



Healthy Workplaces

# Workforce diversity and risk assessment: Ensuring everyone is covered



European Agency  
for Safety and Health  
at Work



## Workforce diversity and risk assessment: ensuring everyone is covered

Workforce diversity and risk assessment – Ensuring everyone is covered

## **Authors**

### **Task leaders:**

Marie-Amélie Buffet - EUROGIP, France

Eero Priha - Työterveyslaitos Institutet for Arbetshygien - (FIOH), Finland

### **Partners**

Lothar Lißner, Andreas Stautz, Katariina Röbbelen-Voigt and Ellen Schmitz-Felten - KOOP - Kooperationsstelle Hamburg, Germany.

Carsten Brück, Christa Sedlatscheck, Wibke Leistner, Piotr Kopankiewicz and Hilke Berkels - Bundesanstalt für Arbeitsschutz und Arbeitsmedizin - (BAuA), Germany.

Zofia Pawlowska, Radosław Bojanowski and Grzegorz Dudka - Centralny Instytut Ochrony Pracy - Państwowy Instytut Badawczy - (CIOP-PIB), Poland.

Maria Karanika-Murray and Anne Kouvonen. Institute of Work, Health and Organisations - (I-WHO), United Kingdom.

Marita Luotamo and Matti Hakkola - Työterveyslaitos Institutet for Arbetshygien - (FIOH), Finland.

Marthe Verjans and Lieven Eeckelaert - Institut pour la Prevention et le bien-être au travail/Instituut voor Preventie en Welzijn op het Werk - (PREVENT), Belgium.

### **Edited by**

Lorenzo Munar – European Agency for Safety and Health at Work - (EU-OSHA), Spain.

### **Supported by**

Terence N. Taylor - Head of the Working Environment Information Unit - European Agency for Safety and Health at Work - (EU-OSHA), Spain.

### **Cover Photo**

1. Photo by courtesy of Lantegi Batuak, Spain

ISBN-13: 978-92-9191-267-4

ISSN: 1830-5954

DOI: 10.2802/11532

© European Agency for Safety and Health at Work, 2009

Reproduction is authorised provided the source is acknowledged.

*Printed in Belgium*

PRINTED ON WHITE CHLORINE-FREE PAPER



# CONTENTS

<b>Table of contents</b> .....	<b>3</b>
<b>List of figures</b> .....	<b>4</b>
<b>Foreword</b> .....	<b>5</b>
<b>Executive summary</b> .....	<b>6</b>
<b>1. Introduction</b> .....	<b>9</b>
1.1. Legal background .....	11
1.2. The aim of the report .....	12
1.3. Structure .....	13
<b>2. Groups of workers at increased risk</b> .....	<b>15</b>
2.1. Migrant workers .....	16
2.2. Young workers .....	20
2.3. Disabled workers .....	22
2.4. Gender-sensitive approach to OSH .....	27
2.5. Older workers .....	29
2.6. Temporary workers .....	32
<b>3. Examples of good practice</b> .....	<b>35</b>
3.1. Introduction .....	36
3.1.1. <i>Matrix of cases</i> .....	37
3.1.2. <i>Short description of cases</i> .....	39
3.2. Workplace adaptation .....	42
3.2.1. <i>Productive ageing: shift plan reform at Polyfelt (now TenCate)</i> .....	43
3.2.2. <i>Ergolab: the key to healthy and safe employment of people with disabilities</i> .....	48
3.2.3. <i>Reducing stress among female cleaners at a hospital</i> .....	55
3.2.4. <i>Promoting the integration of workers with disabilities at Ford</i> .....	60
3.2.5. <i>Ergonomic adaptation of office and industrial workstations for disabled workers</i> .....	66
3.2.6. <i>Snapshot case: Integration of disabled workers in the recycling industry</i> .....	70
3.2.7. <i>Snapshot case: Belgian and Polish workers join forces for asbestos removal in the Brussels Finance Tower</i> .....	72
3.3. Development of training and information .....	74
3.3.1. <i>Preventing accidents to temporary workers at a paper mill</i> .....	74
3.3.2. <i>Diversity plan: How to bring comprehensible instructions to the work floor?</i> .....	80
3.3.3. <i>Tailored training strategies in OSH for young people with disabilities</i> .....	85
3.3.4. <i>Collaboration between agencies and employers to reduce accidents among temporary workers</i> .....	93
3.3.5. <i>Safe System of Work Plan for construction industry</i> .....	95
3.3.6. <i>Working safely in a multicultural food and drink industry</i> .....	99
3.3.7. <i>Snapshot case: Safety measures for contract workers, distributors and temporary workers</i> .....	105
3.3.8. <i>Snapshot case: Nationwide competition on OSH knowledge for apprentice craftsmen</i> .....	107
<b>4. Conclusions</b> .....	<b>109</b>



## LIST OF FIGURES AND TABLES

Figure 1: Frame. ....	51
Figure 2: Pneumatic screwdriver. ....	51
Figure 3: Pneumatic screwdriver, closeup. ....	51
Figure 4: Forks ready for sawing. ....	52
Figure 5: Tubes of various sizes and colours. ....	52
Figure 6: The bicycle fork is sawed with a dual manual control. ....	52
Figure 7: Project design: all stakeholders were involved. ....	57
Figure 8: The new cleaners' uniform. ....	58
Figure 9: The IMBA tool (scheme). ....	62
Figure 10: Worker at the new production line. ....	64
Figure 11: Asbestos removal 1. ....	73
Figure 12: Asbestos removal 2. ....	73
Figure 13: Workshop on teambuilding with temporary workers at Sappi, Gratkorn. ....	79
Figure 14: Safety leaflet created with participation of temporary workers at their workplaces. ....	79
Figure 15: Welcome brochure. ....	83
Figure 16: Evolution of frequency rate occupational accidents. ....	84
Figure 17: Example of safety notice. ....	89
Figure 18: Example of safety notice. ....	89
Figure 19: The trainee is shown a picture of a dangerous working situation on the computer screen. ....	90
Figure 20: The cursor in this example is at the wrong position. ....	90
Figure 21: The correct position of the cursor is shown. ....	90
Figure 22: Correct handling of the dangerous situation is demonstrated. ....	91
Figure 23: Construction Form 1 (Ground Works). ....	97
Figure 24: Example of pictograms. ....	98
Figure 25: Part 3 of the form (signing up). ....	98
Table 1: Company's main activities. ....	49
Table 2: Distribution of workers according to the outcomes of the project. ....	63



## FOREWORD

One of the most important new developments of the Framework Directive 89/391 was the introduction of risk assessment and the documentation of the results as a foundation for a prevention programme of technical and/or organisational measures to combat the risks.

Risk assessment is the start of the risk management process. It enables employers to understand the action that they need to take to improve workplace health and safety, as well as productivity.

The European Agency for Safety and Health at Work (EU-OSHA) has developed a European-wide information campaign focusing on risk assessment. Healthy Workplaces is a two-year European campaign which aims to promote an integrated management approach to risk assessment. Risk assessment is the cornerstone of the European approach to occupational safety and health, and there are good reasons for this. If risks and those at risk or at increased risk are not assessed, a suitable risk management process cannot be started and appropriate preventive measures are unlikely to be put in place. Systematic risk assessment therefore improves workplace safety and health and business performance in general.

This report supports the Campaign by providing information on successful interventions in the workplace illustrating how and why the diversity of the workforce has to be taken into account when assessing and managing risk. The main aim of the report is to increase awareness among those responsible for and affected by health and safety at work – employers, employees, safety reps and occupational safety and health (OSH) practitioners – about the importance of assessing the risks of ALL workers. The report is aimed mainly at those who are responsible for carrying out risk assessments and/or are involved in the process.

I would like to take this opportunity to thank all our European partners as well as Agency and Topic Centre Working Environment staff who have contributed to the compilation of the report.

Jukka Takala  
Director  
European Agency for Safety and Health at Work  
September 2009



## EXECUTIVE SUMMARY

This report highlights the need to carry out inclusive risk assessment; to take into account the diversity of the workforce when assessing and managing risks.

Workers are not all exposed to the same risks and some specific groups of workers are exposed to increased risks (or are subject to particular requirements). When we speak about workers exposed to 'particular' or 'increased' risks, we refer to workers subject to specific risks due to their age, origins, gender, physical condition or status in the enterprise. Such people may be more vulnerable to certain risks and have specific requirements at work.

The EU Framework Directive (89/391/EEC)<sup>1</sup> emphasises the need to 'adapt the work to the individual' (article 6.2), the obligation for the employer to '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' (article 9.1) and that 'sensitive risks groups must be protected against the dangers which specifically affect them' (article 15). The need to carry out inclusive risk assessment is also mentioned in other documents such as the EU *Guidance on risk assessment at work*<sup>2</sup> (along with a non-exhaustive list of groups at increased risk), the EU strategy entitled *Improving quality and productivity at work: Community strategy 2007-2012 on health and safety at work*<sup>3</sup> and the report from the European Commission on the implementation of the framework directive and its five individual directives.<sup>4</sup>

The main aim of this report is to describe why and how risk assessment can and should cover the whole workforce, and to increase awareness among those responsible for and affected by health and safety at work – employers, employees, safety reps and OSH practitioners – about the importance of assessing the risks of ALL workers. The report is aimed mainly at those who are responsible for carrying out risk assessments and/or are involved in the process.

The first part of the report presents the main issues regarding the occupational safety and health of six categories of workers considered to be at increased risk: migrant workers, disabled workers, young and old workers respectively, women (gender issues) and temporary workers. At the end of each subsection, links are provided to further information and practical guidance or risk assessment tools.

(<sup>1</sup>) Council Directive 89/391/EEC of 12 June 1989 on the introduction of measures to encourage improvements in the safety and health of workers at work. Available at: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:31989L0391:en:HTML>

(<sup>2</sup>) European Commission, *Guidance on risk assessment at work*, Luxembourg, 1996, p. 35. Available at: <http://osha.europa.eu/en/topics/riskassessment/guidance.pdf>

(<sup>3</sup>) European Commission, Communication from the Commission to the Council and the European Parliament, COM(2007) 62. *Improving quality and productivity at work: Community strategy 2007-2012 on health and safety at work*. Available at: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52007DC0062:EN:NOT>

(<sup>4</sup>) European Commission, from the commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of Regions on the practical implementation of the provisions of the Health and Safety at Work Directives 89/391 (Framework), 89/654 (Workplaces), 89/655 (Work Equipment), 89/656 (Personal Protective Equipment), 90/269 (Manual Handling of Loads) and 90/270 (Display Screen Equipment).



The report then focuses on the prevention of risks faced by the different groups of workers. It provides descriptions of practical actions at workplace level and their background, including groups who are targeted, and ways of identifying and assessing results, side effects, success factors, and problems. It also provides examples of initiatives at sector level. This section shows examples of good practice and programmes or initiatives to better assess or manage the risks faced by the different categories of workers or a diverse workforce.

This report describes 15 examples of measures taken by companies or initiatives at national/sector level to integrate all types of workers into risk assessment and to prevent risks at the workplace level.

Some of the initiatives and projects described were developed with a view to setting up equal opportunities or non-discrimination policies in the company or sector concerned. However, these cases are considered here from the OSH perspective rather than from the anti-discrimination point of view.

The keys to the success of risk prevention actions include:

- adequate risk assessment;
- use/development of risk assessment tools allowing the adaptation of the work to the worker;
- worker involvement and social dialogue;
- training and information adapted to each target group;
- successful partnership; and
- a combination of various means of action;

Other key issues for inclusion-sensitive risk assessment are:

- taking diversity issues seriously and having a positive commitment;
- avoiding making prior assumptions about what the hazards are and who is at risk;
- valuing the diverse workforce as an asset (and not as a problem);
- preventing ill health and promoting wellbeing at work are important for the quality of work of a diverse workforce;
- considering the entire workforce, including cleaners, receptionists, maintenance workers;
- matching work to workers (adapting the work to the individual);
- considering the needs of the diverse workforce at the design and planning stage;
- improving the occupational safety and health of vulnerable groups cannot be viewed separately from the wider discrimination issues at work and in society;
- linking occupational safety and health into any workplace equality actions, including equality plans, non-discrimination policies;
- comprehensive equality training, covering the need for organisations to embrace diversity throughout all their policies and practices, should include health and safety;
- providing relevant training and information on diversity issues regarding safety and health risks to risk assessors, managers and supervisors, safety representatives, etc;
- providing adequate OSH training to each worker (training material needs to be tailored to workers' needs and specificities);





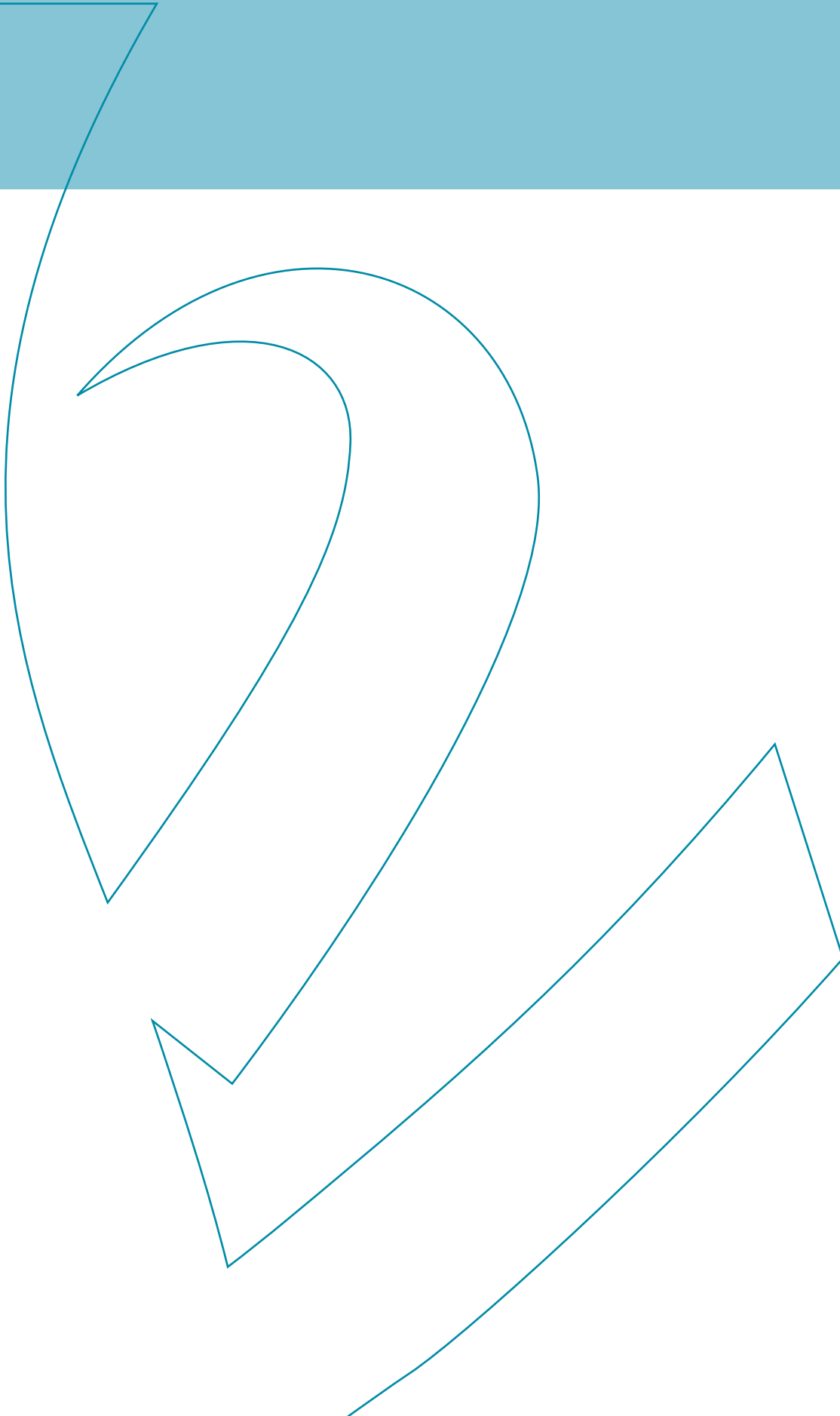
- inclusive risk assessment should take a participatory approach, involving the workers concerned and based on an examination of the real work situations;
- good practice examples regarding inclusive risk assessment feature a mixture of preventive measures (adapting the work to the individual, adapting to technical progress, giving appropriate instructions to workers, providing specific training, etc.). The adoption of these interconnected measures is a key success factor;
- whenever a company or an organisation is making changes to the physical environment of the workplace, or buying new equipment, it is important to ensure that those changes or purchases are also suitable for the diversity of the workforce;
- if the company or the organisation is not competent to deal with the risks faced by a specific group of workers, it is important to seek advice. This may be provided by occupational safety and health services and authorities, health professionals, safety professionals and ergonomists, disability experts, migrants' organisations, etc;
- good practice examples regarding inclusive risk assessment show that for any preventive action to be effective it must involve the whole range of actors directly concerned: workers and workers' representatives, work councils, management, OSH experts, contractors or subcontractors, public institutions, and so on.

European Agency for Safety and Health at Work

*WORKING ENVIRONMENT INFORMATION*

# 1.

## INTRODUCTION



Workers are not exposed to the same risks and certain groups of workers are exposed to increased risks (or are subject to particular requirements). This report highlights the need to carry out inclusive risk assessment: to take into account the diversity of the workforce when assessing and managing risk.

When we speak about 'workers exposed to particular risks', 'sensitive risk groups' or 'categories of workers who are most vulnerable', we refer to workers subject to specific risks due to their age, origins, gender, physical condition or status in the enterprise. Such people may be more vulnerable to certain risks and have specific requirements at work. This is the case, for instance, for temporary workers who frequently switch from one company to another and are thus unaware of the potential risks and operational processes in a certain workplace, disabled people who need their workstation to be adapted, older workers who are no longer physically capable of doing the same work as before, workers who have returned to work after a long absence because of an occupational disease or accident at work, migrant workers who are not fluent in the language of the country (difficulties in communication can have an impact on their health and safety, as well as that of other workers), etc.

Generally, everything from assessment of exposure through job and safety provision design to research into the links between diseases and work is calculated and patterned on a 'standard worker'. This 'standard worker' is often a middle-aged, medium-build, able-bodied, native speaker adult male.

Risk assessments at workplaces tend to be carried out from the point of view of this 'standard worker' and this may lead to a biased situation from the point of view of workers who fall outside these 'standard limits'.

The design of tools or furniture and the workplace in general are usually also based on the so-called 'standard worker' or the 'average man'. A confidence limit of 95% is normally used when calculating height and sizes. This means in practice that about 10% of people fall outside these limits. This may mean that very small or tall workers may have difficulty in finding suitable sizes of personal protective equipment. Working spaces and work surfaces may be the wrong size for them.

It is therefore crucial that workforce diversity is taken into account when assessing risks. Prevention policies at company level also have to take into account the diversity of the workforce by developing information and training on risks for all workers, and by adapting preventive measures to the various risks and to each group of workers.

The good practice cases shown in section three of this document illustrate problems and hazards that may be encountered when carrying out an inclusive risk assessment in the workplace. They show how adequate preventive measures can be adopted to protect workers considered to face increased risks.

In this report, the focus is on six categories of workers (the list is not exhaustive): migrant workers, disabled workers, young and old workers respectively, women (gender issues) and temporary workers. As the case studies show, most of the risks they are exposed to can be prevented by applying the principles of risk assessment and putting in place the necessary preventive measures.



## 1.1.

## LEGAL BACKGROUND

The EU Framework Directive (89/391/EEC)<sup>5</sup> clearly emphasises the need to carry out inclusive risk assessment:

- Article 6.2(d) states that prevention shall be based on the general principles of prevention, including 'adapting the work to the individual, especially as regards the design of workplaces, the choice of work equipment and the choice of working and production methods ...'.
- Article 9.1(a) states that 'the employer shall 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'.
- Article 15 states that 'sensitive risks groups must be protected against the dangers which specifically affect them'.

Article 15 does not specify what 'sensitive risk groups' are, so the Article could be applied to gender differences, or older or young workers, workers with disabilities, or migrant workers. The EU *Guidance on risk assessment at work*<sup>2</sup> is a little more explicit and lists groups of workers who may be at increased risk. These groups include:

- staff with disabilities
- young and old workers
- pregnant women and nursing mothers
- untrained / inexperienced staff (e.g. new recruits, seasonal and temporary workers, etc.)
- people working in confined or poorly ventilated spaces
- maintenance workers.

This list is not exhaustive. For example, it does not cover gender issues and migrant workers. In other directives disabled workers, young workers and pregnant women are explicitly mentioned and they are associated with specific requirements.

The EU *Guidance on risk assessment at work* also proposes a stepwise approach to risk assessment. The fifth step (out of 14) is 'identify those at risk'. It clearly points out the importance of identifying those who might be exposed to the hazards, including groups of people who might be particularly at risk.

The new EU strategy entitled *Improving quality and productivity at work: Community strategy 2007-2012 on health and safety at work*<sup>6</sup> also highlights various categories of workers who are particularly vulnerable. For instance, it underlines:

<sup>(5)</sup> Council Directive 89/391/EEC of 12 June 1989 on the introduction of measures to encourage improvements in the safety and health of workers at work. <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:31989L0391:en:HTML>

<sup>(6)</sup> European Commission, Communication from the Commission to the Council and the European Parliament, COM(2007) 62. Improving quality and productivity at work: Community strategy 2007-2012 on health and safety at work. Available at: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52007DC0062:EN:NOT>



- That 'some categories of workers are still overexposed to occupational risks (young workers, workers whose jobs are insecure, older workers and migrant workers)' and 'better account must be taken of those aspects of health and safety which specifically affect women'.
- 'Serious shortcomings in the application of Community legislation, particularly in sectors considered to be at risk and for categories of workers who are most vulnerable (young people, workers on fixed-term contracts and low-skilled workers' (making reference to the outcomes of the report by the commission on the implementation of the framework directive and its five individual directives).<sup>7</sup>
- That it is necessary to 'take action to promote the rehabilitation and reintegration of workers excluded from the workplace for a long period of time because of an accident at work, an occupational disease or a disability'.

The strategy also underlines the following challenges in the field of health and safety:

- demographic change and the ageing of the working population;
- new employment trends, including the increase in self-employment, outsourcing and increased employment in SMEs; and
- new and larger flows of migrants towards Europe.

Meeting these challenges requires ongoing and intensified promotion of health and safety at work. An important part of this is addressing the risks faced by sensitive risks groups.

## 1.2. THE AIM OF THE REPORT

The main aim of this report is to describe why and how risk assessment can and should cover the whole workforce and to increase awareness among those responsible for and affected by health and safety at work – employers, employees, safety reps, OSH practitioners – about the importance of assessing the risks of ALL the workers. The report is aimed mainly at those who are responsible for carrying out risk assessments and/or are involved in the process.

It is important to mention that employers – and those involved in OSH issues – are encouraged to take into account groups of workers exposed to particular risks not only because it is a legal obligation but because it is good practice, as the practical examples in section 3 show.

---

(7) European Commission, communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of Regions on the practical implementation of the provisions of the Health and Safety at Work Directives 89/391 (Framework), 89/654 (Workplaces), 89/655 (Work Equipment), 89/656 (Personal Protective Equipment), 90/269 (Manual Handling of Loads) and 90/270 (Display Screen Equipment).



## STRUCTURE

# 1.3.

This report is divided into two main parts, and presents:

### **Groups of workers at increased risk**

This section briefly presents the reasons why the categories of workers discussed in this report are at increased risk and require special attention. Most of these groups have already been prioritised for attention by the Agency, so a short description of each category is given based on agency publications and input from the Working Environment Topic Centre.<sup>8</sup> Among the categories of workers described, only one group of workers: 'temporary workers', has not been studied by the agency, so an explorative literature review on this group is presented.

At the end of each subsection, links are provided to further information and practical guidance or risk assessment tools.

### **Examples of good practice**

This part of the report focuses on the prevention of risks to the different groups of workers. It describes practical actions at workplace level and their background, including groups which are targeted, and ways of identifying and assessing results, side effects, success factors and problems. It also provides examples of initiatives at sector level. This section shows examples of good practice and programmes or initiatives to better assess or manage the risk faced by the various categories of workers, and a diverse workforce in general.

---

<sup>(8)</sup> Topic Centres are consortia of national safety and health institutions that collect and analyse existing national data to support key areas of the Agency's work.





# 2.

## GROUPS OF WORKERS AT INCREASED RISK





This report focuses mainly on six different groups of workers (the list is not exhaustive): migrant workers, disabled workers, young and older workers respectively, women (gender issues) and temporary workers. Most of these groups have already been covered in agency publications. This chapter presents a brief summary of the main health and safety issues faced by these groups. Those interested in a specific group are advised to check the additional information provided at the end of each section.

Diversity and diversity management in the workplace are important issues in occupational health today. However, diversity has seldom been studied from the perspective of risk assessment and risk management. Practical risk assessment tools that take into account the specific risks faced by people with disabilities, migrant workers, older workers, women, and temporary workers are still rare. It is hoped that further research and development will lead to additional guidance materials in the future.

## 2.1. MIGRANT WORKERS

In recent years, migration has become the main factor behind demographic growth in the EU. The Agency recently published a comprehensive literature survey on migrant workers in Europe.<sup>9</sup>

The survey underlines the various explanations given by the studies on the poor and/or precarious position of migrant workers on the labour market:

- shortages of local/national labour supply for certain occupations;
- non-Western migrants occupy more low-skilled and flexible jobs;
- undocumented workforce occupies jobs that require low skills;
- poor language skills;
- low education;
- poor knowledge of the labour market;
- less efficient job-finding strategies than native workers;
- difficulties in validating original qualifications (e.g. university degrees).

Studies on the working conditions of migrant workers have been carried out in several countries. The relationship between working conditions and health is, however, very seldom analysed. The available studies suggest that:

---

<sup>(9)</sup> EU-OSHA – European Agency for Safety and Health at Work, Literature Study on Migrant Workers, 2007. Available at: [http://osha.europa.eu/en/priority\\_groups/migrant\\_workers/migrantworkers.pdf](http://osha.europa.eu/en/priority_groups/migrant_workers/migrantworkers.pdf)

- the working conditions of migrant workers are often less favourable than those of native workers: work is more often physically demanding and monotonous, working hours longer, wages lower and migrant workers tend to do more shift work than native workers.
- data on occupational accidents are somewhat contradictory. Many studies suggest that immigrants' jobs entail higher risks for accidents and that migrants are more often involved in occupational accidents. In those studies where migrants and natives worked in the same jobs and in the same organisations, no differences in occupational diseases were found.

Studies on the health consequences of work environment and working conditions on migrant workers are rare. In studies concerning the health of migrant workers

- hearing problems and musculoskeletal problems in particular have been found to be more common among migrant workers than among native workers;
- it has been shown that migrant workers have more sickness absence days than native workers, but when looking at the periods of sickness absence, the difference disappears;
- higher rates of stress and burnout have been reported by non-white or migrant workers than by white or native workers;
- results on visiting occupational health care seem to be contradictory in different countries.

The ILO<sup>10</sup> highlights three important reasons why OSH issues are of specific interest for migrant workers:

- the high employment rates of migrant workers in high-risk sectors;
- language and cultural barriers, which require specific OSH communication, instructions and training approaches; and
- they often work overtime and/or are in poor health and thus more prone to occupational diseases and injuries.

The European Foundation for the Improvement of Living and Working Conditions has published several country reports concerning migrant workers.<sup>11</sup>

- Data from Austria showed that 37% of migrant workers feel threatened by poor health conditions at work, compared with only 16% of Austrian workers. Some 30% of migrant workers felt particularly threatened by accidents and the risk of injury in the workplace, compared with only 13% of Austrians.
- Official information provided by the Spanish Ministry of Labour and Social Affairs reveals that 8.4 out of every 100,000 migrant workers died in labour accidents in 2005, whereas the rate was just 6.3 for the overall Spanish workforce.
- In Italy, in the total active population there is one accident at work for every 23 people, but this ratio increases to one in 16 for migrant workers.

<sup>(10)</sup> International Labour Organisation, International Labour Conference, 92nd session: Towards a fair deal for migrant workers in the global economy, 2004.

<sup>(11)</sup> European Foundation for the Improvement of Living and Working Conditions, Eurofound, Literature Study on Migrant Workers, 2007. Available at: [http://osha.europa.eu/en/priority\\_groups/migrant\\_workers/migrantworkers.pdf](http://osha.europa.eu/en/priority_groups/migrant_workers/migrantworkers.pdf)



- In the Netherlands, migrant workers with a non-Western background more often report having long working hours, working in the evenings or at night, doing shift work or work during weekends, and these workers are more often involved in work accidents. Migrant workers, particularly those with a non-Western background, are also more likely to be doing dangerous work and to be exposed to physical risk factors.
- In Ireland, the fatality rate per 100,000 workers is 5.6 among migrant workers, compared with 3.0 for Irish workers, with a particularly high risk in the construction sector.

