne in mind that it is not possible to reach all company employees all the time, so that (for example) a second distribution round needs to be planned for.

It is absolutely necessary to ensure that employees are given sufficient time to complete the questionnaires. This means allowing them to tackle the questions in peace, to think about them and give detailed answers. The same applies to the answering of open questions, since these play a special role in the START process and need time. As a general rule, the employees should therefore take the questionnaire home for several days and bring it back on a specified date. On the other hand, it is obvious that completing the questionnaire in the company facilitates its return. In this case, the preconditions outlined above need to be positively clarified.

2.4.5 Open and closed questions in the START questionnaire

Two types of questions can be basically distinguished in the questionnaire:

Closed questions give answer options that only need to be crossed by the informants.

Open questions offer the informants unlimited answer options, meaning that detailed written answers can be entered in the questionnaire.

Closed questions with prescribed answer options make assessment easier and in the case of extensive questioning are a basic precondition for processing a large quantity of detailed data. The START questionnaire includes only a few possible options (yes/more yes than no/more no than yes/no) and steers clear of a “mid-way” option (see above). This limitation has been proved to make sense, particularly when assessing the survey, since the results (to give one example) can be set out in tables or as a graphic representation which allows them to be understood on a first viewing. They can, for instance, be set out graphically in just four columns, in which case two columns each indicate the positive or negative direction. It can then be immediately seen that e.g. 70 % of the informants give a positive answer and 30 % a negative one. If differentiated answer options were used (e.g. points from 1 to 10) it would be considerably more difficult to obtain a comprehensive overview. Since assessment will later make it necessary to classify and analyse extensive data with a large number of tables and figures, limiting the results to only a few response options makes the work of the assessment team easier.

Closed questions and prescribed answer options, however, also always mean limiting the possible range of answers. The tighter the parameters, the more the informant is forced to decide for one direction, something that may be really hard in the case of some questions. Apart from this, it can be difficult later to see what reasons an informant had for choosing a particular answer. If about 70 % of the informants rate the organisation of shifts negatively, it cannot be immediately seen exactly what shortcomings are being referred to. Here additional open questions have a decided advantage and therefore play a decisive role in the START process. In every set of questions, the informants are here given the opportunity to enter in the questionnaire further explanations and comments which from their point of view are important. This allows them, for example, to add other comments to the answers to the closed questions which they have crossed. Experience with company surveys supports the fact that indeed many informants (up to 50 % or more, depending on the questions) exploit this open question opportunity, even in some cases making extremely detailed comments. Last but not least, in the case of the final open request for further and miscellaneous comments, the informants have the chance to tackle subjects that were not asked about at all within the necessarily narrow context of the questionnaire itself. All these written comments can of course provide valuable hints for the evaluation of the survey and the interpretation of the data. Doing without open questions in standardised questionnaires represents a further disadvantage of these questionnaires compared to the START questionnaire, which achieves a more comprehensive involvement of the informants and can offer employees possibilities for direct action.

The disadvantage of open questions is that they certainly require substantially more effort to evaluate. In contrast, the START assessment strategy offers simple evaluation at a glance (see below). The effort required to do this can be clearly seen and is justified in view of the advantages mentioned above.

2.5 Evaluation strategy

When the survey has been completed, the data gained need to be evaluated in such a way that they can be effectively used by the assessment team in the further stages of RA (evaluation of the results gained and measures to be taken). START offers a simple and, for the practitioners, comprehensible strategy that allows them to recognise and build up a clear picture of the main points that stand out from the assessment.

As a general rule, questions are evaluated with the aid of the computer; only small-scale surveys with just a few informants can be counted out by hand. A precondition for evaluation is the encoding of answers and data entry in the assessment program, which then counts out the questions and can create appropriate tables and graphics. The START questionnaire is designed in such a way that it can be evaluated with generally

available table calculation programs such as Excel. More suitable, however, are special statistics programs. Appropriate knowledge of the programs and of the statistical evaluation of questions is essential. START explicitly avoids the use of complicated statistical procedures, so that if necessary in-company evaluation can be carried out after suitable training.

The first stage of the evaluation will produce an overall assessment for all those taking the survey. Tables and related graphics now provide initial information regarding the mental stress risks for all informants, illustrating what kinds of stress are to be classified as inappropriate. Since the heading of the START questionnaire contains further questions regarding the individual, it is possible to use these questions in order to make an assessment in a considerably more detailed way.

As a general rule, the following points should stand out in the questionnaire:

The superordinate working area or works division (such as administration or production),
the department,

The field of activity in which the informant is engaged.

In this way it is possible to conduct a more extensive and detailed analysis that provides an assessment based on the area of work, the department and the activities involved. These stages in the assessment finally yield survey results for *all* the informants as well as evaluations which can increasingly be applied to individual workplaces. So if for example the overall assessment relates to 260 informants ($n = 260$), this means that there are roughly half in each of two parts of the works and in a particular department perhaps another 50 informants and in one job only another 30. It is obvious that the main stress points can be precisely determined with such a comparative analysis of data, in a way that cannot be achieved by means of a pure overall assessment. Here is an example of this from one of the pioneering companies, the Badische Stahlwerke (BSW) in Kehl. The steel mill BSW is divided in two greater parts (Factory A and B) and a lot of smaller plants (Plant S, G, E etc.)

A glance at the negative factors shown in the overall assessment (see figure) reveals in overview that as well as the expected high classic stress patterns also mental stress in a narrower sense, such as time pressure caused by tight scheduling (76 % *yes / more yes than no*) or shortcomings in the in-company flow of information, plays a significant role, since 55 % of informants still gave an insufficient evaluation (where the questions require the *no / more no than yes* answers to be taken into consideration).

