



R E S E A R C H New forms of contractual relationships and the implications for occupational safety and health

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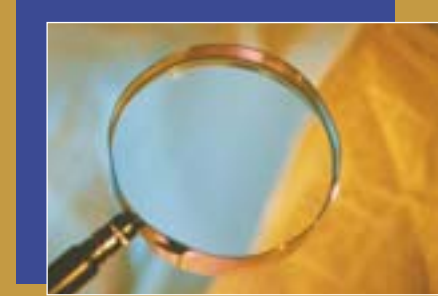
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R E S E A R C H

## New forms of contractual relationships and the implications for occupational safety and health





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occupational safety and health

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## FOREWORD

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Changes in the world of work can give rise to new risk areas or change the way that occupational safety and health needs to be managed. This has implications for workplaces themselves and also for the occupational safety and health system. For this reason the 'changing world of work' has been a priority topic of the Agency.

One important change area that has had an influence on occupational safety and health has been contractual relationships. This covers not only employment contract types — temporary contract and part-time contracts for example — but also the use of subcontracting.

In order to strengthen knowledge on the implications of changes in contractual relationships for occupational safety and health, the Administrative Board of the Agency decided to include a study in this area in its work programme for 2001.

This research information report reviews trends in contractual relations, their implications for workplace safety and health management and also implications for future research in this area.

It is based on current scientific literature and expert viewpoints.

The Agency's Topic Centre on Research — Work and Health, a consortium of European research institutions, produced the report. TNO Work and Employment from the Netherlands coordinated the work. A workshop of experts was used to provide input into the report. A consultation process was carried out by sending the draft report to members of the Agency's thematic network group on research — work and health.

The Agency would like to thank Anneke Goudswaard, Jean Claude André, Eskil Ekstedt, Pekka Huhtanen, Karl Kuhn, Karen Peirens, Rik Op de Beeck, and Richard Brown from the Topic Centre on Research for drafting the report and all those who contributed to the report. Finally, the Agency would like to thank the members of its thematic network group on research for their valuable comments and suggestions with respect to the report.

**European Agency for Safety and Health at Work April 2002**

## SUMMARY

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### Introduction

This report focuses on the occupational safety and health (OSH) implications of changing contractual relationships. The report is based on the study of relevant literature and on the consulting of experts by means of a questionnaire and expert seminar.

#### Research questions:

- What are the trends in contractual relationships?
- What are the implications of these trends for OSH?
- What are the challenges for OSH prevention?
- What are the implications for future research?

### Trends in contractual relationships

The first topic concerns the trends in contractual relationships. Changing contractual relationships are the result of changes within production and work organisations. The shift from industrial mass production towards a more knowledge-intensive service-based society leads to a greater emphasis on knowledge and innovation. Alongside the more traditional organisations, new forms of organisation emerge, directed towards flexibility and customer-orientation. These new organisations appear in many different shapes. One such is the 'Flexible Firm', as promoted by the European Commission, characterised by its high degree of

decentralisation and 'human factor orientation' (the so-called 'high road to innovation'). However, in practice there is an increase in decentralisation in organisations with a low 'human factor orientation', such as in lean production. There is also an increase in network-based organisations, where companies have retreated to their 'core competence', and have outsourced ancillary functions and formed chains of suppliers and subcontractors. This process may be reversed, however, since the same functions may be regained as a result of mergers and reorganisations which are the order of the day. The boundaries of the organisation grow more diffuse and less stable. The introduction of new technologies facilitates and accelerates change in work organisation.

Also within companies, working relations become less stable. Companies make increasing use of short-term contracts, temporary employees, freelancers or self-employed individuals. Increasingly, employees are flexibly deployed over multiple tasks and project-driven organisations are also on the increase. Some contractual relationships have become more informal and more individualised. Contractual relationships can also be influenced by changes in the workforce. In particular, the increased participation of women in the labour market has led to an increase in part-time employment. Teleworking, introduced as a response to employees' wish to combine paid work and family life, also has a direct influence on employment contractual relationships.

In this report we have sought empirical evidence of changing contractual relationships within the European Union. The diversity of concepts used by different Member States and by different authors, makes comparison difficult. Yet, we do have research findings that shed light on the question to what extent contractual relationships are changing. These findings only apply to developments in contractual relationships between employer and employee (data on the trends in non-permanent contracts, such as fixed-term or short-term contracts, temporary agency contracts and part-time contracts, in comparison to the trends in permanent or open-ended

contracts) and to developments in self-employment. Moreover, although several case studies shed light on this aspect, there is no quantitative data available on the extent of these changes, nor is there information on the extent of the individualisation of contracts.

In the 1990s in particular the share of self-employed individuals (without personnel) has increased. The distinction between employees and the self-employed seems to grow weaker. In the 1980s and 1990s the share of permanent or open-ended contracts in total employment has decreased and the share of fixed (or short) term and temporary agency contracts has increased. Nevertheless, most jobs are still subject to permanent or open-ended contracts, and the percentage of employees in the EU with

a non-permanent job seems to have stabilised at less than 15 % of all employees. Employment through a temporary employment agency has grown, but still does not exceed 2 % of total employment. On the whole, jobs in the 1990s seem as stable as in the 1980s. Yet the feeling of job insecurity has grown sharply. This can be explained with institutional factors and the extent to which the social security system provides a safety net. With the entrance of more women into the labour market, the proportion of part-time jobs has increased. In 2000, more than a quarter of all employees in the EU worked less than 25 hours a week, and more than 40 % of all working women. This development is continuing. At the same time, however, there seems to be an increase in the number of employees working long hours.

### What are the trends in contractual relationships?

#### Drivers of change:

- shift towards a more knowledge-intensive service-based society;
- more emphasis on innovation, customer orientation and flexibility within work organisations;
- introduction of new technology facilitates and accelerates change;
- changes in the workforce, growing proportion of women, individualisation.

#### Changing work organisations:

- next to the traditional production organisations, emergence of new forms of work organisation;
- despite the promotion of the 'high road' to innovation, in practice increase in 'lean production' organisations;
- shift from 'traditional' work organisation to the 'flexible firm', with a functional flexible core, combined with use of temporary work and subcontractors;
- increase in network organisations and in project-driven organisations and continual restructuring;
- boundaries between organisations become more diffuse and less stable;
- relationships within companies become less stable, more diverse and more individualised;
- also the boundaries between work and private life grow less precise with developments such as part-time work and teleworking.

#### Changing contractual relationships:

- increase in self-employment, in particular self-employed individuals (without personnel);
- increase in part-time employment, and also an increase in the employees that work long hours and overtime;

- increase in temporary employment, although most jobs are still on the basis of an open-ended contract;
- although jobs seem to be as stable as before, workers experience an increasing feeling of job insecurity, due to the speed of change in organisations and the extent to which the social security system provides a safety net;
- lack of quantitative data on changing organisational boundaries and individualisation of contracts.

#### Research needs:

- comparison between countries difficult because of the different concepts that are used;
- research should no longer focus on the organisation or on the relationship between an employer and employees, but should look at all relationships and work processes as configurations of several interrelated parties: chains of companies, subcontractors and suppliers, employees with different contracts, self-employed;
- work organisations have become more complex and contractual relationships have become more diverse. We need approaches that both grasp the local complexities and the more global trends;
- old definitions are no longer applicable to the new practices. We should find a terminology that is adapted to the new situation and develop clear concepts in order to measure change and its consequences;
- research should not focus on the distinction between permanent and non-permanent contractual relationships, since the meaning of permanence has changed;
- research questions for the future: why are organisations changing? How are organisations changing? How will organisational change impact contractual relationships?

## Implications for occupational safety and health

The second topic concerns the risks (and opportunities) in the field of occupational safety and health, and more generally in working conditions, that accompany the changes in work organisations and contractual relationships.

The speed of change in organisations (reorganisation, downsizing, etc.) lead to an increase in the feeling of job insecurity. Several authors make the connection between increasing job insecurity and stress. This kind of insecurity about one's future goes beyond the borders between 'permanent' and 'temporary' workers. Other distinctions appear to be more important, for instance people's qualifications. Reorganisation can also have another impact, for example if there is a loss of employees with important OSH knowledge. Changes in organisations (technological developments, downsizing, functional flexibility) have also led to an intensification of work. This intensification concerns both 'core workers' and temporary employees. Although employees with a permanent or open-ended contract usually face higher job demands, non-permanent employees have less job control to face these demands. Also subcontractors are confronted with the increasing pressure of shortened throughput systems and 'just in time' production.

Changes in work organisations do not only lead to risks, but can also provide opportunities, as has been promoted in the 'high road to innovation'. However, in a polarised labour market there are winners and losers.

There have been several research projects that analyse contractual relationships and occupational safety and health impacts. Although in some cases the working conditions are more important for the health outcomes than the type of employment status, there are differences between the different groups of employees. Most authors find a negative relationship between temporary or fixed- (short-) term contracts or subcontracting and aspects of

the working conditions. There are mixed results on the relationship between part-time employment and working conditions. The different publications describe a mixture of many different aspects of the working conditions. When we make an analytical distinction in the concept of working conditions between 'conditions of work' (describing the practical conditions under which people work) and 'conditions of employment' (describing the rules and status under which people are employed), we can describe two scenarios:

1. the transfer of risks in the (practical) conditions of work to non-permanent employees and to subcontractors;
2. segmentation in the workforce based on differences in contractual conditions of employment (working hours, job insecurity, and qualifications).

In the first scenario, risks directly related to working conditions (bad ambient and ergonomic conditions) are shifted towards non-permanent workers and subcontractors, who have less protection and/or knowledge to cope with these risks. This scenario is not easy to verify in quantitative data, although it is frequently stated in case study research. In quantitative data, a relationship is found between accidents at work and temporary agency work. A relationship has also been found between bad ergonomic conditions and non-permanent contracts, but this relationship can also be explained by differences in age, in occupation and in sector. Part-time employees are usually more favourable in this field. Also, a relationship between work through temporary agencies and accidents has been found. This scenario is reflected in research on health outcomes, based on European data. Research has found more physical complaints from non-permanent workers, as well as less job satisfaction. Permanent workers experience more stress and psychosocial complaints.

The second scenario (segmentation on the basis of employment contractual conditions) is more broadly supported in research. In general non-permanent workers (and part-time employees) have less job security, less control over their



working time, less career prospects, less access to training and perform less skilled tasks. This last issue poses an extra problem, because of the importance of lifelong learning and gaining of qualifications, not only to perform one's job,

but also to cope with changing work organisations and risks. This second scenario has a gender dimension, since women are relatively over represented in non-permanent and part-time jobs.

### What are the implications for occupational safety and health?

#### Changing work organisations:

- the rapidity of change and the complexity of work organisation give the feeling of losing control over one's life or job (nothing is permanent);
- this kind of insecurity about one's future goes beyond the boundaries between the 'permanent' and the 'temporary' workers. Other distinctions appear to be more important, for instance people's qualifications;
- also the increasing time pressure and intensification of work goes beyond the boundaries between the 'permanent' and the 'non-permanent' employees;
- changes in work organisations do not only provide risks, but can also provide opportunities, as has been promoted in the 'high road to innovation'. However, in a polarised labour market there are winners and losers.