The evidence gathered suggests that migrant workers and their working conditions require special attention. With respect to risk assessment employers need to consider:

- their specific risks and OSH problems;
- how cultural diversity affects working practices, working relationships, values about work and tensions between home and work;
- how their difficulties in communicating and understanding the majority language can have an impact on their health and safety and on the health and safety of others (see case study 3.3.2); and
- how their limited knowledge of health and safety systems, practices, legal obligations, etc. can have an impact on their health.

Best practice should pay attention to the factors listed below.

- Guidelines for managing discrimination at work; they should acknowledge the existence of discrimination and legitimise the expression of concerns about discrimination. This also requires a mature attitude to appreciate how culture can influence attitudes to work and grievance procedures.
- Language is also an important key to better safety and health performance at work. Before a proper risk assessment can be carried out, verbal and written language skills of migrant workers have to be taken into account (see case study 3.3.6).
- Tools for risk assessment on the shop floor should be checked for clarity of language so that they can be easily understood by all workers, especially migrant workers. If necessary, the tools may have to be translated into several languages (see case study 3.3.5).
- Safety training should ideally be available in the mother tongue of the workers if there is any doubt about their skills in the language of the host country.
- Social inclusion, understanding and respect for diversity should become key elements of an intercultural workplace.
- Creating an inclusive, supportive and open workplace would impact on work-related accidents, occupational diseases and work stress and would also support efforts to improve the working conditions of migrant workers.

### More information:

European Agency for Safety and Health at Work, EU-OSHA, *Literature Study on Migrant Workers, 2007*. Available at: [http://osha.europa.eu/en/priority\\_groups/migrant\\_workers/migrantworkers.pdf](http://osha.europa.eu/en/priority_groups/migrant_workers/migrantworkers.pdf)



## Practical guides/tools to help assess the risks faced by migrant workers can be found at:

*Managing Diversity in the Workplace – Focusing on the Employment of Migrant Workers / Handbook*, by Diversity At Work Network (DAWN) / Chambers of Commerce of Ireland / Institute of Technology, Blanchardstown / National Consultative Committee on Racism and Interculturalism, Ireland.

A guide to employing migrant workers, developing intercultural workplaces, obtaining eligibility to work in Ireland. Further information available at <http://www.nccri.ie/pdf/ManagingDiversity.pdf> and at [www.equality.ie](http://www.equality.ie)

*Safety & Migrant Workers: A practical guide for safety representatives*, by Trade Union Congress (TUC), United Kingdom.

Britain's TUC has published a guide for safety representatives, which gives advice on how they can work with migrant workers to help ensure their health and safety is protected. Further information available at: TUC website/Health and Safety: [http://www.tuc.org.uk/h\\_and\\_s/tuc-13458-f0.cfm](http://www.tuc.org.uk/h_and_s/tuc-13458-f0.cfm)

*Top of the class*. Test to assess Italian language comprehension and skills in company information and training processes, by Azienda Ulss 22, Regione Veneto, Italy.

This is a tool developed to assess and promote knowledge of Italian among foreign workers, a pre-requisite for safe behaviour and social integration. Further information available at: [www.ulss22.ven.it/UploadDocs/2600\\_promossi\\_in\\_classe.pdf](http://www.ulss22.ven.it/UploadDocs/2600_promossi_in_classe.pdf)

*Immigration, Work and Health: An introduction to occupational health and safety for migrant workers in Spain*, by Instituto Sindical de Trabajo, Ambiente y Salud (ISTAS):

In 2007 ISTAS and the Spanish worker's union CC.OO (Confederación Sindical de Comisiones Obreras) organised a workshop called 'Inmigrantes y salud laboral', dealing with the situation of migrant workers. This gave rise to this booklet, published in Spanish, English, French and Arabic. The booklet contains information relevant to migrant workers and their working conditions.

The booklet focuses on sectors where migrant workers are commonly employed. It gives advice and instructions on how accidents can be prevented, and on typical hazards at work. It also provides basic information such as:

- What are my basic rights as a worker?
- What about breaks, working hours and paid holidays?
- What are the management's duties with regard to safety and health at work?
- What about workers' representatives?
- What are safety representatives for?
- What should I do if there's an accident?
- What rights do I have when I have to take sick leave?

The booklet can be downloaded in all language versions. Available at: [http://www.istas.net/web/index.asp?idpagina=3235&Origen\\_Menu=cab\\_sl](http://www.istas.net/web/index.asp?idpagina=3235&Origen_Menu=cab_sl)



## 2.2. YOUNG WORKERS

Young workers have been prioritised for attention by the Agency and it has produced many publications on this group of workers, mainly in the framework of European Week 2005. The Agency's risk observatory has produced a report entitled *Young workers – Facts and figures*<sup>12</sup> that looks in detail at the OSH situation of young people. Relevant findings include:

- European and some national sources suggest that young workers are more exposed to the following physical work factors: noise, vibrations, heat and cold, and the handling of dangerous substances.
- According to survey results from EU and national sources, physically demanding work factors (such as working in awkward positions, handling heavy loads, and repetitive work) seem to be more common among young workers than in the workforce as a whole. As a result, young workers are at considerable risk of developing musculoskeletal disorders (including low back pain).
- Surveys suggest that young workers seem to be less informed about occupational risks than workers as a whole.
- Young people do more shift work and weekend work and have more irregular working hours than workers as a whole.
- Young workers are also more likely to report being the subject of unwanted sexual attention. Young women with precarious jobs in the hotel and service industry are many times more likely to be exposed to sexual harassment than the average worker.
- National and European data suggest that young workers are at greater risk of having an occupational accident. According to European data,<sup>13</sup> the incidence rate of non-fatal accidents at work was more than 40% higher among those aged 18-24 than in the workforce as a whole. Young men especially appear to be a risk group for safety at work.

While young workers have a lower average risk of developing occupational diseases than older workers, occupational diseases often need a cumulative exposure and/or latency period to develop and may not always be recognised due to short-term work contracts. According to the European occupational diseases statistics (EODS), the top five occupational diseases among workers aged 15-35 are allergic reactions, irritation of the skin, pulmonary disorders, infectious diseases and musculoskeletal disorders.

Young workers are more at risk of harm from work for a variety of reasons:

- They lack experience and maturity
- They lack awareness of risks
- They lack skills and training

<sup>(12)</sup> EU-OSHA – European Agency for Safety and Health at Work, *Young workers – Facts and figures*, 2007. Available at: <http://osha.europa.eu/publications/reports/7606507>

<sup>(13)</sup> Figures for 2002 for the EU-15 from the European statistics on accidents at work (ESAW), Eurostat.

- They may be unaware of their rights and employers' duties regarding health and safety
- They may be reluctant to speak out about problems and keen to please their new employer.

They therefore need to be doing safe and suitable jobs that are matched to their skills and mental and physical abilities and given adequate training and supervision (see case study 3.3.3). For these reasons EU legislation requires employers to take special account of vulnerable workers during risk assessment and to apply appropriate prevention measures. Special restrictions exist for workers under 18.

#### European regulatory framework to protect young workers

Council Directive 89/391/EEC (the OSH framework directive) obliges employers to assess risks, introduce protective measures and provide information and training. Risk assessments should also identify groups of workers who are particularly at risk, such as young workers.

Council Directive 94/33/EC (of 22 June 1994 on the protection of young people at work) applies to workers under 18 and includes provisions on employers' general obligations, such as:

- protection of the health and safety of young people;
- assessment of the risks to young people associated with their work;
- assessment and monitoring of the health of young people;
- information for young people and children's legal representatives on possible risks to their health and safety;
- types of employment that must not be carried out by young people, such as work which exceeds the mental or physical capacities of young people, or work involving harmful exposure to dangerous substances;
- working hours, night work, rest periods, annual leave and rest breaks.

The activities of the agency regarding OSH among young people cover three different areas:

- mainstreaming OSH into education, to help make young people more aware and knowledgeable about risks prior to starting work;
- monitoring OSH risks to young workers to help improve and prioritise prevention initiatives; and
- collecting and analysing examples of good practice in preventing risks to young workers to examine what works well, and to share information and successful experiences of workplace prevention. Practical resources on young workers can be found at: [http://osha.europa.eu/en/good\\_practice/priority\\_groups/young\\_people/index\\_html](http://osha.europa.eu/en/good_practice/priority_groups/young_people/index_html)



### More information:

The Agency has produced many publications on OSH and young people:

- Factsheets 61-66. Available at: <http://osha.europa.eu/publications/factsheets>
- Safe Start Summit, Bilbao, March 2007. Available at: <http://www.ew2006.osha.europa.eu/europeansummit>
- Safe Start campaign pages. Available at: <http://www.ew2006.osha.europa.eu>
- Young people web resources pages. Available at: [http://osha.europa.eu/priority\\_groups/young\\_people](http://osha.europa.eu/priority_groups/young_people)
- A safe start for young workers in practice. This gives detailed descriptions of examples that received good practice awards during the 2006 Safe Start campaign. Available at: <http://osha.europa.eu/en/publications/reports/GPB06/view>
- Magazine 9 – Safe start!-. Available at: <http://www.osha.europa.eu/publications/magazine/9>
- Young workers – Facts and figures (includes some additional examples of prevention initiatives). Available at: <http://osha.europa.eu/en/publications/reports/7606507/view>
- Factsheets 67 and 70 summarising the report *Young workers – Facts and figures*. Available at: <http://osha.europa.eu/publications/factsheets>

## 2.3. DISABLED WORKERS

Disability covers both physical and mental impairments and covers all employees who might be hampered in work performance. This includes people with long-term or progressive conditions as well as people with more stable disorders.

Measures to protect people with disabilities from workplace hazards should be based on a prior risk assessment. The process of providing measures for disabled workers needs to be coordinated with all aspects of safety management, and particularly risk assessment, in order for employers to meet their duties under health and safety and anti-discrimination legislation. All stages of the risk assessment process need to take account of anti-discrimination approaches so that work environments, work equipment and work organisation are adapted where necessary to ensure that risks and discrimination are removed or at least minimised.

The guiding principle for prevention is to fit the job to the worker, and not the worker to the job (see case studies 3.2.2, 3.2.4, 3.2.6, 3.3.3). Preventive measures may include: changes to the job, working hours, equipment, instructions, procedures, etc., assistive technology, and training. The employer should discuss the measures with the disabled person, as the individual is usually the best person to identify what is needed.



Many changes made to improve health and safety and work accessibility for disabled workers will improve the health and safety of all workers, and also make services more accessible to disabled clients and customers.

Where ill health and injury and disability have been caused or made worse by the work itself, it is fundamental that employers tackle these underlying causes of health problems in the workplace as well as having in place measures to support the return to work and retention of employees. Appropriate return-to-work measures, medical and vocational, are needed to get people back to work and get them back quickly. It is important that a risk assessment is conducted to make sure that the workplace suits the workers and in order to control other possible risks in the workplace.

Tips for successful risk assessment include:

- keeping in mind the objective of complying with health and safety duties and avoiding discrimination;
- taking account of individual worker differences in general;
- coordination between safety personnel and equal opportunities personnel;
- consultation with disabled workers;
- training safety personnel about disability;
- training equal opportunities personnel about health and safety;
- seeking outside help as necessary, for example from safety organisations or disability organisations;
- considering disabled workers as part of risk assessments at the design and planning stage, rather than waiting for a disabled worker to be employed and then having to make changes.

Return-to-work following work-related injury or ill-health is more successful where there is:

- good contact between the worker and the enterprise;
- an early start to the reintegration programme;
- support services and commitment from the enterprise;
- rehabilitation orientated to the job;
- involvement of qualified experts.

### More information:

Factsheet 53, *Ensuring the health and safety of workers with disabilities*. Available at: <http://osha.europa.eu/publications/factsheets>

The Agency's website has a section devoted to workplace safety and health issues relating to the integration and retention of people with disabilities in employment. Available at: [http://osha.europa.eu/en/good\\_practice/priority\\_groups/disability](http://osha.europa.eu/en/good_practice/priority_groups/disability).

This provides links to guidelines, advice on how to carry out risk assessment, practical case studies at the workplace level, details of programmes and strategies in this area and policy discussion documents. There are links to Member States, European and worldwide resources, and frequently asked questions that provide more information about risk assessment in disabled workers.





### European regulatory framework to protect disabled workers

In addition to the general requirements regarding OSH legislation that apply to all risks and all workers, employers are required to observe the stipulations listed below.

- Protect particularly sensitive groups from dangers that specifically affect them (Council Directive 89/391/EEC).
- Organise workplaces so as 'to take account of disabled workers, if necessary. This provision applies in particular to doors, passageways, staircases, showers, washbasins, lavatories and workstations used or occupied directly by disabled persons' (Council Directive 89/655/EEC)<sup>14</sup>.
- Make available work equipment that is suitable for the work and may be used by workers without impairment to their safety and health. Ergonomic principles must be taken fully into account when applying minimum health and safety requirements (Council Directive 89/391/EEC).

Anti-discrimination legislation can also require adaptations to work and workplace resources (Council Directive 2000/78/EC)<sup>15</sup>. Employers are required to provide:

- reasonable accommodation for people with disabilities, to enable them to have access to, participate in, or advance in employment or undergo training; and
- effective and practical measures to adapt the workplace to the disability, such as adapting premises and equipment, working hours, the distribution of tasks or the provision of training or integration resources.

The United Kingdom's Health and Safety Executive (HSE) has created a good website on disabled workers and OSH (HSE 2007). This site promotes good practice in disability equality at work and health and safety risk assessment. It contains special tools and guidance for inclusion of disabled people and for risk assessments in the workplace as well as a useful checklist for risk assessment concerning disabled people. Further information: <http://www.hse.gov.uk/disability/index.htm>

*Lantegi Batuak* is a non-profit organisation that generates employment opportunities for people with disabilities. Its website contains interesting documentation and examples of good practice. Further information available at: [www.ergohobe.net](http://www.ergohobe.net)

<sup>(14)</sup> Council Directive 89/655/EEC on the minimum safety and health requirements for the use of work equipment by workers at work

<sup>(15)</sup> Council Directive 2000/78/EC establishing a general framework for equal treatment in employment and occupation.

## Practical guides/tools to help assess the risks of disabled workers can be found at:

*Fire Safety – Risk Assessment: Means of Escape for Disabled People Supplementary Guide*, by the Department for Communities and Local Government (DCLG), United Kingdom.

The guide is a supplement for use alongside other guides in the series. It provides information on accessibility and means of escape from hazards. The appendices provide examples and information to help carry out the assessment and record Personal Emergency Escape Plans (PEEPs). Further information available at: <http://www.communities.gov.uk/documents/fire/pdf/322721.pdf>

*Balancing Disability Rights & Health and Safety Requirements* by Disability Action Northern Ireland, United Kingdom.

This guide aims to clarify employers' responsibilities under both the DDA and health and safety at work legislation and lists health and safety at work requirements including risk assessment for disabled workers. The guide provides further information about useful contacts and includes a section on finding more material on this issue. Further information available at: [http://www.hseni.gov.uk/balancing\\_disability\\_rights.pdf](http://www.hseni.gov.uk/balancing_disability_rights.pdf)

*I don't want to sue anyone ... I just want to get a life – Inclusive risk assessment. Guidance for colleagues and other post-16 education providers on implementing the Disability Discrimination Act*, Learning and Skills Development Agency, United Kingdom.

This guide emphasises the need for personal risk assessment (PRA) for disabled people and gives instructions on how to carry it out. It also highlights many pitfalls and advises on how to avoid them. It includes checklists that can be used in personal risk assessment of disabled students. Further information available at: <http://www.lsda.org.uk/dda/files/pubs/inclusiveRiskAssessment041005.pdf>

*Employees with Disabilities. An employer's guide to implementing inclusive health and safety practices for employees with disabilities*, by Health and Safety Authority, Ireland.

This guide addresses aspects of work-related safety, occupational health and facilities management and welfare as they pertain to workplace health and safety for employees with disabilities. Further information available at: <http://publications.hsa.ie/index.asp?locID=32&docID=330>



**Simple guidelines on risk assessment and risk management for workers with disabilities:**

1. Analyse which workplaces and jobs in your enterprise may be suitable for people with disabilities. Choose these workplaces on the basis of a risk assessment of all the jobs within the enterprise.
2. In this risk assessment, try to foresee which disabilities would still be compatible with the assessed workplaces, ensuring that a disabled worker would not be at a higher risk than other workers. Remember that a risk assessment that tackles hazards at source will benefit all workers, disabled or not.
3. Adapt the physical environment to suit workers with disabilities, for example adjusting premises or workstations by fitting ramps, lifts, light switches, steps edged with light paint, tactile warning strips at the top of stairs, audio and visual alarms, automatic opening devices on heavy doors, door handles, bells, entry devices reachable by wheelchair users and locatable by the visually impaired, and non-slip, smooth flooring. These changes may benefit not only workers, but also visitors to your enterprise.
4. Ensure that workers with disabilities have access to the necessary assistive technology, such as software or hardware for employees with mobility or speech impairments (e.g., Braille keyboard, hands-free phone, text-phone or *minicom*, etc.).
5. Whenever you are making changes to the physical environment of the workplace, or buying new equipment, try to ensure that those changes or purchases are also suitable for workers with disabilities.
6. Remember to assess the work design and organisation: it is not only the physical environment that can cause problems for workers with disabilities. For example, think about the suitability of shifts, machine-dictated pace of work, flexitime to allow absence for therapy, assessment or treatment, etc. Do not forget psychosocial hazards: disability can sometimes be used as an excuse for bullying.
7. Take account of people's abilities when planning work: disabled workers often have special skills, which should not be lost because of poorly adapted working conditions.
8. Discuss the measures with the disabled person, as the individual is usually the best person to identify what is needed.
9. In cooperation with worker representatives, review the efficiency and effectiveness of the implementation of the adopted strategy, and make changes and corrections if necessary.
10. Seek advice when necessary. This may be provided by occupational safety and health services and authorities, health professionals, safety professionals and ergonomists, disability employment services or disability organisations.

Further information: [http://hwi.osha.europa.eu/topic\\_integration\\_disabilities/latvia/10\\_steps\\_html](http://hwi.osha.europa.eu/topic_integration_disabilities/latvia/10_steps_html)



## GENDER-SENSITIVE APPROACH TO OSH

# 2.4.

Continuous efforts are needed to improve the working conditions of both women and men. However, taking a 'gender-neutral' approach to risk assessment and prevention can result in risks to female workers being underestimated or even ignored altogether. When we think about hazards at work, we are more likely to think of men working in high accident risk areas such as a building site or a fishing vessel than of women working in health and social care or in newer areas such as call centres. A careful examination of real work circumstances shows that both women and men can face significant risks at work. In addition, making jobs easier for women will make them easier for men too. So it is important to include gender issues in workplace risk assessments, and 'mainstream' gender issues into risk prevention.

The report *Gender issues in safety and health at work* published by the Agency in 2003 raised some important conclusions on the issue. Job segregation is one of the key influences on the gender differences seen in the exposure to occupational hazards and accidents and diseases suffered. Men and women are strongly segregated into different work sectors, and hold different positions in the jobs hierarchy. For example, men predominate in the construction sector, women in the health care sector. Women are more likely than men to be in low paid jobs and less likely to hold supervisory or managerial positions. In addition, women still carry out a greater proportion of unpaid work in the home, and if paid and unpaid work are added together, women are seen to work longer hours than men.

As a result, women are more likely to suffer work-related stress, musculoskeletal disorders – other than back injury – and health problems such as dermatitis, while men are more likely to suffer accidents and health problems from exposure to physical agents such as noise. We can see that the safety and health problems suffered by men are more visible and more likely to be linked directly to a single cause. The fact that risks to male workers are often more evident than those faced by women, together with the OSH focus historically having been on male workers and the traditional industries where they work, are among the reasons that the health and safety of women has received less attention than that of men. To redress this balance, gender needs to be mainstreamed systematically into all areas of OSH and more specifically when assessing risks.

It is crucial to make assessment of the gender impact of OSH policies and actions a routine part of the overall assessment. This includes the OSH implications of changes in the world of work, etc., and proposed responses.

Suggestions for making risk assessment more gender-sensitive.

- Developing a holistic approach to risk prevention. This is essential because there are gender differences in a variety of broader issues relating to work circumstances, such as sexual harassment, discrimination, involvement in decision-making in the workplace, and conflicts between work and home life.
- Identifying less obvious hazards and health problems that are common for female workers.
- Having a positive commitment and taking gender issues seriously.



- Looking at the real working situation.
- Involving all workers, women and men, at all stages.
- Avoiding making prior assumptions about what the hazards are and who is at risk, and avoid stereotyping the risks that women and men encounter at work.
- Including women's jobs and consult them (see case study 3.2.3).
- Including work-life balance as an OSH issue.
- Making sure those doing the assessments have sufficient information and training about gender issues in OSH.
- Making sure instruments and tools used for assessment include issues relevant to both male and female workers.
- Informing any external assessors that they should take a gender-sensitive approach, and checking that they are able to do this.

Factsheet 43 published by the Agency presents a model for making risk assessment more gender-sensitive.

### More information:

The Agency has produced many publications on OSH and gender issues:

*Gender issues in safety and health at work – a review.* Available at: <http://osha.europa.eu/en/publications/reports/209/view>

Factsheet 43. *Including gender issues in risk assessment.* Available at: <http://osha.europa.eu/en/publications/factsheets/43/view>

Factsheet 42. *Gender issues in safety and health at work.* Available at: <http://osha.europa.eu/en/publications/factsheets/42/view>

Short information sheet summarising the Agency report. *Mainstreaming gender into occupational safety and health.* Available at: <http://osha.europa.eu/en/publications/reports/6805688/view>

The Agency's website has a section devoted to workplace safety and health as it relates to gender issues ([http://osha.europa.eu/en/good\\_practice/priority\\_groups/gender](http://osha.europa.eu/en/good_practice/priority_groups/gender)). This provides links to guidelines, advice on how to carry out risk assessment, practical case studies at the workplace level, details of programmes and strategies in this area and policy discussion documents.

### Practical guides/tools to help assess the risks related to gender include:

*Incorporation of gender aspects in risk assessment*, Trades Union Congress (TUC), United Kingdom.

TUC promotes the incorporation of gender analyses in risk assessment, on its website ([http://www.tuc.org.uk/h\\_and\\_s/index.cfm?mins=32](http://www.tuc.org.uk/h_and_s/index.cfm?mins=32)) and in its special publication *TUC Gender and Occupational Safety and Health 'Gender-sensitivity' Checklist*. Further information available at: [http://www.tuc.org.uk/h\\_and\\_s/tuc-14179-f0.cfm](http://www.tuc.org.uk/h_and_s/tuc-14179-f0.cfm)

*Incorporation of gender aspects in risk assessment*, by Instituto Sindical de Trabajo, Ambiente y Salud (ISTAS), Spain.



ISTAS promotes the incorporation of gender analyses in risk assessment on its website and in its special publication *Health, Women and Work: Guide to the improvement of health and working conditions for women*. In this publication ISTAS highlights the necessity for gender awareness and points out special risks to which women are exposed at work.

Further information developed by ISTAS on gender issues:

- ISTAS has also developed its own risk assessment tools which include gender aspects. One example is ISTAS 21, a risk assessment tool for psychosocial risks. Available at: [http://www.istas.net/web/cabecera\\_enlace.asp?url=http://www.istas.net/web/index.asp?idpagina=3195](http://www.istas.net/web/cabecera_enlace.asp?url=http://www.istas.net/web/index.asp?idpagina=3195).
- ISTAS website 'Incorporar el análisis de género en la Evaluación de Riesgos'. Available at: <http://www.istas.net/web/index.asp?idpagina=1515>.
- ISTAS publication: '*Salud, Mujeres y Trabajo: Guía para la mejora de las condiciones de salud y trabajo para las mujeres*'. Available in Spanish and Catalan at: <http://www.istas.net/web/abreenlace.asp?idenlace=2326> and <http://www.istas.net/web/abreenlace.asp?idenlace=2329>.

*Salud laboral y género. Guía sindical para la prevención de riesgos para la reproducción, el embarazo y la lactancia* by UGT, Spain

This guide also promotes the incorporation of gender analyses in risk assessment. Available in Spanish at: <http://www.ugt.es/Mujer/slaboralygenerorebajado.pdf>

*Health beginnings: Guidance on safe maternity at work*, by ILO.

This guide looks at maternity protection in the workplace, focusing on measures that can be taken to ensure a healthy beginning for both the mother and her child. Further information available at: <http://www.ilo.org/public/english/protection/condtrav/pdf/wf-jp-04.pdf>

## OLDER WORKERS

# 2.5.

The EU's Lisbon Strategy,<sup>16</sup> which is aimed at making the European Union the most competitive and dynamic knowledge-based economy in the world, identifies the prolongation of working life as a key action in achieving this. This means that good working conditions, in particular as they relate to health and safety, flexible working arrangements, and care services, are needed.

<sup>(16)</sup> EU Lisbon Strategy. Available at: [http://europa.eu/scadplus/glossary/lisbon\\_strategy\\_en.htm](http://europa.eu/scadplus/glossary/lisbon_strategy_en.htm)



The occupational safety and health legislative structure for the prevention of harm to ageing workers is underpinned by the 'framework' directive and its 'daughter' directives, such as that on manual handling. The directives set a framework of action, based on assessing the risks to ALL workers.

When considering the older person's ability to work, it should be noted that the differences within the older population are greater than those between the older and younger groups, that chronological age is not an indicator of mental or physiological ageing, and that while older people experience a gradual decline in some abilities (e.g. muscle strength), they have compensatory strategies that can benefit from training.

There is a gap between perceptions and reality when it comes to the health and employability of older workers. People perceive all older employees as being less healthy than their younger counterparts. In fact, a large majority of older employees enjoy good physical and mental health and can work very well up to 65-70 years of age.<sup>17</sup> However, numerous studies confirm that the ability to perform work changes with age. This is caused mainly by the decline of physical capacity and fitness and the decline of some psychophysical capabilities (e.g. perceptiveness, response rate, efficiency of the sense organs). At the same time, an increase is observed in the incidence rate of many diseases, for example cardiovascular, respiratory and musculoskeletal diseases and hormonal and metabolic disorders.

The physiological changes related to ageing are more likely to affect the cardiovascular and musculoskeletal systems and body structure.<sup>18</sup> Changes in the musculoskeletal system may cause physical overload while performing heavy physical work, including moving and lifting heavy loads, and having to undertake tasks in uncomfortable work positions.<sup>19</sup>

Older workers can also experience changes in their vision such as deterioration in the ability to see or to focus at certain distance ranges or changes in the peripheral visual field, especially while working in poor lighting or near sources of glare. Many work tasks involve moving targets, making dynamic visual acuity (ability to resolve moving targets) critical. At 65, one is less able to see at night when legibility distances are reduced by as much as 35%. Work on an assembly line, with objects on a conveyor belt or moving data on a computer screen, requires dynamic visual acuity for safe task performance.<sup>20</sup> Brighter lighting, appropriate workplace design and well laid-out documents which avoid small print are important ways of avoiding some of those difficulties.

A decreased ability to adjust the body clock to night work and increased sleep disturbances may cause poorer tolerance of shift work in older workers. According to the report *Age and working conditions in the EU*<sup>21</sup> the proportion of shift workers drops

(<sup>17</sup>) Nauta, A., Health and employability of older workers, PhD, 2005, TNO.

(<sup>18</sup>) Ilmarinen, J., 'Ageing workers', *Occupational and Environmental Medicine*, No 58, (8), 2001, pp. 546–552. Wegman, D.H., McGee J.P (editors), Health and Safety Needs of Older Workers, The National Academies Press, Washington D.C., 2006.

(<sup>19</sup>) Tokarski, T., Kamińska, J. & Roman-Liu, D. (2003), 'Differences in muscle force in older women and men', *Acta of Bioengineering and Biomechanics*, No 5 (Suppl. 1), pp. 507-511.

(<sup>20</sup>) Haight, J.M., Bewal, U., 'Designing for an ageing workforce', *Professional Safety*, July 2006, 2006, pp. 20–33.

(<sup>21</sup>) European Foundation for the Improvement of Living and Working Conditions, Eurofound, Molinié, A-F. Age and working conditions in the EU, 2006. Available at: <http://www.eurofound.europa.eu/publications/htmlfiles/ef02106.htm>





significantly from the age of 45 – evidence of a continuing trend to return to more ‘normal’ working hours. Workers who have a changing work pattern frequently suffer from health problems: approximately one-third of men between 45 and 54 who continue to do night shifts report sleeping problems connected with their work. All managers involved in the health and safety aspects of the job should be aware of this and should consider older workers as more vulnerable subjects in relation to shift and night work<sup>22</sup> (see case study 3.2.1).