Illustration 4: Negative factors

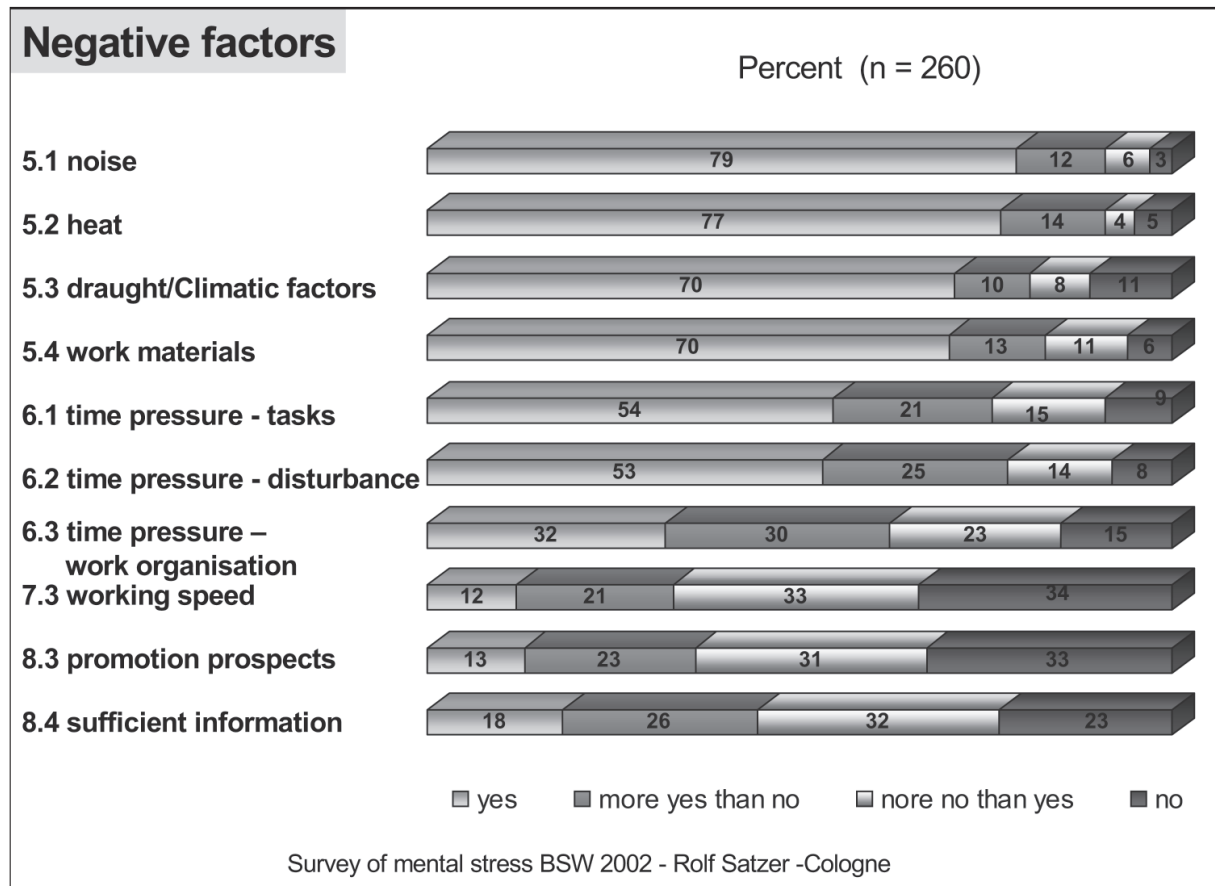
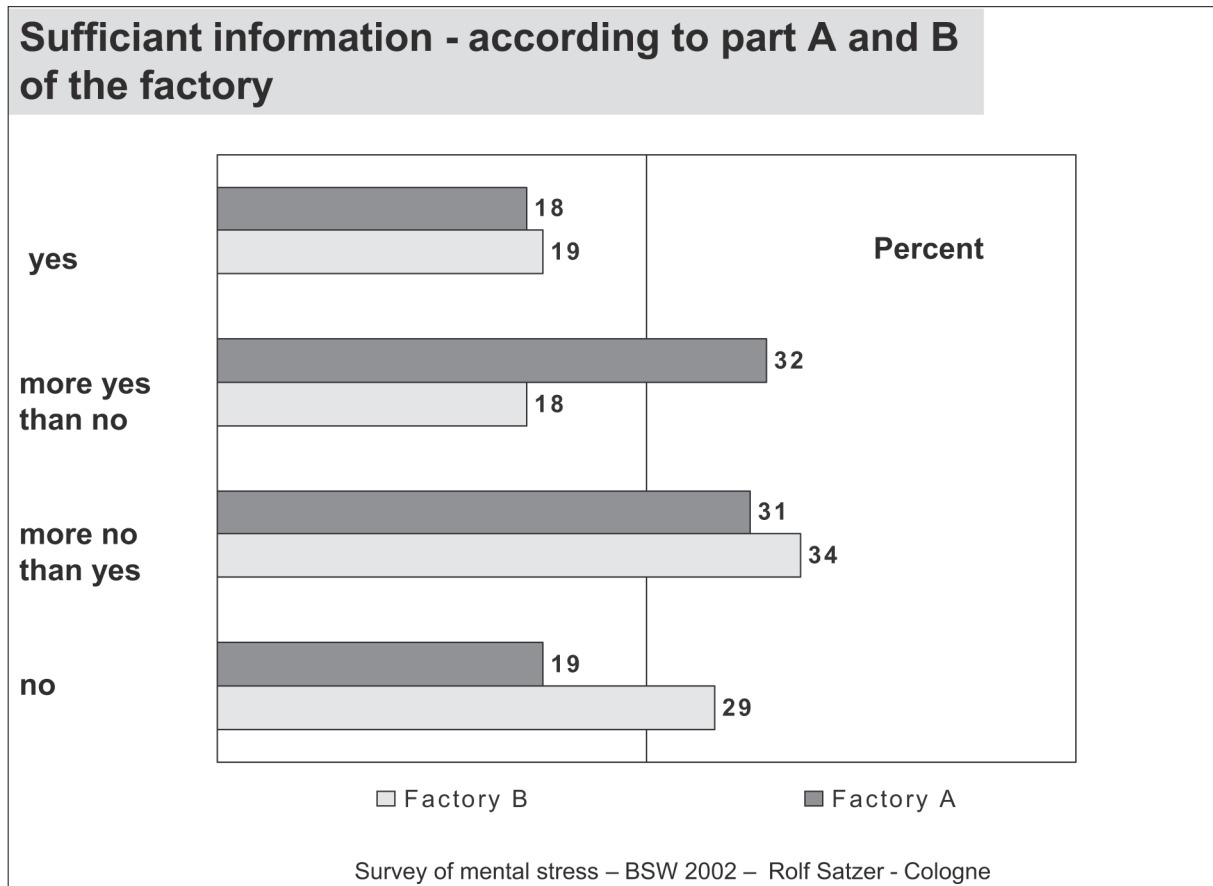


Illustration 5: Sufficient information - according to part A and B of the factory



The evaluation strategy mentioned above is made clear by this example:

If the flow of information relating to all informants ($n = 260$) was regarded as insufficient by 55 % of them, the detailed factory-related evaluation shows that this negative assessment is even more pronounced in factory B (63 % - more no than yes/no).