#### Contractual relationships and occupational safety and health:

- case study research indicates a transfer of risks in the field of conditions of work to non-permanent employees and subcontractors. This transfer is not easy to verify on the basis of quantitative research methods;
- accident rates among temporary agency workers are higher, possibly due to less experience/training and/or less medical surveillance;

- employees with short-term contracts are exposed to worse ergonomic conditions than employees with open-ended contracts, but these differences can also be explained by differences in age, occupation or branch;
- both case study research and quantitative data point towards segmentation in the workforce based on differences in conditions of employment;
- employees with a temporary or fixed-term contract have less access to training (this includes OSH training), have less control over their working time, have fewer career prospects and perform less skilful tasks;
- with regard to part-time work there are no negative results in the field of practical conditions of work, but they may have less access to training and less skilful tasks;
- there are gender differences in contractual relationships and in health outcomes, but more research is needed.

#### Research needs:

- more longitudinal research is suggested, in order to investigate the long term effects of job insecurity, downsizing and subcontracting;
- more research attention should be given to the gender dimension;
- the question remains as to how these changes will impact health. Since the evidence is never one-dimensional (no simple relationship between the contractual relations and health), more research is needed to show the complexity (include all types of interfering variables).

## Challenges for OSH prevention

The third topic addresses the challenges for OSH prevention. There are several conflicting trends that pose these challenges.

Modern organisations have become much more dynamic. Relationships between organisations, between organisations and employees and between employees themselves, are constantly changing. Employees can lose their grip on the process (lack of influence and lack of information),

whilst on the other hand self-steering becomes more important, including in the avoidance of risks. An increase in the proportion of temporary workers can jeopardise the learning ability of the company. Temporary workers (and part-timers to some extent) are less well informed about possible risks and have fewer opportunities to gain these insights.

The OSH infrastructure must learn how to deal with complexity and integrated approaches. It becomes more important to intervene in planning and design. There are no longer stable structures (such as between supervisor and

worker). One can no longer control by learning from the past, and there will be less 'in-house' experience. This means a greater emphasis on self-control and self-steering ('empowerment') to increase peoples capabilities to handle risks.

There is an increasing interdependency between companies. Several parties will have to cooperate and communicate in order to manage OSH risks. One specific problem posed in the literature is raised by the self-employed, teleworkers and SMEs in general. Larger companies are usually more able to organise an OSH infrastructure than the smaller companies and the existing infrastructure has difficulties in getting through to the self-employed individuals. At the same time there is greater pressure on subcontractors and companies to perform. Research indicates that mainly large companies have implemented OSH

management systems and mainly large and innovative firms recognise OSH management as not just a cost. The challenge is to make OSH a benefit (at the moment only some innovative companies see this).

There are also several examples of good practice and approaches that focus on solving these conflicts. Several European projects are directed towards promoting the benefits of OSH management and human resources management, and towards describing examples of proactive or integrated strategies. One aspect of this strategy is the concept of 'sustainability' and 'corporate social responsibility', which makes it possible to integrate the aims of companies with the aims of society at large. So far, no systematic evaluative research has been done into the success of such approaches.

### What are the challenges for OSH prevention:

#### Challenges for OSH prevention:

- organisations are becoming more dynamic and complex, which requires a dynamic approach in OSH prevention;
- OSH representatives (and management) must learn how to deal with complexity and integrated approaches in OSH prevention;
- there are several conflicting trends within work organisations that pose new challenges for OSH prevention.
- employees may lose their understanding and influence over the changes, whilst at the same time self-control and self-steering becomes more important;

- the interdependency between companies has grown, including in the field of OSH prevention, while at the same time the pressure on subcontractors is high;
- an important challenge is to put OSH prevention on the agenda of companies as a beneficial investment and not just a cost.

#### Future research needs:

- there are examples of proactive strategies, but there are few examples of integrated approaches;
- no systematic research has been carried out that evaluates the success of such approaches and there is a need for more knowledge on successful measures;
- there is also a need for the use of wider variety of research designs (action research, learning networks, and intervention studies with systematic evaluation).

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## INTRODUCTION

# 1.1

## RESEARCH QUESTION

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The objective of the European Agency for Safety and Health at Work is to provide information in the field of safety and health at work in order to encourage improvements in the working environment. In 1999, the Member States were asked (amongst other issues) to indicate specific topics, which they considered to be emerging risks in several areas of concern (Brown, 2000). In the field of the 'changing world of work', the identified priority areas included 'changing work organisations' and an 'increase in the number of temporary workers'.

The Agency therefore invited its Topic Centre on Research — Work and Health <sup>(1)</sup> to look at the occupational safety and health (OSH) implications of new/changed contractual relationships and at new preventive approaches in response to these changing contractual relationships. This report is the result of this task.

Research publications speak of 'new' or 'atypical' working patterns, or even of 'precarious' workers or 'contingent' labour (see Docherty, 2000). We will not debate the adequacy of these descriptions and in the main, this report will avoid these concepts, unless we refer specifically to the literature in which they

are used. Nevertheless, whatever descriptors are used, there are at least three dimensions to take into account, with regard to contractual relationships:

1. relationships where there is no permanent contract <sup>(2)</sup> between employer and employee, such as temporary agency work and fixed- (or short-) term contracts <sup>(3)</sup>. In the last decade there has been an increase in these types of contract;
2. increased use of part-time workers, many of whom have non-permanent contracts;
3. situations where the work is carried out by subcontracting companies (mostly SMEs), freelancers or the self-employed <sup>(4)</sup>.

This report describes the changes in the field of contractual relationships (Chapter 2), followed by the emerging risks in the field of occupational safety and health (Chapter 3) and the challenges to OSH prevention (Chapter 4). The final chapter will be directed towards formulating some conclusions and future research needs (Chapter 5).

Changes in contractual relationships can lead to new hazards in the field of occupational safety and health as well as difficulties in the application of traditional health and safety management systems designed for different situations (full-time, permanent staff with most work carried out 'in-house'). The increase in non-permanent contracts and part-time workers may lead to new risks, as many of them

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<sup>(1)</sup> Also the term 'permanent' contract is not without discussion, since labour law in some countries allows these type of 'open-ended' contracts to be ended without any problems. So the term 'permanent' or 'open ended' contract can have very distinct meanings in different countries.

<sup>(2)</sup> We will use the temporary work or temporary agency contracts for contracts that involve a temporary employment agency. We will use the work fixed-term contract for other short-term contracts (contracts where the end is fixed).

<sup>(3)</sup> The concept 'self-employed' reflects many different practices, covering people that have started up their own company with or without the aim to engage any personnel, working for many different clients or only a few, but also former employees that became self-employed but still work for one main company (the 'false self-employed').

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<sup>(1)</sup> The consortium institutes of the Topic Centre on Research Work and Health are: INRS/France (Topic Centre leader), BAuA/Germany, BIA/Germany, TNO Work and Employment/Netherlands, FIOH/Finland, Prevent/Belgium, HSL/United Kingdom, NIWL/Sweden, INSHT/Spain, ISPEL/Italy (observer), OSHI/Ireland (observer).

are overlooked by the present health and safety prevention systems and/or internal safety organisation in companies. They may not be covered by current safety and health training programmes. Workers on fixed-term or temporary contracts are often put to work in more risky jobs and face worse working conditions.

Moves to leaner organisations, outsourcing and subcontracting may affect the health and safety management too. For example, there may be delegation of responsibilities in such a way that it becomes unclear who is responsible for decisions that affect health and safety at work. There may also be uncertainty about who is responsible for training, information, protective clothing, etc. Contractors working together create a larger number of interfaces, a situation that requires more coordination in OSH management. There is also a growing number of micro firms and small and medium-sized enterprises. In such businesses, health and safety knowledge may be insufficient or missing. The complexity of new work organisations may lead to an incomplete understanding of the working conditions and to difficulties in finding an optimal development of prevention measures. Health and safety experts, working in-house or as external services, may need to alter their way of working, for example to respond to managing and coordinating health and safety among contractors.

# 1.2

## METHOD

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The authors have reviewed research on the specific risks that relate to changing contractual relationships. This research was accessed in two ways: through a literature search and through an expert seminar. The seminar also discussed accident prevention in relation to the 'changing world of work'. As input into the seminar and the report, questionnaires were sent to a larger group of experts (see Annex 3 for the questionnaire on changing contractual relationships).

## 2.



## CHANGING CONTRACTUAL RELATIONSHIPS

The message that the ‘world of work is changing’ echoes from many different European publications and has been an important theme at several European conferences <sup>(\*)</sup> (see Dhondt et al., 2001; Bundesanstalt für Arbeitsschutz und Arbeitsmedizin, 2000; Magazine of the European Agency, 2000; European Agency, April 2001). In this report, one of the key aspects of this changing world of work, the changing contractual relationships, will be highlighted.

(\*) Most recent: the Belgian Ministry of Labour, in collaboration with the European Foundation for the Improvement of Living and Working Conditions, organised a conference in Brussels on 20 and 21 September 2001 with the title ‘For a better quality of work’. The three themes of this conference were: 1. Time, work and personal life; 2. Changes in work organisation and quality of work; 3. Labour-market flexibility and quality of work. Some examples of EU conferences on the theme in the past: the conference on ‘The changing world of work’ held in Bilbao (October 1998), organised by the European Agency for Safety and Health at Work together with the Austrian Presidency of the European Union; the conference ‘The future of working conditions’ organised by the

In this part of the report the following question will be answered:

- What changes can be found in contractual relationships? What are the new patterns of contractual relationships?

Before we will go any further into these changing contractual relationship, we will first pay attention to changing work organisations. Changing contractual relationship cannot be described without taking into account the context in which these changes take place.

German Presidency of the European Union (June 1999); The Work Life 2000 workshop ‘The information society — a challenge to health and safety at work’ in Bilbao, organised by the Swedish Presidency and the European Agency (January 2000); Quality of work — a future Community strategy for safety and health at work, workshop organised in Bilbao by the Swedish Presidency, the European Commission and the European Agency for Safety and Health at Work (April 2001).

# 2.1

## CHANGING ORGANISATIONS

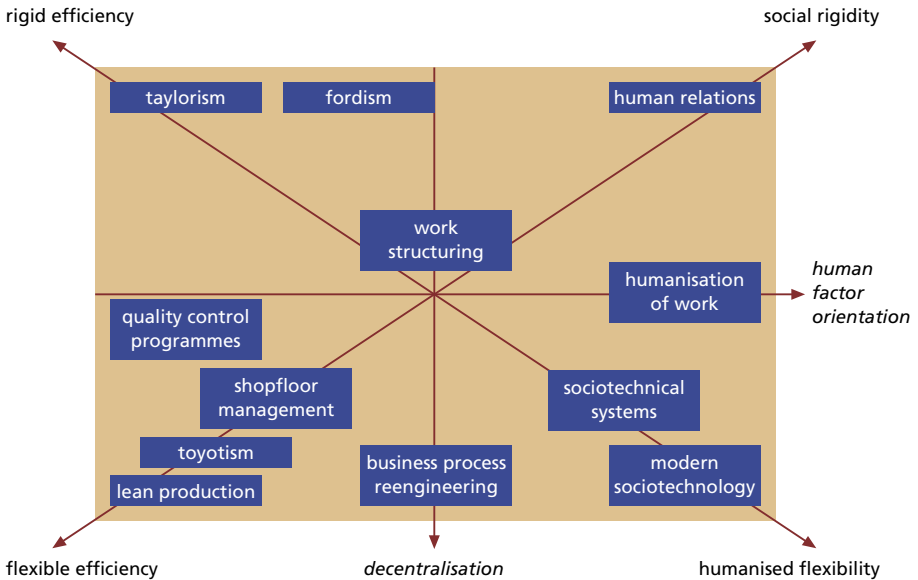
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Modern organisations are not the same as 20 years ago. Developments in information and communications technology (ICT) can facilitate and accelerate organisational change (see Kraan and Wiezer, 2000; see also Oechsler, 2000; Alasoini et al., 2001). The steady evolution of ICT allows management to use new strategies and to integrate new concepts into their companies. Organisations may become less stable but more flexible, both internally and externally. There has been a shift from industrial mass production towards a more knowledge-intensive service society. Within traditional industries, services have become more important and the service sector has grown. Customers have become more demanding in speed and in variety. Bullinger (2000) describes the trend towards a knowledge-intensive service-based society. Company size and costs are no longer the crucial factors when it comes to providing services, but flexibility and innovation (see also Piore and Sable, 1984; Bolwijn and Kumpe, 1990). Developments go hand in hand with a transformation of organisational structures away from rigidly constructed hierarchies. Besides reshaping internal procedures, organisational strategies also involve cooperative arrangements between businesses. ICT makes possible 'Virtual' enterprises, which have learned to think and act on a global scale. The transition goes hand in hand with new training standards; the ability to handle information is the key to the use of all other instruments. Self-management and social skills become as important as planning skills. In

future forms of employment, health could be developing into an imperative, without which employees cannot achieve the required performance standards. In the health context, it may be assumed that psychological and psychosocial stress will continue to feature more prominently, along with chronic disease. The aim here is to rethink traditional attitudes, behaviour patterns and structures in the domain of OSH and to reap more of the potential benefits of modern management and participation models.

