

Sources of Innovation
and Competitiveness:

National Programmes
Supporting the Development
of Work Organisation

Employment & social affairs



European Commission

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Executive Summary

Scope and Method of the Study

The study identifies and evaluates essential outcomes from national programmes supporting the development of work organisation and to derive recommendations for future initiatives. The focus is on the recent state of national programmes supporting the development and dissemination of new forms of work organisation rather than project activities funded from other sources (like e.g. ADAPT or EQUAL) or regional initiatives. The description of relevant programmes in the EU member states concentrates on work organisation issues such as the development and implementation of direct participation schemes (e.g. in continuous improvement teams), group work, concurrent engineering teams, mobile work, project teams or learning organisations based on work design. The report is based on existing publications as well as on a questioning of distinguished experts in the field.

The Relevance of Work Organisation for Economic Performance

In times of economic turbulence, an enterprise's economic performance even more depends on its own way of doing business, in particular its business strategy, its work organisation, and the way it develops human and technological resources. As in boat racing, competitiveness is not so much a question of how the winds are blowing, but rather how one is setting one's sails. Accordingly, human resources are seen as a main source of competitive advantage in a dynamic business environment. It could be demonstrated by research that organisations must cope not only with efficiency, quality and flexibility demands, but also the more frequent and rapid implementation of new processes and products or services largely depending on human skills and knowledge. This has also been the background for the EU Green Paper on "Partnership for a New Organisation of Work".

This study refers to a growing body of empirical evidence for the crucial role of an enterprise's innovation strategy and its work organisation to achieve high performance, innovation capacity, and competitiveness. On one hand this evidence is based on a great number of case studies elaborating the differences in strategy and work organisation between flexible, high performance competitors and those being less successful, and it draws on data from broad surveys investigating the relative performance in major parts of the economy in some member states (Finland, Sweden, Germany).

Despite the empirical evidence for economic superiority of new forms of work organisation (at least in those markets that demand for flexible organisations) and despite high rhetoric efforts in promoting the benefits of flexible organisations, their real dissemination still is rather low in most European countries. They are on the advance, but progress is slow (with the big exception of the Nordic countries). The vast majority of firms obviously miss the opportunities to broadly develop and use their human resources in terms of skills and competencies and, thus, to fully exploit the potentials of flexible organisations for their economic performance and competitiveness.

This mirrors the fact that radical changes in organisational structures are obviously difficult to achieve and that there is strong resistance against new forms of work organisation. The shift from traditional work organisation or from cost-centred “low road” to expansive, competence-centred “high road” strategies of innovation is tantamount to a deep cultural change, of course, and requires high long term efforts in collective learning with sufficient human resources. The dominance of traditional work organisation and “low road” strategies lets us fear, though, that the necessary resources may have been consumed or weakened to an extent that hinders enterprises to master the strategic turn.

In order to shed some more light on the present situation, the report reflects on some new developments and observations in connection with the development of new forms of work organisation that were subject to scientific analysis and came into public awareness since the Green Paper has been published in 1997.

National Programmes and their Impact

Furthermore, the report gives an overview on national programmes supporting work organisation activities. They are rather unevenly distributed among EU member states. While e.g. Finland, Denmark or Germany have implemented more than one national programme with efforts to promote work organisation in different areas, other member states, in particular Austria, Belgium, France, Greece, Italy, Luxembourg, The Netherlands and Spain, seemingly have no national activities of this kind, although there might be some regional or project-based efforts with public funding like ADAPT or EQUAL. Comparing new national initiatives with programme activities in the 1990ies, it seems that efforts even have been reduced in terms of number and volumes of programmes.

There obviously is a large slope between Northern and Southern EU member states with respect to the implementation of national programmes supporting the development of new forms of work organisation. This points, however, together with the waning of national activities supporting new forms of work organisations, to a widening gap between Europe’s agreed strategic objectives for further socio-economic development on one hand and its real capacities to achieve those objectives on the other.

The Role of Social Partners

It is evident that industrial relations and the social partners’ organisations play a crucial role in the orientation and dissemination of new forms of work organisation. The tradition of industrial relations and their prevalent character (co-operative vs. adversarial) has a major influence on the existence and the shaping of the programmes in each country. But it should be emphasised that especially in Ireland and Portugal, there is efforts to find new ways in the industrial relations in order to cope with the economic changes. This is a reaction to the need to manage the continuing challenge of Europe’s industry by joint activities of the social partners – without neglecting their different legitimation, orientation, and interests. But there is a growing need to further develop partnership and co-operative practices in order to increase the dynamics of change for improved competitiveness and quality of work.

From these considerations, we can highlight some influences and options for activity of the social partners:

- Social partners influence government towards initiatives to disseminate knowledge on organisational change, best practices etc. (support the input of the policy process by contributing to programme design) and thus foster the development of co-operation and trust based relations in the whole country,
- Social partners support government's intention and activities to accelerate and support organisational change (support the programme "output" of policy development on the operational or project level).

Recommendations for Further Initiatives

Recommendations for further initiatives are derived from the evaluation of the material presented. They are grouped according to the main actors involved: enterprises, social partners and policy makers. In particular, future initiatives should consider the issues of

- understanding the effects the new management strategies of decentralisation and networking have on work organisation, in particular on working tasks and working conditions or on building trust and shared know how;
- developing appropriate procedures for cultural change and collective learning processes to close the gap between the new working requirements and existing organisational cultures;
- building the business processes and the human resources on the "high road" of innovation as a necessary entrepreneurial basis for achieving Europe's strategic objectives with respect to employment and the development of a productive knowledge-based society;
- avoiding work-related stress with high performance workers and developing sustainable work systems;
- organising work-related continuous learning processes with respect to the employability of ageing work forces;
- defining a coherent European strategy for the development and dissemination of new forms of work organisation that clearly considers both macro and micro level perspectives and activities: Efforts of re-regulating framework conditions (such as working time, social security, education and training) under the perspectives of "flexicurity" and "sustainability" as prerequisites for human resources development must be linked to and combined with the promotion of new forms of work organisation serving as vehicles to improved economic performance, competitiveness, employment and growth;
- raising public awareness for the underlying work organisation issues outlined and their impact on growth and human resources development (in particular in the southern EU member states).

1 Introduction: Scope and Method of the Study

The study intends to identify, analyse and evaluate essential outcomes from national programmes supporting the development of work organisation and to derive recommendations for future initiatives. In particular, it covers the following issues:

- to identify and describe existing national programmes in EU Member States,
- to evaluate the impact of those programmes on the development and spreading of new forms of work organisation,
- to evaluate the role of the social partners in these programmes, and
- to provide recommendations for possible further initiatives at the European level and at the level of the Member States.

The study focuses on the recent state of national programmes supporting the development and dissemination of new forms of work organisation rather than project activities funded from other sources (like e.g. ADAPT or EQUAL) or regional initiatives. To this end, relevant programmes in the EU member states are being portrayed and analysed on the basis of existing material. The description concentrates on work organisation issues such as the development and implementation of direct participation schemes (e.g. in continuous improvement teams), group work, concurrent engineering teams, mobile work, project teams or learning organisations based on work design.

On one hand, the report draws on existing material and publications relevant for the issues under consideration, and it is based on a questioning of distinguished experts in the field on the other. Besides the literature analysed, we can draw on the results from many years of research on organisational development (case studies and action research supporting companies to shift from the “low” to the “high road” of innovation). The questionnaire explicitly asks for detailed descriptions of existing national programmes (objectives, key activities, types of projects, number of projects, and volume of funding) over the past five years, for the impact these programmes have had on the development and spreading of new forms of work organisation in qualitative and quantitative terms, and specifically for the role of the social partners in this. The experts have been selected from several networks such as EWON, SALTSA research network on Sustainable Work Systems, or European Work and Technology Consortium.

The following sections of the report analyse existing material on new forms of work organisation (2), thus drawing the background for the presentation and evaluation of national programmes (3 and 4). Subsequently, the role of the social partners is outlined (5). The report finally derives recommendations for further initiatives on the level of enterprises as well as on the level of social partners and policy makers (6).

2 The Relevance of Work Organisation for Economic Performance

Many factors affect the economic performance of an enterprise, its capacity to flexibly react to market demands, and its ability to improve productivity and competitiveness. On the macroeconomic level, enterprise performance largely depends on national framework conditions and institutional settings, as the “rules of the game”, such as taxes, market regulations, industrial relations or the growth, availability and quality of human, technological and financial resources. These basic conditions for economic acting may vary among regions or states, but within a region or state they set a common framework for all economic actors alike. An enterprise’s economic performance, therefore, even more depends on its own way of doing business, in particular its business strategy, its work organisation, and the way it develops human and technological resources. For industrial policy it is, for being effective, important to consider the interplay between macro and micro level relationships.