The next step in assessment, that relating to company departments, then identifies key point areas such as M Plant with 84 % ($n = 26$) negative responses. And a similar evaluation of jobs identifies occupation groups such as D, where 82 % ($n = 28$) of the informants were of the opinion that they were not sufficiently well-informed regarding company developments (for example: one of the occupation groups are electricians).

Illustration 6: Sufficient information – according to plant

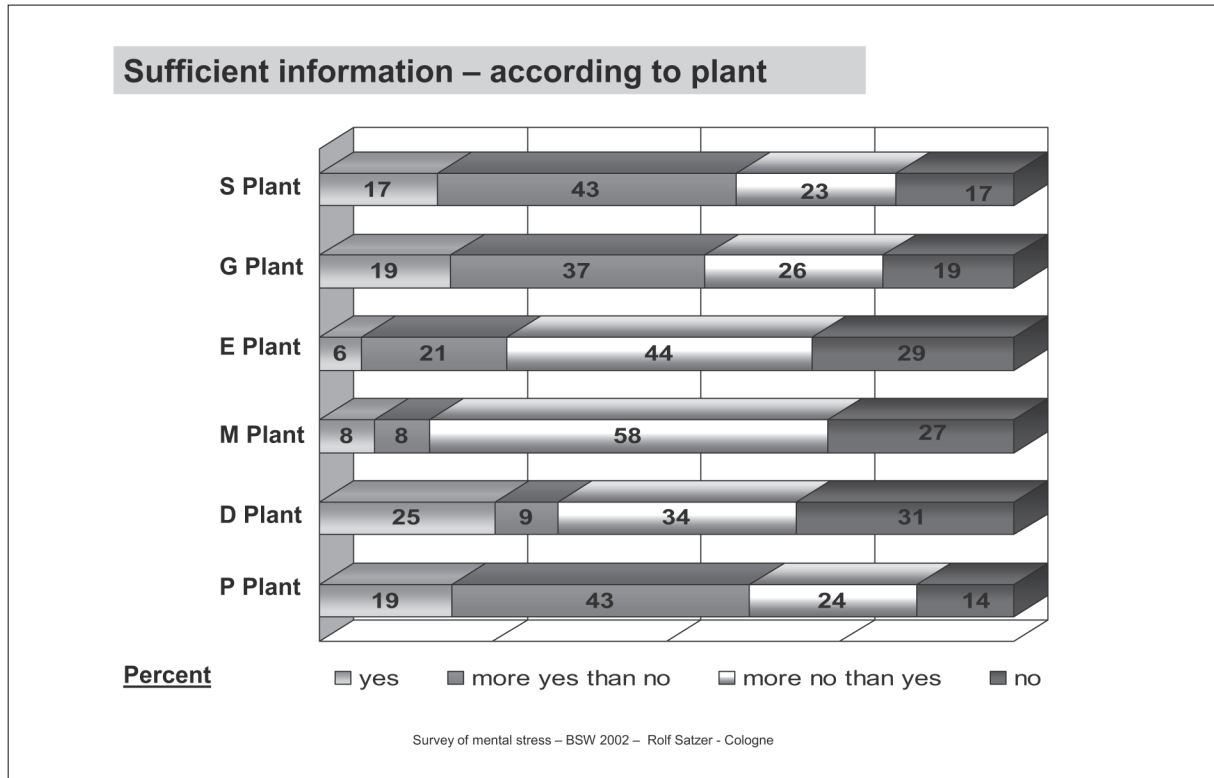
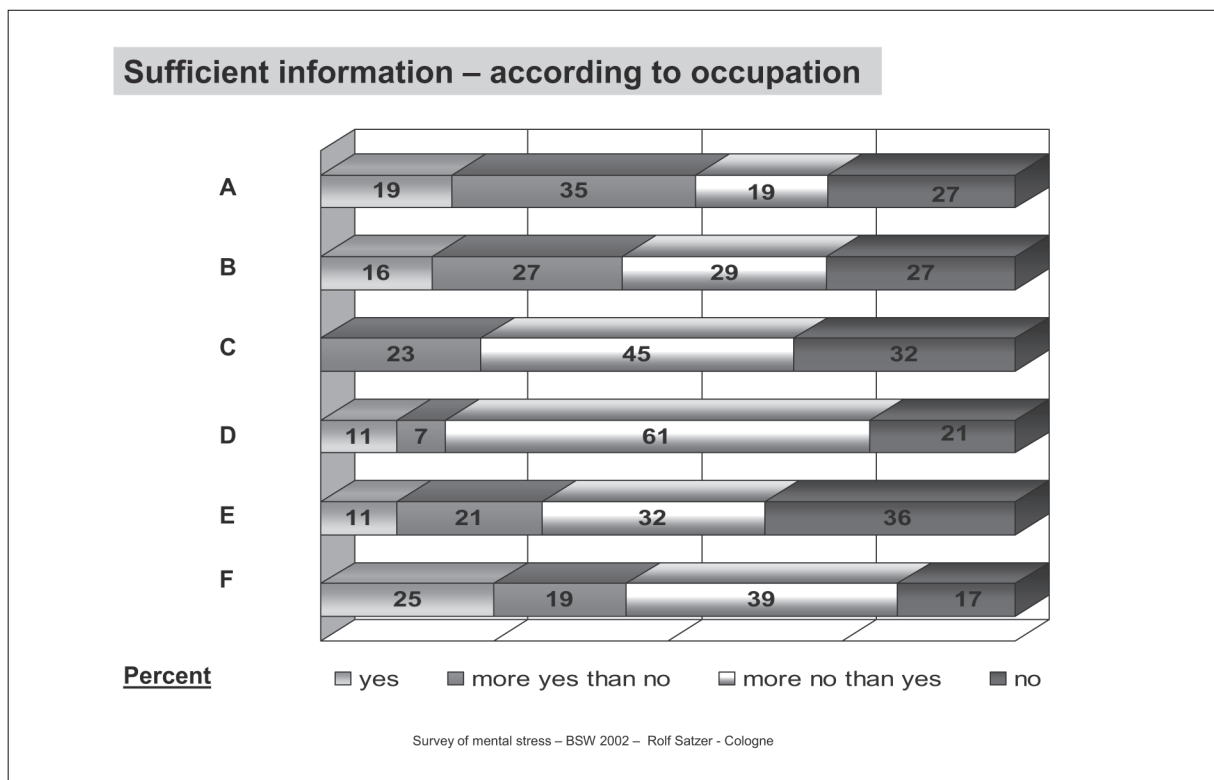