Several authors have studied changing organisations and the demand for flexibility ('Business Decisions Limited', 1999; Burchell et al., 1999). The most common focus in literature has been on **new forms of work organisation**, with a reference to the 'flexible firm' (see European Commission Green Paper, 'Partnership for a new organisation of work' (European Commission, 1997); also: Savage et al., 2001; Dhondt, Miedema and Vaas, 2001; Oeij and Wiezer, 2001; Wright, 1997). These new forms of work organisations develop next to the old work organisations and can take on many different practices. Oeij and Wiezer (2001) set out to develop a theoretical framework to describe the relationship between new forms of work and working conditions. They state that although much has been written about new forms of work organisation, unambiguousness on the subject is lacking. They categorise work organisations in two dimensions: centralisation and human factor orientation (see figure 1). Centralisation refers to the division of the management structure of organisations. Decentralised organisations are assumed to be more flexible, while centralisation corresponds to more rigidity. In the other dimension, 'stressing the human factor indicates the relevance of human competencies in production' and on the other hand, 'stressing labour as an expensive factor of production means a one-sided orientation towards cost reduction, quality improvement, and efficiency' (Oeij and Wiezer, 2001). This framework is inspired by the European Commission Green Paper cited above. In this concept of the 'flexible firm', organisations are highly decentralised and human-factor oriented (the 'high road to innovation').

Figure 1. Theoretical organisational concepts and business practices positioned in the decentralisation — human factor orientation model



Source: Oeij et al, 2001

The OECD Employment Outlook (1999) has a chapter on work organisations, also stating that the changing environment has pressed organisations to changes in work organisation, towards ‘new’, ‘innovative’, ‘high performance’ or ‘flexible’ workplaces (OECD, 1999). This chapter examines the evidence for change in work organisation and evaluates the implications for the labour market, based on the OECD project on ‘flexible enterprises’ and the European Foundations project EPOC (EPOC Research Group, 1999). The authors focus on two broad areas of job design (job rotation) and on the delegation of responsibilities.

Overall, the available data on flexible working practices reveal substantial variations between countries.

- Larger workplaces are more likely to have adopted the flexible practices than their smaller counterparts, although the relationship varies by country;

- Establishments with forms of worker representation, such as trade unions and work councils, are more apt to have taken initiatives in the area of flexible work organisation practices;
- Despite assertions by some that flexible practices will vastly improve job quality and by others that they will serve to increase job instability for at least a portion of the workforce, it proves difficult to find evidence of strong links between the presence of the practices and labour market outcomes;
- The most robust finding is that employers with flexible practices are also more likely to provide job training;
- There is no clear relationship with the use of various kinds of flexible employment contracts.

Although the advantages (and challenges) of the ‘high road to innovation’ are often emphasised, practice does not always seem to choose this road (this clause is unclear. Do you



mean in practice, firms do not adopt this strategy, or that in adopting it, the results are not as predicted?) (see Savage et al., 2001; Brödner et al., 1998; Oncis de Frutos and Fernández García, 2000; Huzzard, 2000). Wright (1996) conducted a literature search and found a widespread belief that large organisations must shift from a hierarchical command and control structure to flatter structures to remain competitive. The author states, however, that the reports on the success rates of these strategies are mixed. The HiRes-project, initiated by EWON and funded by the Employment and Social Affairs DG (Dhondt, Miedema and Vaas, 2001) was set up to identify drivers for change and the benefits and obstacles for change with regard to this 'high road'. Although these authors all refer to the 'flexible firm', the relationship between work organisation and contractual relationships is not evident (as the OECD found in its empirical research, 1999).

A second change in organisations that has been described is the development towards more projectised organisations (see Ekstedt et al., 1999; Dankbaar, 2000).

Dankbaar (2000) found, based on case studies and literature, that an increasing part of the work of organisations is being done through (temporary) projects. This change in organisation also has its impact on the management style, (more) coaching, and (more) participation of employees in the decision making. It also has an impact on recruitment strategies.

Ekstedt et al. (1999) investigated a wide variety of projects (25 cases). They start their book with three observations:

- the prevalence of project-driven organisations is increasing (the use of projects and temporary organisations seem to be on the increase in industry as well as in society at large);
- research on relationships between permanent and temporary organisations is poorly developed — thinking about permanent organisations and about temporary

organisations seems to be well developed, but not the relationships between the two;

- the character of permanent organisations is undergoing transformation (the recent fashion for outsourcing is only one minor facet of this change; permanence in the traditional sense should not be taken for granted; as indicated by some organisation researchers, there is a need to redefine the permanent.

Ekstedt also describes a transformation from traditional industrial organisations towards 'neo-industrial' forms of organisation. This form of organisation is characterised by complexity, sophisticated production (including services), flexibility, teamwork, temporary contracts/projects, and customer orientation. While the traditional form of industrial organisation is characterised by: capital-intensive flow-process production, regularised continuous action, permanency, multilevel decision-making, renewal through new technology, systems for continuous refinement. The authors also address the question of the consequences of this transformation for individuals and society (see Figure 2).

In fact, Ekstedt et al. (1999) describe two transformations in organisations: one towards more temporary employment and the other towards more projectised operations. Both types of transformations lead to structural changes that are also described by Clifton (2000). This author states that the modern enterprise (the small firm or micro-firm, the downsized large firm and the individual worker):

- is much smaller than the traditional enterprise;
- has a larger number of different contractors to the main company undertaking a wider variety of jobs;
- contains a mix of people working on their own account (self-employed) or working for small firms, as well as employees of the parent company.

**Figure 2. Relationship between the organisational form of industrial activity and the contract between the company and the individual**

	<b>Permanent employment</b>	<b>Temporary Employment</b>
<b>Flow-process operations</b>	<p><i>A. Industrial companies and public services</i></p> <ul style="list-style-type: none"> <li>• Stationary real capital, assembly line production, multilevel managerial decisions, bureaucracy</li> <li>• Strong permanent organisation and weak temporary organisation</li> <li>• Limited negotiation and search cost and great monitoring costs</li> </ul>	<p><i>B. Manpower leasing</i></p> <ul style="list-style-type: none"> <li>• Firms that lease out and hire staff for current activity during periods of shortage of staff in client companies</li> <li>• Short-term employment (examples include secretarial/office/specialist service agencies)</li> <li>• Putting out systems</li> <li>• Permanent organisation</li> </ul>
<b>Projectised operations</b>	<p><i>C. Commissioned companies</i></p> <ul style="list-style-type: none"> <li>• Recurring projects operations (for example construction companies, technical organisation/management/IT consulting firms)</li> <li>• Weak permanent organisation with broker function and strong temporary organisation</li> <li>• High negotiation costs and limited monitoring costs</li> </ul>	<p><i>D. Professionals/practitioners</i></p> <ul style="list-style-type: none"> <li>• Individuals who are recruited to projects in A and C, or who create projects ('free agents') (for example freelance writers/journalists/artists, craftsmen. Longshorem, self-employed consultants)</li> <li>• No permanent organisation</li> <li>• High costs to involved in establishing a name for themselves and to keep updated</li> </ul>

Source: Ekstedt et al., 1999, Chapter 9, p.211

When we think a bit further about the implications for 'contractual relationships' in the model of Ekstedt, the difference between formal and informal contracts becomes important. In the traditional companies (type A) the contract is set in formal rules (negotiated with the unions) and for the employees it is clear what is expected in the longer term as well. With a development towards more temporary employment, rules are still formal, but only apply for shorter periods and differ between groups of workers. With the development towards more projectised organisations, the formal contract is much more general and will be constantly renewed (at the beginning of each project), and will be more informal and negotiated individually. What is expected will be more implicit. Here the ability of employees to negotiate will be more important. This will also have implications for labour relations and the role of unions.

Atkinson (1984) relates the 'flexible firm' to several types of contractual relationships. He

describes the flexible firm as a mix of several forms of flexibility, with a core of functionally flexible employees and several peripheral groups of numerical flexible non-permanent employees, self-employed and subcontractors. His model has been criticised, but his concepts of functional and numerical flexibility are still very valid. Other authors, such as Purcell and Purcell (1998), also describe segmented labour force strategies of employers, which result in an increase in atypical work forms such as fixed-term and temporary contracts and an increase in outsourcing and subcontracting. These transformations raise the question as to where the organisation's boundaries are and/or who the employer is.

All these developments lead to the conclusion that we can no longer study work processes from the perspective of one (large) organisation and the (relatively stable) relation between one employer and its employees. Future research should focus on work or work processes from a holistic view and focus on a range of (contractual)

relationships. Modern work processes can be seen as a configuration of many different organisations working together in a network, where work is being outsourced to subcontractors and carried out by mostly self-employed, and where different (groups of) employees work together in changing combinations (in projects, as temporary workers). The differentiation into non-permanent and permanent contracts only partly explains OSH impacts. There are other variables that influence OSH in modern organisation structures, such as the qualifications and skills of the workers and the length of their time in the organisation. Apart from the explicit or formal contractual relationships, the more implicit and informal contracts will be important in order to fully understand the changes and the impacts on OSH.

# 2.2

## CHANGING CONTRACTUAL RELATIONSHIPS

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As some of the above authors showed, the changes in work organisations have an impact on the (contractual) relationships. The old rigid boundaries of companies are becoming more and more diffuse (see also Kastner, Kipfmüller et al., 2001; Cameron, 1994; Sennet, 1998; Zeytinoghu, 1999). New management concepts and strategies will lead to change in production processes: to outsourcing or downsizing (see Burchell et al., 1999). Companies try to focus on their main competence and additionally buy the service they need. At the same time there is a growing interdependence between the companies in a chain. There is an increase in 'virtual' organisations, with workers on loan, the self-employed, freelancers etc., working together and being coordinated by a central company.

Changes in contractual relationships are not only driven by changing work organisations, but also by sociocultural developments, changes in the workforce and preferences of specific groups of workers. With more women working, facilities to combine work and family life become more important. One of these facilities can be found in teleworking (working from home or in a telework facility close to the home). Cuhls, Blind and Grupp (1998) calculate that approximately 30 % of people working in an office, will work some or all of their time by teleworking by 2010.