‘The relationship between ageing and work covers a great diversity of situations, which can be considered from two points of view: on the one hand, work appears to be a transformation factor for the worker throughout his or her active life, the transformations being either negative (e.g., wear and tear, decline in skills, illnesses and accidents) or positive (e.g., acquisition of knowledge and experience); on the other hand, work reveals the changes connected with age, and this results in marginalization and even exclusion from the production system for older workers exposed to demands at work that are too great for their declining capacity, or on the contrary allows for progress in their working career if the content of the work is such that a high value is placed on experience’.<sup>23</sup>

Research shows that there is no reason why older people should not remain in work. Older employees can be just as effective and learn just as well as younger colleagues. The question is whether the early preventative measures that will help older people to stay in work should apply to the whole workforce or only to these older individuals. According to Ilmarinen,<sup>24</sup> the focus should be on improving jobs, not individuals. However, even though the well-designed workplace benefits all employees, there are some aspects that need to be changed to make the work healthier and more comfortable for older workers.

Actions to be undertaken to maintain older workers in employment should follow these two general principles: this age group must not be considered as a category apart, instead age should be viewed as one further aspect of diversity present in today’s working population; protective measures that are too targeted or too accentuated tend to marginalise and weaken the position of the minority populations concerned.

Individual and collective changes related to age as well as changes in work techniques and organisation should be anticipated. Human resources management has to be carried out effectively as a long-term strategy, in order to permit appropriate adjustments in careers and training. The design of work situations can then take into account new technical and organisational solutions and the characteristics of the (future) population. The diversity of individual development throughout the working life needs to be taken into consideration, so as to create conditions of equivalent diversity in work careers and situations. The focus should be on encouraging the process of developing skills and attenuating the process of decline.

(<sup>22</sup>) Costa, G., ‘Some consideration about aging, shift work and work ability’, *Assessment and Promotion of Work Ability*, *Health and Well-being of Ageing Workers*, editors Costa G., Goedhard W.J.A., Ilmarinen J., International Congress Series 1280, 2005, pp. 67-72.

(<sup>23</sup>) Laville, A., Volkoff S., ‘Elderly workers’, *Encyclopaedia of Occupational Health and Safety 4th Edition*, Ch. 29 Ergonomics, ILO, 1998. <http://www.worksafesask.ca/files/ilo/elderly.html>

(<sup>24</sup>) Ilmarinen, J., ‘Aging and Work: the role of ergonomics for maintaining work ability during aging’, *Advances in industrial ergonomics and safety*, ed. by Bittner A., Champney P., Taylor & Francis. 1995.





On the basis of these principles, several types of immediate actions can be defined. Those with the highest priority relate to working conditions that are capable of posing particularly acute problems for older workers. Postural stress, extreme exertion, strict time constraints (e.g., assembly-line work or the imposition of higher output goals), harmful environments (temperature, noise) or unsuitable environments (lighting conditions), night work and shift work are examples of work routines which may not be suitable for older workers.

The workplace actions noted by the Agency to reduce the risk of harm to ageing workers include interventions to improve the psychosocial and physical work environment, changes to work content and organisation, improving the general health, wellbeing and work ability of workers, and increasing the abilities and professional competence of workers.

### More information:

The Agency's website has a section devoted to workplace safety and health issues relating to ageing workers ([http://osha.europa.eu/en/priority\\_groups/ageingworkers](http://osha.europa.eu/en/priority_groups/ageingworkers)). This provides links to guidelines, advice on how to carry out risk assessment, practical case studies at the workplace level, details of programmes and strategies in this area and policy discussion documents.

## 2.6. TEMPORARY WORKERS

In the current global environment the number of secure jobs is declining, to be replaced by a variety of more 'flexible' types of employment contract<sup>25</sup> with characteristics such as temporary work, low power and control, lack of benefits and low income.

Increasing labour flexibility means reducing the constraints on how workers move in and out of jobs, which are often created or enforced by labour laws, union agreements, training systems, or labour markets usually intended to protect workers' income or job security.<sup>26</sup> Job insecurity is thus common in precarious work. Job insecurity can be defined as 'the subjectively experienced threat of involuntary job loss'<sup>27</sup> or 'the

<sup>(25)</sup> Burchell, B.J., 'The unequal distribution of job insecurity, 1966–86', *International Review of Applied Economics*, No 13, 1999. pp. 437–58

<sup>(26)</sup> Hadden, W.C., Muntaner, C., Benach J, et al., 'A glossary for the social epidemiology of work organization. Terms from labour markets', *Journal of Epidemiology and Community Health*, No 61, 2007, pp. 6–8.

<sup>(27)</sup> Sverke, M., Hellgren, J. & Naswall, K., 'No security: a meta-analysis and review of job insecurity and its consequences', *Journal of Occupational Health Psychology*, No 7, 2002, pp. 242–264. Available at: <http://www.ncbi.nlm.nih.gov/sites/entrez>



discrepancy between the level of security a person experiences and the level she might prefer'.<sup>28</sup> Workers in other types of jobs can also experience job insecurity.

The rise in precarious employment has been linked to negative impacts on health and safety. In a review article and meta-analysis, 76 out of 93 studies found that precarious employment was associated with a deterioration in OSH in terms of injury rates, disease risk, hazard exposures, or worker (and manager) knowledge of OSH and regulatory responsibilities.<sup>29</sup> Other reviews<sup>27, 30</sup> have similarly confirmed the effect of work insecurity on health. The negative findings are consistent regardless of the context in which the study has been conducted (the country, industry or occupation), the research methods used or the OSH indices measured.<sup>30</sup>

Furthermore, studies of job insecurity present consistent evidence that job insecurity can have significant adverse effects on self-reported physical and mental health.<sup>27</sup> Mortality is significantly higher among temporary workers in comparison with permanent workers.<sup>31</sup> People who experience frequent job changes are more likely to smoke tobacco, consume more alcohol, and exercise less,<sup>32</sup> and workers who perceive job insecurity experience significant adverse effects on their physical and mental health.<sup>33</sup>

Trade union membership is often low among casual workers, limiting a wider advocacy of their interests. Further, a combination of non-standard working hours, multiple jobs and fear of reporting illness or injury may make them less visible to OSH inspectors.<sup>34</sup>

Recent research on precarious employment carried out in Spain has shown that the main risk factors for being in precarious employment are related to gender, age and social class. Women generally have more precarious jobs than men, and younger workers are more frequently in a precarious situation than older workers.<sup>35, 36</sup>

<sup>(28)</sup> Bartley, M. & Ferrie, J., 'Glossary: unemployment, job insecurity, and health', *Journal of Epidemiology and Community Health*, No 55, 2001, pp. 776–781.

<sup>(29)</sup> Quinlan, M. et al., 'The global expansion of precarious employment, work disorganization, and consequences of occupational health: A review of recent research', *International Journal of Health Services*, No 31, 2001, pp. 335–414.

<sup>(30)</sup> Bohle, P., Quinlan, M., Mayhew, C. (2001), 'The health and safety effects of job insecurity: an evaluation of the evidence', *Economic and Labour Relations Review*, No 12, 2001, pp. 32–60.

<sup>(31)</sup> Kivimäki, M., Vahtera, J., Virtanen, M., et al., 'Temporary employment and risk of overall and cause-specific mortality', *American Journal of Epidemiology*, No 158, 2003, pp. 663–8.

<sup>(32)</sup> Metcalfe, C., Smith, D., Sterne, J.A.S., et al., 'Frequent job change and associated health', *Social Science & Medicine*, No 56, 2003, pp. 1–15.

<sup>(33)</sup> Ferrie, J.E., Shipley, M.J., Standsfeld, S.A. et al., 'Effects of chronic job insecurity and change of job security on self-reported health, minor psychiatry morbidity, psychological measures, and health related behaviours in British civil servants: the Whitehall II study', *Journal of Epidemiology and Community Health*, No 56, 2002, pp. 450–454.

<sup>(34)</sup> Bohle, P., Quinlan, M., Kennedy, D., Williamson, A., 'Working hours, work-life conflict and health in precarious and 'permanent' employment', *Rev Saude Publica*, 38 Suppl, 2004, pp. 19–25.

<sup>(35)</sup> Benach, J., 'Precarious work and new forms of employment. Concepts, evidence, and impact on health', Workshop on emerging risks related to occupational safety and health, EU-OSHA, Brussels 8–9 April 2008, p. 3.

<sup>(36)</sup> Bartley, M., 'Job insecurity and its effect on health', *Journal of Epidemiology and Community Health*, No 59, 2005, pp. 718–719.



Several papers have concluded that reductions in job insecurity should be a point of action for government policies aimed at improving population health and reducing health inequalities.<sup>37</sup> There are a limited number of effective policies to reduce precarious employment and to improve the quality of working conditions, particularly among women. The non-implementation of these policies may contribute to the worsening health of women and to the increase of health inequalities.<sup>38</sup>

The study of precarious employment and health is still in its infancy.<sup>39,40</sup> Further research is needed to clarify the link between health effects and particular business practices and to explore the regulatory implications of the growth in precarious employment.<sup>41</sup>

In sum, the research evidence suggests that:

- temporary workers are subjected to higher health and safety risks;
- mortality is significantly higher among temporary workers in comparison with permanent workers;
- precarious employment is associated with a deterioration in OSH in terms of injury rates, disease risk and hazard exposures;
- temporary workers are less likely to report illness or injury.

It is therefore very important to identify these groups and recognise their needs and problems when conducting risk assessment. In addition, as scientific evidence in this area is lacking, research on risk assessment in temporary work is needed urgently in order to successfully inform policy makers and improve the protection of workers.

More advice and information will be required, and it is hoped that further research and development will lead to additional guidance materials in the future.

<sup>(37)</sup> Lavis, J.N., Farrant, M.S., Stoddart, G.L., 'Barriers to employment-related healthy public policy in Canada', *Health Promotion International*, No 16, 2001, pp. 9–20; Kristensen, T.S., Borg, V., Hannerz H., 'Socioeconomic status and psychosocial work environment: results from a Danish national study', *Scandinavian Journal of Public Health*, No 59, 2002, pp. 41–8; Bartley, M., Sacker, A., Clarke, P., 'Employment status, employment conditions, and limiting illness: prospective evidence from the British household panel survey 1991–2001', *Journal of Epidemiology and Community Health*, No 58, 2004, pp. 501–506.

<sup>(38)</sup> Menendez, M., Benach, J., Muntaner, M., Amable, M., O'Combo, P., 'Is precarious employment more damaging to women's health than men's', *Social science & Medicine*, No 64, 2007, pp. 776–781.

<sup>(39)</sup> Benach, J., Muntaner, C., 'Precarious employment and health: developing a research agenda', *Journal of Epidemiology and Community Health*, No 61, 2007, pp. 276–7.

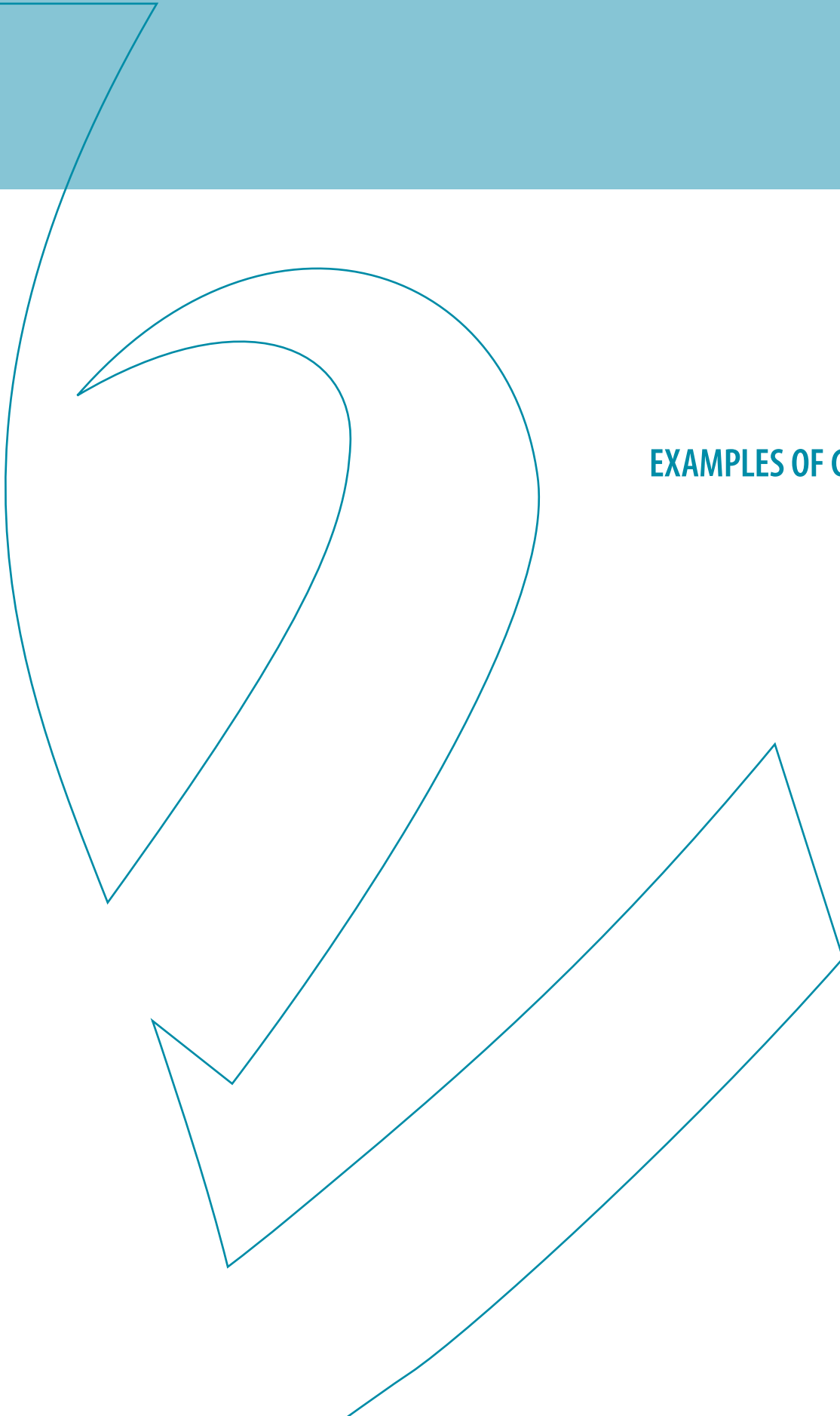
<sup>(40)</sup> Burdorf, A., 'The importance of solid employment for health', *Scandinavian Journal of Work, Environment & Health*, Volume 34, No 2, April 2008, p. 82.

<sup>(41)</sup> Quinlan, M. et al., 'The global expansion of precarious employment, work disorganization, and consequences of occupational health: A review of recent research', *International Journal of Health Services*, No 31, 2001, pp. 335–414.



# 3.

## EXAMPLES OF GOOD PRACTICE



# 3.1. INTRODUCTION

This section focuses on the prevention of risks to workers. It provides descriptions of fifteen examples of measures taken by companies or initiatives at national/sector level to integrate all types of workers into risk assessment and to prevent risks at the workplace level. The description of cases includes an analysis of some background information on the company/project, the aims and objectives of the action, an explanation of what was done, the results of the action, the problems faced, the success factors and some information about the transferability of the project.

The eleven cases and four snapshots (shorter cases) were identified by the partners, based on material from the Topic Centre's own network,<sup>42</sup> material from Focal Points<sup>43</sup> and material described in the literature.

These examples are often based on equal opportunity or non-discrimination policies rather than an actual risk prevention policy. However, the occupational health and safety of the workers concerned are always taken into account. The enterprise must, in particular, adapt working conditions to each employee, by making changes either to the workstation itself, or to worker information and training. It goes without saying that the adaptations must make it possible to improve wellbeing at work.

Some of the examples presented do not reflect a practical case in the enterprise but rather an initiative or a tool, such as a nationwide information campaign or a tool allowing adaptation of a workstation for a worker with special characteristics. Such initiatives are, however, generally illustrated by an example of their application in the enterprise.

The good practice examples are aimed primarily at those responsible for carrying out risk assessments and occupational health and safety management processes.

The examples are divided into two main sections, according to the measures the enterprise decided to introduce to prevent the risks concerned. The following measures were identified:

- Adaptation of the workplace. The cases in this section show examples of adaptation of work schedules, introduction of new equipment in order to facilitate the work, ergonomic changes to workstations, etc.
- Development of information and training. The cases in this section show examples of tailored training strategies, specific information packages, etc.

Each section includes examples of various groups of workers.

<sup>(42)</sup> Topic Centres are consortia of national safety and health institutions that collect and analyse existing national data to support key areas of the Agency's work.

<sup>(43)</sup> The Agency's main safety and health information network is made up of a focal point in each EU Member State, as well as in Candidate Countries and EFTA countries. Focal points are nominated by each government as the Agency's official representative in that country, and they are normally the national authority for safety and health at work.

### 3.1.1. Matrix of cases

The following matrix presents all the cases according to a number of different criteria (type of worker concerned, sector of activity, goal of the action, etc.).

Main goal	Developing training and information								
	Adapting workplaces	X	X	X	X	X	X	X	X
Sector		Chemical sector	Leading sheltered workshop	Hospital (cleaning workers)	Car industry	All	Recycling	Construction	
Type of worker addressed		Shift workers	X						
		Migrant workers						X	
		Disabled workers		X		X	X		
		Temporary workers							
		Women / Gender issues			X				
		Young workers							
		Older workers	X			X			
Type of case: Long or Short		LC	LC	LC	LC	LC	SC	SC	
Name of the Case		Productive ageing: shift plan reform at Polyfelt (now TenCate)	Ergolab: the key to healthy and safe employment of people with disabilities	Reducing stress among female workers at a hospital	Promoting the integration of workers with disabilities at Ford	Ergonomic adaptation of office and industrial workstations for disabled workers	Integration of disabled workers in the recycling industry	Belgian and Polish workers join forces for asbestos removal in the Brussels Finance Tower	
Country		AT	BE	DE	DE	ES	FI	BE	



Country	Name of the Case	Type of case: Long or Short	Type of worker addressed							Sector	Main goal	
			Older workers	Young workers	Women / Gender issues	Temporary workers	Disabled workers	Migrant workers	Shift workers		Adapting workplaces	Developing training and information
AT	Preventing accidents to temporary workers at a paper mill	LC				X				Producer of coated fine paper		X
BE	Diversity plan: How to bring comprehensible instructions to the work floor?	LC						X		Construction		X
DE	Tailored training strategies in OSH for people with disabilities	LC		X			X			General		X
FR	Collaboration between agencies and employers to reduce accidents among temporary workers	LC				X				General		X
IE	Safe System of Work Plan for construction industry	LC						X		Construction		X
UK	Working safely in a multicultural food and drink industry	LC						X		Food industry		X
DE	Safety measures for contract workers, distributors and temporary workers	SC				X				Beverage Industry		X
PL	Nationwide competition on OSH knowledge for apprentice craftsmen	SC		X						General		X

### 3.1.2. Short description of cases

#### **Productive ageing: shift plan reform at Polyfelt (now TenCate), Austria**

The management and works council of a chemical plant in Austria faced the problems of intensive shift work, an ageing workforce and a low retirement age. In a participatory process a new shift schedule was developed with the help of OSH experts. The result was a win/win situation for all. Fewer weekly working hours, fewer night shifts and longer shift breaks are the main benefits for the employees. Higher productivity, later retirement and an improved image as a good employer are among the benefits enjoyed by the company. Wage reductions were minimised because the company partly shared the economic benefit of the new shift model with employees.

#### **Ergolab: the key to healthy and safe employment of people with disabilities, Belgium**

In Mariasteen vzw, a sheltered workshop, the focus is clearly on the person, not on the product. The company's primary aim is a social one, i.e. offering sustainable and profitable employment to people with disabilities or with limited opportunities on the labour market.

An optimal match between the employee and their job is crucial for sustainable employment. Therefore, in 2005 a new department was set up within the company, Ergolab, which tests, orients and trains people with a disability or with limited opportunities on the labour market. Ergolab's aim is to achieve an optimal match between the employee and his position; in other words, to link the individual's skills with the competencies required for the job. As Mariasteen vzw is an all-round contractor, production processes and locations can vary widely according to the customer.

#### **Reducing stress among female cleaners at a hospital, Germany**

Cleaning workers in a hospital in Hanover complained about stress at work and sexual harassment from patients and staff. The Institute of Ergonomics of the University of Hanover assessed the mental stressors faced by the cleaners. An occupational safety and health intervention was implemented. Together with the workers two (female) moderators from the University discussed and developed concrete measures in health circles in order to improve working conditions.

Practical solutions were found in collaboration with the workers. One measure was to change the cleaners' uniform, which was impractical (hot to wear, constantly caught on equipment). Furthermore the old uniform contributed to sexual harassment. As a result of the intervention, the job satisfaction and the self-confidence of the workers was enhanced, and risk factors were excluded. The employees also became sensitised to OSH issues.

#### **Promoting the integration of workers with disabilities at Ford, Germany**

The objective of this project was to integrate workers with disabilities and to reintegrate workers into the production process after extended sick leave. Ford set up a disability management team with management representatives and employees, carried out a risk assessment with the IMBA tool, provided individual medical care and individual ability checks (ERGOS), and used the findings for the workplace design. Further problems had been evaluated via questionnaires. So far about 500 workers have been reintegrated into the production process. The project has won several awards.





### **Ergonomic adaptation of office and industrial workstations for disabled workers, Spain**

For successful integration or reintegration of disabled people into sheltered and ordinary employment workstations must be carefully adapted to suit the worker concerned. The Instituto de Biomecánica de Valencia (IBV) has developed two different projects relating to the analysis and adaptation of workstations: ADAPTOFI, which included four case studies in the office environment, and ADAPREC, comprising five case studies in industry.

The ErgoDis/IBV method was used to carry out the assessments. This method has been designed to identify areas of mismatching between work demands and the functional abilities of workers, and to evaluate job risk levels arising from physical and environmental workload. The project has produced free multimedia material to provide methodological as well as practical information about real cases to professionals in this field.

### **Integration of disabled workers in the recycling industry, Finland**

Tervatulli Ltd employs disabled people with a range of conditions. Following the risk assessment of the workplace, the company put in place measures to improve their working conditions.

### **Belgian and Polish workers join forces for asbestos removal in the Brussels Finance Tower, Belgium**

In December 2003 Asbestos Removal, a subsidiary company of Hertel Services, was asked to remove the asbestos in the Brussels Finance Tower. Because of the labour shortage on the Belgian market it was decided to outsource part of the asbestos removal to Hertel Services Poland. As Hertel Services Poland had no experience in the field of asbestos removal, a course for asbestos removal was translated into Polish and a Polish pulmonary physician and trainer underwent a 'train-the-trainer' course to enable them to instruct the Polish workers. An interpreter bridged the gap between the Polish employees and the Flemish coordinators to enable efficient communication on all issues and difficulties related to the work.

### **Preventing accidents to temporary workers at a paper mill, Austria**

The paper manufacturer Sappi Austria had a good safety record in general but noted a range of accidents among temporary workers. To solve this problem a set of measures were developed including teambuilding strategies among temporary workers, advanced health and safety training, new rules for temporary workers taking over certain demanding posts and greater safety demands placed on the temporary agencies. Due to this combined effort Sappi was able to reduce the accident rate among staff from temporary agencies by 80% in just a year. A better integration of agency personnel into operational processes and a higher job satisfaction rate were additional effects of the measures.

### **Diversity plan: How to bring comprehensible instructions to the work floor?, Belgium**

One of the methods the construction sector uses to try to compensate for the early retirement and difficulty in recruiting builders is recruiting people from various disadvantaged groups (unemployed, underprivileged, immigrants and part-time students). This approach is increasing diversity on construction sites, which obviously results in new health and safety risks. As one of the largest construction companies in Belgium, VANHOUT wants to tackle diversity issues systematically. A thorough



recruitment and selection process, induction and result-oriented training are just some of the measures it is using to help disadvantaged groups enter the construction industry successfully. One of the latest points of action in VANHOOT's diversity policy is the development of a modular welcome brochure and a training programme for 'builders' godfathers'.

### **Tailored training strategies in OSH for young people with disabilities, Germany**

In this pilot project, a training CD-Rom was developed to promote awareness of danger and develop decision-making skills in trainees, in order to counteract the particularly high rate of industrial accidents among young workers. After the causes of the accidents had been analysed, a programme was developed for trainees in the following areas: kitchen, carpentry, workshop, bakery, car maintenance and gardening. The particular intellectual, physical and mental abilities of the target group were taken into account. The aim was not only to increase awareness of potentially dangerous situations, but to change the actual behaviour of the trainees.

The aim of the interactive computer-based training programme is to improve the ability to recognise situations rapidly where there is a likelihood of accidents occurring. Since experience has shown that formal instruction does not always produce results, this system aims to allow the rapid and active discovery of risk areas in the work environment. Every answer to a question receives immediate feedback. Incorrect answers trigger automatic correction procedures (tailored training) and the result is shown to the trainee by way of a graphic performance score.

### **Collaboration between agencies and employers to reduce accidents among temporary workers, France**

Fewer and less severe accidents and fewer workdays lost. At the end of a three-year partnership agreement concerning the prevention of occupational injuries, signed between the temporary employment agencies, the occupational health and safety service of the CRAM Languedoc-Roussillon fund and the four main firms in the region employing temporary workers, the results are encouraging. The objective of this action is to change attitudes to risk prevention for temporary workers and to reduce the number of occupational injuries among such workers.

### **Safe System of Work Plan for construction industry, Ireland**

The number of migrant workers has risen sharply in several Member States, including Ireland, and this poses new risks and challenges to health and safety. The Safe System of Work Plan (SSWP) is an initiative launched by the Health and Safety Authority (HSA) in Ireland in 2005. The purpose of the scheme is to reduce injuries and deaths on construction sites. It is also designed to address issues related to migrant construction workers whose first language is not English. The initiative relies heavily on pictograms to explain and clarify hazards and controls, thereby creating a wordless document where safety can be communicated to all workers regardless of literacy or language skills.

### **Working safely in a multicultural food and drink industry, UK**

Food and drink manufacturing is the largest industrial sector in the United Kingdom, employing 13.7% of the manufacturing workforce. There are currently 650,000 people working in the sector, many of whom are overseas nationals with limited knowledge of English. Investigation conducted by the Health and Safety Executive (HSE) showed that although employers had the legal obligation to provide their employees with



comprehensible and relevant information on health and safety risks identified by risk assessments and the relevant preventive and protective measures, there was little evidence of existing initiatives. Given that overseas nationals form a large proportion of the workforce, something must be done to sustain the development of the industry. A working group was thus established, comprising consultants, legal experts and health and safety professionals from some of the largest food companies in the UK, as well as a representative from the HSE, to prepare guidance with examples of good practice for the industry. Health and safety, and the use of risk assessments in a multicultural industry, are some of the key areas covered in the guidance.

#### **Safety measures for contract workers, distributors and temporary workers, Germany**

With the implementation and certification of a new OSH management system, consultants and the Bacardi management introduced a bundle of measures to reduce risks and improve the safety awareness and the behaviour of workers and drivers.

#### **Nationwide competition on knowledge of OSH principles for apprentice craftsmen, Poland**

Young workers can be more exposed to occupational risks than their colleagues due to lack of experience and appropriate skills and training, physical and psychological maturity, as well as lack of awareness of their employer's duties, and their own rights and responsibilities. Experience shows that one of the best ways of increasing knowledge and awareness in any field among young people is to encourage them to gain the knowledge by themselves on a voluntary basis and get the opportunity to check it in practice. The aim of this competition is to promote OSH-related knowledge and principles among apprentice craftsmen and young workers employed in handicraft shops.

## 3.2. WORKPLACE ADAPTATION

The cases in this section show examples of adaptation of working schedules, introduction of new equipment in order to make the work easier to carry out, and ergonomic measures taken to facilitate the employment of target groups.



### 3.2.1. Productive ageing: shift plan reform at Polyfelt (now TenCate)

#### KEY POINTS

- Developing methods and strategies to retain older shift workers in particular; making shift work more attractive for new employees
- Reforming the shift system to reduce the burden of shift work to a minimum
- Finding additional tools to reduce stress at work and to raise job satisfaction among shift workers

#### COUNTRY

Austria

#### ORGANISATION

TenCate Geosynthetics Austria GmbH (formerly Polyfelt)

#### INTRODUCTION

At the end of the 1990s Polyfelt found its workforce was ageing; the average age of shift workers was relatively high and traditionally they had an early retirement age. The works council noted that this issue would impact on working conditions and asked for action to be taken. A discussion process started and the management agreed to reorganise workstations, adjusting them to the workers' age and redesigning shift schedules. Good shift schedules were seen as key to a better balance between working life and private life – reducing stress, the risk of accidents, sickness and early retirement. Shift plan reform was therefore carried out as the main part of a productive ageing programme.

#### BACKGROUND

For more than 30 years Polyfelt developed and manufactured geotextiles for road and railway construction, water engineering and tunnels, reinforced earth structures, drainage systems and landfills. Polyfelt was a subsidiary of Austrian group OMV, which was taken over by Royal Dutch TenCate (RTC) at the end of 2005. The name changed to TenCate Geosynthetics Austria GmbH. The company's main production units and research facilities are in Linz.