Over the past decade, public debates and awareness have dominantly been concentrating on macroeconomic framework conditions and institutional settings, however. Internal factors of success, such as flexible work organisation, human resources development or organisational learning, that are at the enterprise’s own disposal, have, in contrast, rather been of minor concern. As, for instance, the European Commission published its Green Paper on “Partnership for a New Organisation of Work” in April 1997 (European Commission 1997), it did not really produce a signal for departures to new frontiers; it was rather turned down instead during public debates that followed. In the time after, a Communication Paper entitled “Modernising the Organisation of Work – a Positive Approach to Change” (European Commission 1998) was issued in November 1998, and in March 1999 the European Work Organisation Network (EWON) has been established. These initiatives signalled the weight the Commission assigned to the theme, but their impact on the further development of new forms of work organisation has been rather low so far, although the Network appears to be necessary and helpful for improving the knowledge base across the member states, for exchanging experiences, and for raising public awareness for work organisation issues.

The Green Paper aimed at stimulating a debate on new forms of work organisation with the intention to establish a new partnership for a more productive, participative and learning organisation of work. This reflected a wide range of research findings, that organisations must cope not only with efficiency, quality and flexibility demands, but also the more frequent and rapid implementation of new processes and products or services largely depending on human skills and knowledge. Human resources were, thus, seen as a main source of competitive advantage in a dynamic business environment rather than a costly factor of production. Developing new forms of work organisation based on human skills, knowledge and learning, therefore, promised to create benefits for both economic performance and quality of working life (e.g. Andreassen et al. 1995, Work & Technology Consortium 1998). Although new forms of work organisation can only be achieved by enterprises themselves, involving management and workers and their representatives, industrial policy makers nonetheless have an important role to play in supporting organisational renewal and in adjusting institutional settings “to reconcile security for workers with the flexibility which firms need” (e.g. issues of training, employment legislation, pay systems or working time regulation; European Commission 1997).

In this perspective, the development of new forms of work organisation is strongly related to a number of strategic agreements recently being approved by the European Council. First of all, work organisation issues are linked to the European Employment Strategy established in the “Luxembourg process” in 1997. This strategy is grounded on the “four pillars”: “improving employability”, “encouraging entrepreneurship”, “encouraging adaptability in business and employees”, and “strengthening equal opportunities policies”. At least two of these pillars are rooted in new forms of work organisation: Employability can only be produced in a wide scope, if sufficient scope of action and continuous learning are made an integral part of work and if work processes provide sufficient learning opportunities. And adaptability equally depends on new forms of work organisation based on high degrees of autonomy, skill and skill formation that allow organisations to overcome the rigidities of Tayloristic work systems. Moreover, on the Lisbon Summit Europe has been announced to become more productive and the leading knowledge-based society in the world. Clearly, this high pretension can only be turned into reality, if the dynamics of knowledge creation and knowledge transformation into practice is, among other things, safely anchored in new forms of work organisation with wide scope for exploration and learning, in particular in the “high road” strategy of innovation distinguished below. Finally, the improvement of quality of work announced at the Nizza Summit again has a broad development of new forms of work organisation as a precondition. The development of new forms of work organisation, thus, lays the common ground on which many of the recently agreed strategic objectives for Europe’s future development are being achieved.

The reactions to the Green Paper differed largely among member states. They ranged from rather positive (like in Finland or the UK) to indifferent (like in most countries) or sceptical (like in Germany, Sweden and Austria). The main concerns circled around the argument that the basic view taken in the Paper is too simplistic in that it promotes the “transformation thesis” of a general turning away from division of labour and hierarchical control of simple work (i.e. “Tayloristic” work systems) towards flexible team-based processes with a high degree of self-management. There is, as it is argued, no general transformation in organising work, but rather a diversity of organisational conceptions, if not “the pendulum is swinging in the opposite direction” after widespread attempts to implement team-based “lean production” schemes. Sceptical attitudes also root in management’s fear to lose control over work processes and business strategies. They further maintain the view that safeguarding and creating employment is related less to work organisation than to labour costs and framework conditions such as taxes or labour market regulations (EIRObserver 2/99).

There are, however, a number of more recent economic developments that bring the issues of new forms of work organisation back on the agenda. First of all, many investigations confirm their economic benefits (which we will outline in some detail below). Moreover, the general trend towards integration of production and services into customer-oriented value adding and business processes compel enterprises to reconsider work organisation and management functions, including different forms of computer-mediated virtual collaboration or mobile work. As a further general trend, strict customer orientation of all business activities creates unprecedented flexibility demands and leads to the development of different forms of decentralisation and e-business processes even crossing existing organisational borders (Brödner/Knuth 2002).

2.1 Empirical evidence for economic benefits of new forms of work organisation

Meanwhile, there is a growing body of empirical evidence for the crucial role of an enterprise's innovation strategy and its work organisation to achieve high performance, innovation capacity, and competitiveness. As in boat racing, competitiveness is not so much a question of how the winds are blowing, but rather how one is setting one's sails. On one hand this evidence is based on a great number of case studies elaborating the differences in strategy and work organisation between flexible, high performance competitors and those being less successful, and it draws on data from broad surveys investigating the relative performance of large samples of enterprises covering major parts of the economy in some member states on the other.

Findings from a *Swedish* survey based on a sample of 2000 operating units (representing approx. one third of all operating units with more than 50 employees in Sweden) can be summarised as follows: 25% of all operating units in the sample had a flexible organisation with decentralised responsibilities. They were most common in the finance and trade sectors, followed by the manufacturing industry, while traditional work organisation was still widespread in the construction and communication sectors. Considering the effects for performance and competitiveness, the results are very clear: flexible organisations were more productive (+20-60%), showed a much lower rate of personnel turnover (-21%), and a lower rate of absence due to illness (-24%) than traditionally organised operational units. Moreover, flexible organisations were much more effective in using computer technology to reduce lead times as well as delivery times than traditional organisations (NUTEK 1996). The significance for competitiveness has been confirmed by a second study covering operational units with more than 20 employees: "Strategies that focus on decentralising work organisation and on human resource development are positively associated with productivity and growth." Moreover, the learning schemes identified had a positive relationship with the enterprises' levels of productivity and profit (ITPS 2001).

Basically the same picture shows up again from the findings of a *Finnish* survey within the framework of the National Workplace Development Programme based on 1384 interviews with management representatives in the private sector. It too investigated into the economic effects of "functionally flexible enterprises" as compared to traditional ones. Functional flexibility in this study was defined by the two properties that employees have many opportunities to influence decision-making and that there are many elements of continuous learning in work (all other forms of work being called traditional). A regression analysis of several factors revealed that flexibility had by far the highest effect on productivity and that productivity of flexible enterprises was 50% higher than that of traditional firms. Flexible enterprises also paid roughly 30% higher wages than traditional ones (Antila/Ylöstalo 1999).

Similar results can also be reported from a *German* process innovation survey in the investment goods industry based on data from more than 1300 enterprises. Various new forms of work organisation contributing to build flexible enterprises clearly have positive effects not only on productivity (even more so, if implemented all together; see fig.1). Moreover, these new forms of work organisation also positively affect quality and lead times of products (Lay et al. 1996).