Illustration 7: Sufficient information - according to occupation



The reference to absolute numbers makes clear how close the assessment is coming to an evaluation of the workplaces. While 55 % of all 260 informants regard the internal flow of information in a negative way, this percentage broke down to 50 % of the 143 informants in factory A and 63 % of the 112 informants in factory B. In making an assessment according to plant and activity, it was then possible to identify a cluster of key negative points in M Plant (84 % of 26 informants) and in occupation group D (82 % of 28 informants). The percentages serve here only as a comparison; in view of the small absolute numbers this means that almost every workplace is involved or that every informant has given a negative assessment.

Naturally in this case too, the informant responses to the open questions yielded further significant information for the assessment team (see above). This allows us to deduce concrete clues as to what the informants meant precisely by *company information flow*, and where they saw the causes of the problems.

The responses to the open questions are summarised in an outline assessment in the START procedure. The answers to them must in general be entered in written or typed form. The answers to each group of queries can then be simply ordered according to each assessment area (department, job, etc). This overview provides the assessment team with a practical written commentary from the point of view of the employees, which the team can then add to the statistical assessment with data analyses, data interpretation and the evaluation of the results received. This information derived for the outline evaluation of open questions can also be used for a targeted observation of workplaces within the framework of an on-site analysis.

The following needs to be borne in mind:

- The most important effect of the assessment strategy described lies in the identification of the main inappropriate stress areas, which now makes possible a targeted, pragmatically orientated, step-by-step continuation of risk assessment.

2.6 On-site assessment of the findings

The identification of mental stress within the RA framework is not concluded with the survey of employees and the subsequent evaluation and processing of data. In the START procedure, this part of the investigative stage is supplemented by an on-site evaluation of the workplaces. The subjective staff survey is thus complemented by an external assessment. The on-site assessment is undertaken or managed by the assessment team. This consists of a combination of company inspections, observations of workplaces, the use of check lists and discussions with employees while at their work stations (without, of course, later ignoring the anonymity requirement).

The on-site analysis, particularly in larger companies, can be limited to targeted sample analyses that should be conducted especially in those areas of work in which key stress points have been identified as a result of the evaluation of the questionnaires, or those in which further clarification is needed. In company practice this allowed:

- in many cases assessment of informants in connection with the main points of risk to be conducted in more detail or checked,
- additional aspects of occurrences of stress to be documented,
- further RA data to be collected.

The on-site assessment at the workplace moreover facilitates a further involvement of the staff in the company health protection strategy or risk assessment. The START procedure also follows a pragmatic approach in using on-site analyses. Naturally only observable developments can initially be perceived by this analysis, a fact that moreover can only partially be compensated for by the above-mentioned use of interviews. In many cases (including mental stress) this is sufficient to clarify relevant issues and thus to be in a position to make an evaluation. Apart from this, it is often impossible to clarify certain kinds of inappropriate mental stress by employing complex scientific observational interviews, due simply to the artificial setting of the survey.

2.7 Assessment of the findings

Having determined the risks, the first important step in RA, information on the current situation regarding inappropriate mental stress risks is now available. In the second stage these mental stress findings need to be evaluated.

The problem in assessing mental stress can be solved by comparing the current risk situation with the way we would wish to organise work so that it is people-friendly. The measures that need to be taken derive from this comparison between the current and intended states corresponding to standards and legal provisions (see below). The company assessment team must therefore compare the actual situation as observed in the workplaces with the characteristics and criteria of the intended situation in terms of health. The criteria and characteristics of the desired situation are set out in a concrete way in:

- the standard aims regarding protection, such as laws, regulations, DIN norms and so on,
- solid insights and principles from the field of occupational science regarding a people-friendly design of work, such as is summarised in the guidelines of the Federal Institute for Occupational Safety and Health,
- Practical tried and tested company solutions that take health factors into consideration, such as those set out in the Best Practice lists of the Federal Institute for Occupational Safety and Health.

The concept that the EU directive uses or calls for regarding people at work (people-orientated organisation of work) is generally defined in occupational science as follows:

The work must be *achievable* for the employee and must *not be harmful*.

Employees must be able to work *without adverse effects and without being subject to unreasonable demands*.

They should be able to *use the abilities and skills that they have learnt*, and be *able to develop them further*.

The work must be satisfying. It should be organised in such a way that it encourages personality development and is beneficial to health.

The work should be socially acceptable and be organised so that it involves the employees.⁴

These general benchmarks are further elaborated in a more concrete form in the norms, such as part 2 of DIN ISO 10075 (see illustration 7) and most especially also in the ISO norm 9241-2. This was originally developed for computer work stations. The "translations" of the guidelines for a people-friendly organisation of work which it offers can be used for other workplaces and in the comparison between existing and desired situations.