In 1997 the average age of shift workers was 47 years and their traditional early retirement age 52. This meant that half the shift workers would be expected to retire in five years. An internal survey showed that one of the main problems with the company's shift roster was the rather short rest period of two days off between shift periods. The first day off was after a night shift, and most shift workers used the day partly for catching up on sleep. The second day before a morning shift was also used partly for sleeping. Private life was restricted and often limited to rest and recuperation. Older workers in particular reported a progressive degree of fatigue and need of regeneration. Standby shifts posed another problem, complicating private and family life. Furthermore, shift workers felt a lack of formal training as well as supervision, which resulted in high stress levels at work.

Shift schedules and weekly working hours were mostly the same for young and older workers, although the workers' work ability, interests and social skills are very different. In addition, night shift tolerance generally decreases with increasing age. It was recognised that the best way to overcome these problems would be to develop an



age-adjusted shift work system through a participatory approach, supported by expert knowledge and technological tools.

### **AIMS AND OBJECTIVES**

Based on the results of an internal survey, expert knowledge and suggestions from all operational actors concerned, the following goals and preconditions were defined by the shift planning group at Polyfelt:

#### **Adjustment to age**

e.g. development of optional shift schedules; reduction of working time; designing of an age-adjusted shift schedule with special respect to night shifts of older workers.

#### **Safeguarding of jobs**

e.g. productivity benefits by maintaining the experienced workforce; less sick leave due to better working conditions.

#### **Stress reduction**

e.g. by advanced vocational training and fewer working hours; giving workers more control of their own work; optional training sessions integrated in shift schedule (stress training, competence training, personal fitness).

#### **Maintaining productivity**

e.g. shift work adjusted to the worker's age reduces sick leave and costs incurred through early retirement; reducing standby shifts; flexible shift schedules allow a new administration of equipment.

#### **Quality of private life**

e.g. longer shift breaks with more days off for regeneration; better compatibility with social life (weekends).

The works council took an active part in the process, with the aim of safeguarding workers' health. The management focused on higher productivity, optimised operational processes and raising the image of the company as a more attractive place to work. The financial constraint was that the new shift plan should not raise the company's personnel costs.

### **SCOPE OF THE PROJECT – WHAT WAS DONE**

Traditionally, shift work was characterised by a very high early retirement rate due to the strain on individuals of night shift work in particular. In addition, new technological developments have increased the cognitive demands of the work, while decreasing the physical work content, and have raised the feeling of stress in the ageing workforce. Stimulated by the works council, the management made the strategic decision to carry out an age-adjusted re-organisation of the shift work. A workgroup for the shift plan reform was established, chaired by a member of the works council. The shift-planning group consisted of shift workers, leading staff members, workers' representatives, occupational physicians and working time experts from the IBG-Institute in Vienna. The IBG-Institute provided consultancy services and evaluated the results of the project. Two workshops were held with participants from every key group. In addition the chairman of the shift-planning group received a grant from the Upper Austrian Chamber of Labour to work on this issue.



The occupational health experts drew up an employee questionnaire to obtain details on demographic structure, absenteeism, working culture and personal life. The survey was designed to obtain information about the burdens that shift workers experienced and what things they wanted to change at work. Suggestions for new shift models were developed based on the information given by the workers, experience from other companies and expert knowledge.

The decision process for the new shift schedule was supported by using special computer software called 'Arbeitszeitassistent/Shift Plan Assistant'. This software permits a rapid calculation of new shift schedules by input of different variables and visualisation of results. The wage calculation for the different new shift models was done by the personnel department of the company.

The new shift plan model and the financial consequences, which were worked out in the planning group, were presented to the management and the works council for approval and were presented and explained to the shift workers. A pilot project in a single work unit was implemented before final approval. In a poll 90% of the Polyfelt workers voted for implementation of the new shift schedule.

### RESULTS AND EVALUATION OF THE PROJECT

Before the reform started, the shift schedule was a 4-crew shift schedule with an average 39 hours worked per week and several standby shifts per year.

After intensive discussion and a pilot test the new shift plan was introduced with the following main changes:

- reduction of working time to 35 hours a week
- reduction of night shifts from 8 to 6 per month
- longer shift breaks with 3 to 4 days off
- new 5-crew shift schedule
- no standby shifts
- 3 new jobs were added

The shift plan reform was accompanied by several other tools, including health promotion training and advanced vocational training for shift workers. Additional offers were made to the employees, such as hot meals during the night shift.

The reduction in weekly working hours due to the shift plan reform would have resulted in a wage reduction for the shift worker. This problem was minimised by a bargaining process in which wage increases for the following two years were credited against the wage reduction. This meant that rather than losing money, workers renounced future wage increases for a short period.

Evaluations took place six months, one year and four years after the shift plan reform. The workers reported an improvement in their quality of life, less stress at work and a better quality of sleep at home. The surveys reported higher job satisfaction among the shift workers and better teamwork. An evaluation four years after the reform showed that no shift worker had left the company because of sickness or early retirement since the reform took place.

For the company the changes resulted in economic growth, better work skills, more productive workers and less early retirement. The machine-operating time increased



to 93% and productivity was enhanced. A reduction in sick leave by an average of three days a year was reported.

In the past decade Polyfelt has strengthened its efforts to retain workers in the company by improving working conditions. As management became aware of the importance of intergenerational differences, they were more willing to use the experience of older workers to help benefit younger colleagues, thereby enhancing process quality. In 2002, knowledge management was implemented to enable the transfer of older workers' experience. This included teaching experienced workers to create manuals and training programmes designed to transfer their practical knowledge to younger workers. These measures give older workers meaningful tasks and individual recognition, and reduce physical demands on them. They also help younger workers to develop competencies faster and with less stress. In recent years, cultural initiatives have accompanied efforts aimed at human quality management and helped support the retention of older employees at work.

### PROBLEMS FACED

The reduction of the weekly working time to 35 hours was not initially welcomed by Polyfelt's holding company, OMV. Discussions between management and works council were necessary to cross this line. The expected enhanced productivity, the optimised operational processes, a higher job satisfaction among the workers and the reduction in sick leave were arguments used to persuade the management.

Some shift workers were concerned about a wage reduction due to reduced working hours. The shift planning group asked them their opinion and the majority of the employees said that they would accept a wage reduction up to 5% in return for fewer working hours. Based on this statement the problem of wage reduction was solved in negotiations. The company took over half of the salary cut and shared the economic benefits of the new shift schedule with the employees. The other half was credited against wage increases coming out of collective bargaining processes at national level in the following two years.

### SUCCESS FACTORS

The corporate approach used at Polyfelt to work out the new shift plan was a major success factor. The co-leadership by management and works council on this issue leads to a win/win situation for all. The focus was on health and process quality by cultivating creativity and professionalism among all staff members to find intelligent solutions.

Another key feature was the workers' participation in the reform process. Suggestions were made by shift workers and occupational health experts took their views into account. The discussion process included all key groups within the company.

The marketing potential of the shift reforms was one of the motivations for the project. It increased the perception of the company as a more attractive place to work in the region. Polyfelt is now seen as a leader in offering shift work guided by human principles.

In the past decade the company has strengthened its effort to retain workers by improving working conditions. This effort is incorporated in its overall human resource policy, which emphasises equal treatment of all employees, including older staff. The shift plan reform was therefore not an isolated action.



## TRANSFERABILITY OF THE PROJECT

Transferable elements of the productive ageing activities at Polyfelt include:

- Co-leadership by management and works council to find intelligent solutions.
- Participative process in developing the programme with shift workers involved.
- Using consultancy and evaluation by external advisers during the whole process.
- Change of management values and attitudes towards sustainability, productive ageing and generation-balance.
- Starting a specific human resources management and specific methods for each generation of workers.
- Provision of supplementary measures of health promotion and vocational training sessions for workers.

## CONTACT INFORMATION

Manfred Lüftner  
TenCate Geosynthetics Austria GmbH  
Schachermayerstraße 18  
A-4021 Linz  
AUSTRIA  
Tel: +43 732 6983 5366  
E-mail: m.lueftner@tencate.com

Dr Rudolf Karazman  
IBG – Institut für humanökologische Unternehmensführung GmbH  
Mariahilferstr. 50/14  
A-1070 Wien  
AUSTRIA  
Tel: +43 1 524 37 51 – 0  
E-mail: r.karazman@ibg.co.at

## REFERENCES

European Foundation for the Improvement of Living and Working Conditions, *Polyfelt Geo-synthetics*, Web article, last updated 11 Sept. 2007. Available at: <http://www.eurofound.europa.eu/areas/populationandsociety/cases/at001.htm>

International Labour Organisation, *Best practices in work-flexibility schemes and their impact on the quality of working life in the chemical industries*, Geneva, 2003, p. 91. Available at: <http://www.ilo.org/public/english/dialogue/sector/techmeet/tmwfci03/tmwfci-r.pdf>

Karazman, R. et al., 'Participatory development of age-adjusted optional shift time schedules in industrial workers in a chemical plant', *Advances in Occupational Ergonomics and Safety*, Amsterdam, 1998. Available at: [http://wiki.ximes.com/images/c/c3/1998\\_Participatory\\_Dev\\_Age\\_Shift\\_981104.pdf](http://wiki.ximes.com/images/c/c3/1998_Participatory_Dev_Age_Shift_981104.pdf)

Karazman, R., *Schichtplanreform Polyfelt 2001 – Arbeitsbewältigung, Lebensqualität und Gesundheit der Mitarbeiter nach Einführung eines optionalen Schichtplans bei der Polyfelt AG/OMV*, Evaluationsbericht, Wirtschaftsuniversität Wien/IBG Österreich, Linz, 2001.





Karazman, R., *Generationenbalance – Wege zum 3-Generationen-Unternehmen*; in: Österreichische Bundesarbeiterkammer et al., *Arbeit & Alter – Altersgerechte Arbeitswelt*, Wien, 2004, p. 129.

Karazman, R. et al., *Shift plan reform in chemical plant POLYFELT as precondition knowledge management between generations*, *Ergonomia*, International Congress Series 1280, 2005, pp. 95-100.

Kriener, B. et al., *Gesund durchs Arbeitsleben*, Wien, 2004, p. 54. Available at: <http://www.wko.at/sp/bgf/BGFStudie.pdf>

Österreichischer Gewerkschaftsbund, *Schichtplanreform bei Polyfelt*, Web-article, 2003. Available at: [http://www.oegb.or.at/servlet/ContentServer?pagename=OEGBZ/Page/OEGBZ\\_Index&n=OEGBZ\\_3.9.d.f.a&cid=1081293014542](http://www.oegb.or.at/servlet/ContentServer?pagename=OEGBZ/Page/OEGBZ_Index&n=OEGBZ_3.9.d.f.a&cid=1081293014542)

### 3.2.2. Ergolab: the key to healthy and safe employment of people with disabilities

#### KEY POINTS

- Providing an optimal match between the employee and the job in a sheltered workshop
- Focusing on three pillars:
  - Orientation – training of employees
  - Development of new production assignments
  - Assistance – follow-up of employees
- Enabling specific occupational risks to be identified early so preventive measures can be taken

#### COUNTRY

Belgium

#### ORGANISATION

Mariasteen vzw

#### INTRODUCTION

In Mariasteen vzw, a sheltered workshop, the focus is firmly on the person, not on the product. As Mariasteen vzw is an all-round contractor, production processes and locations can vary widely according to the customer. Therefore, in 2005 the company set up a new department, the Ergolab, which tests, orients and trains people with a disability or with limited opportunities on the labour market.

The Ergolab is intended to achieve an optimal match between the employee and his position; in other words, to link the individual's skills with the competencies required for the job.

#### BACKGROUND

Mariasteen vzw is one of the leading sheltered workshops in West Flanders, and it has provided employment for people with disabilities since 1963. This all-round contractor



currently has a workforce of over 830. Production (own production, subcontracting and enclaves) and services are the company's main activities.

**Table 1: Company's main activities**

PRODUCTION		SERVICES
Own product	Subcontracting	
	Own workshops      Enclaves <sup>44</sup>	
Pallets	Metal working Woodwork Assembly Conditioning Buffer workshop	Green care Orthopaedics Party and conference centre

From an economic point of view, Mariasteen vzw, as a modern company, wants to be a fully fledged partner that offers quality products and services to be sold at the right price and delivered on time. However, Mariasteen vzw's primary aim is a social one, i.e. offering sustainable and profitable employment to people with an occupational disability. In practice this means that the company seeks appropriate posts for its target groups and creates suitable working conditions.

### AIMS AND OBJECTIVES

Mariasteen developed Ergolab to help obtain an optimal match between the employee and the job, which is necessary to provide sustainable, safe and healthy employment. Especially when disabled workers are concerned, it is vital to take the functional capabilities and limitations of each worker into account. Through this process of risk assessment, specific occupational risks can be identified at an early stage, and preventive measures can be taken. Using Ergolab can avoid situations where workers are exposed to certain risks because they don't have the capabilities to perform certain jobs in a safe manner. In addition, if job and worker really fit well together, the worker will cope much better and the risk of stress will be lower.

### SCOPE OF THE PROJECT – WHAT WAS DONE

New employees check in at the personnel department. They complete a two-day trial period in the Ergolab, where a team of 9 is at their disposal: 7 occupational therapists, one of whom has completed an ergonomics course, an ergonomist and an electronics engineer. Ergolab works independently from the production unit and its main aim is to assist employees with disabilities.

After the screening phase a report is drawn up for the personnel department. It gives an overview of the functional capabilities of the disabled employee, points of interest (e.g. a person with epilepsy is normally not a good candidate for work with machinery) and the orientation possibilities within the broader work context.

When the employee starts work the Ergolab team helps him settle into the job and to communicate any possible points of interests to the supervisor, e.g. with regard to expectations, communication of information, learning abilities, etc. The engineer and

<sup>(44)</sup> An enclave is a subcontracting agreement in which Mariasteen deploys a (large) group of people, led by a Mariasteen supervisor, to a company for a certain (long-term) assignment.



the ergonomist help determine the layout of the workplace, as well as helping to carry out and implement the time studies and adaptations.

The supervisor, social services or the employees themselves can report bottlenecks, problem areas, the need for additional tools or aids, and other requests. All the company's employees know about the activities of Ergolab and what to expect from Ergolab staff.

Ergolab has three main functions:

### **Orientation, assistance and training**

Employment at Mariasteen vzw starts with orientation, which helps the company get an overview of the employee's aptitudes, abilities and limitations, preferences and interests in order to link him to an appropriate job profile. After this the employee completes a number of professional tests, both physical and cognitive, carried out using standard instruments (such as Ergokit, Melba and Ida).

Through a standard method the following occupational skills are thus tested and outlined:

- cognitive skills
- academic skills
- communication and social skills
- psychomotor skills
- technical skills
- attitude.

Based on the orientation stage, Ergolab focuses on the following questions:

- Which tasks can be carried out? Which cannot? Why (or why not)? Which tasks is the employee most familiar with?
- Which technical competencies does the employee already possess? Which ones need to be taught for him to match the desired job profile?
- Does the employee possess the required attitude for the position? Can he work independently?
- What type of training or assistance period is required for this position? Does the employee have sufficient potential to complete a training session?
- Are any ergonomic adaptations required in the workplace?
- At what level and how should instructions be presented?
- Does the employee require any additional training in a sheltered environment (the 'buffer workshop') before commencing work in the sheltered workshop?

The information obtained in this orientation stage is then used to:

- link the candidate to a suitable position within Mariasteen;
- teach the candidates specific skills and train them, which is important because an untrained worker will be more at risk than a trained worker;
- determine a starting point and follow up the employee's progress (individual assistance plan);
- determine individual points of attention related to ergonomics and provide ergonomic advice. Ergonomic advice and design is important in order to eliminate



**Practical example 1: 'Adapted workstation through screening'**

One of the workshop's customers required the fitting of two caps and two screws on a backpack frame (see Figures 1, 2, and 3). It was decided to ask a blind man to carry out these tasks because from his tests he appeared to have good manual skills, insights and comprehension skills and above all the wish to carry out worthwhile tasks. An adapted workstation was required.

A jig was created to hold the backpack frame firmly in place. A pneumatic screwdriver with push start was attached to a linear system (high-low and left-right). A magnetic bit holder was attached to the screw. Two stops were installed to prevent the linear system from swerving. If the screwing device touched a stop and ended up on the piece, the device started turning and the screw always ended up in the right place.

The blind man made thousands of frames...



Figure 1: Frame



Figure 2: Pneumatic screwdriver



Figure 3: Pneumatic screwdriver, closeup

specific risks related to certain workplaces. Providing adapted workstations will, for example, enable the worker to perform the job in the correct posture, which is important in avoiding musculoskeletal disorders (MSDs).

**Development of production assignments**

As Mariasteen vzw is an all-round contractor, production processes and locations vary according to the customer. Before starting a new assignment, it is important to carry out a risk assessment to investigate the impact and feasibility of the job for Mariasteen vzw's employees. The legal motivation for this study lies in the Wellbeing Act. From a social point of view an optimal match is thus created between the employees' capacities and the requirements of the assignments, which results in sustainable, safe and healthy employment. Simultaneously, from an economic point of view the company tries to come up with a budget-friendly production system, which is cost-effective and responsible in terms of purchasing.



The following aspects are taken into account when starting a new assignment:

- Risk analysis of the workstations and tasks. What is required from the employees from a physical, cognitive and social point of view? What do the current workstations (enclaves) look like and what risks will the workers be exposed to? Are the tasks to be carried out outdoors or indoors? Are the tasks repetitive or varied? Is the focus on quality or quantity? Will the employees be required to work in a normal, hot or cold, noisy or quiet environment? Will they be expected to work alone or collaborate with others?
- Development of adapted accessories and tools matching the individual's needs and taking account of safety and quality requirements. This often helps to limit errors. Questions asked during this stage include: What accessories and tools are needed for the specific employee to carry out his tasks? Which tools and assistive aids can help the employee overcome his physical or cognitive limitations, enabling him to carry out his tasks?

### Practical example 2: 'Development of a production assignment'

When assembling bicycles, the task of sawing off the bicycle fork needs to be done meticulously and can be very difficult and dangerous (see Figures 4, 5 and 6). As calculations have to be accurate to the millimetre, this task was formerly impossible for the target group of Mariasteen vzw. However, once the workstation was adjusted to suit the capacities of the disabled employees, it became a simple and safe task.

If, for example, the front part of the frame is 17 cm long, the bicycle fork needs to be sawed off at 20.5 cm. Therefore, the front part is placed on the different model tubes of various sizes and colours, attached at the saw, to find the right tube. In this example, the yellow tubes will fit. The worker then slides a tube out of the yellow box in the jig on the adjusted saw.



Figure 4: Forks ready for sawing

Figure 5: Tubes of various sizes and colours

Figure 6: The bicycle fork is sawed with a dual manual control.

- Development of working methods for certain assignments and/or tasks. Tasks can be structured and simplified, e.g. by dividing them into a series of smaller subtasks, so that each employee can thoroughly master one subtask. The level of simplification depends on the employees' competencies.
- When drawing layouts and creating workstations, both the employees' disabilities and the product requirements must be taken into account.
- Detailed elaboration of time studies and cost estimates. This is done with a view to the development of a budget-friendly production system, which is cost-effective and responsible in terms of purchasing.
- On-the-job training. Hints, encouragement, gestures, instructions or even individual assistance can help the employee become acquainted with his tasks. The aim is to develop training methods that meet the needs of each employee in order to guarantee safe and healthy working methods.

### Assistance and follow-up

Once the optimal match between the employee and the position has been achieved, the focus moves to assistance and follow-up.

The match between the employee and his job is dynamic: for various reasons the employee's maximum workload can decrease, creating an imbalance between the workload and his competencies. Moreover, job requirements can change, thus making it too hard for the employee to carry out his tasks or decreasing his workload in such a way that his performance suffers from it.

The two aspects of the assistance and follow-up phase are:

- Implementation and follow-up of the assignment in the actual workplace.
- Initial assistance of the individual.

### RESULTS AND EVALUATION OF THE PROJECT

Thanks to the Ergolab, people with disabilities can be better matched to suitable jobs. The system helps Mariasteen to achieve its mission and vision in terms of sustainable employment as disabled employees can be placed in suitable positions more quickly and easily. The process also enables specific occupational risks to be identified at an early stage, so that preventive measures can be taken. Certain mistakes are avoided as the employees' workload is correctly adjusted to their abilities.

In the past few years the quality of employment provided by Mariasteen for people with disabilities has improved.

Unlike in the past, when routine work was very common, today tasks are varied and require a quick response. Such an approach is only possible when the employees' abilities perfectly match the tasks' requirements.

In the past employees often ended up being out of work due to a temporary lack of spare parts. Today they can be redirected to other tasks quickly and easily.

Some employees may encounter difficulties because of changes in their health. In such cases, re-orientation is a quick and efficient solution.



### PROBLEMS FACED

During the orientation phase in Ergolab most of the employee's abilities can be assessed, but on-site contact remains important, e.g. to assess social skills. Surroundings play an important role when carrying out an assignment. They influence one's cognitive and physical abilities and can therefore play a crucial role in (permanent) job retention.

Testing is voluntary. Therefore, customers can choose not to carry out certain tests. In such cases, the test manager's experience and creativity are required for the assessment of an employee's abilities and limitations. However, as this method is not based on standard procedures, the conclusions are more difficult to substantiate to third parties.

Carrying out the tests and work samples, inducting on-site and reporting require a lot of time. However, this time investment pays off eventually, as it increases the chance of success. When employees are doing suitable tasks their job satisfaction increases, stimulating them to further develop or use their additional abilities.

Sometimes employees are reluctant to take the tests because they fear that a bad outcome may compromise their employment opportunities. Therefore, it is very important to tell the participants clearly before they take the tests that the ones they experience as 'easy' allow us to assess their abilities. The tests they experience as 'difficult', on the other hand, allow us to know what we have to take into account for their employment. Their opportunities do not decrease; on the contrary. By identifying the employees' 'limitations' it is possible to assist them better at work.

Every orientation phase is different. The approach adopted for the tests and the type of tests differs for every person. Not only is there 'customised' employment, but also 'customised' orientation.

The total investment in Ergolab is substantial. It is impossible to calculate the return of this initiative in the short term. However, after only two years this method has proved its value both for the employees and for the company.

It takes a while to convince people of the value of such an initiative. Nevertheless, the results have proved the sceptics wrong.

### SUCCESS FACTORS

An excellent match between the individual's skills and the competencies needed for the job increases the chance of sustainable employment and promotes safe and healthy workplaces.

Scientifically underpinned instruments are used for orientation and testing, during which the employees are asked to carry out appropriate tasks in real working conditions.

Employees are thoroughly prepared for employment through on-the-job training, which includes instruction on safe and healthy working methods.

Employees are assisted scientifically and intensively (e.g. they are trained according to their abilities, they are taught about the correct attitudes to adopt at work, their competencies are strengthened, their scope for development is maximised, they take well-founded decisions for the future). The employees learn to appreciate what they are truly worth in real working conditions.





The Ergolab employees have learned that every person has a number of intrinsic abilities and that one has to learn how to discover them. It is important to take account of these abilities during the thinking process. All the abilities of a person need to be appreciated and respected. Today some people at Mariasteen do things they would never have dreamt of doing in the past.

Customers working with enclaves of Mariasteen now even ask Ergolab to assist them in finding ergonomic solutions for problems in their company in order to provide employees with a safer and healthier work environment.

### TRANSFERABILITY

The success story in this sheltered workplace proves that setting up a multidisciplinary inhouse department, with the necessary skills and competences, can create the excellent match between the individual's skills and the competencies needed for his job. This process increases employees' chances of sustainable employment and their wellbeing at work.

In companies where production process and locations may vary according to the customer's needs, using the methodology described in this case study could help to achieve the optimal link between the individual's skills and the competences required to do the job in order to guarantee safe and healthy employment.

### CONTACT INFORMATION

Mariasteen vzw  
Koen Staelens – Directeur Strategie  
ksta@mariasteen.be  
Herman De Gryse – Head of Ergolab  
hgry@mariasteen.be  
Koolskampstraat 24  
8830 Hooglede (Gits)  
BELGIUM  
Tel: +32 51230811  
Web: www.mariasteen.be

## 3.2.3. Reducing stress among female cleaners at a hospital

### KEY POINTS

- Female cleaning staff at a hospital were subject to disrespect and sexual harassment from colleagues and patients
- Through a health circle the cleaning workers were able to air their complaints, come up with solutions and develop greater awareness of safety and health problems at work

### COUNTRY

Germany

### ORGANISATION

University of Hanover, Masters Programme in Ergonomics for Professionals (WA).





## **INTRODUCTION**

The Masters Programme in Ergonomics (WA) of the University of Hanover is targeted at management and safety experts. Students can take courses in applied occupational safety and health (OSH) management, among other topics. In this way the students gain a practical knowledge of ergonomics and OSH in the company. The focus is on the transfer of scientific findings into the enterprise concerned. Students have to carry out practical projects, under the guidance of OSH experts and lecturers from the WA. One of these projects was carried out among cleaners at a local hospital, with very positive results.

## **BACKGROUND**

The case was part of a project and a broader sample of measures implemented at a hospital of the City of Hanover (now merged into the newly founded Hanover Region Hospital). The focus of OSH management in a hospital is usually on medical staff (nurses, physicians etc.). This means that other groups of workers and their special risks and strains at work may be neglected in the risk assessment process and when taking health promotion measures.

The WA project team decided to select three non-medical support services of the hospital in order to demonstrate how effective OSH management could be implemented and how to carry out an inclusive risk assessment process. The WA selected the cleaning workers, the maintenance workers and the kitchen staff of the hospital to carry out the project.

The risk assessment that was carried out for cleaning workers demonstrates how health circles can contribute to the identification of gender-specific safety and health issues.

## **AIMS AND OBJECTIVES**

The general aim of the project at the hospital was to implement an OSH management system into general management, not only of the medical service but also all support services. It was to be based on health circles in each of the hospital services, which would be able to identify specific risks and target groups in the different workplaces, and to elaborate adequate measures.

## **SCOPE OF THE PROJECT – WHAT WAS DONE**

A steering committee was established, consisting of:

- representatives of the hospital general management;
- representatives of management of the medical and nursing staff;
- the company physician;
- the company's safety representative;
- representatives of the workers' council;
- a safety expert from Hanover municipality;
- the head of the purchase department; and
- heads of the different services.

The steering committee developed the overall implementation and information strategy, which consisted of a ten-step work flow:

- anonymous survey of the workers in order to identify special strains, health risks and possible sources of accidents;



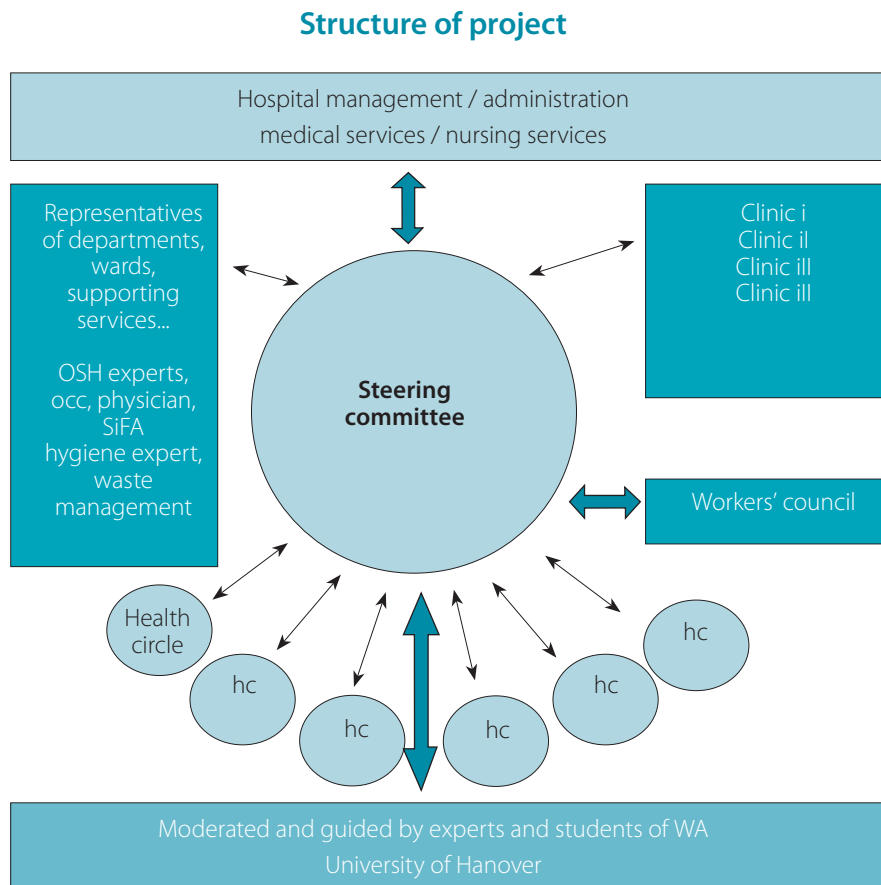


Figure 7: Project design: all stakeholders were involved

- assessment of the answers in the particular services;
- dissemination of findings to staff and discussion of the results in staff meetings;
- implementation of eight health circles with homogeneous structure in the different services;
- discussion and completion of the results in the health circles (max. 5 sessions of 90 minutes foreseen) to set priorities in the different job areas;
- analyses of risks and strains as well as possible solutions in the health circles;
- identifying concrete measures and proposing them to the steering committee;
- discussion and decision in the steering committee;
- feedback to the health circle: positive feedback → initialisation of the resources needed for implementation; negative feedback → giving the issue back to the health circle in order to look for alternatives;
- after implementation: transferring the duties of the steering committee to the general committee for OSH.