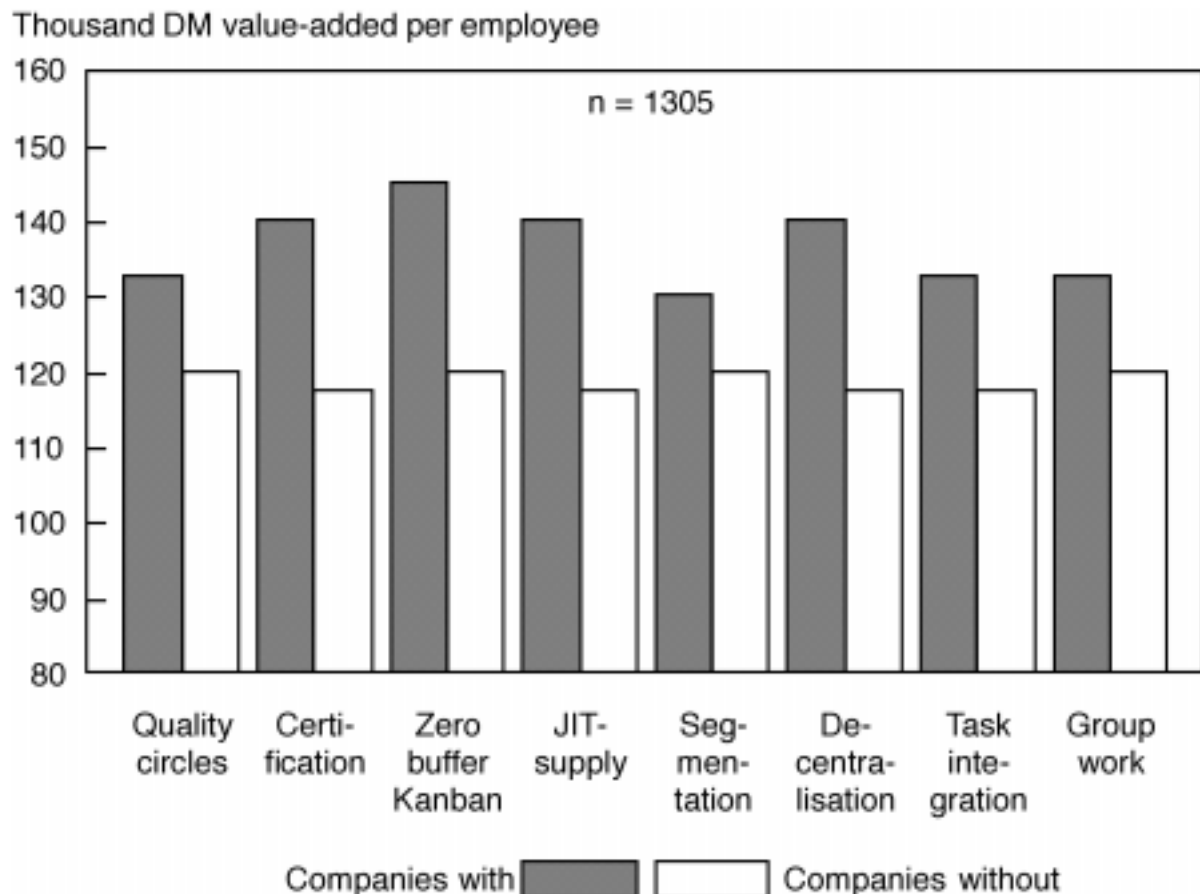


Fig. 1: Productivity effects of different new organisational conceptions (Lay et al. 1996)

The *Europe-wide* EPOC survey (“Employee Participation in Organisational Change”) covering more than 6000 firms in EU member states again basically confirms these findings: 68% of the firms having implemented, for instance, semi-autonomous groups as a corner stone for flexible organisations could realise cost reductions. Throughput times could be reduced in 87% of these firms, 98% improved their products and services, and 85% increased sales (EPOC Research Group 1998).

2.2 Dissemination of new forms of work organisation

Despite this clear empirical evidence for economic superiority of new forms of work organisation (at least in those markets that demand for flexible organisations) and despite high rhetoric efforts in promoting the benefits of flexible organisations, their real dissemination still is rather low in most European countries. They are on the advance, but progress is slow.

The big exception is the Nordic countries as the Flexible Enterprise Survey has revealed. It was carried out as part of the so-called NORDFLEX project that included Denmark, Finland, Norway and Sweden. There are some differences in the methodology, questionnaire design and samples, but it is still possible to compare some of the results. The share of private sector operating units with 50 employees or more, where employees work in teams, is 74% for Finland, 75% for Denmark, 69% for Norway and 91% for Sweden. If we examine only operating units where more than 50%

of employees work in teams, the corresponding figures are 30% for Finland, 10% for Denmark, 58% for Sweden (the data for Norway not being available; NUTEK 1999).

In contrast, EPOC data show the dissemination of group work in different degrees of employees' influence on decision-making in all EU member states (see fig. 2). Regarding the lack of data, this can serve as a rather strong indicator for what has been called above a flexible organisation. So far, the EPOC survey is unique in covering all EU member states; for more detailed insight, it is necessary to look at existing country surveys.

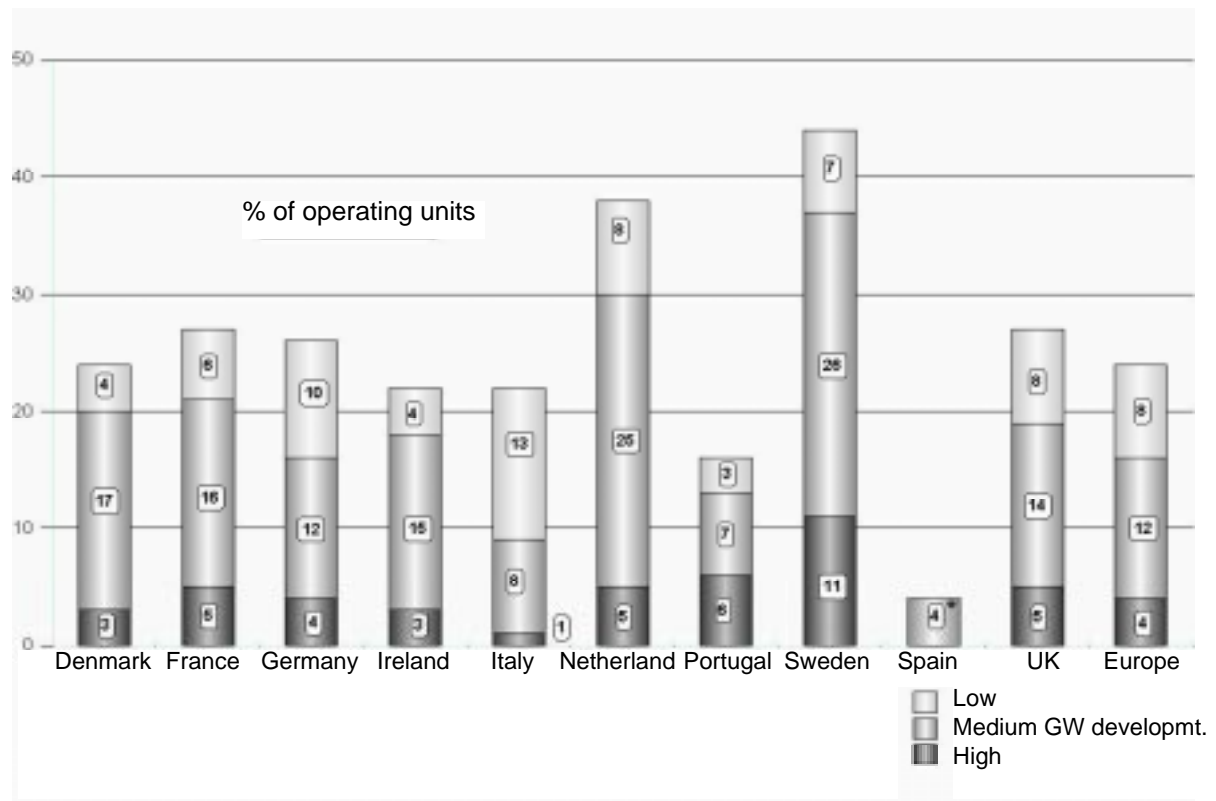


Fig. 2: Dissemination of different forms of group work in EU member states (EPOC Research Team 1998)

A recent survey in *Germany* questioning a representative sample of employees for the whole economy demonstrates the spreading of different forms of group work over time during the period 1993-1998 (Nordhause-Janz & Pekruhl 2000). The study found out that in the German economy (production and services) the dissemination of all forms of group work increased from 6.9% to 12.9% of workplaces with an estimated average increase of +1% per year. But the degree of the most advanced type of semi-autonomous group work as the strategically relevant form for flexible organisations remained on a much lower level (1998: 3.2%; see fig. 3).

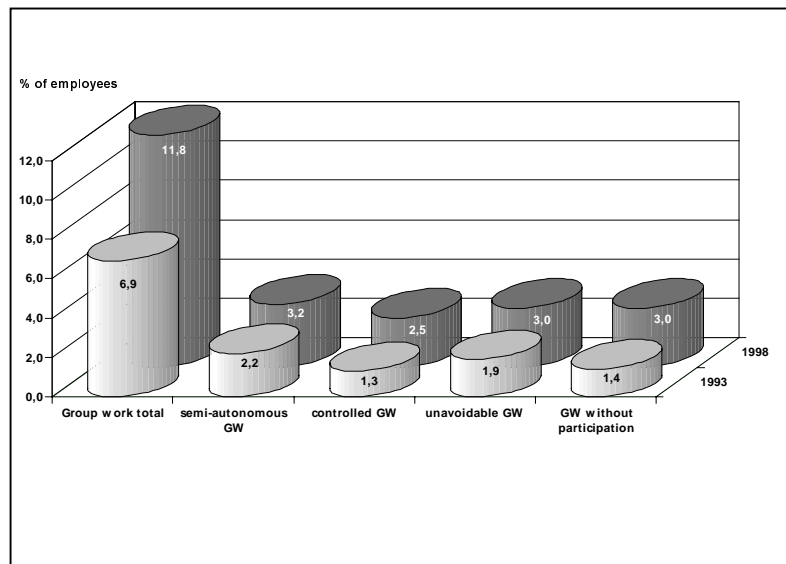


Fig. 3: Dissemination of Group Work in Germany 1993/1998 (Nordhause-Janzen & Pekruhl 2000: 49)