According to ISO norm 9241-2 appropriate jobs should:

- make it easier to perform the work,
- guarantee the user's health and safety,
- enhance their well-being,
- offer possibilities for development of their skills and the abilities associated with the assignment of their tasks,
- take into account the experience and skills of the user groups,
- involve an appropriate variety of skills, abilities and activities,
- ensure that the jobs to be done constitute a complete activity in themselves rather than being perceived as just one fragment of them,

4 cf. Lasi, BG.

- ensure that the tasks to be performed represent a meaningful contribution to the overall function of the field of activity, and one which is understandable for the user,
- allow for appropriate latitude as far as ordering, working speed and procedure are concerned,
- allow for sufficient feedback on the accomplishment of a task in a way that is meaningful for the user,
- allow for opportunities for further development and the acquisition of new skills within the framework of the user's remit.⁵

If the existing mental stress situation does not meet the requirements of the above positive criteria, the following steps need to be taken. The job of the assessment team consists specifically in evaluating the known risks by drawing on guides, norm guidelines and, last but not least, positive examples of practical corporate solutions that permit comparisons with the current situation. It is obvious that initially company practitioners are especially uncertain about this first step in RA. As a general rule there is no experience to be drawn upon here; the procedure is unusual and the kind of language with its many scientific terms that is used in norms and guides does not exactly produce clarity. The START procedure therefore deliberately works with a simple and comprehensible comparison between the existing and intended situations corresponding to standards and legal provisions (see p. 23).

The following general point needs to be kept in mind:

Many assessments of mental stress findings can anyway be properly conducted with a certain degree of plausibility by company practitioners using their experience of occupational and health protection. The same applies to the steps to be taken. The START risk assessment procedure is based on a rational principle, namely, why should company practitioners not be able to assess stress resulting from - to take some examples - time pressure, shortfalls in personnel, shift work or a poor company atmosphere?

2.8 Channelling and implementing measures (Risk Management)

The establishing of mental stress measures clearly represents a significant challenge for company practice. Risk assessment and risk management, in terms of the parameters of the EU directive, aims for comprehensive company measures concerning work and health protection. It should achieve a real and effective prevention in the constant optimisation of the cycle, that is, it should above all prevent the future emergence of risks. By the term *risk prevention* the directive understands **"all the steps or measures taken or planned at all stages of work in the undertaking to prevent or reduce occupational risks.** (Article 3d of the European Occupational Health and Safety Framework Directive /89/391/EEC).

Again, the START procedure also proposes a pragmatic strategy regarding the measures taken by the assessment team:

Measures can be applied to selected focal point groupings, with a start being made in the pilot areas.

Groupings of focal points that are already being implemented can be areas with a potentially above-average high risk, as identified in the RA evaluation stage.

Determination of mental stress within the company can be conducted in three stages:

- Orientation – rough analysis/START procedure,
- In-depth procedures (screening procedures),
- Special analysis procedures.⁶

⁵ Gäbert 2003.

⁶ cf. BauA 2004.

Even where a rough analysis with the aid of the START procedure is enough to derive successful measures and to implement them, the following applies:

Whenever substantial problems arise regarding the discovery of risks, evaluation or measures taken, or where the assessment team is confronted by controversial questions, the START procedure can be complemented at these points by more comprehensive methods.

The following example from the Badische Stahlwerke will give some idea what a list of mental stress measures looks like, as designed by an in-company assessment team.

Establishment of short managerial briefings for employees who are about to go on a shift giving information regarding technical and organisational changes (shutdown of the plant etc).

Basic information for managers on mental stress and the carrying out of risk assessment (short talk during discussions with technicians).

Training sessions on "stress-free management" in order to reduce those factors arising in disruptive situations that are found particularly stressful.

Analysis of accidents that takes into consideration the influence of inappropriate mental stress conditions – use of checklists.

Organisation of shift work in the Badische Stahlwerke in a way that involves consideration of health factors – introduction of an improved shift plan.

Technical organisational measures aimed at reducing time pressures and stressful conditions – pilot project in a selected area.

Management training sessions on the "organisation of internal information flow" or integration of this topic in the existing training structures.

Integration of briefings on mental stress in the company guidelines for briefings in line with § 12 ArbSchG (the German Labour Protection law).

Further development or continuation of RA and the supplementing of Labour Protection Law requirements which have been missing up to now (e.g. efficacy checks, the design of the company's occupational and health protection). This should aim to involve the staff to a greater extent.

Provision of the regulations set out above in order to establish an integral company health protection policy that has been internally agreed upon.

The drawing up of a list of measures aims to provide (as is also the case regarding assessment procedures) examples of solutions for action planning as contained in the above-mentioned norms, suggestions on provisions from occupational science and lists of examples from practice. So for example guidelines and tips can be found in the second part of DIN ISO 10075 on stress, which is there discussed. The following table gives an overview of this:

Illustration 8: examples of design solutions for avoiding significant consequences of occupational psychological stress at various organisational levels

	effects of mental workload			
Level of design process	fatigue	monotony	reduced wakefulness	satiation
Task and/or job	Task allocation Avoid time sharing	Task allocation Task variety	Avoid sustained attention	provision of sub-goals job enrichment
work equipment	Nonambiguity of information presentation	Avoid machine-paced tasks Provide for operator-paced work Provide for changes in the mode of signal presentation	Signal conspicuity	Provide opportunity for individualized forms of task accomplishment
environmental	illumination	temperature colour	Avoid uniform acoustic stimulation	Avoid uniform environmental conditions variety
organizational	avoid time pressures	job rotation presence of co-workers	job enlargement job enrichment	job enrichment
temporal organization	Rest pauses	Rest pauses	avoid shift work reduce time on task	Rest pauses

At this point it is necessary to clarify the procedure to be followed by the assessment team in establishing company work protection provisions aimed at tackling inappropriate mental stress through the implementation of such a combination of measures.

A basic precondition for deriving and implementing START measures is the involvement and participation of employees. Making changes to the working conditions without staff involvement would be counter-productive and would cause more inappropriate mental stress than could be dispelled with these kinds of measures. In addition, the EU directive, as well as modern work and health protection, requires the direct involvement of the employees.