One health circle was formed by the hospital cleaners, all of whom were women. Therefore the project management decided to use two female students of the WA to moderate the circle. Both students were experienced management representatives in their particular companies. So as not to disturb the structure of the health circle the supervision by the professors of WA was done externally (afterwards). This allowed an atmosphere of trust to be created so that the workers felt they could air their concerns more easily.



The circle was originally supposed to discuss working postures, wet work, and the risks posed by disinfecting agents. But within the group of women it became obvious that psychological pressure rather than physical risks was the main concern of the cleaning staff. The cleaners suffered from disrespect towards their work and from sexual harassment by staff and patients. Their work uniform, a short dress made of synthetic fibre, was identified as the main reason for sexual harassment: when cleaning floors and stairs or when bending forwards the women felt particularly exposed to their male colleagues and patients. The synthetic fibre of the dress encouraged heavy perspiration, which was another reason why the workers felt very uncomfortable at work. The design and cut of the dress was also a point of discussion: it tended to snag on work equipment, door handles, and handrails. This was considered dangerous as it could easily lead to accidents at work.

The health circle sent a report to the steering committee and tested new uniforms consisting of a cotton shift and trousers. This new clothes no longer gave rise to innuendo on the part of colleagues and patients. They were more like the nurses' clothing, so that wearing the new clothes signalled the cleaners' equality with the medical and caring staff.



Figure 8: The new cleaners' uniform

An agreement was reached with the management and the laundry staff and the cleaning workers were allowed to switch to the new uniform. The only compromise was that the acquisition of the new uniforms could be realised in various phases in order to lower the financial burden for the hospital.

### RESULTS AND EVALUATION OF THE PROJECT

In interviews the hospital cleaners stated that they felt a lot more self-confident in their new uniforms. Problems could be eliminated effectively: the cotton uniform was more comfortable and safe. The women said they were better accepted by the medical staff than before. Some felt that they had been noticed by the nurses and doctors for the first time since they started work at the hospital. Sexual harassment on account of the unsuitable uniform also stopped.

The cleaners also reported greater solidarity with one another. The experience of being taken seriously and being given the chance to put their own ideas into effect also improved their self-esteem and their interest in occupational safety and health issues. After the project ended they continued to participate in health circles.

On the management level the project became an ongoing process. The steering committee decided to establish further health circles for other hospital services, e.g. the transport service.

### **PROBLEMS FACED**

As already mentioned the main problem was the cost of the new uniform, which was not foreseen in the hospital's annual budget. The cleaners and the hospital management therefore agreed to purchasing the new clothes in various phases. In this way the financial burden could be stretched over a few years.

### **SUCCESS FACTORS**

One of the core success factors was the health circle work in a homogeneous group. Because the cleaning circle included only women the cleaners could speak frankly about feeling exposed and sexually harassed by their male colleagues and patients. When facing gender-specific problems it is particularly important to respect the gender-specific point of view.

In the special case of the cleaners it demonstrated that the management was not aware of the specific problem of sexual harassment. The health circle proved to be an effective measure to involve the workers themselves in risk assessment and the OSH management process.

Through the health circle the cleaners found they were taken seriously and that their opinion counted. Internal communication among the workers as well as between workers and management was improved.

### **TRANSFERABILITY OF THE PROJECT**

Health circles are easy to implement but should always be guided by experienced experts. Because of their communicative design they have proved effective in identifying the problems of specific target groups, for example migrant workers, women, younger or older workers. The case of the hospital in Hanover shows that starting health circles was also helpful in identifying workplace risks to support service workers, who are usually not included in the hospital OSH management.

Nevertheless it has to be taken into account that work in health circles always boils down to good group communication. Participating in health circles should be actively promoted, and the circle should be informed frequently about management decisions.

The advantage of using health circles is that risks are identified by the workers themselves. Nevertheless their success rests on good communication with the OSH management and the general management that has to decide on what concrete measures to take. The management should be committed to this method, prepared to participate in discussions and to take the measures which may be suggested as a result. This may mean investing more in the enhancement of safety at work.

All key groups in the enterprise should be represented in OSH management. OSH management should also be seen as part of the general management.

### **CONTACT INFORMATION**

Dr Frank Wattendorff  
Leibniz Universität Hannover  
Weiterbildungsstudium Arbeitswissenschaft (WA)



Schloßwender Str.  
530159 Hannover  
GERMANY  
Tel: +49(0)511-762 5979  
Fax: +49(0)511-762 3966  
E-mail: frank.wattendorff@wa.uni-hannover.de  
Web: www.wa.uni-hannover.de

### **3.2.4. Promoting the integration of workers with disabilities at Ford**

#### **KEY POINTS**

- Assessment of workstations on a new production line and of the abilities of 503 workers in order to integrate them into the production process
- Nearly every worker could be reintegrated into regular work process
- Workers reported their satisfaction with the new workplace, and gained self-confidence.

#### **COUNTRY**

Germany

#### **ORGANISATION**

Ford-Werke GmbH, Köln-Niehl (Cologne-Niehl)

In cooperation with the Institute for Quality Management in Prevention and Rehabilitation (iqpr), German Sport University, Cologne.

#### **INTRODUCTION**

Workers with disabilities are protected by the European Directive 2000/78/EC<sup>45</sup> and its transition acts. Article 5 of the directive addresses the employer, who 'shall take appropriate measures, where needed in a particular case, to enable a person with a disability to have access to, participate in, or advance in employment'.

The FILM project focused on the reintegration of workers with health impairments. This means that it included not only workers who were born with disabilities but also those who suffer from physical or psychological limitations as a result of accidents or illnesses: 95% of people who are considered to be disabled by legal definition have acquired their disability during their working life. It can happen to all of us and we all might need support from society and employers.

Not all disabilities are obvious or severe: some will hardly be noticed by the untrained observer. And they do not mean that working life has to come to an end. Many workers can be reintegrated into the production process. In some cases few modifications are required to adapt an existing workstation to the needs of the individual worker. The key to reintegration is to focus on the potential and abilities of the worker: every worker is able to perform well in a certain field of activity. This field has to be identified in order to integrate workers with health impairments into regular working processes.

---

<sup>(45)</sup> Council Directive 2000/78/EC establishing a general framework for equal treatment in employment and occupation.

## BACKGROUND

In the case of Ford Europe's Cologne-Niehl plant the starting point of the FILM project in 2001 was the redesign of the Fiesta production line. The new production line meant a new shift and work organisation plan, which made it necessary to restructure entire production units. One unit comprised mainly older workers (63% of them were 50 years or older) who suffered from certain physical or psychological handicaps. The main diagnoses were:

- 47%: musculoskeletal disorders
- 14%: diseases of the cardiovascular system
- 12%: psychological disorders
- 6%: diseases of the gastrointestinal tract
- 21%: others.

This unit was supposed to do light work only; its members carried out smaller tasks and supporting works. However, this meant that most of its members were not sufficiently challenged and the company could not take maximum advantage of their potential. This situation led to relatively high costs on the part of the company and to frustration among the workers. A sickness absence rate of 20% of overall working hours was typical in this unit.

With the installation of the new production line the work of the unit would have become superfluous. The company's management had to decide whether to lay off workers who identified strongly with Ford – some of whom had worked for the company for over 30 years – or find a way to integrate them into the new production design. Fortunately the management took the second option and asked the in-house occupational physician to find new, appropriate workstations for the whole unit.

## AIMS AND OBJECTIVES

The aim of the FILM project was to assess the workstations on the new production line and match them with the abilities of 503 workers in order to integrate them into the production process. A workstation had to be found for each of them so that they could carry out work that was appropriate for their individual performance profile. All 503 workers were thereby given the chance to become part of the new production unit and to do regular work in the value creation chain.

The aim was also to improve the internal and external communication and the OSH management system at Ford Cologne, to facilitate more effective prevention of work-related illness and accidents.

## SCOPE OF THE PROJECT – WHAT WAS DONE

An integration team consisting of production engineers, occupational physicians, the council for workers with disabilities, workers' council, human resource managers, and external advisers from the Institute for Quality Management in Prevention and Rehabilitation (iqpr) was established. The team had the full competence to steer and to supervise the FILM project, and enjoyed the support of the company's management. From the very beginning, the team also kept the relevant social insurance companies and labour agencies informed about the project.

The first phase was to promote the project among workers and management representatives, who were informed about it both in workshops and individually.



Transparency, comprehensibility and acceptance were given a high priority. In-house education ensured that diversity management and disability awareness were mainstreamed among both managers and staff. Furthermore, workers were fully informed about the project design. Because of the sensitivity of the medical examination that the workers had to undergo, assurances were given that no workers would be assessed against their will, and that findings would be handled discreetly.

In the second phase the IMBA tool (Integration of People with Disabilities into Working Environment) was presented to the integration team. This tool is able to assess the individual abilities of the worker on the one hand and the demands of the proposed workstation on the other. As both assessments follow the same categories, they can be used to compare the worker's profile with the workplace demands. This enables the management to find a workstation where the individual worker can fulfil his potential in an ideal way.

The third phase was the individual assessment of the workers: existing medical diagnoses of the workers were studied, and each worker was given a new examination by occupational physicians. Using this information, an individual work performance diagnosis was made with the help of ERGOS work simulation. Further data were gathered through interviews with workers and with the heads of unit. The findings were used to set up an individual performance profile for every single worker in the IMBA database.

At the same time the management decided to organise the layout and work organisation at the new production line on ergonomic principles. The integration team carried out an assessment of the various workstations and set up a demand profile of 1641 workstations at Ford Cologne-Niehl. 400 of these profiles will be updated regularly to keep up with advances in production techniques.

In the forth and final phase the profiles of the workers and the workstations were compared. This allowed IMBA to find the 'perfect' workstation for each worker. It also showed the probability of any given worker being subject to excessive strain at the workstation concerned. In cases where no suitable workstation could be found or the possibility of excessive strain was significant, the integration team decided on further ergonomic interventions, special vocational training or individual rehabilitation measures. A second assessment process was carried out afterwards.

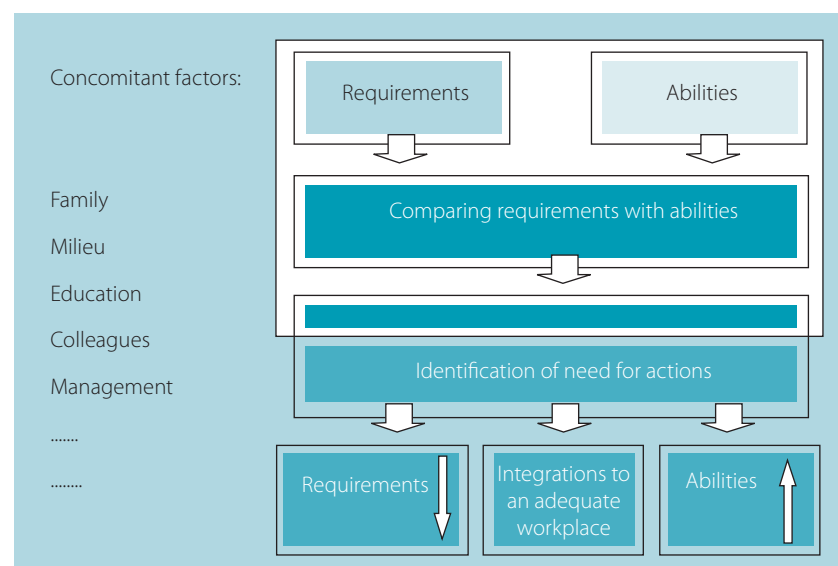


Figure 9: The IMBA tool (scheme)

## RESULTS AND EVALUATION OF THE PROJECT

Nearly every worker could be reintegrated into regular work process. Most of them became full members of the new production line or were integrated into other services. Some workers shared work so that each of them was doing 50% of the task, mostly because of musculoskeletal problems that do not allow 100% workload. In some cases the reintegration was done step-by-step, beginning with 25% workload and reaching 100% after 4 weeks of work. Only 31 workers could not be integrated because of long-term sickness absence (see Table 2)

**Table 2: Distribution of workers according to the outcomes of the project**

Work area	No. of workers
Production 100%	263
Production 50% (job sharing)	60
Production (workplace transferred from other units)	29
In-house cleaning service (formerly external services)	77
Other workstations (non-production)	43
Not reintegrated (e.g. because of long-term sick leave)	31
<b>Total</b>	<b>503</b>

From the company's point of view the following cost efficiencies were achieved by the reintegration of the workers:

- about EUR 6 million could be saved annually because of the reduction in sick leave, especially long-term sick leave, from 20% to less than 10% among the reintegrated workers;
- an estimated EUR 7 million could be saved annually because the hiring of new workers for 293 full-time workstations was no longer required.

There have also been benefits in terms of quality of life: workers report their satisfaction with the new workplace, and say that they have gained in self-confidence. This can be seen in the falling sick leave rates. Management representatives report satisfaction with the performance of the workers, their experience, their social competence, and their identification with the company.

In addition, health insurance and social insurance institutions have profited from the reintegration of the workers and the reduction in sick leave. Healthy and productive workers mean fewer costs for public insurance bodies.

Ford and iqpr decided to continue their fruitful cooperation. The project was prolonged and further units and production facilities of Ford were integrated. In the meantime more than 1,000 workers at Cologne-Niehl have been assessed with the help of the IMBA tool. The follow-up design has shifted the project priorities to prevention and rehabilitation measures. The aim for the future is to promote a healthy lifestyle and to help the workers remain healthy.





Ford was the first company in Europe to hire a disability manager who is responsible for all disability management related processes, prevention, rehabilitation issues and the coordination of the integration team. He is supported by the Disability Management Unit.

The project partners were given an award for the FILM project by the Association of Statutory Accident Insurances (HVBG) in 2003. The project also won a special award 'Demographic Change' 2004 given by GiGA e.V. (Gemeinschaftsinitiative Gesünder Arbeiten / Joint Initiative Healthy Work).



Figure 10: Worker at the new production line

### PROBLEMS FACED

The project design required a thorough medical examination of every single worker and every step had to be supervised by experts. It also depended on the workers' cooperation as data were very sensitive. Therefore great efforts had to be made to ensure that the workers knew about the assessment method and the project design. Workers had to be fully informed beforehand and the project had to be promoted among the target group. All data gathered had to be handled with maximum discretion.

The project design and technical intervention measures were cost-intensive. Fortunately the Integration Administration (Integrationsamt) Cologne co-funded the technical improvements in workplace design with a EUR 258,000 grant.

### SUCCESS FACTORS

The project team and Ford management were aware that good internal communication and promotion of the project were absolutely necessary because of the sensitivity of the personal data gathered. All groups involved were also included in communication and planning at every stage of the project.

The absolute support given to the integration team by the management was another key success factor. It allowed the integration team to carry out the project efficiently and flexibly. This factor was very important as the project management had to adapt some stages of the project to particular circumstances that arose. iqpr was an experienced project partner and the IMBA tool allowed solutions to be found quickly because of its computer-based design.

The method selected enabled the management to find workstations appropriate for the competence and the potential of the particular worker. Each and every worker had the opportunity to participate fully in the work process because:

- workers were evaluated according to their qualifications rather than their restrictions;
- workers with disabilities were no longer given 'light duties', which can be frustrating for the worker and be likewise a financial burden on the employer; and
- workers no longer had to take early retirement.

### TRANSFERABILITY OF THE PROJECT

European society is ageing. Changes in personal performance can be one effect of ageing and of work-related accidents or illness. Efforts have to be made to allow workers to remain healthy, to be productive even with handicaps, and to use their experience, expertise, and social competence to full effect. Giving people with health impairments the chance to be integrated into regular, productive work is not only an opportunity for the individual worker but also a benefit for companies and for society as a whole.

IMBA is one possible tool that can be used to find suitable jobs for workers with health impairments. It is available in German and in English and can be applied for prevention, rehabilitation and reintegration purposes. It is software-based, and assessment findings can be compared via the database.

At Ford, the implementation and certification of the disability management ensure continuity and sustainability of the measures taken.

### CONTACT INFORMATION

Dr Erich Knülle  
Ford-Werke GmbH  
Henry-Ford-Str. 1  
50725 Köln  
GERMANY  
Tel: +49 (0) 221 – 901 36 54  
E-mail: [eknuelle@ford.com](mailto:eknuelle@ford.com)  
Web: <http://www.ford.com>

Harald Kaiser  
iqpr Geschäftsstelle München  
Landshuter Allee 162a  
80637 München  
GERMANY  
Tel: +49 89 - 2324949-12  
Fax: +49 89 - 2324949-10  
E-mail: [kaiser@iqpr.de](mailto:kaiser@iqpr.de)  
Web: <http://www.iqpr.de>

### REFERENCES

Adenauer, S., 'Die (Re-)Integration leistungsgewandelter Mitarbeiter in den Arbeitsprozess', *Angewandte Arbeitswissenschaft* 2004, No. 181, p. 1.

Kaiser, H. Breidenbach, H., FILM – Förderung der Integration Leistungsgewandelter Mitarbeiter. Umsetzung eines Projekts mit dem Ziel eines ressourcenorientierten Gesundheitsmanagements in die Praxis unter Berücksichtigung des neuen SGB IX, 2003 Project description. Available at: <http://www.iqpr.de/iqpr/download/projekte/Film%20Projektbeschreibung.pdf>



### **3.2.5. Ergonomic adaptation of office and industrial workstations for disabled workers**

#### **KEY POINTS**

- Development of a database with recommendations concerning workplace adaptations
- Analysis of several workstations occupied by disabled people to carry out appropriate adaptations

#### **COUNTRY**

Spain

#### **ORGANISATION**

Instituto de Biomecánica de Valencia (IBV)

#### **INTRODUCTION**

In order to integrate or reintegrate disabled people into employment, whether sheltered or otherwise, the working environment must be suited to the capabilities and characteristics of the workers.

In this context, the Instituto de Biomecánica de Valencia (IBV) carried out two different projects on the analysis and adaptation of workplaces: ADAPTOFI, which included four case studies relating to the office environment, and ADAPREC, comprising five case studies on the industrial work environment.

The ErgoDis/IBV method was used to carry out the assessments. This method was designed to identify areas of mismatching between work demands and the functional abilities of workers, and to evaluate job risk levels arising from physical and environmental workload. The results of the project have been incorporated in free multimedia material to provide methodological as well as practical information about real cases to professionals in the field.

#### **BACKGROUND**

Ergonomics applied to the integration or reintegration of disabled people into sheltered and ordinary employment implies the selection and/or the accommodation of workstations suited to the characteristics of the workers. In order to do this, it is necessary to analyse work demands and worker capacities, to compare them with one another and to propose adaptive measures to overcome mismatches between them. On the other hand, the risk to which the worker is exposed must be taken into account because, in many cases, it may represent an even wider problem than that caused by a mismatch between demands and capacities.

#### **AIMS AND OBJECTIVES**

The two projects had the same goals: the development of a database with recommendations concerning workplace adaptations, and the analysis of several workstations occupied by disabled people to enable relevant adaptations to be made.



## SCOPE OF THE PROJECT – WHAT WAS DONE

The Instituto de Biomecánica de Valencia (IBV) developed two different projects for the analysis and adaptation of workstations: ADAPTOFI, which included four case studies on the office work environment, and ADAPREC, comprising five case studies on the industrial work environment.

In both projects, similar steps were accomplished:

- Field study at selected workplaces, using several techniques to gather information (standardised questionnaires, observation, video recording of tasks, compilation of dimensional data, etc.).
- Data analysis, using ErgoDis/IBV method.
- Proposal for the adaptation of the workplace, based on the worker needs, on the possibilities of implementation and on the opinions of all the people involved in the specific case.
- Implementation of the adaptations. Some adaptations (equipment, furniture, software, etc.) were obtained from conventional or specialised stores and adjusted or modified if necessary, while other adaptations were specifically designed and made up for these projects.
- Follow-up of the effectiveness of the adaptations, in order to detect undesirable effects.
- Project dissemination.

The method used in these two projects is called ErgoDis/IBV, a software tool specially designed for adapting workstations to suit people with physical, sensory, and/or mental impairments.

The method involves three different steps.

First, work and worker information is gathered by means of standardised forms. This requires direct observation of workers performing their jobs and also interviews with workers, supervisors, and other people involved in the process.

A set of forms has been developed to analyse the workplace, the tasks, the working conditions and risks of the workplace. A worker analysis evaluates the worker's abilities and gathers data on his disability and the technical aids he normally uses. A form evaluates the worker's tolerance to the workplace: his ability to cope with environmental and psychosocial aspects and workplace dimensions.

Finally a test is included where the worker may express his opinion about postures, movements, forces and other working conditions, as well as make suggestions to solve possible problems. A video recording is made of the work tasks in order to determine risks related to physical workload.

Once the information has been gathered, the software tool will carry out the data processing. Finally, a decision can be made about the suitability of a disabled worker for a specific job considering the situation as a whole.

The database has been designed to enable a search of solutions according to different criteria.



#### Case study example from ADAPTOFI project:

**Workplace:** the job title is 'accounts clerk'. It is an administrative post, involving a lot of computer work and handling of documents. The most important demands are related to activity of the upper limbs, vision and cognitive aspects.

**Worker:** The worker is a man of 23. His principal limitations are related to shorter reach and reduced mobility at the upper limb and trunk due to his short stature.

The main problems detected at this workplace were as follows:

- mismatches: difficulties when sitting, accessing the work surface, and reaching the elements needed at the workplace (documents at the table, folders in shelves, computer controls);
- physical workload risk: bad postures and movements of arms and trunk in the main working situations: seated, writing/reading documents, typing, reaching objects, etc.

To eliminate these problems, some recommendations were put forward. Once they had been discussed and approved by the worker and other relevant people, the following adaptations were implemented:

- special office chair: this was a commercial chair intended for children, so it has appropriate dimensions for the user. This chair was also adjustable, allowing the user to alter seat height easily;
- portable steps, to make it easier to reach shelves and cabinets;
- accessories to facilitate document handling at the desk: rotary trays, articulated copyholder, etc.;
- organisational measures, for example: changes in the location of elements in shelves according to their size, weight and frequency of use, reduction in monitor height, relieving the worker of the task of making copies, etc.

#### Case study example from ADAPREC project:

**Workplace:** The job involves the assembly of halogen kits. The worker, who is seated, takes parts from one box on his right, does the assembly on the work table, places a sticker on the kit and puts the final product in another box at his left. When the box is full, the worker puts it on a conveyor belt and takes another empty box.

This work requires intensive use of the upper limbs (mobility of the arms and accuracy of the hands). The posture of trunk and neck is mostly static. There is also a need for good close vision. Concentration is the main mental requirement.

**Worker:** The worker is a 30-year-old man with a mental impairment secondary to cerebral palsy. His main limitations are related to reduced mobility in arms, hands and legs, and difficulties in processing information.

The main problems detected at this workplace were:

- mismatches: related to difficulty in reaching the elements in the boxes, removing the stickers and carrying the boxes to the conveyor belt. Other relevant mismatches were related to cognitive problems: insufficient attention to complete the task and low initiative to take his own decisions;
- physical workload risks: bad postures and movements of arms, trunk and neck in the main working situations: seated, reaching objects, etc.

- to remove these problems, some recommendations were provided. Once they had been discussed and approved by the worker and his manager, the following adaptations were implemented:
- ergonomic chair, in order to improve the general working posture, increase comfort and make reaching easier;
- new work surface, with the following features: enough space to fit all the working elements comfortably, height adjustment, L-type legs to facilitate access and adjustable footrest;
- two work stands, adjustable in height and tilt, to place the boxes on and enable the material to be reached easily;
- adhesive label dispenser for inside roll winding (this tool allows stickers to be removed easily);
- measures to improve the worker's cognitive performance, for example drawing marks on the table showing the best way to complete the task, displaying photos of what is considered a good product and/or showing the main mistakes, etc.;
- help other workers when carrying the boxes to the conveyor belt.

### RESULTS AND EVALUATION OF THE PROJECT

This tool has been applied to more than 400 workers with physical, sensory and/or mental disabilities. More than 300 relevant professionals have been trained to use the method.

The project has produced free multimedia material to provide methodological as well as practical information about real cases to professionals and others involved in the occupational integration of people with disabilities.

A new application has been developed and implemented in the form of the Ergo/IBV method, which consists of a tool for ergonomic risk assessment for pregnant workers. The assessment is made by means of a simple checklist, taking into account risk factors related to physical demands of the task and working environment and organisational conditions which may involve problems for maternal and/or foetal health.

### SUCCESS FACTORS

The success of this method is guaranteed because it is based on the gathering of very detailed information about the worker himself and the workplace.

### TRANSFERABILITY OF THE PROJECT

This method of assessing and adapting workstations for disabled people can be used in other countries. It can also be adapted to other sectors of activity.

### CONTACT INFORMATION

Alberto Ferreras  
Ergonomía del Puesto de Trabajo  
Instituto de Biomecánica de Valencia  
Universidad Politécnica de Valencia  
Edificio 9 C  
Camino de Vera s/n  
46022 Valencia  
SPAIN



Tel: +34 96 387 91 60  
Fax: +34 96 387 91 69  
Web: <http://www.ibv.org>

### **3.2.6. Snapshot case: Integration of disabled workers in the recycling industry**

#### **COUNTRY**

Finland

#### **ORGANISATION**

Tervatulli Ltd

#### **AIMS AND OBJECTIVES**

In 2006 Tervatulli Ltd employed 26 people, of whom 12 were handicapped or unemployed. In addition there were about 100 different people on short-term assignments including training, rehabilitation and in community service.

Tervatulli's recycling operations are divided into different categories: the handling of Waste Electrical and Electronic Equipment (WEEE), recovering and recycling non-refundable glass, household glass and metal.

The disabled workers have the same duties and tasks as the other personnel and are thus exposed to the same chemical and physical agents. Noise is the biggest problem due to the industrial character of the work. There is also the danger that loose equipment might cause harm to the eyes. Also physical work and working position are challenges by definition.

#### **SCOPE OF THE PROJECT – WHAT WAS DONE**

Following the risk assessment, several measures were adopted at Tervatulli Ltd:

##### **Tailored safety education**

- The basic idea is that all are treated equally, which means that all the workers, whether permanent or temporary, get the same education and initiation into their work at the company.
- To help with initiation specific forms have been developed including information on conditions of employment, safety issues (personal protective equipment, place of assembly, (emergency) exits, first aid etc.), information on intoxicants, handling of sexual harassment and bullying. This information will be conveyed to workers either personally or in groups, depending on the situation. In the case of workers with impaired hearing, an official interpreter is always present.
- A crucial point about the initiation is that all workers are told to take special care when using cars, trucks and tractors, because the hearing-impaired workers are unable to hear oncoming vehicles.
- In order to prevent possible risks due to the work, all the workers are initiated and guided in their tasks, which are allocated according to their skills and functional abilities.
- Specific rules given by the prison administration are followed in the case of workers carrying out community service, and their tutors and supervisors.





### Education about emergency situations

- Emergency fire drills have been carried out. All guidance given by the fire authorities is strictly observed and kept up to date.
- One example of safety guidance concerns the handling of batteries. Batteries are covered with adhesive tape so they cannot catch fire. This advice is given using boards with text and pictures. Illustrations are important because some of the handicapped personnel cannot read.
- In emergency situations there is an agreement that special measures will be taken to ensure the hearing impaired workers are given instructions by non-verbal means.
- Sign alarms are used in relevant sites, and the hearing impaired workers never work alone or in working pairs.

### Special issues relating to impaired hearing, dwarfism and workers in wheelchairs

- Accidents and near-misses are reported to the environmental management system. Any deviations from normal are discussed in weekly meetings. Operational management ensures that measures are taken to solve the problems, and are recorded in the environmental system.
- The movement of workers below normal height has been facilitated with different types of rails (hand rails) and a ramp, and special attention has been paid to the ergonomics of their workstations.
- In the case of equipment that is normally fitted with auditory alarms, different types of light alarm are installed. To facilitate communication, text messages and written instructions are used in cases when there is no one available who uses sign language. The hearing impaired workers often face problems with their sense of balance, so they are not required to work at height.
- At Tervatulli, hearing impaired workers can request a sign language interpreter when visiting the medical department.
- Depending on the task in question, all workers use personal protective equipment such as goggles, gloves, headsets and overalls.

### EVALUATION AND RESULTS

Tervatulli Ltd is a pioneer in the employment of disabled people (especially those with hearing impairments, and those who need to use a wheelchair) and facilitating the occupational settings and working conditions to meet their special requirements.

Although Tervatulli is an excellent employer, it has pinpointed some issues which could be organised in a better way:

- occupational ergonomics could be better organised for the workers with dwarfism. In practice these workers have been employed on a temporary basis, and therefore the ergonomic solutions have also been temporary and affordable;
- more staff should learn sign language, because at the moment only the managing director and one tutor is able to use sign language;
- there is room for improvement in communication, especially in checking that the information has reached everyone, because there is great variability in the communication skills of the worker groups.