Also, the increase in part-time working is related to the feminisation of the work force, although not all growth in part-time work is on a voluntary basis, and consistent with the wishes of the employees concerning the number of hours they work.

For the individual, these changing work organisations and changing contractual relationships mean that they will face more diverse work patterns and career opportunities, and have to be more flexible in their acceptance of work and in their tasks (see also Cox et al., 2000).

Several authors have tried to find empirical and quantitative evidence for trends in contractual relationships at the European level, mainly focusing on the fixed-term or temporary work contracts, on part-time work and on self-employment (Goudswaard and Andries, 2001; Letourneux, 1998a/b; Michon, 2000; de Nanteuil, 2000a/b; OECD 1997, 1998, 2000; see also the NUEWO project: Koene et al., 2001 and Bergstrom, 2001; Brewster et al., 1996; Tregaskis et al., 1998). There is no quantitative data available on the issue of subcontracting.

The *Employment outlook* of 2000 devotes a chapter to self-employment and states that the proportion of self-employment in the 1990s grew faster than civilian employment as a whole in most OECD countries, in contrast with the 1970s, when the share of self-employment tended to fall (OECD, 2000). At the same time the proportion of self-employed relative to all employees stabilised during the 1990s. The OECD states that the distinction between self-employment and wage employment may have weakened (franchising, self-employed that work only for one company). The article raises the issue of the so-called 'false' self-employment (self-employed only working for one company).

Letourneux (1998) calculates that self-employment accounts for 18 % of total employment in the European Union. Goudswaard and Andries (2001) conclude, on the basis of the third European survey on working conditions, that there has been a

slight increase in the percentage of self-employed individuals (without personnel) versus employees (from 9 % in 1996 to 10 % in 2000).

In the 1980s and 1990s there has been a change in contractual relationships. Although in most countries still the most common type of job, the full-time job with a permanent (or open-ended) contract has become less prevalent, there has been an increase in part-time working and in non-permanent jobs.

The OECD *Employment outlook* of 1998 devotes a chapter to trends in working hours. The authors conclude amongst others that: the (long-term) decline in average annual hours has slowed and in some countries seems to have stopped; there has been a growing diversity in hours worked by employees; part-time working has increased strongly in the majority of the countries (OECD, 1998). Merlie and Paoli (2001) conclude on the basis of the third European survey on working conditions that working hours are characterised by a high proportion of workers having short working hours on the one hand (16 % of workers work less than 30 hours per week), whilst there is also a high proportion of workers who have very long working hours (20 % of all workers and 14 % of employees work more than 45 hours per week).

On the basis of the comparison between the second (1996) and third (2000) European survey on working conditions, Goudswaard and Andries (2001) conclude that there has been no further growth of non-permanent contracts in the EU. On the whole, the percentage of non-permanent contracts among employees has decreased from 15 % in 1996 to 13 % in 2000. This is an average percentage; there are of course large differences between companies and between countries. Michon (2000) calculates that temporary agency work has increased rapidly, but still rarely exceeds 2 % (Michon, 2000).

There are, however, large differences between countries. International comparisons of non-permanent contracts are, however, difficult to make because of the lack of comparable definitions.

The growth in part-time employment has continued, the percentage of employees working less than 35 hours a week has grown from 22 % in 1996 to 28 % in 2000, and even 44 % of all female employees (Goudswaard and Andries, 2001).

The prevalence of job insecurity seems to have risen even more than the share of non-permanent contracts should suggest. In 1997, the OECD *Employment outlook* analysed the question whether job insecurity had increased in the 1980s and 1990s. They concluded that there had been a widespread, and in some countries a very sharp increase, in the number of individuals perceiving employment insecurity between the 1980s and the 1990s (OECD, 1997, p.129). The OECD also found that, although retention rates for certain groups had fallen (blue collar workers and less educated workers), overall jobs seemed to be as stable as in the 1980s. The authors explain this paradox by the possibly increasing risk of joblessness for the employed: lower earnings in the new positions, and difficulties in finding a satisfactory new job. Also, labour market institutions are important for the feeling of job insecurity. Perceived job insecurity is lower when unemployment benefit rates are higher and when there is a higher level of (and more centralised) collective bargaining. These workers feel more protected.

Burchell et al. (1999) analysed the feeling of job security (or lack of it) in the UK. They found that the main reasons to feel insecure were related to impersonal factors, such as the threat of mergers, redundancies, restructuring, plant closures, etc. On the other hand, reasons to feel secure were based more on personal or team-related factors, such as 'I am good at my job', 'my job is invaluable', and 'our branch is indispensable'. This reflects the feeling of a lack of control on the employees' side. Burchell also shows that, although most of the employees have kept their jobs, many of them are working under worse working conditions (e.g., extension of working weeks, intensification of work/pace of work).

Also de Nanteuil (2000) refers to the feeling of job insecurity as part of the concept of

'precariousness'. As uncertainty grows, even though some companies may show a trend towards a 'recodification' of labour relationships, employees actually have less and less control on what's going on. This is mainly due to the fact that flexibility provides the employers with a new kind of 'political capital' — the increasing possibility of controlling the contents of the employment rules and their degree of reversibility — but reduces the employees ability to have any influence. This forced politicisation of labour relationships calls for new forms of regulation and negotiation.

The use of all these types of contracts is **not new**. Most authors that mention trends still only cover a relatively short period in time. Quinlan, Mayhew and Boyle (2000) have written a review of recent literature on OSH impacts of so-called 'precarious employment'. The second part of their paper tries to place this research in a comparative historical context. Extensive use of precarious employment is not new; it was a characteristic feature of most industrial societies in the 19th and first part of the 20th century.

What is new is the global character of the changes, the complexity of work organisations and contractual relationships, and the lack of transparency for the individual. What also seems to be new is the speed in which change takes place, partly made possible by new technologies. Individuals experience an increasing intensification of work and both individuals and subcontractors seem to be under more time pressure than before. Another aspect of the time dimension is the fact that there is still an important use of overtime and at the same time more people have part-time contracts (see also van den Broek et al., 1999). The OECD *Employment outlook* of 1998 spends a chapter on trends in working hours. The authors conclude, among other aspects, that: the long-term trend decline in average annual hours has slowed and in some countries seems to have stopped; there has been a growing diversity in hours worked by employees; part-time working has increased strongly in most of the countries (OECD, 1998).

# 2.3

## SUMMARY

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### What are the trends in contractual relationships?

#### Drivers of change:

- shift towards a more knowledge-intensive service-based society;
- more emphasis on innovation, customer orientation and flexibility within work organisations;
- introduction of new technology facilitates and accelerates change;
- changes in the workforce, growing proportion of women, individualisation.

#### Changing work organisations:

- next to the traditional production organisations, emergence of new forms of work organisation;
- despite the promotion of the 'high road' to innovation, in practice increase in 'lean production' organisations;
- shift from 'traditional' work organisation to the 'flexible firm', with a functional flexible core, combined with use of temporary work and subcontractors;

- increase in network organisations and in project driven organisations and continual restructuring;
- boundaries between organisations become more diffuse and less stable;
- relationships within companies become less stable, more diverse and more individualised;
- also the boundaries between work and private life grow less precise with developments such as part-time work and teleworking.

#### Changing contractual relationships:

- increase in self-employment, in particular self-employed individuals (without personnel);
- increase in part-time employment, and also an increase in the employees that work long hours and overtime;
- increase in temporary employment, although most jobs are still on the basis of an open-ended contract;
- although jobs seem to be as stable as before, workers experience an increasing feeling of job insecurity, due to the speed of change in organisations and the extent to which the social security system provides a safety net;
- lack of quantitative data on changing organisational boundaries and individualisation of contracts.

# 3.



## EMERGING RISKS

In this chapter the impact of changes in contractual relationships on occupational safety and health is analysed. What are the new or emerging risks, related to changing work organisations and relationships? What are the differences in exposure to risks between groups of workers?

In this part of the report the following questions will be answered:

- What evidence is there that the nature of OSH problems has changed due to new/changed patterns of contractual relationships?
- What (new) risks are emerging?

# 3.1

## CHANGING ORGANISATIONS

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### Changing organisations and job insecurity

Risks are changing, due to increased technology or to the growth of workers employed in the service sector. Some of the 'traditional' risks become less important. Fewer people work with heavy machines and safety can be 'designed into' machines. However, new risks replace them, such as ergonomic problems in information-intensive work or stress and violence due to personal contact with people (see Merllie and Paoli, 2000; Dhondt et al., 2000; Cox et al., 2000). Also organisational change itself, as described in the previous chapter, can lead to new risks and challenges in occupational safety and health (see also Landsbergis et al., 1999). In particular, the speed of the changes, whether the changes are imposed or agreed and the complexity of restructured organisations can lead to stress. Sennet (1988) considers that these 'post-modern' organisational structures will, in the worst case, disturb existing human relationships. Also, new risks may emerge due to an increase in home-based work or teleworking (see Tassie, 1997 and Huuhtanen, 1997 and 2000a/b; Kraan and Dhondt, 2001). Apart from time pressure and other job demands, new causes of stress might include the frequent changing of working and non-working periods, coping with uncertainty and the fear of losing control because of organisational complexity. A lot of individuals will not be able to plan their future,

because they are living in permanent anxiety about losing their job (Huuhtanen and Kandolin, 1999; Burchell et al., 1999). The growing time pressure and organisational complexity cause an increasing mental stress response in each individual worker (Thornhill and Saunders, 1997; Brockner et al., 1997; Netterstrom, 2000). Burchell et al. (1999) investigated the impacts of job insecurity on psychological wellbeing (general health questionnaire) and found a significant relationship with both job insecurity and pressure of work. Also Platt et al. (1999), on somewhat limited evidence, found that job insecurity leads to poorer (self-rated) physical health and an increase in some reported clinical symptoms. Reissman et al. (1999) describe the impact of downsizing on stress.

### Changing organisations and intensification of work

Changes in organisation and new technologies have led to intensification of work and to higher demands on all employees. Based on case study research, Goudswaard and de Nanteuil (2000) describe the intensification of work that can accompany functional flexibility. Internal flexibility can result in a diversification of duties and self-enrichment, which helps prevent monotony. In practice, however, it has a number of drawbacks because it is accompanied by greater demands, more uncertainty about performance expectations and a need for extra training. That puts people under pressure, thus partially counteracting the positive effects. Most authors state that higher job demands are more common among the permanent employees (see Letourneux, 1998). Based on the analyses on the *Third European survey on working conditions* by Goudswaard and Andries (2001) analyse the impacts of intensification of work for different groups of workers. When they only look at the relationship between employment status and psycho-social job demands, it seems that intensification of work is experienced more by the 'core workers': permanent employees face higher psycho-social job demands than non-permanent workers and full-time employees face higher job demands than part-time employees.



But, when the authors also look at job control, as a way of coping with high demands, and when the characteristics of the job are included, it seems that the consequences of intensification can be experienced more by non-permanent employees, as they have less job control.

Quinlan et al. (2000) suggest that workers in many precarious jobs are subject to high demands and relatively low rewards and have limited decision latitude. Brisson et al. (1998) found that the decision latitude and job strain was comparable for permanent and non-permanent workers. (See also Aronsson (1999) and Netterstrom (unpublished 1998) for this relationship).