Another study based on data from 1400 enterprises in the German capital goods industries collected by FhG-ISI in their bi-annual process innovation survey investigated the dissemination of different forms of strategic and operational decentralisation as two more significant indicators for the implementation of flexible organisations (in the years 1997 and 1999). As tables 1 and 2 below indicate, one important finding was that enterprises predominantly concentrate on strategic forms of decentralisation (i.e. measures on enterprise level), while operational forms of decentralisation (i.e. measures on workplace level) are much less widespread. The vast majority of firms obviously miss the opportunities to broadly develop and use their human resources in terms of skills and competences and, thus, to fully exploit the potentials of flexible organisations for their economic performance and competitiveness (Brödner/Latniak 2002, Latniak et al. 2002).

			wide definition % of companies		medium definition % of companies		narrow definition % of companies	
	N 1997	N 1999	1997	1999	1997	1999	1997	1999
Group work	1287	1442	57,1	64,1	37,3	46,8	14,5	19,5
Decentralisation	1233	1393	34,2	39,3	11,8	14,4	2,7	3,6
Task integration	1242	1402	49,0	59,6	9,9	14,6	2,6	3,4

Table 1: Dissemination of operational decentralisation in German capital goods producing industry (1997/1999)

Definitions Table 1:

Group work: *wide definition*: "Yes" as answer to the question "Does your company apply group work in production?" – *medium definition*: wide definition plus additional information that at least 30% of the employees are working in groups, and furthermore, planning tasks and quality related tasks are performed by the group members. – *narrow definition*: medium definition plus additional information that all members of the groups are qualified and able to do all tasks.

Decentralisation of planning and control functions: *wide definition*: "Yes" as answer to the question "Does your company apply decentralisation in production?" – *medium definition*: wide definition plus additional information that the detailed planning on workshop level, CNC-programming and -optimisation, leading, machine maintenance and repair, and quality management are decentralised – *narrow definition*: medium definition plus additional information that the planning of production orders is decentralised.

Task integration at the workplace level: *wide definition*: "Yes" as answer to the question "Does your company apply task integration in production?" – *medium definition*: wide definition plus additional information, CNC-programming and -optimisation, leading, machine maintenance and repair, and quality management is done by the workers and not by shop stewards, medium management, or any specialist of planning departments. –

narrow definition: medium definition plus additional information that the detailed planning on workshop , CNC-programming and -optimisation is done by the workers and not by shop stewards, medium management, or any specialist of planning departments.

These figures clearly indicate that only a small minority of German enterprises has been able to achieve high performance levels based on operational decentralisation and broad skill formation, while the vast majority, with its management being caught in the “low road” mind sets of pure cost cutting (see below), is under-utilising its resources and, therefore, is operating far below its potentials. This means that much further action is needed in the EU to overcome these self-restricting practices for achieving the high pretensions of the common Employment Strategy and of building an advanced productive knowledge-based society as agreed by the European Council.

			Wide definition % of companies		medium definition % of companies		narrow definition % of companies	
	N 1997	N 1999	1997	1999	1997	1999	1997	1999
Reduction of hierarchy levels	1280	1409	63,8	74,6	37,9	65,6	16,0	25,9
Use of production segments	1261	1414	42,8	47,6	34,8	39,4	25,4	27,6
Central departments reorganised	1216	1409	29,9	52,1	24,9	43,0	17,2	27,7

Table 2: Dissemination of strategic decentralisation in German capital goods producing industry (1997/1999)

Definitions Table 2:

Reduction of hierarchy levels: *wide definition: “Yes“ as answer to the question “Did your company reduce hierarchy in production?” – medium definition: wide definition plus additional information that at least one hierarchy level has been abolished. – narrow definition: wide definition plus additional information that at least a third of the hierarchy level have been abolished.*

Use of production segments: *wide definition: “Yes“ as answer to the question „Did you re-organise your production into customer or product related units (“segments”)?” – medium definition: wide definition plus additional information that at least 50% of the units in question are re-organised. – narrow definition: wide definition plus additional information that at least 75% of the units in question are re-organised.*

Central departments re-organised: *wide definition: “Yes“ as answer to the question „Did you re-organise central departments into customer or product related units?” – medium definition: wide definition plus additional information that at least 50% of the units in question are re-organised – narrow definition: wide definition plus additional information that at least 75% of the units in question are re-organised.*

In a way, the figures and sceptical attitudes reported above also mirror the fact that radical changes in organisational structures are obviously difficult to achieve and that there are strong resistances against new forms of work organisation. There is much social inertia, since organisations are social systems whose members are authors and actors of their own drama at the same time, performing a play that they have scripted themselves. Hence, they are captured by the rules and conditions, i.e. the views, attitudes, and action schemes, they created in the process of their collective acting before and that will constrain – as well as they may support – their further acting. These coercions of collective acting have also been reflected in the European Foundation’s comparative impact analysis of the Green Paper (EIRObserver 2/99). The shift from traditional work organisation or from cost-centred “low road” to expansive, competence-centred “high road” strategies of innovation is tantamount to a deep cultural change, of course, and requires high longterm efforts in collective learning with sufficient human resources. The dominance of traditional work organisation and “low road” strategies lets us fear, though, that the necessary resources

may have been consumed or weakened to an extent that hinders enterprises to master the strategic turn.

2.3 Evaluation of present situation

In order to shed some more light on the present situation, it appears necessary to reflect on some new developments and observations in connection with the development of new forms of work organisation that were subject to scientific analysis and came into public awareness since the Green Paper has been published. In particular, the new issues of a clear tendency towards polarisation of work organisation structures, the crucial role of innovation strategy and its effects on work organisation and employment, and the growing importance of work-related stress especially in qualified high performance teams are most relevant in the context of this report.

Firstly, it has to be recognised that work organisation is obviously developing in a multitude of forms. Based at least on the empirical data from the representative German employee questioning already mentioned (Nordhause-Janz & Pekruhl 2000), we can say that there is some evidence for an increasing polarisation of work structures and working conditions in Germany (see fig. 4). This is even strengthened if information on the income and wages is additionally taken into account: those people working in flexible, more autonomous work structures could earn higher wages than those working in traditional heteronomous work structures (the same result also holds for Finland as mentioned above). There are increasingly more people working in a flexible work environment with higher degree of autonomy and earning more money while at the same time, there is an increasing group of employees earning less money and working in an unfavourable, heteronomous environment.

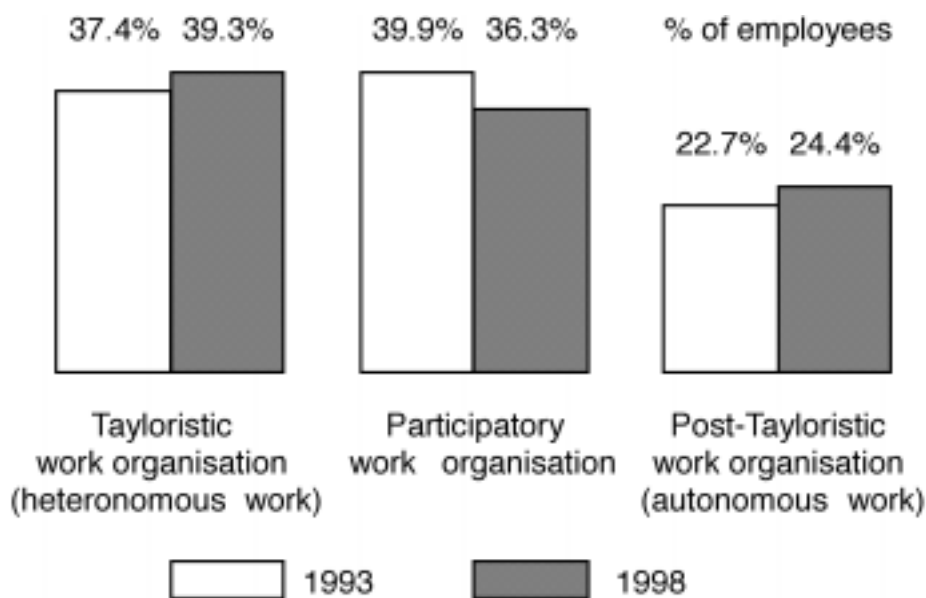


Fig. 4: Distribution of forms of work organisation in Germany (adapted from Nordhause-Janz & Pekruhl 2000)

Secondly, the simple distinction between flexible forms of work organisation based on higher degrees of autonomy and traditional, heteronomous work structures is not sufficient. As the European Work & Technology Consortium has worked out as one of its major findings (based on a great number of case studies in different sectors and

countries), new forms of work organisation appear in two completely different settings that must be differentiated according to the enterprise's innovation strategy (Work & Technology Consortium 1997).