#### **CONTACT INFORMATION**

Tervatulli Ltd  
Messipojantie 23  
FIN-90520 OULU  
FINLAND  
Tel: +358 (0)8 534 1502  
Fax: +358 (0)8 386 334  
Web: [www.tervatulli.fi](http://www.tervatulli.fi)

### **3.2.7. Snapshot case: Belgian and Polish workers join forces for asbestos removal in the Brussels Finance Tower**

#### **COUNTRY**

Belgium

#### **ORGANISATION**

Hertel Services NV

#### **AIMS AND OBJECTIVES**

In December 2003 Asbestos Removal, a subsidiary company of Hertel Services, was asked to remove the asbestos in the Brussels Finance Tower. The actual works would last more than 12 months, and preparations started in 2004. The organisation and methods needed to be determined and the necessary permits had to be applied for. The main obstacle, however, was the lack of personnel.

Because of the labour shortage on the Belgian market the management decided to outsource part of the work to Hertel Services Poland, which was registered as a contractor in Belgium. This collaboration resulted in additional health and safety risks as Hertel Services Poland had no experience in the field of asbestos removal and the Polish workers would struggle with the language.

A risk assessment of the project and the planning of the work showed that there were two main problems with involving Hertel Services Poland in the asbestos removal project:

- Hertel Services Poland had no experience in the field of asbestos removal. Therefore the Polish workers were not aware of the occupational risks and preventive measures related to this activity.
- The Polish workers would struggle with the language. Language is an important key to better safety and health performance at work. The language skills of migrant workers and the varying abilities in understanding and perception of information have to be taken into account.

To guarantee a safe and healthy work environment for both the Belgian and the Polish workers, several steps needed to be taken.

#### **SCOPE OF THE PROJECT – WHAT WAS DONE**

##### **Polish translation of the course for safe asbestos removal & a ‘train-the-trainer’ course:**

Hertel employed a (Polish) pulmonary specialist and an employee from a Polish training centre. They came to Belgium, where the project was explained and illustrated.



Moreover, Asbestos Removal described its methods for safe removing asbestos, as well as its training methods and instructions for the employees involved (including practical sessions on the use of all equipment). The course material was translated into Polish.

Seventy to 80 interested Polish candidates applied and about 30 started the course, which was completed by 25 of them.



Figure 11: Asbestos removal 1



Figure 12: Asbestos removal 2

The following arrangements were made in collaboration with Hertel Services Poland.

- Every six weeks a team went home to Poland for a week so they were not separated from their families for too long.
- Accommodation and assistance were provided to enable them to get to know their host country better.
- Assistance and support (medical visit, integration into Brussels' social life).
- Proper employment conditions in line with Belgian legislation.

### Planning of the work and teams

The Polish workers struggled with the language, causing difficulties in understanding safety instructions and communication problems with their colleagues and bosses. Therefore, the employees were divided into two teams of 12 workers. In every team there was someone who spoke English or German. One person even spoke Dutch. He interpreted between the Belgian management and the Polish employees. This system bridged the gap between the Polish employees and the Flemish coordinators to enable efficient communication on all issues and difficulties related to the works.

### RESULTS AND EVALUATION OF THE PROJECT

After six months the project was concluded and the Polish employees returned home with a lot of new knowledge and experience.

Because the Polish training was presented in a style that was readily understandable for the Polish employees and it included practical sessions on the use of all equipment, the Polish workers were able to carry out the activity safely.

The Finance Tower project was unique because the teams were removing asbestos from several different zones simultaneously. The Polish employees were responsible



for a number of floors and each team had its own zone to avoid interference with the Belgian employees, whilst still enabling contact between the workers. In this way, communication problems with colleagues and supervisors that might result in misunderstandings and unsafe working conditions could be avoided.

#### **CONTACT INFORMATION**

Marc Ruys  
Personnel Manager, Hertel Services NV  
Vosveld 21  
2110 Wijnegem  
BELGIUM  
Tel: +32 3 360 61 20  
E-mail: marc.ruys@hertel.be  
Web: www.hertel.be

## **3.3. DEVELOPMENT OF TRAINING AND INFORMATION**

The cases in this section show examples of tailored training strategies, specific information packages and other strategies aimed at improving the health and safety of certain groups of workers, including temporary workers, migrant workers and other potentially vulnerable groups, in a variety of sectors.

### **3.3.1. Preventing accidents to temporary workers at a paper mill**

#### **KEY POINTS**

- Analysing the causes of work-related accidents among temporary workers in a paper manufacturing company
- Raising awareness of dangerous situations and developing strategies and instruments to prevent accidents in an often neglected group of workers
- Organising training sessions for temporary workers and workshops for teambuilding together with the permanent staff
- Changing of work organisation with special respect to the occupational experience of temporary workers

#### **COUNTRY**

Austria



## ORGANISATION

Sappi Austria

## INTRODUCTION

Sappi Austria's approach to health and safety is based on the principles of a zero accident target, an integrated health and safety management, training at every level, participative information and control structures and adherence to international best practice and safety standards. The company states: 'At Sappi, our attitude is that any injury incurred whether by our own people or our contractors is one too many. Production is important, but safety comes first.'<sup>46</sup>

Both management and works council prioritise the further development of a good safety culture within the company. While the accident rate among the permanent staff was falling, temporary staff were often involved in occupational accidents. It was obvious that this problem needed special attention. In 2003 Sappi focused on the often neglected group of temporary workers and started a specific project with a range of measures to reduce accidents. It was a success and in 2005 Sappi reached the third place in the Austrian National Safety at Work Award for its project 'Safety and Health for temporary workers at Sappi in Gratkorn'.<sup>47</sup>

## BACKGROUND

Sappi is the world's leading producer of coated fine paper with manufacturing units in eight countries. Sappi Austria has the largest, and most advanced, coated fine paper production line in the world. The total capacity of the papermaking machines in Gratkorn is 860,000tpa. At Gratkorn Sappi employs around 1,500 people.

In 2001 Sappi started a workplace health promotion project named 'Healthy Future'. A set of health and safety measures were carried out, on the basis of an employee attitude survey into issues such as workplace design, balanced diet, social competence, health care, work-life balance and age-adjusted working conditions. 'Healthy Future' aimed to raise awareness among the workers about accidents and unsafe behaviour. The efforts showed success among the permanent staff but failed to change the behaviour of temporary workers. It was recorded that temporary workers had an accident rate five times higher than permanent staff. In addition problems in teamwork (between permanent staff and temporary workers) were seen as one of the biggest stress factors in the company. In the past problems also occurred with covering staff absence due to illness or vacation. Inexperienced temporary workers had problems operating machines / processes correctly.

To overcome these problems and to improve safety performance the project 'Safety and Health for temporary workers at Sappi in Gratkorn' was developed.

<sup>(46)</sup>Sappi, Annual Report 2005, p. 38. Available at: [http://sappi.investoreports.com/sappi\\_ar\\_2005/downloads/sappi\\_ar\\_2005\\_full.pdf](http://sappi.investoreports.com/sappi_ar_2005/downloads/sappi_ar_2005_full.pdf)

<sup>(47)</sup>Bundesministerium für Wirtschaft und Arbeit, *Positive Entwicklung bei Arbeitsunfällen – Staatspreis Arbeitssicherheit fördert kreatives Potenzial heimischer Betriebe*. Available at: [http://www.bmwfj.gv.at/BMWA/Presse/Archiv2005/20050525\\_01.htm](http://www.bmwfj.gv.at/BMWA/Presse/Archiv2005/20050525_01.htm)



## **AIMS AND OBJECTIVES**

The overall goal of the project was simple and clear: to reduce the accident rate, especially among the temporary staff, to nearly zero. It was expected that better incorporation of temporary workers into the company's processes and more equal treatment of both temporary workers and permanent staff would benefit health and safety. To reach this aim, an occupational health programme was worked out to improve training and better integrate temporary staff into operational processes. The project aimed to mentor temporary personnel with respect to safety and health.

## **SCOPE OF THE PROJECT – WHAT WAS DONE**

The project was initiated by Sappi's health and security manager. Company management, works council, occupational physician and representatives from the Austrian Social Insurance for Occupational Risks (AUVA) worked together on the project. A temporary employment agency, which provided around 70% of the temporary workers, agreed to support the efforts. The project started in 2003 and after a few meetings five key points were concluded:

### **Demand for a safety certificate from temporary employment agencies**

Sappi asks temporary employment agencies for certification according to the Safety Checklist for Personal Services (SCP Certificate) to make sure that they have dealt adequately with safety and health issues. The SCP Certificate is a specific checklist tailor-made for temporary employment agencies and belongs to the same group of safety management systems as the Safety Checklist Contractors (SCC Certificate).

### **Safety training for temporary workers**

Workers from temporary employment agencies get a one-day training session on safety and health issues at an advanced level. Sappi itself organises and provides the on-the-job training, supported by a representative of the Austrian Social Insurance for Occupational Risks (AUVA). The training is composed of three parts: basic health and safety legislation, occupational safety at Sappi and fire protection.

### **Teambuilding with temporary workers**

In three-day workshops temporary and permanent staff worked together on teambuilding issues. Sappi hired two external trainers from a consulting agency with experience in personnel management and teambuilding. The results of an employee attitude survey on safety and health issues at Sappi were taken as a starting point for the workshop. The perception of safety and health problems within both groups of workers was discussed. Participants worked together in small groups to carry out tasks such as constructing a tower by using materials provided. In this case the task itself was not that important; the focus was on training workers in teamwork by taking health and safety aspects into account. Representatives from management, works council and the safety and security manager of Sappi also attended a workshop. Teambuilding is seen as a key to gaining a better understanding of one another, avoiding mistakes and accidents and improving both operational processes and safety at work.





Figure 13: Workshop on teambuilding with temporary workers at Sappi, Gratkorn

### Advanced training as a safety representative

One worker among the group of temporary workers was appointed safety representative (SR). This refers to the special situation of temporary workers and is part of the strategy for a better integration of temporary staff in the company. The SR basic training includes knowledge on health and safety legislation, duties of the labour inspectorate, occupational medicine, personal protective equipment, accident prevention and risk assessment. Basic SR seminars with 24 hours of training are provided by Austria's Chamber of Labour, among other organisations. The main temporary employment agency recommended a worker for this training and Sappi agreed to this suggestion.

### New rules for temporary staff

New rules were introduced at Sappi stating that some years of professional experience were now a precondition for temporary staff to be allowed to fill in for workers in sensitive areas.

## RESULTS AND EVALUATION OF THE PROJECT

By a combination of these different measures Sappi was able to reduce the accident rate among temporary workers by 80% in just one year (from 11 to 2 accidents). During this time 120 temporary workers were employed at Sappi. The ambitious aim of having zero accidents was narrowly missed. Sappi now has a very good safety performance among permanent and temporary workers alike. In addition the relationship between permanent and temporary staff has improved significantly. This was accompanied by certain other measures, such as paying permanent and temporary workers approximately the same, and providing all workers with the same working clothes / overalls.

The problems in teamwork were counteracted by the strategy of teambuilding that included temporary workers and further measures of individual support. With respect to night shift work individual coaching was organised for employees suffering from sleep disorders. All these measures, along with the provision of a hot meal at night to all employees, led to a higher rate of job satisfaction and better team working. Sappi





uses the Human Work Index (HWI) to continuously evaluate its safety programmes, health promotion process and the job satisfaction of employees.

The slogan 'Healthy Future' has become part of the overall ethos of the company and is seen as an ongoing process to improve workplaces and to offer health promotion. Training on health and safety hazards and safe work practices is a critical component of Sappi's occupational health programmes. These programmes are now complemented by comprehensive general health and wellbeing programmes which include e.g. health monitoring and initiatives focused on issues such as diabetes and heart health. Issues like stress management and alcohol awareness are also addressed.

Temporary agency workers have the opportunity to take part in the company's health promotion programmes. Health checks including blood count, audiometry, skin checks or cancer checkups are also available to them. In 2005 Sappi received a special certificate for its health promotion programme, the 'Gütesiegel Betriebliche Gesundheitsförderung', from the Austrian Network of Vocational Health Promotion, supported by the 'Fonds Gesundes Österreich'.<sup>48</sup>

### PROBLEMS FACED

When using the term 'temporary worker' it is important to distinguish between temporary employment agencies and so-called 'contractors' (third party companies). Temporary workers from temporary employment agencies usually work closely with the permanent staff at Sappi and are often hired for a longer period of time. Temporary workers from contractors / subcontractors have specific jobs like construction work and are mostly employed for shorter periods of time in the plant. The project 'Safety and Health for temporary workers at Sappi in Gratkorn' focused on the workers from temporary employment agencies but also had the contractors in mind.

While the temporary employment agencies were cooperative, some of the contractors felt they were subject to unusually high health and safety demands when dealing with Sappi. Some saw the measures as exaggerated and followed the health and safety rules without real emphasis. To overcome this problem Sappi developed a special system to evaluate the work of the contractors: a specific 'traffic light system' describes their safety performance. A 'green light' given by Sappi shows a good safety performance by the contractor. A 'yellow light' signals an indifferent performance and results in a warning to the contractor. A 'red light' shows a serious violation against safety and health rules that leads to severe consequences for the contractor (e.g. ending of the contract, disqualification from further orders).

### SUCCESS FACTORS

In dealing with temporary employment agencies Sappi stressed the advantages of this project: the expected reduction in accidents and improved integration of the temporary workers into operational processes. Sappi argued further that the health and safety demands for temporary workers would rise in all branches and that in the future the temporary employment agencies would face similar high demands in every plant. Permission to work at Sappi can be used as an excellent reference for the temporary employment agency in negotiations with other customers.

<sup>(48)</sup>Fonds gesundes Österreich, Gütesiegel Betriebliche Gesundheitsförderung. Available at: [http://www.netzwerk-bgf.at/portal/index.html?ctrl:cmd=render&ctrl>window=bgfportal.channel\\_content.cmsWindow&p\\_menuid=66230&p\\_tabid=4](http://www.netzwerk-bgf.at/portal/index.html?ctrl:cmd=render&ctrl>window=bgfportal.channel_content.cmsWindow&p_menuid=66230&p_tabid=4)



The willingness of Sappi management to take a broader view of accident statistics was a major factor in the success of this project. In the past companies usually counted only accidents among the permanent staff in their statistics and omitted accidents involving temporary workers. Using this method the published accident rates showed only a part of the reality. It was a matter of honesty for Sappi to include the accidents of temporary workers in their own statistics, additionally driven by international developments to count accidents in this way. But after including temporary workers the accident rate showed a significant rise at Sappi. Rising accident rates are seen as a black mark against the company; this in turn was a powerful argument for Sappi to impose the project on temporary workers.

The combination of measures taken was also an important success factor. The advanced health and safety training raised the awareness among temporary workers of unsafe situations and behaviour. The process of teambuilding was key to a better understanding between temporary and permanent staff, and for improvement of the operational processes. This led to a higher quality of work which is more satisfying to all. The reliability of the temporary staff increased, and they feel better integrated into the company. The project work led to a win/win situation with benefits for company and workers alike.

### TRANSFERABILITY OF THE PROJECT

The experience gained in the project might be of major interest for other companies or sectors. Sappi itself is working with other paper and cellulose making companies in the 'Österreichische Vereinigung der Zellstoff- und Papierchemiker und -techniker' (ÖZEPA). A working committee of the ÖZEPA assists members on health and safety issues, and Sappi's input on this committee is important.<sup>49</sup>

In future the number of temporary workers is expected to rise in all parts of the economy. Advanced safety training and the integration of temporary workers into occupational processes will become a matter of particular interest. Teambuilding, education and clear rules with regard to safety and health will remain on the agenda for many years.



Figure 14: Safety leaflet created with participation of temporary workers at their workplaces  
Green Tick = Safe behaviour / Red Cross = unsafe behaviour

<sup>(49)</sup> Österreichische Vereinigung der Zellstoff- und Papierchemiker und -techniker (ÖZEPA), Arbeitssicherheit.  
Available at: <http://oezeпа.austropapier.at/index.php?id=2>





### CONTACT INFORMATION

Wolfgang Nussmueller  
Safety & Security Manager  
Sappi Austria Produktions-GmbH & Co. KG  
Brucker Straße 21  
A-8101 Gratkorn  
AUSTRIA  
Tel: +43 3124-201 2382  
E-mail: wolfgang.nussmueller@sappi.com

Peter Keusch  
(former Safety & Security Manager at Sappi)  
SHEQ consult  
Raiffeisenstraße 214  
A-8041 Graz  
AUSTRIA  
Tel: +43 664 50 93 813  
E-mail: peter.keusch@SHEQ-consult.com  
Web: <http://www.sappi.com>

### REFERENCES

Sappi Austria Produktions-GmbH & Co KG, *Gesunde Zukunft – Betriebliche Gesundheitsförderung bei Sappi, Gratkorn, undated*. Available at:  
[http:// www.gsz-ff.at/projekte/SAPPI\\_Gesunde\\_Zukunft\\_BGF-Beispiel.pdf](http://www.gsz-ff.at/projekte/SAPPI_Gesunde_Zukunft_BGF-Beispiel.pdf)  
Sappi Austria Produktions-GmbH & Co KG, *Einreichunterlagen zum Staatspreis Arbeitssicherheit 2005 des Bundesministeriums für Wirtschaft und Arbeit*, Gratkorn 13.12.2004.

### 3.3.2. Diversity plan: How to bring comprehensible instructions to the work floor?

#### KEY POINTS

- Increasing diversity in the workforce results in new health and safety risks
- VANHOUT's diversity and wellbeing policy includes a modular welcome brochure and a training programme for 'builders' godfathers'
- The 'builders' godfathers' stimulate communication and consultation on health and safety in the organisation

#### COUNTRY

Belgium

#### ORGANISATION

VANHOUT

#### INTRODUCTION

One of the ways in which the construction sector tries to compensate for the early retirement and difficulty in recruiting builders is to recruit people from various



disadvantaged groups, i.e. the unemployed, underprivileged, immigrants and part-time students.

This approach is creating growing diversity on construction sites, which gives rise to new health and safety risks. It is, for example, well known that accident rates are higher among young workers. Long-time unemployed workers have less work experience and knowledge of new technologies and the related risks. Immigrant workers often struggle with the language, which may hamper their understanding of safety instructions and create communication problems with their colleagues and bosses. These problems can compromise safety at work. In addition, cultural background influences people's perception of, and behaviour regarding, health and safety risks.

Information, instruction, training and supervision have to be provided for this specific group of workers to ensure their health and safety at work.

## BACKGROUND

The VANHOUT group carries out a wide range of construction activities: office buildings, utility and residential projects, civil construction works, environmental technology and industrial production units. The group consists of VANHOUT, the contractor, as well as BOTECH, a research organisation, HBS, the company responsible for the finishing works, and BATECH Construct. Together they have a workforce of over 300 employees and a turnover of approximately EUR80 million. VANHOUT, which has been part of BESIX, an international group, since 1986, places a lot of emphasis on quality, environmental protection and safety. Thanks to these principles the company has been awarded ISO 9001 and VCA certification.<sup>50</sup>

### Diversity plans in Flanders

In 2001, the Flemish Government and the social partners concluded the so-called 'Vilvoorde Pact', in the footsteps of the Lisbon Strategy (EU), which aims to eliminate the under-representation of women, disabled people, immigrants and low-skilled workers among the employed by 2010. One of the instruments for introducing the Flemish equity and diversity policy at company level is the 'diversity plan'. A 'diversity plan' is a set of measures and actions focused on disadvantaged groups, including workers with disabilities, immigrants and older workers. These measures are intended to eliminate barriers preventing disadvantaged groups from working, and to reduce the job turnover of these groups. Companies and organisations from all sectors can receive subsidies from the government if they develop such a plan. Specific quantified targets concerning the employment, internal mobility and training of the disadvantaged groups must be included in the application for subsidies.

<sup>(50)</sup>The 'VCA system' ('VeiligheidsChecklist Aannemers' or 'Safety checklist for contractors') was originally a Dutch initiative. This system was developed to test and certify contractors objectively on the basis of their performance in terms of safety, health and environmental protection.



### **AIMS AND OBJECTIVES**

To tackle the issue of diversity in a well-structured way, VANHOUT developed a 'diversity plan' through a 2002 VESOC (Flemish Economic and Social Consultative Committee) action plan titled 'Equal participation and diversity in the labour market'. VANHOUT's diversity plan aimed at updating and improving the company's existing policy on recruitment and selection, training, induction and promotion of underprivileged groups.

One of the latest points of action in VANHOUT's diversity and wellbeing policy is the development of a modular welcome brochure and a training programme for 'builders' godfathers'.

### **SCOPE OF THE PROJECT – WHAT WAS DONE**

The legal motivation for this project lies in the Wellbeing Act, which stipulates that employers have to provide information, instruction, training and supervision to ensure the health and safety at work of (new) employees.

#### **Development of a welcome brochure**

This welcome brochure provides information and instructions on health and safety at work. It is tailor-made for disadvantaged groups of workers. It aims to increase awareness of health and safety risks in the workplace and demonstrate how to prevent them.

A PAP commission (Positive Action Plan) was set up. This commission was assisted by STC Turnhout (which is now RESOC Kempen, i.e. the regional socio-economic consultative committee Kempen), Prevent (Institute for Occupational Safety and Health), Verbal Vision (a communication centre for non-profit and social actions within companies) and BIS (a graphic design agency). The development of the new welcome brochure lasted a year and on 24 January 2004 the brochure was presented to the entire VANHOUT staff.

The welcome brochure is written in simple Dutch and contains all the information newcomers need to familiarise themselves with the company so they quickly feel at home. The brochure is developed with the 'yellow pages' concept in mind: the various sections are easy to find and to consult. Every section tries to provide only information which is absolutely necessary. Where possible the text is illustrated to increase comprehension. Moreover, every section is preceded by a 'one-liner' to attract attention. The text was placed as much as possible in sections which stand out and words or paragraphs were highlighted to underline the essence of the message. Moreover, the modular layout allows the company to introduce changes in a cheap way, i.e. by simply removing and replacing pages. The changes to the welcome brochure are distributed to the employees during the annual staff meeting.

An important section in the welcome brochure covers occupational health and safety. This section contains the following topics:

- OSH policy in the company
- How to prevent risks
- Working with new or temporary colleagues
- Manual handling
- Hand tools
- Commuter traffic



- Slips, trips and falls
- Fire safety
- Health-related risks
- Psychosocial risks
- Personal protective equipment
- Pictograms and signs
- Electrical safety
- Dangerous substances
- VDU work
- Working at heights
- First aid.

Every newcomer receives a welcome brochure on arrival. The new workers can use this brochure during their further career as an instruction booklet for the completion of their tasks.

The welcome brochures raise employees' awareness of health and safety risks at the workplace and how to prevent them from the first day of their employment.



Figure 15: Welcome brochure

### Training of 'builders' godfathers'

As part of the diversity plan, a number of 'builders' godfathers' were trained within the company.

Eight employees completed a training programme for 'builders' godfathers'. They learned about communication, collaboration and motivation during this practical and interactive 3-day programme. They were taught – among other things – to deal with differences between people and opinions in a positive way (for example: cultural background influences people's perception and behaviour concerning health and safety risks).

This programme included practical exercises during which the participants simulated situations on the construction site to promote safe and healthy work (for example:



supervision on use of personal protective equipment, instructions on safe manual handling techniques, etc.).

These exercises aimed at evoking reactions and attitudes, which were then analysed to find out how they can stimulate or disrupt day-to-day collaboration. This approach helped the participants further develop their skills in terms of observation, communication, attitude and dialogue.

Another 12 'builders' godfathers' have since been trained so that there are 20 'builders' godfathers' available for an active workforce of 140 construction workers.

The 'builders' godfathers' stimulate communication and consultation on health and safety in the organisation especially where it concerns disadvantaged workers. This helps to promote a positive health and safety culture and secure the implementation and continued development of health and safety policy in the company.

### RESULTS AND EVALUATION OF THE PROJECT

Since the project started, the frequency rate<sup>51</sup> of occupational accidents has decreased significantly (see Figure 16).

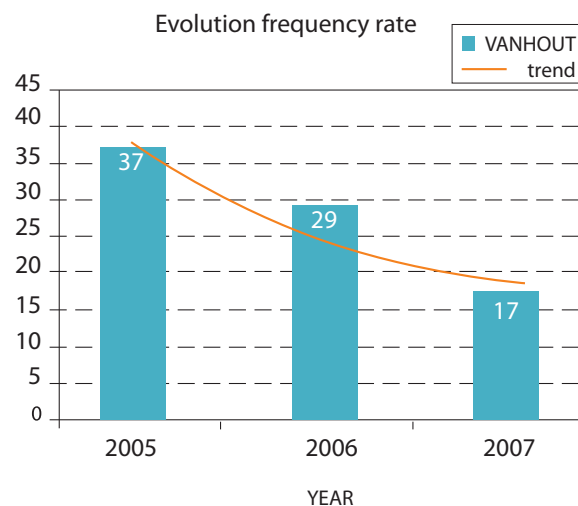


Figure 16: Evolution of frequency rate occupational accidents

The welcome brochure has become very popular within the construction sector. The Wellbeing Act states that the provision of information, instruction, training and supervision is necessary to ensure the health and safety at work of (new) employees. Through the development of the tailor-made welcome brochure new disadvantaged workers can easily be reached.

The project encourages the integration of immigrants and underprivileged groups and leads to more safe and healthy employment of these specific workers.

### PROBLEMS FACED

Construction company workers tend to be spread over a large number of construction sites within the construction sector. This might generate communication problems. A

<sup>(51)</sup> Accident frequency rate: number of accidents resulting in at least one lost day per one million working hours.

well-structured communication plan helped to overcome this problem within the project.

Within the framework of 'diversity plans', companies and organisations from all sectors can receive subsidies from the government to set up measures and actions focused on disadvantaged groups, including workers with disabilities and older workers. However, the level of subsidy is rather low considering the efforts required on the part of the company. It is therefore likely that the company will have to invest in the project. This might be a major drawback in years of recession.

### **SUCCESS FACTORS**

- The commitment and enthusiasm of the management team was crucial for the realisation and success of this project.
- The PAP commission (Positive Action Plan) played an important role in keeping all stakeholders focused on the project and deadlines.
- The participants evaluated the 'builders' godfathers' training as very positive. The practical focus of the training enables participants to apply the techniques easily at the workplace.
- The project resulted in increased risk awareness among the disadvantaged workers, starting on the first day of their employment.
- The 'builders' godfathers' stimulate communication and consultation on matters of health and safety in the organisation, which helps to promote a positive health and safety culture and secure the implementation and continued development of health and safety policy in the company.

### **TRANSFERABILITY OF THE PROJECT**

The concept of this project is very transferable to companies in the construction sector. Several other companies have showed their interest. The welcome brochure is even becoming a 'must-have' among builders!

### **CONTACT INFORMATION**

Verhaert Wim  
 Quality Coordinator – Prevention officer – Fleet Manager  
 Lammerdries 12  
 2440 Geel  
 BELGIUM  
 Tel: +32 14 25 16 11  
 E-mail: [wim.verhaert@vanhout.be](mailto:wim.verhaert@vanhout.be)  
 Web: [www.vanhout.be](http://www.vanhout.be)

## **3.3.3. Tailored training strategies in OSH for young people with disabilities**

### **KEY POINTS OF THE PROJECT**

- Analysing the causes of accidents in order to counter the particularly high rate of occupational accidents among trainees with learning, physical and mental disabilities



- Developing training strategies in the field of health and safety tailored to the capabilities of the target group
- Raising awareness of danger and changing behaviour through an interactive computer-based training programme

## COUNTRY

Germany

## ORGANISATION

Bugenhagen Berufsbildungswerk

## INTRODUCTION

In this pilot project, educational methods and instruments were developed to promote awareness of danger and develop decision-making skills in trainees, to counter the particularly high rate of industrial accidents among trainees and workers with disabilities.

After analysing the causes of accidents, a safety workbook *Safety – there is no mystery* ('Sicherheit ist keine Hexerei') was developed tailored to the needs of the trainees in the kitchen of the Bugenhagen Berufsbildungswerk vocational workshops.

A training CD-ROM was developed by the European project partners for trainees in the following areas: general, kitchen and craft. The particular learning, physical and mental disabilities of the target group were taken into account. The training aimed not only to raise awareness of possibly dangerous situations, but to change the actual behaviour of the trainees.

The project was coordinated by Bugenhagen Berufsbildungswerk, an institution which offers vocational training and education for young people with learning and other disabilities. The work was carried out with European partners up until 2005 under the framework of the Leonardo da Vinci Programme. The partners were: Universität für Humanwissenschaften (Liechtenstein), Amadip (Spain), Astangu (Estonia), Norrängsskolan (Sweden) and Grimsby College (United Kingdom).