Not only the individual workers are affected. The Gesina project (Kastner et al., 2001) highlighted the demands which affect subcontractors of a large automobile company (time pressure, need to be highly flexible) and related this with poor safety and health management and health problems (see also Kuorinka, 1998 for the influence of subcontracting on musculoskeletal disorders; Mayhew and Quinlan, 1999 for the effects of subcontracting on OSH).

### Importance of qualifications in coping with the changes

With all these changes in work organisation and in contractual relationships, personal capabilities (usually quantified as qualifications, competencies or skills) are a key factor, because there is a greater need for self-organisation, coordination, communication and cooperation. New forms of work organisation require high skills (see Savage et al., 2001). In the Gesina project (Kastner, Kipfmüller et al., 2001) it was found that the educational level or special capabilities were important in explaining health differences. The authors concluded that well-educated workers were better able to be effective self-managers because their work was characterised by high autonomy and a decision-making on a wide front. Employability can thus be seen as an asset in staying healthy. The link between safety and health at work and employability is also made in another EU project (European Agency, 2000; 2001). In this project the relationship is the other way around. Health, or in general, well-being, is essential to an individual's employability (person's ability to be employed).

# 3.2

## CHANGING CONTRACTUAL RELATIONSHIPS

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Several authors have tried to analyse the relationship between different contractual relationships and occupational safety and health.

Quinlan, Mayhew and Boyle (2000) draw the following conclusions:

- the vast majority of studies (74) found an association between (what they call) 'precarious' employment and a negative indicator of OSH;
- with regard to outsourcing and organisational restructuring/downsizing, well over 90 % of the studies found a negative association with OSH (see also Park and Butler, 2000; Van der Doef and Maes, 1999). Several studies identified the link between downsizing/organisational restructuring and increased occupational violence, bullying or aggressive behaviour at work (Snyder, 1994; McCarthy et al., 1995; McCarthy, 1997);
- with regard to temporary workers, 14 of 24 studies found a negative association with OSH (see also Dwyer, 1994; Francois and Liewing, 1995);
- the evidence is less strong in relation to small business (where the search was less exhaustive, but see also Salminen et al., 1993);
- findings for a handful of studies of part-time workers found no clear association with

negative OSH outcomes, in some cases the reverse.

The paper by Quinlan et al. (2000) identifies the needs for further research, in particular with regard to outsourcing and organisational restructuring, and explores how to conceptualise the association between precarious employment and occupational health. While at least half of the studies included were specifically targeted at female workers, only a handful appear to have assessed whether there were gender differences (see for instance Westburg, 1999). However, five out of seven studies that did raise gender issues concluded women were especially vulnerable to adverse health effects.

Quinlan et al. identified three sets of factors, which appears to explain why precarious employment was linked to inferior OSH outcomes:

- economic and reward systems: greater economic pressure in terms of competition for jobs, pressure to retain a job and earn a liveable income; a significant group is engaged on piecework or task-based payment systems; 'corner cutting' on safety (see Sundstrom-Frisk, 1984); pressure to take on high risk activities that have been offloaded by a larger organisation or refused by permanent workers (see Dwyer, 1994);
- disorganisation: (see also Dwyer, 1994) these workers are liable to be less experienced, workers perform unfamiliar tasks and less familiar with OSH rules, more difficult to coordinate decisions, anticipate dangers. These workers are also less likely to belong to unions or to have bargaining power; also multi-employer work-sites with more complicated lines of management control and more fragmented work processed;
- increased likelihood of regulatory failure: OSH regulatory regimes designed to address full-time and secure workers in large workplaces. In a large number of industrialised countries most of the self-employed subcontractors and home based workers fall outside this regulatory protection.

## Research findings on contractual relationships and working conditions

In describing the negative impact of changing contractual relationships, often many different aspects are put together. In order to clarify the conclusions, we will use a framework that has been introduced by Goudswaard and de Nanteuil (2000). In this framework the concept of working conditions is divided into two aspects:

1. 'conditions of work', describing the practical conditions under which people work and cope with a specific technical and organisational environment; and
2. 'conditions of employment', describing the contractual rules and status under which people are employed, trained and paid.

Based on this conceptual distinction, two 'scenarios' can be identified: 1. the transfer of risks in the field of conditions of work to temporary workers and subcontractors, and 2. segmentation in the field of the conditions of employment (Goudswaard and de Nanteuil, 2000; de Nanteuil, 2000).

## Transferral of risks to temporary workers and subcontractors

In the first scenario, exposure to risk is shifted to the external, flexible workers or subcontractors. Those are the people who do the dirtiest, the most dangerous and the most monotonous jobs under relatively poor ergonomic conditions. They are not as well protected as permanent employees since they often fall outside the jurisdiction of committees that monitor working conditions or labour unions. This is not always necessarily intentional; sometimes they are simply not around long or often enough to participate in safety training or employment negotiations. There is a difference in risk knowledge between the groups. It is worth noting that this applies not only to unskilled workers but also to highly trained ones, such as those in the chemical industry who perform machine maintenance. This scenario can be

called 'extensive precariousness', describing a cumulative scenario in which all variables are affected by flexibility. Based on the third European survey on working conditions, Goudswaard and Andries (2001) analyse this first scenario further. The authors find no evidence of the transferral of physical hazards to the flexible workers. However, their sources did not include accident rates. They do find some differences between permanent and non-permanent employees (non-permanent employees face worse ergonomic conditions), but these differences can also be explained by differences in employment sector or occupation. They also find more favourable ambient conditions for part-time employees and more unfavourable ergonomic conditions for the self-employed. The transferral of these risks to subcontractors could not be analysed on the bases of the data. What they did find were differences in risks between occupational groups and/or branches.

Letourneux (1998a) found that the conditions of work of precarious workers are worse than those of permanent workers: physical constraints, noise. The working conditions are reflected by the self-reported health problems: more musculoskeletal problems, but fewer stress and mental health problems. The level of absenteeism was highest among workers on permanent contracts (see also Ellingson et al., 1998 for satisfaction and performance of temporary workers; and Smith, 1999 for the impacts of job characteristics on satisfaction and burnout).

Benavides and Benach (1999) found that full-time workers have worse health-related outcomes as compared to part-time workers for all types of employment. Some exceptions were found: part-time temporary contracts were more likely to report dissatisfaction, absenteeism and stress. Non-permanent employees were more likely to report dissatisfaction, but less likely to show stress in comparison to permanent employees. These results persisted when the same analysis was conducted by job category, economic sector and country. Permanent employees were less

likely to report fatigue, backache and muscular pains, but more likely to report health-related absenteeism in comparison to other types of employment. Associations between types of employment and health outcomes almost always persisted after adjustment for individual working conditions. Although environmental conditions vary across countries, the association between types of employment and health-related outcomes did not change, except for muscular pains.

Francois and Lievin (1995), and Morris (1999) found a higher risk of accidents for workers with a temporary agency contract and with a shorter duration at the company. For instance, a study in 1995 and 1996 in Finland has revealed a 10–15 % higher rate of accidents for temporary workers in industry than for workers in permanent jobs. No differences in accident rates could be found in service work (report of Federation of Accident Insurance Institutions, 1999, cited in Huuhtanen and Kandolin, 1999).

Letourneux (1998b) also analysed the situation of the self-employed and found that the self-employed workers most exposed to physical risks were primary-sector workers followed by craft workers. Over half of all self-employed workers face substantial pressures due to the pace of work. The source of the pressures differed, however, per sector. Physical health problems affected the self-employed in the primary and secondary sectors most. Self-employed in the service sector were more exposed to health problems of a psychological kind.

The article of the OECD also discussed the working conditions of the self-employed. On average, the working conditions of the self-employed seemed to be less favourable than those of employees doing similar work. They report less training, but higher job satisfaction (OECD, 2000).

### Segmentation in the conditions of employment

In the second scenario, described above, even with no difference in actual working conditions,

a gap develops between permanent and non-permanent workers, or full-timers and part-timers, in terms of job security, access to training, career prospects and remuneration (the conditions of employment). The flexible workers get assigned the least favourable work times and have little opportunity to improve themselves. Gender segmentation also comes into play here. Women adopt flexible working time much more frequently than men. They therefore take the full brunt of the unfavourable aspects of increased flexibility. This scenario can be called 'intensive precariousness'; it affects a limited part of the labour relationship, though very intensively. Also Purcell and Purcell (1998) stress the increasing feeling of job insecurity and exclusion that goes with the increase in 'atypical' forms of work (see also Klein Hesselink et al., 1997; Beard and Edwards, 1995; Klein Hesselink and van Vuuren, 1999). Goudswaard and Andries (2001) have analysed differences in employment conditions between groups of workers on the basis of the third European survey on working and find some evidence of differences in conditions of employment (working time and skill development) between groups of employees. Even when the characteristics of the jobs are taken into account, employees with non-permanent contracts have less time control and perform less skilful tasks. Having a non-permanent contract and working part-time will worsen this situation, since part-time contracts can be characterised by having low time control, a low skill base and fewer training opportunities.

Huuhtanen and Kandolin (1999) looked at the Scandinavian literature and found evidence of this second scenario. They concluded:

- short-term temporary employment does not offer workers the possibility to become fully motivated and to use their skills;
- there are distinct gender tendencies behind the new models for working life (Lehto and Sutela, 1999, cited in Huuhtanen and Kandolin);
- according to the quality of work life survey in Finland, the most frequent comments on

fixed-term contracts concern the stressfulness of constant insecurity, the inability to plan the future and difficulties with everyday affairs, such as getting loans from banks (Lehto and Sutela, 1999, cited in Huuhtanen and Kandolin);

- also Moilanen and Vainikka (1999, cited in Huuhtanen and Kandolin) did research on the impacts of temporary contracts in the hotel and restaurant trade in Finland. The income of the contingent workers was significantly lower, the possibilities of planning one's future, raising a family, having children was considered to be hindered by the type of work. Also health care and housing arrangements were hindered. But employees in permanent jobs were more exhausted than temporary or part-time workers;
- Saloniemi warns against drawing stereotyped conclusions, fixed-term work in Finland can be both a trap and a bridge (Saloniemi, 2000 cited by Huuhtanen and Kandolin, 2000).

An ILO paper of 1997 presents some advantages and drawbacks of part-time work and shows difficulties in international comparison as a result of unclear definitions. It is important to make the difference between voluntary and involuntary part-time work. Drawbacks: lower wages, less social and social security benefits, supplementary

payments, limited career prospects, less payment for overtime hours, less training, less participation in unions.

### Opportunities of flexibility

When we look at the different publications above, it might seem that, apart from part-time work, there are only risks involved in the new or changing contractual relationships. However, there might also be opportunities involved, in particular when we look at changing work organisations that follow the 'high road to innovation' or when we look at project-driven organisations. As in most situations, change (or people's attitude to change) creates winners and losers. However, some projects have examined the possibilities for creating a win-win situation, looking for synergy between company innovation and quality of working life (for instance the European Commission Innoflex project and Hires-project; See Brödner et al., 1998; Oncis de Frutos and Fernández García, 2000; Huzzard, 2000; McEwan, 2000; Dhondt, Miedema and Vaas, 2001).

As we can see in this chapter some aspects of our research question have been analysed more thoroughly than others. We will come back to the gaps in research knowledge in the last chapter.

# 3.3

## SUMMARY

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### What are the implications for occupational safety and health?