The so-called "low road" strategy of innovation, on one hand, solely seeks to cut costs (to decrease the denominator in the productivity formula) in order to become more flexible and efficient. Accordingly, the focus of process innovation is on numerical flexibility and cost cutting, on reducing headcounts ("downsizing"), on outsourcing of non-core businesses, and on IT-driven "business process reengineering", without changing basic conditions of operation, however. The "high road" strategy, on the other hand, primarily aims at expanding business by widely developing and comprehensively using its human resources, learning and innovation capacities (i.e. by increasing the numerator in the productivity formula without neglecting potentials in effort reduction, though). Accordingly, here the focus is on new business opportunities, on exploring demands for new products and services, on developing individual and collective competences, and, therefore on high autonomy and ample learning opportunities in work processes for knowledge creation and appropriation, thus creating improved basic conditions of operation (cf. Brödner et al. 1998, Di Martino 2001).

The difficulty to discriminate between these two strategies (and simultaneously the reason why it has been overlooked for long time) is that both strategies partially make use of the same new forms of work organisation, in particular decentralisation and group work, although to a different degree and producing different effects. It is, therefore, not sufficient to only look at new forms of work organisation, but also to uncover the innovation strategy behind as well as the way they are implemented and the effects they produce. Regarding these differences, the empirical data from the German process innovation survey, in particular the low dissemination of semi-autonomous group work and different degrees of operational decentralisation, indicate that the "high road" strategy is much less widespread than the "low road" strategy (see fig. 3 and table 1 above). Obviously, „cutting the buck is much easier than expanding the bang" (Hamel/Prahalad 1994).

The distinction between "low road" and "high road" strategies of innovation is also strongly related to OECD's differentiation between numerical and functional flexibility. Numerical flexibility solely adapts the quantity of labour input to fluctuating demand, while functional flexibility "usually involves high skill levels and collaborative approaches to work and depends on high-quality labour inputs" (OECD 1995, chapter 6: 5). The majority of enterprises follow the "low road", though, implementing numerical flexibility by building core competences supported by a peripheral work force that can easily be hired and dismissed. Exactly this rather short-sighted personnel adjustment practice deprives them of the capacity to broadly develop skills and competences needed for functional flexibility as well as for knowledge creation and appropriation on the "high road".

Thirdly, the socio-technical perspective as theoretical conception lying behind the promotion of flexible new forms of work organisation with high degrees of autonomy, wide scope of action, and diverse opportunities for learning suggested that these work structures would *without further conditions* contribute to higher quality of working life. Detailed analysis of new forms of work organisation has disappointed these expectations, though. In group work situations, in particular those with highly qualified

workers, high autonomy, and much learning opportunity like e.g. in high performance teams or in project teams, we often find high degrees of work-related stress putting the workers' mental health at risk. This rather surprising empirical fact requires theoretical reflection to the effect that structural properties of work do not *per se* create high quality of work and that, in contrast, in a resource-centred perspective, human and social resources needed in work can only be defined in relation to the real action requirements in the working situation. Autonomy, for instance, in this sense is not a resource as such, but only in its sound relationship to other working conditions and requirements like time limits or material supply; otherwise it will produce stress.

In a resource-centred perspective, it is therefore necessary to investigate the relationships between given requirements and available resources for work and to bring them into a reasonable balance by means of work design. Only then it will be possible to create socially "sustainable work systems" that do not consume or wear out human and social resources (causing various stress symptoms), but rather maintain and re-create them within the processes of work (Brödner 2002, Docherty et al. 2002).

Fourthly, the fact of a rapidly ageing work force is creating growing pressure on personnel management and development. The demographical developments may vary among member states, but the general trend towards an ageing work force is clearly evident throughout Europe (EWON 2001). Widespread managerial policies to implement early retirement schemes will sooner or later become no more feasible as they will exhaust social security systems. More future-oriented personnel development strategies, therefore, have to consider work design measures and learning schemes that enable also older workers to actively take part in process innovations to come. As case studies have shown, older workers are willing and able, contrary to common belief in learning deficits increasing with biological age, to play an active role in innovation, if working conditions provide them with sufficient scope of action and learning opportunities. Hence, semi-autonomous group work or project teams with a sound mixture of ages are exactly those forms of work that facilitate work-related continuous learning (provided that acting requirements contain sufficient "slack"; Brödner/Klaßen-Kluger 1998).

Fifth, trans-organisational business processes and value chains are presently being restructured in many cases as the Internet is increasingly used as medium for collaboration and commercial transactions. Moreover, the division of knowledge and the requirements to integrate diverse knowledge domains for creating complex customised products and services more frequently challenge enterprises to co-operate. It, therefore, becomes necessary to understand how such collaborative enterprise networks operate and which effects they have on new forms of work organisation.

These theoretical conceptions and empirical findings form the background against which the national programmes and their impact on the development of new forms of work organisation can be analysed and evaluated. This is set out in the following chapters.

3 National Programmes – an Overview

There are (and have been) many efforts to support the development of new forms of work organisation in Europe, most of them being project-driven either in enterprises' own initiatives and responsibilities or funded by public sources. National programmes supporting work organisation activities are rather unevenly distributed among EU member states, however (European Commission 2000). While e.g. Finland, Denmark or Germany provide more than one national programme with efforts to promote work organisation in different areas, other member states like Italy or Spain seemingly have no national activities of this kind, although there might be some regional or project-based efforts with public funding like ADAPT or EQUAL. Comparing new national initiatives with programme activities in the 1990ies, it seems that efforts even have been reduced (cf. European Commission 2000).

Our expert questioning has revealed that the majority of EU member states, namely *Austria, Belgium, France, Greece, Italy, Luxembourg, The Netherlands and Spain*, have no national programmes supporting the development of new forms of work organisation. It is, therefore, not possible to further analyse and evaluate outcomes and effects of national efforts in these countries. Hence, the remaining sections will concentrate on the rest of member states that have installed national programmes.

3.1 Denmark

3.1.1 National Programme: “Funds for the Promotion of Better Working Lives and Increased Growth” by the Ministry of Labour.

Objectives: To improve employees' working conditions, to improve enterprises' competitiveness and, in general, to further growth.

Key activities: The core activities are focused on improving employees' working conditions, on reducing the risk of health and qualification-related exclusion from the labour market and also on improving enterprises' flexibility and development opportunities through a redistribution of job tasks. Training and measures to promote cooperation can also be carried out (if desired with the assistance of a consultant).

Target group: SMEs with less than 250 employees in all sectors of the economy.

Volume: 14 million € with 1500 applications and 228 projects approved during the years 1995 to 1999 (the last projects being terminated in 2001).

3.1.2 National Programme: “Action Plan against Monotonous Repetitive Work” by the Ministry of Labour and Work Environment Council

Objective: To halve the extent of unhealthy monotonous repetitive work before the year 2000.

Key activities: Support of all kinds of research, development, exchange of experience, information and consultation activities at company and industry level to reduce monotonous repetitive work through new forms of work organisation such as rotation arrangements, job extension and job enrichment, or group work and limiting monotonous repetitive work by collective bargaining.

Target group: Industrial enterprises.

Volume: 27 million € for 172 projects in companies and for research and diffusion activities since 1993. Additionally the health and safety system has initiated a large number of activities. The programme will be evaluated in 2003.

3.2 Finland

3.2.1 National Programme: “Finnish Work Place Development Programme” by the Ministry of Labour.

Objective: To promote effectiveness and quality of working life by innovation-supporting modes of operation and employee skills at Finnish workplaces. This also includes raising the level of employability, developing the ability to cope with work requirements and reinforcing workplace development expertise in Finland.

Key activities: The key activities are focused on ‘research-supported development’ projects (eventually assisted by consultants)

- to achieve changes in the mode of operation at workplaces (e.g. introducing team work, learning opportunities, innovative use of ICT)
- to disseminate knowledge on workplace development and
- to strengthen the workplace development infrastructure in Finland.

The programme classifies every funded project by its primary and secondary aims. Programme statistics covering the years 2000-02 and some 150 projects show that ‘promoting teamwork, groupwork or cells’ has been an aim in 40% of the projects and ‘development of organization structures’ in 13%. In addition, many other projects may have touched work organizational issues (e.g. those with the aim to ‘develop work processes’). One may say that work organization development is a major issue in the programme.

Target group: All sectors of the economy are addressed by the programme. The share of manufacturing and construction of all project funding is 45% (especially metal-working industry), the share of private service industries 20% and the share of local authorities 30% (especially welfare and health care services).