## BACKGROUND

The Directive 2000/78/EC establishes a general framework for equal treatment in employment and occupation. It prohibits any direct or indirect discrimination based on religion or belief, disability, age or sexual orientation. The European occupational health and safety legislation gives clear responsibilities to the employer to ensure healthy and safe conditions at work. Certain groups, e.g. disabled workers, must be protected from the dangers which specifically affect them.

Workers with learning disabilities may not learn as quickly as other people and may need more support with regard to safety and health. Young people in particular lack occupational experience, training and awareness. They need good advice, OSH training and supervision. Their specific needs have to be taken into consideration in order to carry out a thorough and effective risk assessment.

Germany has a population of roughly 80 million people, of whom more than 500,000 live with a learning disability. In school this applies to about 2.5 to 3.5% of all pupils of any single grade. Only very few complete an apprenticeship in a recognised vocation.



They may, however, undergo special practical training or work towards other qualifications.<sup>52</sup>

The experiences of the occupational rehabilitation centres and reports of the statutory accident insurance institutions concerned (UK-Bund–Unfallkasse des Bundes, former BAfU Ausführungsbehörde für Unfallversicherung) showed that workers with disabilities have a particularly high rate of occupational accidents.<sup>53</sup> Most of these accidents can be attributed to human or organisational error.

The training of disadvantaged and disabled young people demands a high level of responsibility and heavy emphasis on preventive measures. Measures, methods and instruments have to take into account the particular intellectual, physical and mental abilities of the trainees. Employers and supervisors should adapt their training and qualification methods carefully to workers with developmental disabilities in order to meet their needs. Assessment of the effectiveness of learning should be a continuous process, and methods should be adjusted accordingly.

### AIMS AND OBJECTIVES

The overall aim of this European pilot project was to develop standardised educational instruments and methods to raise the awareness of danger and to support sustainable decision-making skills among vocational trainees with disabilities, in order to increase the awareness about occupational health and safety based on long-term considerations. The guiding idea of the project is that, according to current knowledge, there is often a gap between information, cognition and action. So actual behaviour at the workplace cannot be changed by rules, regulations and instructions. The aims and objectives of the project are tailored to the target group, particularly with regard to vocational trainees with learning disabilities.

The goals of the project are:

- To develop educational methods and instruments for vocational training appropriate to the capabilities of trainees and workers with disabilities.
- To raise the individual's awareness of danger and heighten decision-making skills in the area of occupational health and safety.
- To reduce the number of accidents in this target group.
- To support integration of workers with disabilities in the labour market after vocational training.

### SCOPE OF THE PROJECT – WHAT WAS DONE

Bugenhagen Berufsbildungswerk is responsible for the initial vocational training of approximately 350 young people with disabilities – particularly learning disabilities. It provides training in horticulture, metalwork and woodwork, home economics, catering, interior design, textile cleaning, environmental protection, vehicle maintenance, the retail trade, computer studies and the clerical field.

Bugenhagen Berufsbildungswerk has developed a pilot project exploring how accident prevention can be improved for disadvantaged and disabled people in particular. A

<sup>(52)</sup> Federal Integration Authorities, 2007. Available at: [http://www.integrationsaemter.de/webcom/show\\_lexikon.php/\\_c-578/\\_nr-226/i.html](http://www.integrationsaemter.de/webcom/show_lexikon.php/_c-578/_nr-226/i.html)

<sup>(53)</sup> Unfallkasse des Bundes August 2007. Available at: <http://www.uk-bund.de/?bereich=HOM&sizeadd=0&images=1&hbid=6&knid=232>





European project team with partners from the UK, Spain, Sweden, Estonia and Liechtenstein researched, developed, tested and evaluated educational instruments and methods to support danger awareness and sustainable decision-making skills of trainees. The project was sponsored by the European Leonardo da Vinci programme and lasted for three years (2002-2005).

### Status quo analysis

During the first project phase an analysis was carried out of the status quo in various countries concerning industrial accidents. The national legal requirements in the field of health and safety were compiled. In Germany there was a particularly high rate of occupational accidents among workers and trainees with disabilities, but there was a lack of detailed information about accident statistics for occupational rehabilitation centres. So in 2003 a survey was carried out into the accident statistics of all German occupational rehabilitation centres, in cooperation with the 'Bundesarbeitsgemeinschaft der Berufsbildungswerke'.<sup>54</sup> Topics of the survey were: procedures for recording accident statistics, differentiation of accidents, database of statistics, statistics and working areas, prevention measures in general, medical indication and tailored prevention measures, and individual risk assessments.

### Cause of accident analysis

During the second project phase an intensive analysis of accident causes in the relevant training areas of the project partners was carried out. Bugenhagen Berufsbildungswerk worked on the kitchen training area. A risk analysis was carried out and checklists were developed.

Beyond the external risk factors relating to the wider work environment (room setup, noise, atmosphere), the workstation (mechanical and electrical hazards, hazardous substances and biological hazards, fire and explosion risk, thermal, physical and psychological loads) and organisational risks, individual aspects relating to increased risk of accident (medical and psychological indications) were integrated into the risk assessment.

Based on the findings of the accident and workplace analyses, training modules were developed and tested for each training area.

Changes in behaviour should come about through active handling of problematic situations – training through imagination. The training strategies to be developed focused on the vocational trainees. They are actively involved in developing the process and operate as multipliers.

Two types of training material were developed:

- A safety workbook *Safety – there is no mystery*, with a witch, who doesn't like safety and composes funny poems. It is tailored to the needs of the trainees in the kitchen of the Bugenhagen Berufsbildungswerk.
- A training CD-ROM with an interactive computer-based training programme concerning general risks, risks in the kitchen and crafts: It was developed by the European project partners.

---

<sup>(54)</sup> Available at: <http://www.bagbbw.de>

### The safety workbook *Safety – there is no mystery*

Each trainee in the Bugenhagen Berufsbildungswerk kitchen gets their own workbook. It consists of laminated pages with security advice, games and other interactive training elements in eight chapters (1. Why is working in the kitchen dangerous?, 2. Recognising the dangers and risk assessment, 3. Fire protection, 4. Accident prevention, 5. Safety measures, 6. Work environment, 7. Emergency management, 8. What if something happens?). Because the users may have reading and other learning disabilities the text is shortened and simplified, and pictorial symbols are used wherever possible. The workbook has been continuously updated and adapted to the changing training requirements. The workbook is individual to the trainee and used for instructions and training during practical work in the kitchen. Because of its accessible language and its 'fun' elements it is well accepted by the trainees and their supervisors.



Figure 17: Example of safety notice

To make sure the glitch witch doesn't zap you, let's get clear about some of the dangers. The glitch witch: 'Risk assessment? What on earth is that?'



Figure 18: Example of safety notice

The glitch witch: 'Anti-slip shoes? They're for wimps!'

Anti-slip shoes are important. If something falls on your feet, you'll be glad you're wearing safety shoes with steel toe caps.

The project team consisting of representatives from several European organisations developed special safety training software for trainees and workers with disabilities. The full version can be ordered from Bugenhagen Berufsbildungswerk.

The aim of the interactive computer-based training programme is to improve the ability to recognise rapidly where there is a likelihood of accidents occurring. Since experience has shown that formal instruction does not always produce results, this



system aims to allow the rapid and active discovery of risk areas in the work environment. Every answer to a question receives immediate feedback.

The computer-based programme works in the following way (Example – training area kitchen with danger through tools):

The task is to indicate the respective risk area with the cursor by clicking the mouse. ‘Smileys’ then indicate whether the answer is correct, and a view is shown of the safe situation. If there are an increased number of errors, then the incorrectly answered situations will be presented again before the training session ends.



Figure 19: The trainee is shown a picture of a dangerous working situation on the computer screen



Figure 20: The cursor in this example is at the wrong position.

Now the trainee has to click with the cursor, where the danger is and where a safety measure has to be put in place. The cursor in this example is at the wrong position.



Figure 21: The correct position of the cursor is shown

If the cursor is at the wrong position feedback is given: The cursor click was wrong (see smiley) and the correct position of the cursor is shown (see red and white arrow).



Figure 22: Correct handling of the dangerous situation is demonstrated.

If the trainee has clicked in the right position, he immediately gets the feedback as shown in (Figure 22).

The trainee examines all potentially dangerous situations in his relevant training area. Situations in which he gives the wrong answer are repeated. Right and wrong answers trigger automatic correction procedures (Tailored training) and the result is shown to the trainee by way of a graphic performance score.

The demo-version of the programme presents examples for the following risk areas:

Training area	Risk			
	Chemistry	Electricity	Tools	Traffic / Transport
General	yes	yes	no	yes
Kitchen	yes	yes	yes	no
Craft	yes	yes	yes	no

## RESULTS AND EVALUATION OF THE PROJECT

The European project team developed a multifunctional programme that increases long-term awareness of health and safety prevention at the workplace. It is a flexible tool for accident prevention and safety for vocational trainees and workers with disadvantages and disabilities. The programme with various modules enables quick identification of risks and correct action in situations with high risks of accidents.

The flexible design of the programme allows for individual customising, so that various risk areas and risk situations can be adapted to the needs of the customer / user. For the trainees in the Bugenhagen Berufsbildungswerk kitchen the workbook was more useful than the computer-based programme, because it is easier to integrate in daily work in the kitchen, where there are no computers.

## PROBLEMS FACED

The results of European research projects are compromised by differences in best practice among national project partners.

There are no resources for the dissemination of project results because of the lack of financial funding and the demands of day-to-day business.

## SUCCESS FACTORS

The main success factors were:



- The tailored training strategies were developed to meet the specific needs of the target group (vocational trainees with particular learning disabilities).
- The trainees in different vocational areas were actively involved in developing training modules.
- The computer-based programme is not dependent on language. It mainly works with images and is easily transferable for new target groups (training areas, public health and safety, etc.)
- The project received financial funding.
- The workbook can easily be updated and is now on its tenth revision.
- The workbook and the integration of occupational safety and health are widely accepted in Bugenhagen Berufsbildungswerk and have become part of their certificated Quality management system.

#### **TRANSFERABILITY OF THE PROJECT**

The well-structured process of individual development of risk assessment and tailored training materials is transferable to other vocational training institutions. The participation and support of trainees and training instructors are crucial.

#### **CONTACT INFORMATION**

Bugenhagen Berufsbildungswerk  
Mrs Denise Daude  
Timmendorferstrand  
GERMANY  
Tel: +49 4503 604 252  
E-mail: [denise.daude@bugenhagen.de](mailto:denise.daude@bugenhagen.de)  
Web: <http://www.bugenhagen.de>

### **3.3.4. Collaboration between agencies and employers to reduce accidents among temporary workers**

#### **KEY POINTS**

- Agreement between temporary employment agencies and the firms to which they supply workers to reduce the number of occupational injuries occurring among temporary workers
- Occupational injuries and the number of days lost were cut by one-third over this period

#### **COUNTRY**

France

#### **ORGANISATION**

CRAM Languedoc-Roussillon



## INTRODUCTION

The regional health insurance fund (CRAM) in Languedoc-Roussillon, France, wanted temporary employment agencies and employer firms to work together to reduce the number of occupational injuries occurring among temporary workers.

## BACKGROUND

In 2000, at a time when the regional and national initiatives underway in this area pointed to certain changes (protective equipment made available, effective medical check-ups, induction in the enterprise), an audit revealed an inadequate analysis of most occupational injuries to temporary workers.

The CRAM Languedoc-Roussillon fund therefore decided to make the safety of these employees a priority.

## AIMS AND OBJECTIVES

The objective of this action is to change attitudes concerning risk prevention for temporary workers and to reduce the number of occupational injuries among such workers.

## SCOPE OF THE PROJECT – WHAT WAS DONE

To get away from mere administrative management of injuries, the temporary employment firms and their clients had to be encouraged to work with the same tools. Out of eight temporary work firms based in Narbonne, the CRAM knew that seven were in contact with four firms employing a large number of temporary workers: a household refuse transport company, a refrigeration firm for supermarket distribution, a ham cutting company and a wine bottling company working for the Mutualité Sociale Agricole (MSA) cooperative.

In each of these firms, therefore, the CRAM trained two people in analysis of occupational injuries.

In 2001, these four enterprises signed a charter with the temporary work agencies by which they undertook to analyse all occupational injuries over a three-year period and to carry out jointly the workstation studies necessary to upgrade working conditions.

The agreement signed with the CRAM fund aims to get away from attitudes such as 'I need someone at 4 o'clock in the morning, I'll call the temporary work agency who will send a guy capable of learning on the job', and instead to adopt a system of sponsorship of the temporary worker, especially for performing technical work. The temporary work agencies, moreover, have taken into account the concept of danger in firms' operations and no longer send 'just anybody'.

This approach is becoming widespread in all the firms that have signed this 'CRAM agreement'.

Under this approach the temporary employment agencies present the appropriate person for the workstation concerned.

The numbers of occupational injuries and days lost have been divided by three over this period.



## RESULTS AND EVALUATION OF THE PROJECT

SITA's Narbonne centre is one of the signatories to the agreement. Several tasks are carried out there: household refuse collection (tip truck drivers + crew of two handling operators), collection of bulky industrial waste (truck drivers) and municipal sweeping (drivers + spray lance operators). At these risky workstations, safety is a key concern.

The agreement was introduced at the same time that the group decided to focus its activity on safety, which is stated as one of its quality objectives. At Narbonne, SITA employs 25 temporary workers out of a total of 70 employees. Before the introduction of this partnership, they sustained on average 13 occupational injuries throughout the year; chiefly sprains and falls.

Following internal discussion with the CRAM fund's occupational health and safety service and with the temporary employment agencies, the company initiated an action plan on working conditions. Analyses of occupational injuries, performed jointly with the temporary firms, enabled them to make improvements. For example, the use of metallic supports was adopted generally and nets have been installed on industrial waste bins to prevent the driver from entering the bin or travelling balanced on the edge. The refuse collection rounds have been modified and handling operators are now instructed not to run. Training and risk awareness raising programmes have also been carried out with the five listed temporary work agencies on the site.

Through this action another user firm has been able to improve induction and knowledge, employee integration and workstation design. It has also developed loyalty among the agencies but also among the temporary employees with which it works. Compared with the regular workforce, injuries used to be more frequent among temporary workers. Within two years of the CRAM measures, the rate of injury among temporary workers had plummeted. Temporary workers are now treated the same way as permanent workers.

Following the training sessions carried out under the agreement signed with the CRAM fund, one temporary employment agency has gone even further by organising workstation research and safety training on the premises of its largest client. As a result, occupational injuries were cut by one fourth between 2002 and 2003. When the company interviews a job applicant, a Safety Manager tests his knowledge of risk situations based on illustrated documents specific to the business. These are internal documents, called 'risk hunters'. Then the worker is given a 'safety passport' containing information on the business in which he will be working. There are booklets for the food and agriculture industry, building and construction, waste sorting and collection, etc.

## PROBLEMS FACED

It is hard to ensure the sustainability of the initiative: the effectiveness of the project can only be judged from a long-term perspective, which is difficult because the employees involved move about and change workplace and employer frequently.

## SUCCESS FACTORS

What made this initiative a success is the fact that temporary employment agencies and user firms were able to work closely together to achieve a common goal: greater safety for temporary workers.



At the instigation of CRAM Languedoc-Roussillon the initiative was formalised by an agreement, and practical measures were initiated for training and analysis of workstations and occupational injuries.

### **TRANSFERABILITY OF THE PROJECT**

This action is transferable to other regions and other countries. However, it requires the involvement of an outside occupational health and safety service to put in place the agreement and carry out the programme.

### **CONTACT INFORMATION**

Mr Alain Bourrat  
 CRAM Languedoc-Roussillon  
 29, cours Gambetta  
 CS 49001  
 34068 – Montpellier cedex 2  
 FRANCE  
 Tel: +33 4 67 12 91 30

## **3.3.5. Safe System of Work Plan for construction industry**

### **KEY POINTS**

- Construction is a high risk, labour-intensive industry
- The number of migrant workers has increased considerably in several Member States, such as Ireland, and this poses new risks and challenges to health and safety
- The Safe System of Work Plan (SSWP) is a new initiative, launched by the Health and Safety Authority of Ireland in 2005
- The purpose of the scheme is to reduce injuries and deaths on construction sites
- The initiative relies heavily on pictograms to explain and clarify hazards and controls, thereby creating a wordless document where safety can be communicated to all workers regardless of literacy or language skills

### **COUNTRY**

Ireland

### **ORGANISATION**

Health and Safety Authority (HSA)

### **INTRODUCTION**

The Safe System of Work Plan (SSWP) is a new initiative, launched by Ireland's Health and Safety Authority (HSA) in 2005. Its purpose is to reduce injuries and deaths on construction sites. It is also designed to address issues related to migrant construction workers whose first language is not English.





## BACKGROUND

Construction is a high risk, labour-intensive industry. Safety is everybody's business: designers, clients, construction companies and employees all need to be aware of their responsibilities in relation to health and safety. The number of migrant workers has increased considerably in some Member States, such as Ireland, the UK, Greece and Germany, and this poses new risks and challenges for health and safety. Employees who do not speak English and/or have limited literacy are at higher risk as they may not understand health and safety measures and instructions.

The HSA is the national body in Ireland with responsibility for securing health and safety at work. It is a state-sponsored body, operating under the Safety, Health and Welfare at Work Act, 2005 and it reports to the Minister for Enterprise, Trade and Employment.

Because safety is everybody's responsibility, HSA consults widely with employers, employees and their respective organisations. To help develop sound policies and good workplace practices, the Authority works with various Advisory Committees and Task Forces which focus on specific occupations and hazards.

In addition to its other roles, HSA is the national centre for information and advice to employers, employees and the self-employed on all aspects of workplace health and safety. The Authority also promotes education, training and research in the field and publishes research on workplace hazards and risks.

## AIMS AND OBJECTIVES

The Safe System of Work Plan (SSWP) was launched by the HSA in 2005. The purpose of the scheme is to reduce injuries and deaths on construction sites. It is also designed to address issues related to migrant construction workers whose first language is not English.

The target groups of this action include health and safety authorities, OSH specialists, employees (including migrant workers), employers and union members.

## SCOPE OF THE PROJECT – WHAT WAS DONE

The SSWP aims to focus on those in the construction industry who are most at risk and empowering them to ensure that all necessary safety controls are in place prior to the commencement of planned work.

The initiative relies heavily on pictograms to explain and clarify hazards and controls, thereby creating a wordless document where safety can be communicated to all workers regardless of literacy or language skills.

There are five main publications in the series. Each form has a supplementary Pictogram Booklet, with detailed explanations of each safeguard mentioned on all forms, as well as a close look at various hazards.

The Ground Works form is tailored to address the various hazards encountered during the ground works phase of building.

The House Building form deals with the hazards operatives are likely to encounter during the house building phase.

The Demolition form relates to safe working practices during this type of work.

The New Commercial Building form addresses this sector of the construction industry, and is devoted to safe working practices within this line of work.



The Civil Engineering form is designed to be used by operatives in this industry sector.

The Authority has also launched a DVD to complement the SSWP. The DVD, which is designed for staff training purposes, identifies the key hazards and the precautions required on construction sites. The disc includes commentaries in Latvian, Lithuanian, Polish, Portuguese, Romanian, Russian and Spanish.

Each of the five forms has three parts. In the first part the various details regarding the job are filled in. Normally this will be completed by the person planning the job; either the supervisor/foreman and/or self-employed person prior to work starting. Where a site safety officer is employed they should be involved in the process.

Figure 23: Construction Form 1 (Ground Works)

There are also a series of pictograms indicating the mandatory measures that must be in place before work starts. Clicking on one of the first two pictograms enables the information in the accompanying booklet to be viewed.

The second part of the form deals with hazard identification, risk assessment, and risk control. Normally this will be carried out by the supervisor/foreman and/or self-employed person prior to work starting. Where a site safety officer is employed, they should be involved in the process.

The Hazards should first be identified by ticking the square boxes in the 'Select Hazard' column. The appropriate Controls to eliminate the hazard or reduce the risk should be identified by ticking the square boxes in the 'Select Control' column.

When the Controls are in place the round box should be ticked. This must be done in collaboration with the workers at the specific work site prior to the work taking place.

Similarly, the Personal Protective Equipment (PPE) and Fire Equipment required should be selected by ticking the square boxes in the PPE/Fire sections and when they are acquired, this should be verified by ticking the round boxes. Verification that they are in place should be done in conjunction with the workers involved in the job.

All the Pictograms contained in the form are explained in the accompanying Pictogram booklet.



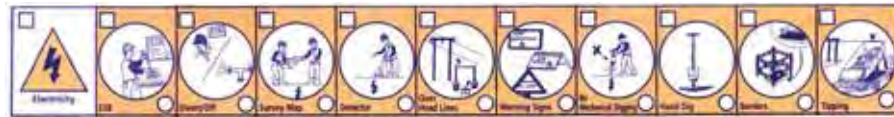


Figure 24: Example of pictograms.

Figure 25 presents the series of pictograms to be found in the Electricity section of the form, as well as in the accompanying booklet. Clicking on pictograms enables the information in the accompanying booklet to be viewed.

The third, final part deals with the signing off of the SSWP. The purpose of signing off is to identify the person who has prepared the SSWP, and also to confirm that the completed SSWP has been brought to the attention of all those to whom the SSWP applies.

PART 3

SSWP prepared by: \_\_\_\_\_ Date: \_\_\_\_\_

The controls to be used as per this form have been brought to my attention

Signed by team:

NOTE: this list of Hazards and Controls is not exhaustive and is no particular order.

IF IT IS NOT SAFE DON'T DO IT AND INFORM SITE MANAGEMENT

Figure 25: Part 3 of the form (signing up)

The completed SSWP must remain at the work site, with the persons carrying out the work activity.

A new SSWP must be completed when (1) a new hazard is identified, (2) the task changes, or (3) the environment changes.

Further information on control measures for all hazards listed on the forms can also be found on the HSA website. The hazards for ground works include the following: electricity, gas, plant and equipment, hand tools, working close to water, working close to public, excavation, dust, harmful gases, biological agents, manual handling and confined spaces.

Similar sets of forms are available for four other areas: house building, demolition, new commercial building and civil engineering. These areas contain slightly different risks. For example, the house building hazards include ground floor, upper floor, plant and lifting operations, electricity, roof work and roof space, falling objects, hand tools, gas and members of public. Information is available on how to deal with these specific risks in this type of work.

The website of this project includes interactive demonstrations of how to use the Ground Works form and the Civil Engineering form.

In the Publications section all SSWP publications are available for purchase online. They can also be ordered by phone.

This DVD is based on the Health & Safety Authority's Safe System of Work Plan. The disc includes Latvian, Lithuanian, Polish, Portuguese, Romanian, Russian and Spanish commentaries.

### **RESULTS AND EVALUATION OF THE PROJECT**

This action is relatively recent and ongoing and therefore evaluation is not available.

Feedback has been positive. Moreover, HSA has had requests from other European jurisdictions to be allowed to use their model.

### **SUCCESS FACTORS**

This series of publications is very useful especially in the countries with a high and rising number of migrant construction workers coming from new EU Member States. The [www.hsa.ie](http://www.hsa.ie) site is interesting and very user-friendly.

### **TRANSFERABILITY OF THE PROJECT**

This concept can be applied easily in other countries and, if suitably modified, in environments other than construction work.

### **CONTACT INFORMATION**

Health and Safety Authority  
The Metropolitan Building  
James Joyce Street  
Dublin 1  
IRELAND  
Tel: +353 1 614 7000  
E-mail: [wcu@hsa.ie](mailto:wcu@hsa.ie)

## **3.3.6. Working safely in a multicultural food and drink industry**

### **KEY POINTS**

- In the UK, a large proportion of workers in the food and drink industry are overseas nationals with limited knowledge of English
- Health and Safety Executive (HSE) investigations showed little evidence of existing initiatives to provide adequate instruction, training or supervision in a language that workers could comprehend
- As a result, a working group consisting of consultants, legal experts, health and safety professionals from several of the largest food manufacturing companies in the UK and representatives from the HSE was formed to produce guidance with examples of good practice for the industry
- Health and safety, and use of risk assessments in a multicultural industry are some of the key issues covered in the guidance

### **COUNTRY**

United Kingdom



## ORGANISATION

Northwest Food Alliance, Greencore Group, Uniq plc, Greencore Sandwiches, Tulip UK Ltd, Improve Ltd, Health & Safety Executive, Northern Foods, Eversheds, Chris Lamb (Health & Safety Consultant).

## INTRODUCTION

In the United Kingdom, food and drink manufacturing is the largest industrial sector. Currently there are 650,000 people working in the sector, many from countries where English is not widely spoken and understood. There is increasing, but undocumented, evidence that many of these workers are not able to communicate in English and have to depend on colleagues whose own language and translation competencies may not be good. These language barriers make training difficult, and also prevent communication of urgent concerns on the shop floor.

## BACKGROUND

A few years ago, following minor reportable accidents, the Health and Safety Executive (HSE) visited several food producers to investigate language barriers and effective communication of the safety message. The HSE were interested to find out:

- How employers communicated safety messages,
- Whether employers were able to demonstrate to the HSE that their employees were literate in their own languages,
- How employers test the individual's understanding of the information provided.

The investigation produced little evidence of existing initiatives to provide adequate instruction, training or supervision in a language that workers could comprehend, although it was required by the Management of Health and Safety at Work Regulations 1999 and discrimination legislation.

As a result, the Northwest Food Alliance organised and hosted a one-day conference in September 2004, an event endorsed by the HSE and the Food & Drink Federation and sponsored by Greencore Group. The aim of this conference was to examine current issues and good practice in the food industry, and to explore possible solutions to the challenges posed by a multicultural workforce. It was agreed that the challenges had to be addressed through new approaches and that guidance should be produced for employers, particularly SMEs, who needed advice and examples of good practice that were not available at the time.

A working group was set up to draw up a code of practice to address the health and safety implications of employing an ethno-linguistically diverse workforce. The group consisted of consultants, legal experts, health and safety professionals from several of the largest food manufacturing companies in the UK, and a representative from HSE.

## AIMS AND OBJECTIVES

The goals of the working group were as follows:

- To develop and disseminate guidance for recruitment, and for delivering health and safety information, instruction, training and supervision to multicultural workforces in the food industry,
- To help SMEs that do not have resources/in-house expertise and may be using temporary labour for the first time.



They further wanted to:

- Clarify and define the needs of food industry
- Gather information on existing initiatives
- Identify good practice, and develop guidelines in partnership with HSE
- Develop a communication strategy
- Promote and disseminate guidance

### **SCOPE OF THE PROJECT – WHAT WAS DONE**

It took approximately 14 months to produce the guidance (Working safely in a multicultural food and drink industry), which is now available for free download on both the Northwest Food Alliance (<http://www.foodnw.co.uk/activities/documents/Working-safely-in-a-multicultural-food-and-drink-industry/>) and the HSE websites. It is the first guidance note produced for the industry and the work is well ahead of many other European Member States.

Seven key areas are included in the Guidance:

1. Why employers should read the document
2. Managing Culture and Diversity
3. Effective Recruitment
4. The use of Risk Assessments
5. Key requirements – Induction & Training
6. Translation
7. Successful Supervision

The guidance advises employers to pay special attention to ensuring that the particular risks to which multicultural workers may be exposed are identified and the appropriate control applied.

Specific procedures and arrangements may have to be developed in policy areas such as:

- Health & safety
- Equal opportunities
- Discrimination
- Recruitment
- Harassment
- Training and development
- Absence management.

In particular, the guidance advises that health and safety policies:

- must be created and endorsed by senior management;
- must specifically recognise multicultural workforces and be reflected in all human resources policies;



- must be communicated to all employees in a manner that ensures all personnel understand the policy and its implications;
- must be promoted in induction processes and communicated in (all) relevant languages;
- must be posted on notice boards in relevant languages.

Companies have to ensure that all the policies have been implemented effectively across their sites.

The guidance advises employers of multicultural workers to consider:

- taking steps to ensure that all relevant health and safety and training courses are translated into appropriate languages and that they can be fully understood;
- taking steps to ensure that all relevant written instructions and verbal information are properly translated into appropriate languages, or are in a non-verbal form which can be readily understood (e.g. fire safety instructions, safe systems of work, safety signs);
- providing translators to help supervisors during normal working hours;
- identifying jobs where communication difficulties might put non-English speakers at increased risk, and taking suitable measures to negate these risks, e.g. avoiding language barriers between the operator of a band saw and a colleague taking product away.

#### **Uniq Prepared Foods - an example of good practice in establishing a positive health and safety culture in a multicultural company**

Uniq Prepared Foods Ltd, a pan-European food manufacturer, was part of the working group. Uniq has business operations in several countries, including France, Germany, Spain, Holland, Poland, Belgium and the United Kingdom. Preliminary audits and evaluations showed that there were important cultural differences among workers in the perception of health and safety procedures.

After a review with senior management, a new vision was reached and targets set for the entire business. A common policy was translated and communicated throughout the European operations.

On the induction day workers are assessed to identify those who can speak some English, so that their translation skills can be used to ensure that the workers with little or no English understand the company's procedures and rules.

Generic training such as Health and Safety, Manual Handling and Food Hygiene are taught with the use of subtitled training videos available in 20 languages.