- “Feasible, problem-specific and work-specific measures can be handled best in discussion with the employees. The steps chosen should also be discussed with the staff.”⁷

⁷ LASI 2003.

A further task for the assessment team consequently consists of organising this involvement. How far this may go can again be illustrated by examples from companies in which the staff themselves designed a new shift schedule, which was then voted upon internally.

Measures aimed at preventing or reducing stress may be classified in three groups⁸:

- Technical measures can for instance be implemented in accordance with Machinery Directive 98/37/EC. This calls for “the cutting down of annoyances, fatigue and mental stress in the operating personnel, in accordance with the ergonomic principle of reducing to the smallest possible.”
- Organisational measures may consist in implementing a healthy organisation of working time (breaks, quiet periods, design of shift schedules, etc).
- Measures relating to individuals can take the form of training, having the effect of counteracting situations in which excessive demands are placed on them.

In modern work and safety protection the ranking of measures set out in the Labour Protection Law applies; these are to be followed in any measures taken by the assessment team.

- *“Preventative measures relating to “work environment” (ranking of measures in accordance with the Labour Protection Law) take priority over those that relate to individual behaviour; this is clearly expressed in the general basic tenets of the Labour Protection Law (§ 4 ArbSchG).”⁹*

What priorities should the assessment team follow in deciding on measures that need to be taken? Where should these measures begin? As far as their implementation in the company is concerned, START again proposes a pragmatic approach. The reality is that it is in general impossible to implement all measures in the company at the same time. Corporate practitioners can bear in mind:

the main risk points previously determined, if the number of those affected, or the number of employees recorded in the survey, is above average – for example when more than 50% of staff are affected,

the degree of stress and the extent of the risk to health in cases where there is serious discrimination in the workplace,

the feasibility of the measures; the results of every RA will suggest measures which are relatively simple to put into practice in the company, and which do not involve too much effort.

The START procedure provides another important approach to deciding on measures that up to now has been ignored in the RA evaluation stage. After risk assessment the company will not only be confronted with an internal negative list of inappropriate stress instances that represent a threat to health; there will also be areas in which risks either cannot be, or can hardly be, identified. It is clear that such **positive results** can be used as positive examples of solutions to decisions on measures as opposed to the inappropriate mental stress cases recorded. The assessment team should consequently take into consideration the **positive factors** already identified, especially regarding steps that need to be taken. In this way the reasons for the positive findings can, when translated into the design of measures, become a component of the list of actions to be taken. **Positive in-company examples** can be carried over, leading to equally positive effects on the stress situation.

Last but not least, this strategy provides an important view of how work may be organised for the benefit of the individual, as well being a key criterion in the notion of stress. Because it is not only the impact of demands that decides the potential effects of stress but also the means of overcoming them that are available. These possibilities for surmounting them are of decisive importance for – to take one example - a positive processing of stress: In scientific terms these are described as resources (aids). Important factual, temporal and personnel resources are, for instance:

sufficient training for qualifications,

an appropriate length of time for carrying out the task,

8 cf. Oppolzer 2002.

9 LASI 2002.

appropriate technical aids and layout of the workplace,
sufficient decision latitude in deciding how to organise work,
social support and the opportunity to communicate with colleagues,
suitable environmental conditions in the workplace,
experience of work and work routine.

Such resources are collected in the investigative stage of the START procedure and may be used for implementation strategies by the assessment team:

- *Measures taken to organise work in a way that benefits the individual combine two approaches: first they prevent or reduce such instances of inappropriate stress, and secondly they establish or deliver resources that promote health.*¹⁰

The following table gives an overview of the approach regarding stress or resources in implementing strategies:

Illustration 9: overview of the approach regarding stress or resources in implementing strategies

Design approach	Institutional (relating to work environment)	Individual (relating to individual behaviour)
Stress-orientated (the prevention or removal of working conditions and stresses injurious to health)	Improvement in work stress organisation of the workplace and equipment shaping of the work environment shaping the organisation of work	Improvement in staff conditions and conditions for effective performance: elimination of risk-taking behaviour relaxation stress management
Resource-related (creation or retention of working conditions and skills that promote health)	The setting up of (external/ company) resources: Design of activities by increasing the scope to act and make independent decisions Organisation of the social climate by promoting social support	The setting up of (internal/ personal) resources: enhancement of qualifications through work training and further education training in skills

Original Source in German language: LASI 2002.

The task of the assessment team is to put forward a checklist of measures. The employer, as the person ultimately responsible, decides on its implementation. In doing so, however, existing co-determination rights of the employees' representatives must be taken into account. The following point is to be observed:

The assessment team's checklist of measures was compiled within the framework of statutory requirements. The employer must in any case implement the measures. Company practice has shown that it can make considerable sense to start off with actions with which all parties in the company are more or less in agreement. This pragmatic implementation strategy must not however lead to a setting aside of complex or tricky company policy subjects where the implementation of measures is concerned. It makes sense to agree a schedule here, one which regulates implementation and defines priorities as well as those responsible.

Should no agreement be reached on actions to be taken it is necessary to clarify what steps are appropriate in the continuation of the RA by a detailed analysis of stages 2 and 3. The following points need to be ob-

10 LASI 2002.

served regarding the cycle of continual improvement in health protection and preventative measures taken by the company.

- When the steps proposed have been sufficiently well-received by the rank and file and the workers' council, the RA can begin to test these measures with an eye to their efficacy. This may then anyway lead to a corresponding change. In general, experiences in numerous pioneering companies confirm that a large number of significant improvements in health protection can be pushed through by implementing RA – with or against the employer. It is not possible to do everything immediately, nor does it need to be. The main lever for effective health protection is to give a kick start to the process and to make it irreversible.

2.9 Documentation and efficacy checks

The START procedure for the RA of mental stress and the present guidelines are concerned with RA in the narrow sense of the word. Its procedural structure, as well as the contents of the Occupational Protection Framework Directive 391/89/EEC, would be inconceivable without the supplementary regulations provided by the documentation and efficacy checks. Without these elements it would be impossible to complete the uninterrupted preventative cycle within the company. Notes regarding this are appended below. In Germany the following applies: according to § 6 ArbSchG the company must be in possession of the following documents:

- the RA results,
- the measures that have been decided on,
- and the result of the efficacy check on these provisions.