Volume: 37 million € with 520 projects (ca. 80% of which are development projects) during the years 1996 to 2002. The second phase of the programme continuous up to 2003.

3.2.2 National Programme: “Well-Being at Work Programme” by the Ministries of Labour (coordination), Social Affairs and Health, Education, and Trade and Industry.

Objectives: To improve the quality of life, to promote the working capacity and well-being at work of the Finnish workforce, and to help people stay in the labour market for longer.

Key activities:

- Providing information and promoting good practices on well-being at work,
- Utilising research results and commissioning new research,
- Supporting projects which promote well-being at work,

- monitoring legislation.

Development projects emphasize management practices such as on-the-job learning, flexible working time arrangements and methods that successfully reconcile companies' requirements with employees' individual needs. Many projects include management training connected with feedback from employees and intermediates to the operations and targets of the work community. Funds are given to the projects for employing external experts (researchers, trainers and consultants).

Target group: The programme covers all sectors of the economy (with following shares of funding: municipal sector 31%, private service industries 20%, parishes, associations and foundations 27 %, government sector 8 %, manufacturing 6 %, farmers and entrepreneurs 8 %).

Volume: 5,5 million € for about 180 projects (out of altogether 538 applications) during the years 2000 to 2003.

3.2.3 National Programme: “Finnish National Productivity Programme” launched by the Economic Council led by the Prime Minister.

Objectives: Main objectives are

- to increase the functionality of workplace communities,
- to speed-up productivity improvement in companies and other types of organisations,
- to promote Finland's competitive edge in international markets,
- to raise the employment rate and level of income.

Key activities: Prioritised activities concentrate on

- improving and utilising the competence of employees at various stages of the career by developing work organisation and workplace culture,
- developing suitable methods and practices for improving the productivity of SMEs in the industrial and service sectors,
- launching development projects related to the application of productivity know-how.

Target group: The programme does not finance the development of individual workplaces, but the companies interested in boosting their productivity can apply methods and practices already developed or seek to participate in projects and receive support from a research consultant.

Volume: The programme follows earlier initiatives and operates during the years 2000 to 2003 with 11 practical research projects approved in 2000.

3.3 Germany

3.3.1 National Programme: “Innovative Development of Work – The Future of Work” by the Ministry of Education and Research, managed by the Work Design and Services project management agency.

Objectives: The framework conception aims at developing competence for the future: To promote and expand the development opportunities of individuals and companies,

so that they can shape the processes of change occurring in the working world in an active and human-oriented manner, and thus contribute to economic success and employment. The main objectives are

- to develop and test integral and sustainable solutions for company and work organisation balancing between human-oriented work structures, business success and employment,
- to develop approaches and strategies that give working people opportunities for orientation, qualification and development,
- to provide impulses for the realisation of equal opportunities in the working world,
- to support the extensive application of knowledge for work and company organisation and to intensify interdisciplinary cooperation.

Key activities:

- Identification and balancing of successful changes in work design and company organisation
- Effects of demographic change on future work
- Prevention of health and safety at work on the basis of new forms of work organisation

Target group: Funding is provided for collaborative projects and addresses companies (in all sectors of the economy), research institutes, associations, and consultants covering up to 50% of total research and development efforts of a project.

Volume: 30 million € *per annum* for about projects during the years .

3.3.2 National Programme: “Production Technologies” by the Ministry of Education and Research, managed by the Production Technologies project management agency.

Objectives: To increase competitiveness of industrial enterprises for sustainable development and to improve their capacity for change.

Key activities:

- Market orientation and strategic product planning: Strategic business planning, new perspectives for product innovation (such as sustainability, use of software, miniaturisation, integration of services, fast engineering and knowledge management).
- Technologies and production equipment: Innovative production devices, flexibly configurable machines and production systems, reduction of value chains.
- New forms of cooperation between firms: Management of enterprise networks, building regional networks, use of new ICT for business processes.
- Humans and learning enterprises: Educating workers for future production systems, new methods for work design, organising learning enterprises and human-centred design of production systems.

At least parts of the first and in total the fourth bundle of key activities are directed to support new forms of work organisation, while the other activities rather promote the development and use of production technologies. The programme thus complements in parts the Future of Work Programme (cf. 3.4.1) for the industrial sectors that account for ca 30% of GDP and still plays a major role in the German economy.

Target group: Industrial companies and research institutes in collaborative projects, especially with SMEs. Funding covers up to 50% of total research and development efforts of a project.

Volume: 62 million € per year for total programme; 10 million € per year for activities related to work organisation issues. The programme was launched in 1999 and is designed as a “learning programme” with undefined end. Approx. 120 partners working on work organisation issues are funded in the first phase.

3.4 Ireland

National Programme: Under the social partnership agreement “**Programme for Prosperity and Fairness**” the government-sponsored agency “**National Centre for Partnership and Performance (NCP)**” has been established working with the Department of An Taoiseach.

Objectives: The Centre is committed to *reconfiguring* and *refocusing* enterprise-level partnership in a manner that invigorates the societal momentum in favour of this concept and also repositions it at the centre of public policy process in accordance with the pursuit of key national strategic priorities. This involves repositioning partnership around issues relating to higher organisational performance, sustaining competitive advantage, modernising public services and promoting working arrangements that are flexible and responsive to changing employment and social priorities.

Key activities: The Centre is involved in supporting and encouraging organisations to address organisational change through partnership-style arrangements, in particular with the following activities

- Learning by Monitoring Project – Local Area Government and Health Sector
- Training for Trainers programme – Developing a Competency Framework
- Guidelines for Partnership in the Workplace
- Guidelines on financial participation.

The achievement of these national strategic priorities is dependent on organisations and individuals across the public and private sector embracing and supporting ongoing change and innovation. Accordingly, projects are focused on development and improvement within organisations – however the NCP is not a consultancy body. Development occurs through a mixture of research and dis-semination, project management, training and a limited amount of direct strategic facilitation.

Target groups:

- All companies in the private sector
- Semi State commercial organisations
- Public sector bodies and government departments

Volume: Funding is through direct government budget (and externally funded projects). NCP was launched in March 2002; 4 major funded projects are underway so far.

3.5 Portugal

National Programme: “**Integrated Programme for Innovation Support (PROINOV)**” managed by PROINOV project management agency under the Ministry of Council Presidency.

Objectives: The general objective is to strengthen the competitiveness of the Portuguese economy on the basis of an integrated policy for supporting innovation being compatible with the creation of more and better jobs and the preservation of the country’s social and regional cohesion. Competitiveness, employment and social cohesion are considered to form a strategic core triangle. The Integrated Programme aims at

- promoting entrepreneurship and innovation to meet new global and European challenges;
- enhancing education and training;
- improving general conditions for innovation;
- strengthening the innovation system in Portugal.

Key activities: Promoting quality as well as organisational and technology innovation:

- Disseminate the use of international quality standards and methodologies as levers for adopting and adapting innovative solutions relevant to technology, organisation, management, training, safety and environmental protection.
- Develop a programme for disseminating new organisational solutions in companies.
- Give priority to technological and organisational innovation when granting investment incentives.
- Promoting an innovation-driven culture by disseminating the results of innovation projects and organise demonstration events on the role of technological and organisational innovation in improving productivity and daily life of citizens in the workplace, education, transport, housing.

Programme activities include research, development, transfer, and consultancy.

Target group: All sectors of the economy.

Volume: The programme uses European Regional Development Funds directing and bundling them towards PROINOV objectives; period of operation is 2002 to 2006. In starting phase ca 50 applications are being evaluated.

3.6 Sweden

National Programme: “**Sustainable Work Systems and Health**” by the Ministry of Industry, managed by the Swedish Agency for Innovation Systems (VINNOVA).

Objectives:

- To support national societal sustainable growth through initiating and maintaining organisational and individual sustainability.
- To conduct R & D projects testing new work systems which initiate and maintain organisational and individual sustainability.
- To establish the ‘state of the art’ concerning sustainable work systems.

- To generate 'actionable knowledge' as the basis for government and business policy decisions.
- To create a platform for broad experimentation in working life.

Key activities: The programme is basically oriented to improving current practice in Swedish working life on a project basis. Thereby it underlines the importance of generating 'actionable knowledge', knowledge that will help practitioners to solve the problems they are facing. The projects are usually cross-disciplinary and involve close co-operation between the actors involved, be they researchers, consultants or practitioners from both management and personnel and their unions. Thus they involve action research, action learning and the generation of 'actionable knowledge'. Key activities in this context are

- the design of sustainable work systems,
- the integration of the design of jobs with the design of the organisation,
- leadership in sustainable systems,
- the design of management and feedback systems in sustainable systems, not least requiring balancing/integrating the needs and interest of different constituencies,
- the design of learning and communication systems, and
- the development of models and methods for the development of sustainable work systems.