#### Changing work organisations:

- the rapidity of change and the complexity of work organisation give the feeling of losing control over one's life or job (nothing is permanent);
- this kind of insecurity about one's future goes beyond the boundaries between the 'permanent' and the 'temporary' workers. Other distinctions appear to be more important, for instance people's qualifications;
- also the increasing time pressure and intensification of work goes beyond the boundaries between the 'permanent' and the 'non-permanent' employees;
- changes in work organisations do not only provide risks, but can also provide opportunities, as has been promoted in the 'high road to innovation'. However, in a polarised labour market there are winners and losers.

#### Contractual relationships and occupational safety and health:

- case-study research indicates a transfer of risks in the field of conditions of work to non-permanent

employees and subcontractors. This transfer is not easy to verify on the basis of quantitative research methods;

- accident rates among temporary agency workers are higher, possibly due to less experience/training and/or less medical surveillance;
- employees with short-term contracts are exposed to worse ergonomic conditions than employees with open-ended contracts, but these differences can also be explained by differences in age, occupation or branch;
- both case study research and quantitative data point towards a segmentation in the workforce based on differences in conditions of employment;
- employees with a temporary or fixed-term contract have less access to training (this includes OSH training), have less control over their working time, have fewer career prospects and perform less skilful tasks;
- with regard to part-time work there are no negative results in the field of practical conditions of work, but they may have less access to training and less skilful tasks;
- there are gender differences in contractual relationships and in health outcomes, but more research is needed.

# 4.



## NEW CHALLENGES FOR OSH PREVENTION AND NEW PREVENTIVE APPROACHES

In this part of the report the following questions will be answered:

- What evidence is there that there is a need for changing the prevention strategies about OSH due to new/changed patterns of contractual relationships? What problems in the field of OSH prevention are emerging?
- Is there any validated know-how on success factors for prevention in an environment with growing flexible employment relationships? What examples of new preventive approaches are there?

# 4.1

## EMERGING PROBLEMS IN OSH MANAGEMENT

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The changes described in the first chapters, in particular the speed of changes and the increasing complexity in contractual relationships, will also have an impact on the field of occupational safety and health management.

### The speed of change and lifelong learning

Work organisations and with them contractual relationships, are changing at a higher speed than before. This dynamic situation requires a dynamic approach in occupational safety and health prevention (Grossmann and Martin, 1999). Existing relationships are no longer stable for a long period; rather, relationships between organisations and between individuals are changing constantly. The average lifetime of technologies is decreasing. People might feel they are losing their grip or understanding of the production or organisation process. There is also a growing interdependency between companies. Safety and health prevention can no longer be controlled by learning from the past. There will be less experience with the workers, but also within the organisation. Also hierarchical structures are being broken down. This means that more self-control and self-steering is required, also in the field of preventive actions. Actions have to be

developed to increase peoples' capabilities to handle risks (see also Jäger and Stürk, 2000). Lifelong learning becomes more important to sustain one's employability, but also to sustain healthy workers and healthy workplaces. As we have seen in the previous chapter, temporary and fixed-term employees and part-time employees have less access to training. See Tregaskis et al. (1998), who conclude that employers are less ready to pay for the training of non-permanent employees, while these employees themselves do not earn enough to pay for their own training and skill updating. Temporary, fixed-term and part-time employees also perform less skilful tasks. Therefore, they have fewer opportunities to learn through their job. They are also less well informed about the risks of their jobs. This poses a problem for OSH management, but also for human resources management.

Apart from increasing the abilities of the workers to cope with the risks, it becomes more important to intervene in the planning and design of organisations and work processes.

### The complexity of the contractual relationships and prevention beyond the boundaries of the organisation

Health and safety prevention has to permeate beyond the boundaries of the organisation. Since work processes have become the meeting point of a large number of individuals and organisations, all parties will have to cooperate, and communication becomes more important. Situations where large numbers of contractors are working together create a large number of interfaces and create scope for uncertainty about who is responsible for what (Clifton, 2000; INRS, 1992).

The Gesina project (Kastner et al., 2001) shows that, although all contractors are responsible for their own OSH organisation, often, and especially in SMEs, the management feels that the administration and cooperation would overtax them. Therefore, one has to find solutions that focus on more than just one



workplace. Contractors often do not have their own counselling system and cannot participate in the counselling system of the client. In the future, OSH management should not stop at the physical boundaries of the company, but should be expanded to include the whole of the wider organisational structure. Special support is needed for the SMEs. Some suggestions for strategies (from the Gesina project) include:

- implementing all contractors into a common integrated safety and health system;
- supporting the communication and cooperation between all system partners;
- supporting SMEs in their administrative work.

At the same time, greater pressure is being put on subcontractors and companies to 'perform' (Goudswaard and de Nanteuil, 2001). The experts at the symposium: Topic Centre on Research, Brussels, 9 and 10 May (see the annex) noted that, in many companies, OSH is only seen as a cost and not as benefit. Only some of the more innovative and larger firms see OSH as a factor in creating the 'high road to innovation'. One of the challenges for social partners and for researchers is to present the benefits of good OSH (see Mossink et al., 1998 and 1999 for costs and benefits of OSH in general; see Stromsvag, 1998, for an analysis of the costs and benefits of OSH management for contractors; see also Purcell, Hogarth and Simm, 1999 for the costs and benefits of non-standard working arrangements, as perceived by employers and employees). The EC Green Paper on new forms of work organisation (1997) promotes 'improving employment and competitiveness through a better organisation of work at the workplace, based on high skill, high trust and high quality'. It also invites the social partners and public authorities 'to seek to build a partnership for the development of a new framework for the modernisation of work'.

Several authors refer to the problems with OSH management in small and medium-sized companies and with regard to the self-employed. Overall, it can be said that mainly the large enterprises will have invested in and

implemented broad OSH management systems. SMEs or micro firms will have less specific OSH expertise. Moreover, the number of these firms makes them difficult to regulate (Clifton, 2000).

Some insights into the needs of SMEs for occupational health support are also provided by a report of the Occupational Health Advisory Committee (1999). This report contains recommendations of a workgroup on how to improve access to occupational health support, particularly for people at work in small and medium enterprises. Although motivators for proactive management of health and safety differ little between large and small companies, there are some specific characteristics of the small firms that need attention. Employers and single managers have to fulfil roles where larger companies have specialists and there is more often poor understanding of legislation on occupational health and limited experience in human resources management. Moreover, many small businesses struggle to keep their heads above water, business vision is likely to be short, trade-union membership is lower, and SMEs tend to make no distinction between work-related and other sickness absence. These are all reasons for the lower level of attention to OSH management. The workgroup states the need to raise the awareness of the SMEs of the problems and how to deal with them. It also recommends sector-specific help with risk assessment and implementation of OSH prevention systems.

Getting the health and safety message across to self-employed individuals, often working from home with little spare time and limited resources, is not easy (Barclay, 2000). It relies on the dissemination of information by fellow professionals and on client companies facing up to their responsibilities.

Huhtanen (1997 and 2000) refers to the dissemination of information with regard to teleworking. The dissemination of specific health and safety information is needed with guidance and training on how to proceed on relevant issues (e.g. health surveillance, organising work patterns, working times, re-

training, risk assessment on home workstations, etc.). This is especially true for small and medium-sized enterprises and for self-employed teleworkers. Guidebooks, newsletters and computer-based instructions for adjusting and checking the work environment and working should be further developed, using both Internet and CD-ROM resources.

### Regulatory problems

The existence of large numbers of SMEs and self-employed workers and of flexible contractual relationships does not only pose problems for prevention, but also in the field of regulation.

Quinlan, Mayhew and Bohle (2000) focus an important part of their paper on regulatory problems posed by 'precarious' employment. Historically, the OSH regulatory regimes of most industrial countries focused on full-time employees in large workplaces. Since 1996, government agencies in Europe and elsewhere have prepared or commissioned reports on challenges posed by labour market changes or specific work arrangements, such as telework, and temporary work (Huuhtanen, 1997; Van Waarden et al., 1997). Huuhtanen (1997 and 2000) examines the consequences of teleworking. In this type of work, the traditional concept of subordination, in which the work is performed under the immediate command and control of an employer, may not be appropriate or the most effective. New thinking is needed among management and employees, so that

control and supervision is based not on presence at the workplace, but on quality of results. Working independently of time and place calls for trust between different parties (Huuhtanen, 1997 and 2000). Also, the possible risks to third parties need to be addressed.

Large companies have created their own teleworking practices and agreements, where health and safety issues have been regulated. Attention to health and safety risks of materials, equipment and the work environment should start at the stage of purchase through consultation with the individual teleworker (Huuhtanen 1997 and 2000).

The reports, reviewed by Quinlan, Mayhew and Bohle (2000), have identified gaps in regulatory coverage and logistical and other problems relating to inspection (there has, however, been little research on these regulatory challenges).

There is also some evidence from the same authors that the growth of precarious employment is having profound effects on the coverage and administration of workers' compensations and rehabilitation regimes. The growth of precarious employment also has an indirect effect on OSH regulation, through industrial relations. Union membership is significantly lower amongst contingent workers such as the self-employed, those in small business, part-time and temporary workers. Falling union membership levels have weakened input into OSH regulation (Quinlan, Mayhew and Bohle, 2000).

# 4.2

## CHALLENGES FOR OSH MANAGEMENT

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Several conferences within the European Community have discussed the above problems and formulated the challenges. For a report on the conference on the changing world of work, see *European Agency's Magazine*, 2000; see also Dhondt, Goudswaard et al., 2001; Bundesanstalt für Arbeitsschutz und Arbeitsmedizin, 2000; European Agency, 2000; World Health Organisation, 1999; Hiel et al., 2000. In summary:

- OSH policy must keep pace with the changes in the world of work;
- there is a need to integrate OSH into the change process and to integrate OSH with production and quality;
- there is a need for financial tools to illustrate the consequences of changes in the organisation of work;
- there is a growing number of SMEs, where OSH knowledge is less than in larger companies;
- all stakeholders within the field of OSH (employers, employees, regulators, inspection authorities, insurance funds, etc.) have to discuss and if necessary adapt their roles and tasks;
- participating EU countries have faced similar pressures; national conditions and trends vary

with different legal frameworks for OSH, and varying roles of trade unions;

- partnership of employers and trade unions is important;
- younger workers need to sustain their working power through lifelong learning;
- a holistic approach to occupational safety and health should be taken at both the strategic planning and local implementation stages of preventive activities. At the strategic planning stage, both occupational safety and health and employment policy bodies should be involved and the implementation requires with the participation of the social partners and all stakeholders;
- reintegration and workplace redesign are the keys to unlocking the potential of those who have experienced exclusion from the workplace. Programmes at enterprise, sector, or State level show that reintegration is possible, even in a high-risk sector like construction;
- there is a need to change the perception of those excluded from the workforce; by viewing workers as 'differently abled' rather than 'disabled', most people become employable;
- health and safety and rehabilitation have to be integrated into the mainstream of employment policy.

Although several publications have mentioned the problems in the field of OSH prevention in a changing world of work, there is still little research into the scope of the problems. There are some case studies, with examples of good practices and new approaches (see below). There is no validated or evaluative research into the success of these good practices.

# 4.3

## EXAMPLES OF NEW APPROACHES AND PREVENTIVE MEASURES

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As has been said before, it seems that the old structures in OSH management, which are mainly reactive, do not fit the new challenges. This means that the new structures must become more proactive, that they must learn to deal with the complexity of work processes and that a focus should be on the integrated approaches (see also de Haan and de Lange, 2001; TNO Work and Employment, 2001). In the light of the previous, means of prevention can be carried out at State, sector, and enterprise levels.