The form of the documentation as set down by the employer is in turn subject to co-determination and in Germany is again generally integrated in company RA agreements. The documentation essentially contains information regarding the current status of occupational protection within the company on the one hand, while on the other hand documenting the status of the actions that have been taken and the checks on the implementation of these steps that have been carried out. Documentation is especially important in the START process in order to achieve a practical implementation; RA is carried out gradually and actions put into effect or inaugurated only in the most important areas. In this way documentation provides important information for future work by the assessment team, since in the subsequent RA stages all company areas and workplaces need to be investigated, including those put on hold during the introductory phase. The same applies to the actions that are taken. After investigating the key focus areas, those implementation areas that were initially less thoroughly dealt with will have to be analysed and evaluated more thoroughly depending on how important they are. In general, no data collected in the anonymous mental stress survey may be included in the documentation in a way which might give a clue as to the identity of individuals.¹¹ Article 6 (1) of the Occupational Protection Framework Directive /89/391/EEC makes the following point regarding this:

“The employer shall be alert to the need to adjust these measures to take account of changing circumstances and aim to improve existing situations.”

In connection with Article 9 (1):

The employer shall:

- (a) be in possession of an assessment of the risks to safety and health at work, including those facing groups of workers exposed to particular risks;

Reference has already been made to the pivotal significance of the efficacy check that follows on from the Occupational Protection Framework Directive 89/391/EEC and the correct functioning of the START procedure. As far as the RA of mental stress is concerned, company practice has established that a period of two to three years should be selected or set down between the initial risk assessment and its subsequent stages.

¹¹ cf. Gäbert 2003.

This period is a reasonable one in view of the effort required to collect and evaluate the material, to identify and implement measures, and to carry out efficacy checks. In individual company cases or where changes are involved, a shorter time may be called for (see above). As a general rule, details and efficacy checks that are company-specific will need to be regulated by the assessment team. These comments from BAuA are especially relevant to the time required for RA and the checks on it:

“Risk assessment should not be a procedure that is conducted only once, but rather be an element in an ongoing safety process. When RA is first carried out the site and workplaces should be examined step by step, and then be checked at regular intervals. If new workplaces are planned or substantial changes in the workplaces are carried out an anticipatory evaluation needs to be build into this. Anticipatory RA is especially vital to ensure that occupational protection is an integral part of site planning and the planning of workplaces and working processes (which includes the materials used).”¹²

12 BAuA 2004.

3 Literature (German)

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Further Information

More information from the European Agency for Safety and Health at Work: <http://osha.europa.eu/en>.

More information from the Federal Institute for Occupational Safety and Health in Germany (Bundesanstalt für Arbeitsschutz und Arbeitsmedizin - BAuA) in English: <http://www.baua.de>.

www.prima-ef.org (Psychosocial Risk Management – European Framework) the collaborative project funded by the EC 6th Framework Programme, is focusing on the development of a European framework for psychosocial risk management with a special focus on work-related stress and workplace violence (including harassment, bullying and mobbing).

5 Appendix

5.1 Example of practical operative solutions

Example of practical operative solutions*

Alstom Power Generation AG
Mannheim Plant
www.alstom.de

Production and planning of conventional power plants and components

2,200 employees – 17 % of those are women

Most employees are between the ages of 35 and 55

Main areas of work-related stress factors: production, assembly and office workplaces

Workers' council: wolfgang.alles@power.alstom.com/uwe.kuestner@power.alstom.com / egon.maeurer@power.alstom.com

Mediator's Judgment on Risk Assessment dated 10/10/2000

Thanks to an initiative by the workers' council and employees, Alstom Power is among the pioneering companies in the implementation of risk assessment (RA hereafter). However, this implementation only took effect after a four-year long struggle and judgment by a mediator in October 2000. Until that time, the (then ABB) corporate management had denied the co-determination right of the workers' council regarding the implementation of risk assessment, and had blocked the realisation of statutory regulations.

The mediator's judgment specifies in detail the implementation of a risk assessment of the physical and mental stress factors in consideration of all central aspects of the Labour Protection Act regarding instructions, documentations, efficacy checks, and involvement of employees. The various assessments and questionnaires used for the risk assessment are listed in the attachment to the mediator's judgment (for this and the process at Alstom Power, see: http://www.igmetall.de/gesundheitsarbeit_oekologie/03_02_01.html).

The mediator's judgment may be regarded as a breakthrough in the controversy regarding the implementation of the Labour Protection Act and the applicable co-determination rights of the workers' council. In connection with subsequent decisions by the Federal Labour Court, the case law is clear. In reality this means that the workers' councils may force fairly rapidly the corresponding agreements regarding a mediator and the implementation of the risk assessment. Workers' council and employees therefore assumed an important pioneering role in the implementation of a risk assessment. The mediator's judgment and the experience at Alstom Power – as coordinated by the IG Metall administrative office – became the standard for subsequent agreements and implementation strategies in the region (see also the list of operative solutions, especially from the Mannheim area). Noteworthy is also the objective of the agreement, as specified by the preamble of the mediator's judgment:

"The objective of this judgment is to improve the safety and occupational health of employees in office and production workplaces in present and future development stages. These objectives must not be undermined by purely economical considerations."

As of today, four years of experience with this implementation are available at Alstom, including the startup of risk assessments of mental stress factors. At the start of the risk assessment in early 2001, the workers' council had defined three main goals:

“To create a documentation for each and every one of us regarding all health risks suffered during our professional life. This is important in order to better enforce our rights before the Employers’ Liability Insurance Association [Berufsgenossenschaft] in case of any disputes.

To assess as many current risks to our health in order to eliminate or at least reduce them.