Projects cover knowledge, facts, models, methods, tools, educational materials and examples from which people may learn and include elements of research, development and learning and may be conducted by appropriate groupings of consultants, practitioners from management or staff/unions, and researchers.

Target group: All sectors of the economy.

Volume: The start-up phases of the programme establishing the state-of-the-art and conducting a number of shorter test projects, had a budget of ca 2.2 million € a year (with 20 projects exploring the state-of-the-art and 15 test projects since 1999). The coming five years may be expected to have an annual budget of ca 16.7 million €. The expected period of operation is 1999 to 2006.

3.7 United Kingdom

National Programme: "**The Partnership at Work Fund**" by the Department of Trade and Industry.

Objectives: The Partnership Fund is designed to develop a new approach to employment relations, based on partnership at work underpinned by a legal framework of minimum, decent standards.

Key activities: The Fund aims to improve relationships between employers, employees and their representatives in order to secure performance improvements in the workplace, by supporting projects which: implement a culture change towards partnership; address business issues facing the organisation; implement schemes to enhance work-life balance and disseminate best practice in partnership.

Target group: Funding is available to companies, business intermediaries including employer federations, trade unions and other employee representatives, trade associations, Business Links, Learning and Skills Councils (or equivalents), public sector bodies and charities are all eligible to apply. Bids can come from an individual workplace submitting a project between the employer (or their representatives) and employees (or their representatives); a trade union working with the employer, the employees, a Business Link or LSC (or equivalent) working with a business or organisation. There is no set number or combination of partners. The Fund is available to organisations in England, Scotland and Wales.

Volume: The Prime Minister launched the Partnership at Work Fund in 1999. The initial £5m funding, which has now been distributed with the first four calls was made available over four years. An additional injection of £9m is available over next 2 years.

Support is available for up to 50% of total eligible costs of individual projects, up to a limit of £50,000 support per project.

4 The Impact of National Programmes

Evaluating the national programmes identified, it seems appropriate to start with some general remarks before we assess the impact of the single programmes in more detail.

Firstly, there obviously is a large slope between Northern and Southern EU member states with respect to the implementation of national programmes supporting the development of new forms of work organisation. While we found a whole bundle of three complementary programmes in Finland and two programmes in Denmark and Germany each, there are no such programmes in the Mediterranean states. In the South of Europe only Portugal has just started with such a programme. The newly implemented Sustainable Work Systems and Health Programme in Sweden is built on previous high impact programmes and, with the new orientation to implement sustainable work systems, specifically addresses the presently most pressing and significant issue for future work design and human resource development. This uneven distribution of national programmes more or less corresponds with the uneven dissemination of new forms of work organisation as mirrored in quantitative surveys presented in chapter 2. For an overall picture, diverse regional or project-based activities must be regarded, though, that have not been considered in this report. In France, for instance, where no national programme exists any more, we find with the institution of ANACT a nation-wide but regionally organised and operating supportive infrastructure that helps enterprises, in particular SMEs, to implement new forms of work organisation through partially funding consultancy; these activities find expression e.g. in the relatively high dissemination of group work (fig. 2).

Secondly, as far as the programmes' volumes are concerned, an important relational aspect has to be regarded. That is the relation of the programme's volume to the size of the economy (as e.g. measured in terms of GDP). If we, for instance, compare the efforts of promoting new forms of work organisation in Finland with those in Germany, we have to consider that the German economy is ca 15.3 times the size of the Finnish economy. This means that Finland, actually spending some 8.5 million € for

its three programmes supporting the development of new forms of work organisation, would fictively spend 130 million € if it had the size of the German economy, where the real efforts amount to ca. 40 million € only. Hence, Germany takes less than one third of the Finnish efforts to support the development of new forms of work organisation. This result is even more emphasised, if we consider the more or less supportive industrial relations in both countries. While the social partners in Finland are very active in raising awareness for and the promoting of new forms of work organisation as a vehicle for improved competitiveness and quality of working life, in Germany they are rather reluctant or indifferent in general, although they participated in the design of the programmes. Similar comparisons can be made with Sweden where the fictive support would sum up to 137 million €.

Thirdly, considering the number of national programmes in Europe, their volumes and the intensity of other national activities supporting new forms of work organisations, the interests in and the efforts for their further development and implementation seem to decline or to wane in recent years. This is the more amazing as the empirical evidence for economic superiority of new forms of work organisation in many circumstances has enormously grown and produces clear significance on a broad basis of data in different countries. That points, of course, to a widening gap between Europe's agreed strategic objectives for further socio-economic development on one hand and its real capacities to achieve those objectives on the other.

Fourthly, in general, the programmes are embedded into existing industrial relation patterns and try to make use of these culture-specific features for the achieving their objectives. It is interesting to see, however, that in the cases of Ireland and Portugal (to a limited extent also in the UK) the establishment of the programmes has effected some kind of qualitative change in industrial relations. By being based on top level agreements between the social partners and the government, they were able to produce a "leap out of tradition" and to implement new perspectives and new action patterns.

These general considerations have to be kept in mind when we now present our assessments of the single national programmes.

4.1 Denmark

Both programmes and their activities (cf. 3.1.1 and 3.1.2) have experienced considerable public awareness and found general support by the social partners. Beside publications, many conferences, seminars, company demonstration meetings have been arranged country-wide and regionally. To a higher degree than before, work organisation issues and their effects on productivity, flexibility and attractiveness for workers have been discussed in companies, thus contributing to a general positive attitude towards work change activities. In the case of the Funding of Better Working Lives and Increased Growth Programme (cf. 3.1.1), assistance from consultants was included in many projects with positive effects for the progress of projects as well as for the diffusion of knowledge.

Both programmes have also been officially evaluated. In the case of the Funding of Better Working Lives and Increased Growth Programme (cf. 3.1.1), evaluation shows that the majority of the projects have played a positive role for the development of the participating enterprises and that there is reality behind the principles of win-win development possibilities. Often, improvements at workplaces occur at the same time

as improvements in the enterprises' profitability pointing to the fact that enterprises very often have unutilised resources.

In the case of the Action Plan against Monotonous Repetitive Work (cf. 3.1.2), the evaluation shows that the overall aim to halve monotonous repetitive work has not been reached; only for ca. one fourth of the employees monotonous repetitive work has been reduced, partly by means of job rotation and partly by slowing down work pace or introducing piecework ceilings. There are considerable differences between industries, though, where for instance in the food, beverages and tobacco industries monotonous repetitive work has been cut down by almost 40% by means of automation and changes in work organisation.

According to the EPOC survey, Denmark features a relatively high diffusion of group work as one significant new form of work organisation.

4.2 Finland

4.2.1 The Finnish Workplace Development Programme (see 3.2.1) has a considerable positive impact on changes of work organisation in Finland, in particular with respect to changes in productivity, quality, work operations and social relations at workplaces. More than 1.000 operating units have so far been funded. An overall programme evaluation is in the making.

As the annual Finnish Working Life Barometer of the Finnish Ministry of Labour has revealed (on the basis of computer aided telephone interview data from more than 1,000 wage and salary earners being representative for all Finnish wage and salary earners), some 80% of the respondents said by November 2001 that employees worked in groups (teams, cells or project groups) 'mostly' or 'partly'. The share of those who said 'mostly' has increased in manufacturing from 34% to 44% from 1995 to 2001 and in private services from 22% to 30%. Corresponding figures from the local authority and central government sectors are also available. The annual reports are in Finnish. (The report concerning the year of 2001 is Ylöstalo, Pekka (2002): Työolobarometri lokakuu 2001, Helsinki: Finnish Ministry of Labour.)

Similarly, the Quality of Work Life Survey by the Statistics Finland (based on face-to-face interviews with 2.979 wage and salary earners) states that in 1997 74% of the respondents said that teamwork is applied at their workplace (Lehto/Sutela 1999). Moreover, the University of Tampere carried out in 2000 a mail survey with 1.775 responses of Finnish wage and salary earners. The corresponding figure was 81%. (Blom, Raimo, Harri Melin and Pasi Pyöriä (2001): Tietotyö ja työelämän muutos: palkkatyön arki tietoyhteiskunnassa, Helsinki: Gaudeamus.) Further findings on dissemination of new forms of work organisation can be found in Antila/Ylöstalo 1999 and NUTEK 2000 (cf. chapter 2).

Some of the reports also point to qualitative problems in working life that are presently being discussed in Finland. This discussion is going on in terms of problems of short-term employment contracts, job insecurity, harassment and exhaustion at work. The programme, however, starts with the assumption that problems like these are not individual and separate problems but basically derive from poor management and poor organization of work not considering sustainability issues.