Working procedures and safe systems of work are introduced in stages with the help of the identified English speakers. Operational manuals containing photographs of the correct procedures are used.

At the Spalding site, several migrant workers have now been promoted to line setter, responsible for setting up the lines and the machines. Some have also progressed to being key personnel, operating filling and packing machines.

Uniq has recently contracted an agency which has an on-site supervisor who speaks several languages. This has assisted greatly with the integration of the non-English speaking workers and is helping them to realise their full potential.





As a result, lost-time accidents dropped by 13% in the first year, followed by a further 16% fall in the second year. Uniq reduced its reportable accident rate from 34.2 per 1000 employees to 16.0 per 1000 employees over a five-year period.

Furthermore, the business benefited from a reduction in the taxes imposed for accidents by European Member States (the equivalent of insurance in the UK).

The key message is that leadership from the top is critical in creating and implementing a positive safety culture in a multicultural business environment.

More information: Northwest Food Alliance.

#### **Tulip Ltd - an example to illustrate how risk assessment and training can take in the special hazards and risks associated with employment of multicultural workers.**

Tulip Ltd is the UK operation of the Danish Crown Group, an international food conglomerate with operations and sales in some 140 different countries. In some Tulip plants, more than one-third of staff do not speak any English.

The following actions are taken by the company to address problems faced by employees who speak English very little or not at all:

- Carrying out a basic assessment during the initial recruitment process to verify the individual's understanding of English
- Including within the Health and Safety Policy a section covering the provision of translation services, and procedures for managing non-English speaking employees
- As part of the risk assessment process, identifying critical roles where a poor understanding of English increases the risk of injury, and prohibiting employees from undertaking those roles until language training or other control measures have moderated the risk
- Following the identification of those critical roles, using a skills/language matrix to assist in effective supervision and deployment of non English speaking employees
- Generating pictogram-based training materials, and keeping written documents to an absolute minimum
- Maintaining a register of the first languages of employees
- Displaying photographs of translators to ensure that all employees know who to approach if necessary
- Establishing a library of all documents that have been translated across the Group and making them available on the Group Health and Safety Management System
- Including in the safe system of work and training records a statement such as 'training/documentation has been presented to me in a language and manner that I can read and fully understand'
- Providing ESOL (English for Speakers of Other Languages) courses
- Supplying basic translation cards to supervisors





- Encouraging supervisors and other employees to attend other language courses to provide them with basic skills in a relevant second language
- Encouraging non English speaking employees to become members of the site Health and Safety Committee to ensure that their voice is heard
- Maintaining a list of emergency translators on the Group Health and Safety Management System.

More information: Northwest Food Alliance.

### **RESULTS AND EVALUATION OF THE PROJECT**

A review is currently under way to evaluate the effectiveness of the initial publication of the document as well as examples of best practice used before its second publication. It is not clear whether there has been any improvement in the industry as a result of the document, but companies in the working group have definitely tried to tackle the situation as best as they can.

The document has been well received by the HSE. It has been presented at a number of conferences across the country at the request of the HSE and various industries.

### **PROBLEMS FACED**

First, there was problem in acquiring funding for publication of the final document. In the end, Uniq UK, Greencore and Northern Foods covered the printing costs. Second, only a few companies joined the working group or offered good practice examples. This was thought to be for a number of reasons. The group assumes that perhaps the companies that declined did not have many non-English speaking workers, did not acknowledge it was a problem or simply waited for someone else to take the lead as they did not have any suggestions or good practice examples.

### **SUCCESS FACTORS**

The guidance would not have come into being without the concerted effort of participants in the working group.

### **TRANSFERABILITY OF THE PROJECT**

Similar guidance could be published in other Member States.

### **CONTACT INFORMATION**

Ruth Blair  
Northwest Food Alliance  
UNITED KINGDOM  
Tel: +44(0)1928 513775  
E-mail: ruth.blair@nwfoodalliance.co.uk



### 3.3.7. Snapshot case: Safety measures for contract workers, distributors and temporary workers

#### COUNTRY

Germany

#### ORGANISATION

Bacardi Deutschland GmbH

B.A.D. Gesundheitsvorsorge und Sicherheitstechnik GmbH

#### AIMS AND OBJECTIVES

Bacardi Ltd decided in 2006 to implement certified OSH management system (OHSAS 18001) and environmental management (ISO 14001) in addition to the existing quality management system ISO 9001 and merged all Bacardi facilities worldwide into one integrated management system.

During the implementation phase the consultants noticed that external contract workers such as craftsmen, maintenance workers, delivery workers, distributors, and temporary workers for promotion campaigns were not usually considered by existing safety management measures. The just-in-time production in the bottling and storage plant means that there is continuous traffic and delivery and distribution drivers are constantly on the premises. The open design of the plant, which allowed shortcuts to be taken between delivery, tank, bottling, cleaning, storage, and distribution department invited drivers and other external or temporary workers to stray around in the whole building. As a result:

- There was a general lack of safety awareness: smoking on the premises, using mobile phones, in some cases walking around between machinery and tanks, etc.
- Eating in the production and bottle cleaning department caused hygiene problems.
- 'Self-service' of alcoholic beverages was taking place in the storage department. Furthermore, the environment of the bottling plant invited workers and drivers also to consume alcoholic beverages that they had brought in themselves.
- Safety doors had been wedged open by maintenance workers.

This was considered to be very risky because of various hazards that had been identified in the facility:

- The greatest risk was posed by indoor tanks where concentrated alcohol (95%) is stored and mixed before bottling. In an explosive atmosphere just one spark or the use of un-encapsulated electronic devices such as mobile phones can cause a catastrophe.
- The busy in-house traffic between departments is a possible risk for accidents: because of the noise caused by the bottling machine and conveyer belts, forklift signals could easily go unheard.
- Dangerous substances used for cleaning empty bottles.
- Conveyer belts pose a risk of accidents involving clothes, hair or extremities getting trapped in moving parts.



### **SCOPE OF THE PROJECT – WHAT WAS DONE**

With the implementation and certification of the new OSH management system the consultants and the Bacardi management introduced a bundle of measures in order to reduce risks and improve the safety awareness and the behaviour of workers and drivers.

A coordinator was nominated and trained. He is responsible for receiving contract workers and instructing them on safety measures, with special regard to areas and tasks of elevated risk, e.g.:

- Working with tools that do not pose a fire risk and safety tools made of stainless steel in the production and tank department. Safety tools can be given to the craftsmen when needed.
- Using noise protection and being aware of in-house traffic.
- Announcing welding works.
- Having a hot-work permit for welding works and cooperating with the fireguard.
- Informing the coordinator about any accident or near miss.

It had been also observed that Bacardi workers who noticed unsafe behaviour were afraid of correcting external workers. Therefore all permanent workers in the production and storage areas were trained to give external workers instructions and guidance with regard to safety issues. This enabled the safety culture and deliberate safe behaviour of Bacardi workers to be transferred and promoted, so that accidents and near misses could be prevented.

A new guidance system helps drivers to remain oriented: they are guided directly by workers of the distribution office to a parking bay where they can receive goods. From the parking bay a new system of signs and markings shows them the shortest way to the office and lunch room. Further measures were carried out with regard to the safe storage of dangerous substances and locking of the tank area so that delivery drivers can no longer enter it.

A flyer was designed with all relevant safety information and short instructions for drivers in text as well as international signs. A map of the premises helps them find their way around the plant.

Temporary workers hired for promotion campaigns receive the same safety training as every new worker at Bacardi. Their workplaces, mainly in the storage area, are also included in the risk assessment process.

### **RESULTS AND EVALUATION OF THE PROJECT**

The new OSH management system has been certified and the measures with regard to the contract workers and temporary workers have been proven to be successful: Management and B.A.D. inspections state that the misbehaviour formerly observed has been stopped. Responsibilities are now clarified and by appointing a coordinator for external workers and training the plant's permanent staff, it has been possible to impose the company's safety culture on contractors and drivers to a considerable extent.

### **CONTACT INFORMATION**

B.A.D. Gesundheitsvorsorge und Sicherheitstechnik GmbH  
Herbert-Rabius-Str. 1  
53225 Bonn  
GERMANY  
Tel: +49 228 40072-242  
E-mail: [info@bad-gmbh.de](mailto:info@bad-gmbh.de)  
Web: <http://www.bad-gmbh.de>



### 3.3.8. Snapshot case: Nationwide competition on OSH knowledge for apprentice craftsmen

#### COUNTRY

Poland

#### ORGANISATION

National Labour Inspectorate, Association of Polish Handicraft, the Chamber of Handicrafts, United Crafts' Guilds, Ministry of National Education

#### AIMS AND OBJECTIVES

Young workers can be more exposed to occupational risks than their colleagues due to a lack of experience and appropriate skills and training, physical and psychological maturity, as well as lack of awareness of their employer's duties, and their own rights and responsibilities.

The competition on knowledge of OSH principles for apprentice craftsmen is organised at both regional and national level. At regional level the competition is organised and financed by the Chamber of Handicrafts, United Crafts' Guilds and Regional Labour Inspectorates in cooperation with the School Superintendent's Office while at national level it is organised by the Association of Polish Handicraft and the National Labour Inspectorate in cooperation with the Ministry of National Education.

The teachers' experience shows that one of the best ways of increasing knowledge and awareness in any field among young people is to encourage them to gain the knowledge by themselves on a voluntary basis and get the opportunity to check it in practice. The aim of this competition is to promote OSH-related knowledge and principles among apprentice craftsmen and young workers employed in handicraft shops.

#### SCOPE OF THE PROJECT– WHAT WAS DONE

Each year over 300 apprentice craftsmen participate in the competition at regional level. The competitors have to show their knowledge of OSH-related issues such as labour law, ergonomics, work psychology, technical aspects of occupational safety and health, fire emergency and first aid principles. The knowledge is checked in two stages. At first stage all competitors take a standard test consisting of 40 questions. At the second stage six finalists answer questions in an oral test. Two winners from each of the 16 regions go forward to the national competition, which also consists of two stages – a written and an oral one. Labour inspectors and workers in handicraft organisations are responsible for knowledge evaluation at both levels of the competition.

All the participants receive diplomas and gifts. Winner and other finalists receive awards funded by institutions organising the competition, such as books or electronic equipment, often useful for their further work: for example an apprentice craftsman from a hairdresser's salon has received a professional hairdryer. Additionally, diplomas are awarded to the employers of competition participants.

Information about the competitions at regional level are published on websites of Regional Labour Inspectorates and regional handicrafts organisations. At national level the information is available at the website of the National Labour Inspectorate <http://www.pip.gov.pl> and the website of the Association of Polish Handicraft <http://www.zrp.pl>



### **RESULTS AND EVALUATION OF THE PROJECT**

The competition has helped expand young people's knowledge of OSH and increase the involvement of trades people in issues related to occupational safety and health. This is helping to promote and shape a safety culture among young workers and their employers. The competition is extremely popular.

The main success factors include the activities at regional as well as national level which promote the competitions and their winners. The competition is publicised in newspapers and on internet websites and organising special awards ceremonies helps raise public interest and hence increase participation.

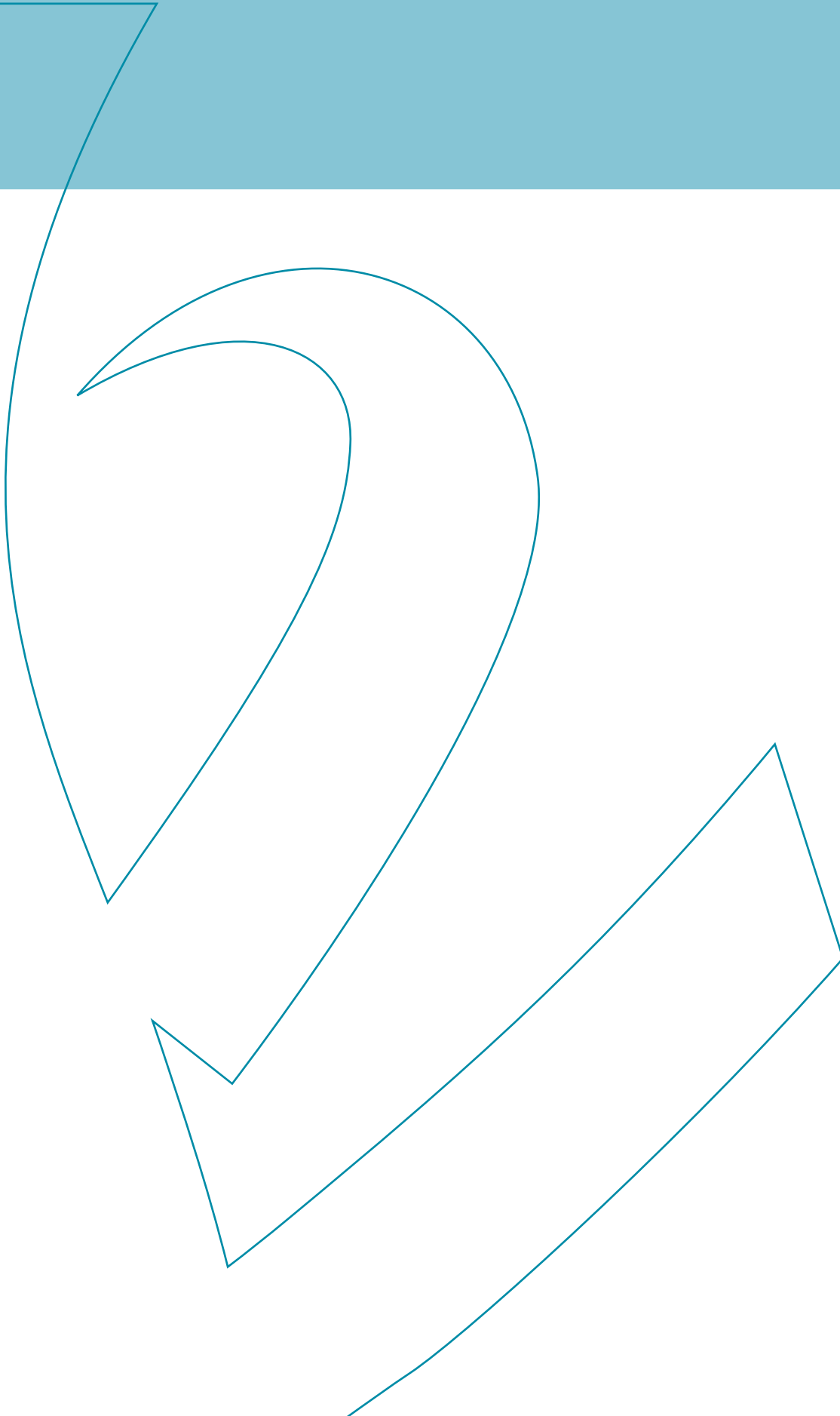
### **CONTACT INFORMATION**

Związek Rzemiosła Polskiego (Association of Polish Handicraft)  
Związek Rzemiosła Polskiego  
00-952 Warszawa  
POLAND  
skr. poczt. 54  
Tel: +48 228316161  
Fax: +48 225044220  
E-mail: [zrp@zrp.pl](mailto:zrp@zrp.pl)  
<http://www.zrp.pl>



# 4.

## CONCLUSIONS



This report describes 15 examples of initiatives taken by companies or at national/sector level to integrate all types of workers into the risk assessment process and prevent occupational risks at workplace level.

Some of the initiatives and projects described were developed with the aim of setting up an equal opportunities or non-discrimination policy for the company or sector. However, the OSH dimension of a specific group of workers (migrants, disabled people, older workers) was also considered, which is positive because it shows that OSH is now mainstreamed into other policy areas, such as public health or corporate social responsibility, anti-discrimination and equal opportunities initiatives. It also shows how improving vulnerable groups' occupational safety and health cannot be viewed separately from wider discrimination issues at work and in society.

Although it is hard to measure the effectiveness of the projects and preventive measures described in this report, it is possible to derive from them some useful information for those who would like to adopt similar approaches.

### **Risk assessment tools that help adapt the work to the worker**

Risk assessment must include all workers, and take into account the risks that are specific to each category of workers based on age, gender, situation in the company, etc. This means that the general tendency to assess workplace risks from the point of a 'standard worker' must be overcome.

Some of the cases in this report demonstrate such inclusive risk assessment, which takes into account risks relative to specific categories of workers.

Software or database solutions are sometimes used and can facilitate the risk assessment process. However, their success rests on the adaptation of the work to the worker and not the contrary. This is helped by a careful observation of the worker's abilities and effective communication between the worker and the management in order to ensure the specific needs of the worker are met.

In the case of Ford Europe (Germany), the aim of the action was to assess the workstations on a new production line and match them with the abilities of 503 disabled workers in order to integrate them into the production process. The use of a software tool enabled the management to find workstations that were appropriate to the competences and the potential of the workers concerned. In the end, nearly all workers (except 31 on long-term illness absence) could be reintegrated into regular work. The workers were very satisfied with their new workplace and gained in self-confidence. Ford realised the importance of good internal communication and the need to promote the project. All groups involved were also included in communication and planning in every stage of the project.

In order to achieve an optimal match between the disabled worker and the job (in line with the general principle of prevention 'adapting the work to the individual') a company in Belgium created a specific department for this, called Ergolab. Intensive methods are also used to help employees prepare for the job and for career development. The employees gain enormously in self-confidence because they are able to prove their worth in actual working conditions.

The Spanish case presents a tool for carrying out a specific risk assessment on the ergonomic adaptation of workstations for disabled workers. It has been designed to identify areas of mismatch between work demands and the functional abilities of



workers, and to assess the risk arising from physical and environmental workload. The results have been included in free multimedia material designed to provide methodological as well as practical information about real cases to professionals in the field, and has already been used with more than 400 workers. The key to the success of this tool is the fact that the recommendations are based on a careful observation of the situation and the needs expressed by the worker himself.

These tools are often aimed at the integration of disabled workers into the risk assessment in order to proceed to adaptation of the workplace. However, these kinds of tools could also be useful for other groups of workers or for the workforce as a whole. As an example, the Spanish database is now also developing a specific application for ergonomic risk assessment for pregnant workers in order to take into account risk factors related to physical demands of the task and environmental and organisational conditions which may involve problems for maternal and/or foetal health.

## Workers' involvement and social dialogue

Generally, worker involvement in any given project is a decisive factor in its success or failure. By asking workers for their opinion and impressions concerning their work and observing their working environment and conditions, it is possible to provide a better answer to their needs and achieve a truly satisfactory solution.

Participation is fundamental to effective risk prevention, as workers have practical knowledge and experience of the work situation and can provide employers with a 'reality check'. Therefore consultation with worker safety representatives and shift (older) workers (Polyfelt - Austria), disabled workers (Ergolab - Belgium), women (Hanover - Germany), etc. is an important part of ensuring health and safety issues for these groups of workers are identified.

To secure ownership of an intervention, the involvement and commitment of employees and their representatives, middle management and top management is crucial at every stage of the process. The management should accept responsibility and employees should be included in all assessment, decision-making and implementation stages.

Establishing health circles at the City Hospital of Hanover (Germany) allowed the management to understand that the major problems faced by female cleaners were not awkward working postures, wet work and dangerous chemicals as they thought, but the disrespect and sexual harassment they were suffering from colleagues and patients. Because the cleaning health circle included only women, the cleaners could speak frankly about feeling exposed and sexually harassed by their male colleagues and patients. The health circle has proved to be an effective way of involving the workers in risk assessment and OSH management process.

VANHOUT construction company (Belgium) found an original way to involve the workers in its diversity plan. Eight employees completed a training programme to become 'builders' godfathers'. They were taught – among other things – to deal with differences between people and opinions in a positive way (for example: cultural background influences the perception of and behaviour relating to health and safety risks). This programme included practical exercises in which participants simulated situations on the construction site to promote safe and healthy work. Their role was then to stimulate communication and consultation on matters of health and safety, especially with regard to disadvantaged workers. This helped promote a positive health





and safety culture and secure the implementation and continued development of health and safety policy in the company. Since the project started the number of occupational accidents has decreased – largely because of the increased risk awareness among disadvantaged workers brought about by a tailor-made welcome brochure and the support of the ‘builders’ godfathers’.

### **Training and information adapted to each public**

Employee training very often leads to an improvement in working conditions. In the case of a diverse workforce, the training or information given to workers should be adapted so that the worker can easily understand and benefit from it.

A diverse workforce may need extra OSH awareness raising to ensure a common perception of risk.

To raise health and safety awareness among young vocational trainees with disabilities, a German project involving several European partners was developed using standardised educational instruments and methods. The project team developed a flexible multifunctional tool which included various exercise modules. These enabled rapid identification of risks and correct action in risky situations. The instruments relied heavily on illustrations to get the message across, which is important because some members of the target group have limited literacy skills.

In an attempt to reduce injuries and deaths on construction sites and to address issues related to migrant construction workers whose first language is not English, a Safe System of Work Plan (SSWP) was launched by the Health and Safety Authority (Ireland) in 2005. The initiative relied heavily on pictograms to explain and clarify hazards and controls, thereby creating a wordless document where safety can be communicated to all workers regardless of literacy or language skills. This proved to be very useful and feedback has been positive. Moreover, HSA has had requests from other European jurisdictions for permission to use their model.

An investigation in the food industry led by the Health and Safety Executive (HSE) (United Kingdom) showed little evidence of existing initiatives to provide adequate instruction, training or supervision in a language that workers could comprehend, although this was mandatory according to the Management of Health and Safety at Work Regulations 1999 and anti-discrimination legislation.

As a result, a working group was set up by the Northwest Food Alliance to draw up a code of practice to address the health and safety implications of employing a linguistically diverse workforce. The group consisted of consultants, legal experts and health and safety professionals from several of the largest food manufacturing companies in the UK, as well as a representative from HSE. It took approximately 14 months to produce the guidance, which is now available for free download and includes key concepts such as: managing culture and diversity, the use of risk assessment and key requirements, induction and training, translation. The guidance has been used by several companies, including Uniq – which has seen lost-time accidents drop.

### **Successful partnership**

The success of a project also depends on the partners involved: workers/workers’ representatives, management, experts, main company – contractors, subcontractors, public institutions, etc.



Traditionally, at Polyfelt (Austria) shift workers had a very high early retirement rate due to the personal strain of night shift work in particular. In addition, new technological developments have increased the cognitive demands of the work, while decreasing the physical work content, and have raised the feeling of stress in the ageing workforce. Stimulated by the works council, the management made the strategic decision to carry out an age-adjusted re-organisation of the shift work. A workgroup for the shift plan reform was established, chaired by a member of the works council. The shift-planning group consisted of shift workers, leading staff members, workers' representatives, occupational physicians and working time experts from the IBG-Institute in Vienna. The corporate approach at Polyfelt was a major factor in the success of this project. The focus was on health and process quality by cultivating creativity and professionalism among all staff members to find intelligent solutions. In the past decade, the company has strengthened its effort to retain workers by improving working conditions. This effort is incorporated in its overall human resource policy, which emphasises equal treatment of all employees, including older staff. The shift plan reform was therefore not an isolated action.

The regional health insurance fund (CRAM) of Languedoc-Roussillon (France) wanted to encourage agencies providing temporary workers, and the employer firms, to work together to reduce the number of occupational injuries among temporary staff. At the instigation of CRAM Languedoc-Roussillon the initiative was formalised by an agreement, and practical measures were initiated for training and analysis of workstations and occupational injuries. What made this initiative a success is the fact that temporary work agencies and user firms were able to work closely together towards the common goal of improving the safety of temporary workers.

### A combination of various measures

In some cases, the success of the project can be ensured by using a variety of measures.

Sappi (Austria) wanted to reduce accidents among staff hired from temporary agencies and to integrate them better into operational processes. The combination of measures taken by the company to achieve this was important for the success of the project. Advanced health and safety training raised awareness among temporary workers of unsafe situations and behaviour. The process of teambuilding helped improve teamwork between permanent and temporary staff, leading to a higher quality of work which brought benefits to all. The reliability of the temporary staff increased and they feel better integrated into the company. The project led to a win/win situation with benefits for the company and the workers.

### Key issues for inclusion-sensitive risk assessment

- Taking diversity issues seriously and having a positive commitment. The organisation's management needs to be a proactive 'driving force' for the development of an inclusive approach.
- Avoiding making prior assumptions about what the hazards are and who is at risk.
- Valuing the diverse workforce as an asset (and not as a problem).
- Preventing ill health and promoting wellbeing at work are important for the quality of work of a diverse workforce.



- Considering the entire workforce, including cleaners, receptionists, maintenance workers, temporary agency workers, part-time workers, etc.
- Paying attention to diverse populations and adapting work and preventive measures to workers. Matching work to workers is enshrined in EU legislation, which means that the 'average man' or 'standard worker' approach (which excludes many workers who do not fit into this category) has to be overcome when designing the work, its organisation and equipment.
- The needs of the diverse workforce should be considered at the design and planning stage, rather than waiting for a disabled/older/migrant worker to be employed and then having to make changes.
- Improving the occupational safety and health of vulnerable groups cannot be viewed separately from wider discrimination issues at work and in society.
- Linking occupational safety and health into any workplace equality actions, including equality plans, non-discrimination policies.
- Comprehensive equality training, covering the need for organisations to embrace diversity throughout all their policies and practices, should include health and safety.
- Providing relevant training and information on diversity issues regarding safety and health risks to risk assessors, managers and supervisors, safety representatives, etc.
- Adequate OSH training should be provided to each worker; training material must be tailored to workers' needs and specificities.
- Inclusive risk assessment should take a participatory approach, involving the workers concerned and based on an examination of the real work situation. This participation has to take place at all stages of the risk assessment process (identifying of risks and people at risks, evaluating the risks, deciding on preventive action, monitoring and reviewing).
- Good practice examples regarding inclusive risk assessment feature a mixture of preventive measures (adapting the work to the individual, adapting to technical progress, giving appropriate instructions to workers, providing specific training, etc.). The adoption of these interconnected measures is a key success factor.
- A risk assessment for categories of workers at increased risk that eliminates risks and tackles hazards at source will benefit all workers (regardless of age, gender, nationality, size). Examples of measures that could benefit the whole workforce include:
  - Installing adjustments to premises or workstations (to accommodate workers with disabilities, ageing workers, etc.), for example, ramps, lifts, light switches, steps edged with light paint, etc.
  - Adopting more ergonomic tools and instruments (that can be adapted to the specificities of each worker regardless of their size and features). This will mean the job or task can be done by a wider range of workers (women, older workers, short men, etc.), for example due to a decrease in the amount of physical strength required.
  - Providing all health and safety information in accessible formats (with the aim of making this information more comprehensible to migrant workers).
  - Designing actions to improve work-life balance (especially intended for women) that can also become attractive for men.



- Developing methods and strategies to retain older shift workers in particular; these strategies will benefit all workers (regardless of age) and make shift work more attractive for new employees.
- Whenever a company or an organisation makes changes to the physical environment of the workplace, or buys new equipment, it is important to ensure that those changes or purchases are also suitable for the diversity of the workforce.
- If the company or the organisation is not competent to deal with the risks of a specific group of workers, it is important to seek advice. This may be provided by occupational safety and health services and authorities, health professionals, safety professionals and ergonomists or disability and migrants' organisations, etc.
- Good practice examples of inclusive risk assessment show that, for any preventive action to be effective, it is essential to involve the whole range of actors directly concerned: workers and workers' representatives, work councils, management, OSH experts, contractors or subcontractors, public institutions, etc.



## How to obtain EU publications

### **Publications for sale:**

- via EU Bookshop (<http://bookshop.europa.eu>);
- from your bookseller by quoting the title, publisher and/or ISBN number;
- by contacting one of our sales agents directly. You can obtain their contact details on the Internet (<http://bookshop.europa.eu>) or by sending a fax to +352 2929-42758.

### **Free publications:**

- via EU Bookshop (<http://bookshop.europa.eu>);
- at the European Commission's representations or delegations. You can obtain their contact details on the Internet (<http://ec.europa.eu>) or by sending a fax to +352 2929-42758.

European Agency for Safety and Health at Work

### **Workforce diversity and risk assessment: Ensuring everyone is covered**

Luxembourg: Office for Official Publications of the European Communities

2009 — 115 pp. — 21 x 29.7 cm

ISBN 978-92-9191-267-4

Price (excluding VAT) in Luxembourg: EUR 15



In order to improve the working environment, as regards the protection of the safety and health of workers as provided for in the Treaty and successive Community strategies and action programmes concerning health and safety at the workplace, the aim of the Agency shall be to provide the Community bodies, the Member States, the social partners and those involved in the field with the technical, scientific and economic information of use in the field of safety and health at work.

European Agency for Safety and Health at Work  
<http://osha.europa.eu>



European Agency  
for Safety and Health  
at Work

Gran Via 33, E-48009 Bilbao  
 Tel.: (+34) 94 479 43 60  
 Fax: (+34) 94 479 43 83  
 E-mail: [information@osha.europa.eu](mailto:information@osha.europa.eu)  
 Price (excluding VAT) in Luxembourg: EUR 15



Publications Office

ISBN 978-92-9191-267-4



9 789291 912674