### European and national policy and industrial relations

There has to be an exchange of information in Europe on successful prevention strategies. Due to increasing integration and globalisation of work, national solutions become increasingly dependent on European and international conditions (see the results of the European Agency 1998 conference on the changing world of work; Magazine, 2000a). At the European level, different regulatory activities have been initiated (see for instance the framework on part-time work, 1997 ([www.eiro.eurofound.ie/1997/06](http://www.eiro.eurofound.ie/1997/06)); and the framework on fixed-term work, 1999

([www.eiro.eurofound.ie/1999/01](http://www.eiro.eurofound.ie/1999/01)); see also World Health Organisation, 1999 and 2000). The European Commission Green Paper 'Partnership for a new organisation of work' (1997) stresses that the challenge is how to develop or adapt policies which support, rather than hinder, fundamental organisational renewal and to strike a productive balance between the interests of business and the interests of workers, thereby facilitating the modernisation of working life. The Commission has also been stressing that Member States are currently defining preventive measures at the individual level in an unsatisfactory way. They need to further promote and support a preventive approach aiming simultaneously at an effective integration in the labour market and the modernisation of working life.

In a case study project on flexibility and working conditions done for the European Foundation (Goudswaard and de Nanteuil, 2001) attention has been paid to the role of the industrial relations system. This report concludes that the more institutionalised the relationships between government and, or among, social partners, the more likely positive compromises are to be found at different levels. This report also raises the issue of workers' representation and participation within a flexible context (Goudswaard and de Nanteuil, 2001). This is twofold: it is firstly a problem related to the lack of formal rules or guarantees towards atypical workers' representation and participation; and secondly it is related to the possible lack of interest and mobilisation of these workers by the unions as these workers are less committed to the local workplace issues. The whole collective bargaining process is therefore called into question, as strong cooperation between all parties involved in the flexibilisation of labour processes seems impossible to achieve.

The European Foundation's EPOC project (employee direct participation in organisational changes, see Benders et al., 1999) has examined the various European experiments in direct participation. The survey examined a number of forms of direct participation, including the delegation of decision-making to teams or work

groups. This form of participation is identified with the 'Scandinavian' model of work organisation and the EPOC Research Group decided that the nature and extent of the group work within the EU should be examined.

### Activities at company and inter-company level

Several projects refer to the level of the company or the inter-company level, when looking at good practices. Above, we have stated that it becomes more important to intervene in planning and design. As Clifton (2000) states, many large firms are increasingly quality conscious, imposing high standards on themselves and their suppliers and contractors; many have adopted a fully integrated quality management system (FIQMS).

The European Agency (2000) has initiated research into occupational safety and health in marketing and procurement. There are 22 case studies involved, partly dealing with the selection of subcontractors and providers on the bases of their OSH performance. There are three different approaches: procurement at company level, generic procurement systems and governmental procurement initiatives. The motivations to develop a procurement scheme at company level may differ. In some high risk sectors, the high risks and accidents and the costs of these risks have been the drivers to develop such a scheme. The tendency has been to focus on the training needs for workers and supervisors and to define specific requirements for the contractors' OSH performance. The report concludes that, when clients make demands on their contractors, they pass them on to their suppliers and thereby increase the positive effects throughout the supply chain (European Agency, 2000). The increased amount of contract work has also supported the development of more generic procurement schemes for contract work and governmental procurement initiatives in the UK.

Another interesting project has been conducted by Wright (1996a and 1996b); funded by the Health and Safety Executive. Based on a

literature survey, Wright (1996a) concludes that much health and safety guidance is based, if implicitly, on the presumption that organisations retain a hierarchical management structure with a command and control style of management. These presumptions may no longer hold true for latter-day 'delayed' forms of flatter management structures advocated by strategies such as BPR (business process redesign). Consequently, there is a need to ensure that health and safety guidance is compatible with current forms of organisation and ways of working as well as establishing as far as is practicable the effect BPR has on health and safety.

As a result of this project, a best practice model is being developed with regard to the relationship between business re-engineering and health and safety management, focusing on: (1) how to ensure that change is an opportunity for improving health and safety and (2) how to minimise the risk of health and safety suffering due to unforeseen effects of changes. This is achieved by compiling together the best practices and lessons learnt from a survey of 10 organisations that have undergone major organisational change. The organisations are from the rail, chemicals, healthcare, water supply, power generation, nuclear, drink manufacturing, quarry, aviation and communications services.

The author starts from three principles: (1) that there must be synergy between the style of business and health and safety management; (2) that the introduction of competence and empowerment into business management are necessary precursors to the improvement of health and safety; and (3) that the principles of empowerment and participatory management are as relevant to health and safety as they are to general management.

The Gesina project (Kastner et al., 2001) focuses on the cooperation between different companies and describes the opportunities of this cooperation in the field of OSH. Within the Gesina project a participation-oriented concept was initiated, the 'cooperation circle', to improve the synergy of the contractors (maintenance and

industrial cleaning) and the client (automobile company). The circle structure consists of traditional circle meetings with the contractor's employees and the superiors and a steering committee (superiors and OSH professionals) where work problems coming out of the circle were discussed. New changes were:

- central purchase of personal protection equipment;
- support of the contractors in undertaking a hazard analysis;
- increase of cooperation and communication between contractor employees and company employees (participation in health programs, increase of social support);
- implementation of modern strain-reduction concepts (job rotation, job enrichment);
- improving safety by improving safety behaviour.

Grusenmeyer (2001) conducted research on safety and concluded that maintenance operations are critical in terms of operator's safety. Safety is a result of the organisational context and of the interaction between maintenance and production operators.

### Stress management, sustainable development and individual workers

Other authors or experts consulted for this report (such as Böcker), present a different picture. They state that the dynamic nature and complexity of our society will lead to a higher mental stress response (Böcker and Kastner, 1998; Kastner, 1992). Therefore they state that it is necessary to skip conventional OSH strategy and start with the weakest point: the human being. Continued and sustained education is a key factor. Self-regulation, self-management and time management are important capabilities all working individuals must have in order to maintain good health and safety in modern organisational structures. Otherwise the developments, mentioned above, might

lead to psychological disease (Hemmann, Merboth, Hansgen, Richter, 1997; Hoyos, Graf C., Wenniger G., 1995; Proll, 1991).

The Gesina project speaks of a 'salutogenetic' approach, i.e., look for parameters which lead to the employee's safety and health, what kind of organisational resources can be developed (range of decision-making, social support, style of leadership) and what kind of individual resources can be developed (qualification in know-how, relaxation, cooperation and communications skills) to cope with the new demands (Kastner et al., Gesina, 2001). Kastner (1992) concentrates on the individual by enabling people to manage, design and influence the process of change.

Böcker also refers to the philosophy of 'sustainable development' (Böcker and Kastner, 1998; Kastner, 1992; based on work by Blake, Shepard and Mouton and of Lewin, in: French and Bell, 1997). (See Hüffer (1997) for criteria how to implement sustainable development in organisations; see Hodson (1999) for the concept of organisational citizenship behaviour.)

In a recent Green Paper 'Promoting a European framework on corporate social responsibility', the European Commission also promotes this thought, through corporate social responsibility (EU, 2001). The commission defines corporate social responsibility as 'the continuing commitment by business to behave fairly and responsibly and contribute to economic development, whilst improving the quality of life of the workforce and their families as well as of the local community and society at large' and 'combining business profitability with the concepts of sustainability and accountability'.

As we have seen in this chapter, there are several descriptions of good practices. There are, however, no systematic or validated research projects that evaluate the success of these practices in the longer term. It seems to be time to implement intervention and prevention strategies and systematically evaluate these.

# 4.4

## SUMMARY

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### What are the challenges for OSH prevention

#### Challenges for OSH prevention:

- organisations are becoming more dynamic and complex, which requires a dynamic approach in OSH prevention;
  - OSH representatives (and management) must learn how to deal with complexity and integrated approaches in OSH prevention;
  - there are several conflicting trends within work organisations that pose new challenges for OSH prevention.
- employees may lose their understanding and influence over the changes, whilst at the same time self-control and self-steering becomes more important;
  - the interdependency between companies has grown, including in the field of OSH prevention, while at the same time the pressure on subcontractors is high;
  - an important challenge is to put OSH prevention on the agenda of companies as a beneficial investment and not just a cost.

# 5.



## CONCLUSION AND FUTURE RESEARCH NEEDS

This report has aimed to review three topics or questions so far — what are the trends in contractual relationships, the implications for OSH and the challenges for OSH prevention. In this final chapter, we will answer the fourth and final question — what are the research needs — by summarising the answers to the other three questions and looking at the gaps in our knowledge or deficiencies in the research methods themselves.

In this chapter the following question will be answered:

- what are the needs for further research? What type of research is needed?



# 5.1

## TRENDS IN CONTRACTUAL RELATIONSHIPS

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The first topic concerned the trends in contractual relationships. As we have seen in Chapter two, changing contractual relationships are the result of changes within production processes and work organisations. The boundaries of organisations have grown more diffuse and less stable. Alongside the more traditional organisations, new forms of organisation have emerged. Also within companies, working relationships become more diverse and individualised. There is an increase in the use of short-term contracts, temporary employees, freelancers and the self-employed. Although most jobs seem to be as stable as before, the speed of change in organisations, and the complexity and lack of transparency of organisations lead to an increasing feeling of job insecurity. Also the boundaries between work and private life grow less precise, with developments such as part-time work and teleworking.

As we have also seen in Chapter two, most of the available data concerns trends in formal employment status, but there is a lack of quantitative data on the extent of the changes in organisational borders and on the extent of changes in the more individualised or informal contractual relationships.

In the report some comments have been made towards research methods. From the description

of the changes in the world of work, the conclusion can be drawn that we must no longer look at work processes from the perspective of the organisation (usually one large company), but from a more holistic view. Also, there is a wide diversity of contractual relationships. This poses problems in measuring the changes that take place. But we must take into account the complexity of the situation. We need approaches that tackle the complexity at the local level and the more global trends (Goudswaard and de Nanteuil, 2000). Old definitions are no longer applicable to the new practices. We should find a terminology that is adapted to the new situation and develop clear concepts in order to measure change and its consequences. Interdisciplinary and international cooperation in this will be important.

In the report some specific topics for future research have been mentioned. First, there is more research needed into the reasons of economic and organisational change (why are organisations changing?). In this area, regional differences can be looked at, since the labour market won't look the same everywhere. Second, we need more research into the different types of 'modern' organisations (how are organisations changing?). More research is needed on the role of subcontractors (see also Quinlan et al., 2000). This theme needs to be looked upon from an international viewpoint, since subcontracting involves a division of work at an international scale. Also more research is needed into new forms of organisations, such as project-driven organisations. Looking at differences within the EU might help to understand the forces behind these changes. Looking at differences between sectors can also be helpful in understanding the impacts of this type of organisation on contractual relationships. For instance in construction this type of organising has always been the case. In looking at modern organisations, we must however not forget that there are still a lot of organisations (also new ones such as call centres) where old Tayloristic work methods are still dominant.

In the third place, more research is needed into the impacts of organisational change on work relationships (how will organisational change

impact on contractual relationships?). For instance, research on the impacts of informal contracts and of the more flexible attitude that is requested of workers. In this respect, the theme of empowerment comes into play. Here we can look at the role of the educational system on the one hand, but also at the role of the trade unions. Another important theme concerns time arrangements of work. Following on what we have said in Chapter three, we must also consider the question of gender differences.