To make all of us more aware of occupational safety at the workplace. Because once we are seriously ill, it may be too late.” (Workers’ Council Report)

The risk assessment utilises several assessment questionnaires (computer monitors, production, assembly, etc.) which use a simple statistical analysis program under operational and departmental aspects. The analysis results are subsequently checked as part of systematic walkthroughs and on-site inspections. Any resulting measures are subsequently decided on by a Joint Commission of pro-rated representation which also governs the overall process. During the first round of the RA (2001-2004) on physical stress factors, the return rate of assessment questionnaires issued to 2,138 employees was 97%. The subsequent walkthrough checked the workplaces of 2,114 employees (100% of the questionnaire returns), resulting in approx. 1,400 realization measures of which 91% have been implemented to date. According to the workers’ council, examples for the realization measures include:

“As an example for the production area, we mention the cleaning of work safety clothing, elimination of drafts, reduction of noise, and protection from suspended particles and hazardous materials.

In the office areas, cathode ray tube monitors were replaced with eye-friendly flat-screen monitors, the ergonomic design of computer monitor workplaces was promoted, and measures to improve the indoor climate, light and cleanliness were implemented” (Workers’ Council Report).

In the meantime, the return of the anonymous questionnaires regarding the mental stress factors has also been concluded, albeit with a lower, yet representative return rate. Some initial partial results are available. The questionnaire used a simple design of 25 questions regarding:

work requirements

organisation

workplace perspectives

freedom of decision making

social climate

There were some delays during the implementation phase due to a conflict regarding plans for layoffs and closures by the group management which were brought to a mutually agreeable conclusion (for the time being) in 2003 only after a prolonged defensive battle by the employees. Despite these extremely unfavourable conditions, the workers’ council continued its activities toward the risk assessment, with major emphasis on information and involvement of the employees through instruction and other measures.

In 2004, the workers’ council started to prepare the development of measures in the area of mental stress factors. Since this was new territory and the internal occupational safety office did not have the appropriate qualifications and experience, the workers’ council has been cooperating since 2003 with a research project of the Hans-Böckler Foundation on mental stress factors.

One of the focal points here was also the evaluation of available data and their options for statistical analysis. Following this preliminary task, the working group of the workers’ council began with the evaluation and development of measures in the pilot area in order to gather the first set of experiences. The initial measures are concerned with stress factors related to attitude of supervisors, corporate climate, and internal cooperation and collaboration.

In the development of measures in the area of mental stress factors, the workers' council also strives for a close collaboration and involvement of the employees. As part of the Joint Commission work, the pending measures are scheduled to be discussed and prepared in departmental meetings.

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* The German version of the Manual documents 30 examples of practical operative solutions which reflect the respective implementation status as of the year 2005.

5.2 Questionnaire: START

Employment:

Department:

Occupation:

 Other function:

1. Training for qualifications

		yes	more yes than no	more no than yes	no
1.1	Are your current qualifications sufficient to perform your job?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.2	Are you satisfied with the training possibilities on offer?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.3	Are you satisfied with the existing training measures already implemented?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.4	Remarks:				

2. Managers

2.1	Do you find the professional support offered by your managers sufficient?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.2	Are you satisfied with the social support offered by your managers (e.g. help with problems, positive atmosphere for discussions)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.3	Remarks:				

3. Space available in the workplace

3.1	Do you have sufficient room? (Is the space constricted, do you have sufficient space)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.2	Are you satisfied with the lighting conditions and view?				
3.3	Remarks:				

4. Are you exposed to stresses in the workplace caused by:

4.1	noise?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.2	heat?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.3	draught, climatic factors (rain, snow, wind, cold)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.4	working materials, steam, dust?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4.5 smoking in the workplace?

4.6 Remarks:

5. Are you subjected to time pressures caused by:

5.1 production figures (requirements)?

5.2 breakdown of equipment, machines or PCs, or by program crashes or faults?

5.3 organisation, operational procedures?

5.4 tight deadlines?

5.5 assessment of personnel required (staff shortages)?

5.5 Remarks:

6. Working hours – are you subjected to stress caused by:

6.1 frequent overtime?

6.2 shift work?

6.3 insufficient or inconvenient breaks?

6.4 frequent weekend work?

6.5 Remarks:

7. Division of labour

7.1 Are you able to organise your working tasks yourself?

7.2 Does your work have sufficient variety (i.e. is not monotonous)?

7.3 Can you decide yourself how fast to work?

7.4 Remarks:

8. Recognition for work done and work prospects; information

8.1 Is your work regarded by the company as important?

8.2 Are you afraid of losing your job?

8.3 Do you feel that you have chances for promotion?

8.4 Are you sufficiently well-informed as to company affairs?

8.5 Remarks:

9. Company briefings (training) concerning occupational health and safety, environmental provisions

9.1 Is sufficient instruction given by the company?

9.2 Are you satisfied with the quality of the instruction given?

9.3 Remarks:

10. How would you evaluate cooperation?

- 10.1 Are you satisfied with communication among the staff?
- 10.2 Are you satisfied with communication with managers?
- 10.3 Are you satisfied with group/team cooperation?
- 10.4 Is there any discrimination (e.g. on the basis of age or nationality)?
- 10.5 Remarks:

11. Job security

- 11.1 Do you think that everything has been done in your workplace to eliminate possible accidents?
- 11.2 Remarks:

12. Reaction to occupational accidents

- 12.1 When an accident occurs are the causes identified and eliminated immediately?
- 12.2 Were you sufficiently well informed as to the results and measures taken?
- 12.3 Remarks:

13. Are you satisfied with the working atmosphere?

Satisfied with:

- 13.1 – the interaction between colleagues?
- 13.2 – the interaction between managers and employees?
- 13.3 – the efforts of the works management in this connection?
- 13.4 – the efforts of the works council in this connection?
- 13.5 Remarks:

14. Further suggestions and opinions, both positive and negative:

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Die Hans-Böckler-Stiftung ist das Mitbestimmungs-, Forschungs- und Studienförderungswerk des Deutschen Gewerkschaftsbundes. Gegründet wurde sie 1977 aus der Stiftung Mitbestimmung und der Hans-Böckler-Gesellschaft. Die Stiftung wirbt für Mitbestimmung als Gestaltungsprinzip einer demokratischen Gesellschaft und setzt sich dafür ein, die Möglichkeiten der Mitbestimmung zu erweitern.

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