# 5.2

## IMPLICATIONS FOR OCCUPATIONAL SAFETY AND HEALTH

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The second topic concerned the risks (and opportunities) in the field of occupational safety and health, and more generally in working conditions, that have accompanied the changes in work organisations and contractual relationships.

As we have seen in chapter three, the rapidity of change and the complexity of work organisations give the feeling of losing control over one's life or job, a feeling that goes beyond the boundary between 'permanent' and 'temporary' workers. Also the increasing time pressure and intensification of work has had a similar effect.

Case-study research indicates a transferral of work-related risks to non-permanent employees and to subcontractors. Quantitative data supports this view to some extent, but some of the differences can also be explained by differences in age, occupation or branch. The evidence is never one-dimensional (meaning a simple relationship between the contractual relations and health) (see also Kogi, 2000). Both case-study research and quantitative data indicates a segmentation in the workforce based on differences in conditions of employment. Employees with a temporary or fixed-term contract (or a part-time contract)

have less access to training (this includes OSH training), have less control over their working time, have fewer career prospects and perform less skilful tasks. There are gender differences in contractual relationships and in health outcomes, but more research is needed.

Although comparison is difficult due to the different used concepts and the diversity in national legislation, we do have a distinct view of the working conditions and health situation of employees with a short-term or temporary contract, of part-time employees and of the self-employed without personnel. Case study research does provide some insight into the situation with regard to subcontracting, but here we do not have quantitative material. In all research it is not easy to state how much of the found impacts are due to the changes itself and what the effects will be in the longer term. In particular in the case of organisational changes such as reorganisation, outsourcing, downsizing and subcontracting more longitudinal research needs to be done in order to analyse the long-term impacts of these events on workers health and well being.

In a more holistic view we should also combine the perspective of working conditions and health with research on employment and labour market, as has been done in a project on employability and health. We should also pay more attention to gender differences and other distinctive features, such as qualifications.

However, more research is needed into the longer-term impacts on health (how do these changes impact health). Also in research a more integrated approach is requested, including economic and sociologic aspects, as well as psycho-social factors of contingent work and their consequences on safety and health, the role of trade-off. Another recommendation can be to make precarious employment a significant component in job-strain studies, instead of measuring job control as a single dimension we need a multifaceted conception of control (Quinlan et al., 2000). Another recommendation

is to link precariousness, job strain and research on new 'production concepts' and methods of managing workers. As Quinlan et al. (2000) states, the bulk of research in this area has focused on industries with relatively conventional employment structures and has either ignored or made only limited reference to the OSH outcomes of such systems (Landsbergis et al., 1999). For their part OSH researchers have only recently begun to look at management systems. One study that made the explicit link was Wright and Lund (1996; 1998), which showed that the employment of temporary workers was an integral part of new intensified work system with these workers being used as buffers and setting performance levels which NIOSH studies found to be unsustainable.

The changing work life with more flexible work arrangements, fragmentary work contracts and unstable work environment also raises new challenges for study designs and methodology. Work and non-work exposure to physical, social and mental factors are difficult to differentiate and analysis of a combination of several different factors is needed. With fragmentary work contracts and unstable work environments, traditional follow-up studies with large samples of workers are not possible. The regular monitoring of the work environment and health becomes fragmentary, if not impossible. With the 'greying' of the boundaries of a company, traditional company-based data may become less important. On the other hand, new indicators and ways must be found in order to monitor the changes in organisations. Comparative research between countries and/or industries may be helpful in understanding the changes that take place.

Research at the company level may no longer be adequate when we investigate the impacts on the individuals, while international mobility makes follow-up studies even more demanding. New methods must be developed in order to monitor work environment and to follow, register, and assess workers' health and exposure.

# 5.3

## CHALLENGES FOR OSH PREVENTION

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The third topic concerned the challenges for OSH prevention. As we have seen in Chapter four, there are several conflicting trends that pose these challenges. The increasing complexity of contractual relationships on the one hand, the growing importance of empowerment and self-steering on the other; the growing interdependency between companies on the one hand and the growing pressure on the other, pose problems for preventive action. Organisations become more dynamic and complex, which requires a dynamic approach in OSH prevention (see also Op De Beeck and Van Heuverswyn, 2001). OSH representatives (and management) must learn how to deal with complexity and integrated approaches in OSH prevention. Another important challenge is to put OSH prevention on the agenda of companies as a beneficial investment and not mainly a cost.

There are several projects that provide good examples in the field of subcontracting, partly born of necessity (safety measures). There are, however, fewer examples of organisations having an integrated approach encompassing

all the different groups of employees. And there are no research projects that evaluate in a structured way the measures that have been taken (see Op De Beeck and Van Heuverswyn, 2001). More research is needed into the possibilities for preventive action. More research is needed to improve occupational health and safety information systems and to validate the efficiency of systematic and/or multidisciplinary approach.

Wright (1996) states the need for further research to establish the links between business re-engineering and health and safety. Both research to establish the links between reengineering on health and safety and health and safety standards, as research on how organisations have approached the health and safety aspect of reorganisation.

To increase the knowledge on successful measures, more research is needed and different research methods are requested. New approaches to research are needed: action research, intervention studies and learning networks (Dhondt et al., 2001; see also Kogi, 1997).

# 5.4

## SUMMARY

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### Future research needs:

#### Trends in contractual relationships:

- comparison between countries difficult because of the different concepts that are used;
- research should no longer focus on the organisation or on the relationship between an employer and employees, but should look at all relationships and work processes as configurations of several interrelated parties: chains of companies, subcontractors and suppliers, employees with different contracts, self-employed;
- work organisations have become more complex and contractual relationships have become more diverse. We need approaches that both grasp the local complexities and the more global trends;
- old definitions are no longer applicable to the new practices. We should find a terminology that is adapted to the new situation and develop clear concepts in order to measure change and its consequences;
- research should not focus on the distinction between permanent and non-permanent contractual relationships, since the meaning of permanence has changed;
- research questions for the future: why are organisations changing? how are organisations

changing? how will organisational change impact contractual relationships?

#### Implications for occupational safety and health, research needs:

- more longitudinal research is suggested, in order to investigate the long term effects of job insecurity, downsizing and subcontracting;
- more research attention should be given to the gender dimension;
- the question remains as to how these changes will impact health. Since the evidence is never one-dimensional (no simple relationship between the contractual relations and health), more research is needed to show the complexity (include all types of interfering variables).

#### Challenges for OSH prevention, research needs:

- there are examples of proactive strategies, but there are few examples of integrated approaches;
- no systematic research has been carried out that evaluates the success of such approaches and there is a need for more knowledge on successful measures;
- there is also a need for the use of wider variety of research designs (action research, learning networks, and intervention studies with systematic evaluation).

# 6.

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# 7.



## ANNEXES

# A.1

## ANNEX 1. PROJECT ORGANISATION

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# A.2

## SUMMARY OF THE EXPERT SEMINAR 9 AND 10 MAY 2001, BRUSSELS

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### Changing contractual relationships

Contractual relationships cannot be studied without taking into account changing work organisations.

- Changing work organisations:
  - increase in proportion of flexible employment (non-permanent contracts, temporary agency work);
  - increase in project organisations;
  - organisational restructuring (outsourcing, lean production);
- Time dimension:
  - more part-time work;
  - working overtime, time pressure;
  - increasing speed of changes;
- Impacts on contractual relationships:
  - contract between employer and employee (formal and informal contract, flexible, payment, flexible attitude, expected flexibility, self-employed);
  - contracts between companies (subcontracting).

### Emerging risks

Sheets discussed:

- Health impacts of job insecurity and unemployment threat, job insecurity as stressor (downsizing);
- Impact of organisational restructuring on job satisfaction;
- Unstable career paths, impact on skill development;
- Mixture of work and non-work exposure;
- Less involvement in safety and health activities, training, protection;
- More risky or ergonomically unsatisfactory jobs allocated to non-permanent workers;
- Transfer of pressure to subcontractors;

Conclusions of the discussion:

- The rapidity of the changes gives the feeling of losing control over one's life or job, the feeling that nothing is permanent and that one can lose one's job in a minute;
- Accident rate among temporary agency workers higher, this is due to less experience and/or less medical surveillance;
- Changes do not only lead to more risks, but also provide opportunities;
- Employees working in project organisations can develop more skills and improve employability;
- New career paths not always negative;
- Not only risks, also opportunities, referring to new production concepts;
- Flexibility is not the same as instability and job insecurity: the latter is negative, the former can be both negative as positive;
- Polarised labour market; there are winners and losers in these changes, what is important is the perception of the workers, this has an impact on health;
- Companies see subcontracting as a risk for the image, at least some major companies implement some quality control over subcontractors;
- Research indicates worse working conditions in subcontracting companies, but more research needed in this field;

### New challenges for OSH

Sheets discussed:

- Changes in control and supervision;
- Need for coordination and shared responsibility;
- Participation in OSH information and training;
- Differences in OSH knowledge between groups of employees;
- Differences in OSH knowledge between companies;
- Consequences for monitoring and risk assessment;
- SMEs and freelancers less likely to report injuries or claim compensation;

### New preventive approaches at different levels

- National and sector level:
  - Legislation;
  - Role of intermediary organisations, temporary agencies;
- Inter-company level:
  - OSH in Marketing and Procurement;
- Company level:
  - OSH in Total Quality Management;
- Employee level;

Conclusions of the discussion:

- It is the change itself that is important, the dynamic situation requires a dynamic approach;
- No longer stable structures (supervisor – worker);

- No longer control by learning from the past, less experience with workers;
- More self-control, self-steering needed: increase peoples capabilities to handle risks, empowerment;
- It becomes more important to intervene in planning and design;
- At the same time: higher pressure on subcontractors and companies to perform;
- OSH is only seen as cost and not as benefit;
- Challenge is to make OSH a benefit (at the moment only part of the innovative companies see this);
- Old structures (too reactive) do not fit new challenges (more anticipating);
- Learn to deal with complexity and integrated approaches;
- Distinction between doing things right the first time and doing the right things;
- Empowerment;
- Dynamic approach.

### Future research needs

Changing contractual relationships:

- Practically no research into project organisations;
- Practically no research into informal contracts, flexible attitudes;

Emerging risks:

- Research at the company level may no longer be adequate, more individual based longitudinal data requested;
- Evidence is not one dimensional;
- Qualitative data on the reasons why temporary agency workers score higher on accidents (is it simply because they do not have the experience or are there other reasons?);
- Quantitative and qualitative data on the relationship between subcontracting and working conditions;

Prevention:

- what is the dynamic approach, how to bring dynamics into monolithic structure?

# A.3

## QUESTIONNAIRE 'OSH IMPLICATIONS OF NEW/CHANGED CONTRACTUAL RELATIONSHIPS'

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1. Do you agree with the description of 'new contractual relationships' (flexible employment contracts, temporary agency work, subcontracting/outsourcing)?
2. What evidence is there that the nature of OSH problems have changed due to new/changed patterns of contractual relationships? Are there any research examples showing that the nature of OSH problems are changing? What evidence is there that there is a need for changing the prevention strategies about OSH due to new/changed patterns of contractual relationships?
3. Is there any validated know-how on success factors for prevention in an environment with growing flexible employment relations?
4. Are there any examples of new preventive approaches, programmes, interventions or strategies, that relate to OSH and types of contractual relationships? Are there any research examples of successful preventive approaches at the different levels of intervention (national level, branch, company and workplace)?
5. What are the needs for further research? What type of research is needed?
6. Do you know relevant literature or references concerning these topics?



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