4.2.2 The Well-Being at Work Programme (see 3.2.2) has funded more than 250 operating units. It has gained great positive publicity. Both the project team and for example social partners and research institutions have organised a lot of seminars and conferences concerning well-being at work. In this situation, an active and initiating information campaign is focused on describing the factors promoting well-being and the economic effects of well-being at work as well as on spreading good practices and utilising research findings.

The Barometer of Maintenance of Work Ability (MWA barometer) of the Ministry of Social Affairs and Health and of the Finnish Institute of Occupational Health collects information on the prevalence, resources, content, implementation and benefits of MWA activities. Information is collected by telephone interviews. The sample of workplaces represents the entire working population in the private and public sectors. The study shows that over 90 % of operating units with more than two employees have organised some kinds of MWA activities and that, additionally, a multitude of various MWA activities has been started. Moreover, more than one third of the workplaces reported that the MWA activities had increased at their workplaces during the past 12 months. The reports are in Finnish. (The report concerning the year 2001 is Peltomäki, Päivi (2002): Tyky-barometri: työkykyä ylläpitävä ja edistävä toiminta työpaikoilla vuonna 2001, Helsinki: Finnish Institute of Occupational Health)

4.3 Germany

Germany has a long tradition in national programmes supporting the development of new forms of work organisation since the launch of the Humanisation of Working Life Programme in 1974 and the Manufacturing Technology Programme in 1980. Although the social partners have been involved from the beginning in designing the programmes, in evaluating proposals and even in participating in projects, the impact of the programmes in terms of general awareness of underlying problems, of understanding the contribution of new forms of work organisation to competitiveness, and with respect to their dissemination is relatively restrained (cf. fig. 2, tables 1 and 2). Traditional management practices according to the Taylor model of enterprises still prevail.

Over the years, there have been high efforts to spread and share the growing body of knowledge about the rationale of new forms of work organisation, the ways how they can be implemented, and the effects they have on economic performance and quality of working life. However, despite strong empirical evidence for the economic benefits and despite some public support for organisational development, persistent implementation of new forms of work organisation is restricted to only a small minority of enterprises. As compared to Sweden or Finland, the impact on the dissemination of new forms of work organisation is less.

Moreover, in case of the Humanisation of Working Life programme and its successors (cf. 3.3.1), programme activities experienced a decline in the 1990ies (after a rapid rise in the beginning and a long consolidation phase in the 1980ies). This is also mirrored in the programme's funding volumes that have steadily been reduced during the 1990ies from a level of 50 to 30 million €. Their relative extent is now approximately one fourth of that in Sweden or Finland only (for details and the background of the German labour process development see Oehlke 2001).

In recent years and particularly in the Production Technology programme efforts in transfer activities on both programme and project level have been enlarged. Besides of conferences, round tables and workshops, many projects have installed industrial working groups with partners not being funded and distribute progress newsletters over the Internet.

4.4 Ireland

In quantitative terms, new forms of work organisation are already relatively widespread in Ireland. In a survey of 1997 by University College Dublin, delegative forms of participation, for instance, organised around team structures was found in 42% of Irish organisations, while temporary groups such as project teams or task forces were found in 36% of enterprises. These levels of incidence of new work practices diminish, of course, if the depth and scope for change are taken into account (cf. fig.2, EPOC Research Group 1998, Geary 1999).

In qualitative terms, there are high levels of public awareness around partnership at a national level, although the awareness and understanding of enterprise partnership is less developed. Further work is required to firmly establish the case for partnership – both for employers, employees and unions.

Since March NCPP (cf. 3.4) has already produced joint union/employer guidelines on partnership and NCPP is currently working with the social partners to investigate financial participation. The programme of NCPP is well supported across the social partners. Initial conference activities have been very well attended.

Initial work with the consultancy community has been largely positive – though for some the Centre may be seen as threatening.

4.5 Portugal

Politically, the newly started Integrated Programme for Innovation Support in Portugal (cf. 3.5) acknowledges the significance of organisational innovation as critical factor to cope with productivity problems and competitiveness. The programme has not been evaluated so far (since it has just started).

There are very few studies on the issue of dissemination of new forms of work organisation in Portugal (covering the late 1980ies and early 1990ies). There are also no specific post graduation courses that could stimulate such studies. There are only two research centres that cover the field: SOCIUS (Research Centre on Sociology of Economy and Organisations, at the Technical University of Lisbon, ISEG-UTL) and IET (Research Centre of Entrepreneurial and Work Innovation, at the New University of Lisbon, FCT-UNL). Consultancy business is not prepared to support such projects, despite the fact that there are several industrial and service companies that are adopting and experimenting new forms of work organisation.

All in all, work organisation is a theme that interests public administration and social partners, but so far there have been very few projects financed on this thematic, however. Most of studies done are supported by the Ministry of Labour or at the European Commission level (e.g. through the Framework Programmes, EFILWC in Dublin (cf. EPOC Research Group 1998) or DG Employment and Social Affairs).

4.6 Sweden

So far, more than 50 partners have been funded within the Sustainable Work Systems and Health Programme (although not all of them are formal contractors to VINNOVA; cf. 3.6); this number will rapidly grow in the next years. Since the programme is still in its first phases, it has not yet been evaluated. The first editions of the state-of-the-art reports from the programme (in Swedish only) are out of print, however, and reprinting is under consideration.

The Swedish public is well aware of the issues of work intensity, long sickness absence (> one year), early sickness retirement, burnout, chronic tiredness, exhaustion, or depression:

- Members of VINNOVA and NIWL have been involved in producing government white papers on the extent of the problems related to work intensity and the need for development efforts (two examples are the report from the Sahlin group (SOU 2001) and the Action Plan for Improved Health in Working Life (SOU 2002)).
- The central union organisations have written policy papers based on the reports mentioned above emphasising the need to prioritise leadership and participation issues (*Hållbar utveckling* (Sustainable development), Stockholm: LO, TCO & SACO, 2002).
- Several national seminars have been conducted by the Swedish Council for Work Life Research, the NIWL and the central union organisations.
- International seminars have been held (on the basis of Docherty et al. 2002) at the Academy of Management (USA 2000), the European Academy of Management (Barcelona 2001, Stockholm, 2002), the Work Intensification conference (Paris 2002) and the Complexity and Organisations conference (USA, 2002)

The diffusion of new forms of work organisation being developed and spread in the context of previous programmes, in particular the Swedish Working Life Fund Programme with its 23.000 development projects, appears to be far more advanced than in other European countries (cf. chapter 2, especially fig.2 above, EPOC Research Group 1998, NUTEK 1996 and 1999, ITPS 2001). This clearly indicates a high degree of public awareness of the significance of work organisation for economic and social progress and of the commitment of the social partners.

4.7 United Kingdom

160 successful projects are currently receiving funding under the Partnership at Work Fund (cf.3.6). There were 33 successful bidders in the first round of the scheme, 40 in the second, 37 in the third and 49 in the fourth.

Quantitative data on the dissemination of new forms of work organisation are not available (except EPOC data, cf. fig.2). Warwick University is currently conducting an independent evaluation on the Partnership Fund. The results of this survey will be published soon.

5 The Role of Social Partners

While focusing on the dissemination of new forms of work organisation, it is evident that industrial relations and the social partners' organisations play a crucial role in this respect in the EU member states. Three aspects shall briefly illustrate their importance.

First, on a workplace level, according to the varying regulations or collective agreements, there is an involvement of employee representatives (unions representatives or works councils) in organisational change processes. As the EIROnline issue on "The involvement of employees and collective bargaining in company restructuring" (2001) states, representational employee participation occurs over various aspects of enterprise restructuring with major variations. While in most countries there predominantly is an information and consultation of employee representatives, there are specific co-determination rights in processes of organisational change in Germany: e.g. there are quite far reaching co-determination rights of the works councils in the enterprises based on the regulations of the Works Constitution Act. This covers information, consultation and co-determination on various structural issues as are change of production facilities, introduction of new equipment, new production systems, production processes, or work organisation, closures, mergers, or collective redundancies.

Experiences of change processes repeatedly demonstrated that the information and consultation of the employees play a crucial role for the success of the change process. Attitudes towards the change process – based on experiences of those involved – and the way how conflicts are resolved must be taken into account when thinking about the role of social partners and employees representatives on a enterprise level. For a dissemination of new organisational structures and practices, information and the attitudes, activities, and experiences of employees and their representatives are important for scale, scope, and economic success of the change process. In this sense, the UK and Irish activities for building partnership address a core issue which is a prerequisite for successful organisational change processes in the enterprises.

Only if involvement and information of the employees are sufficiently managed and new structures and practices are implemented, a trust based and co-operative enterprise culture will emerge. In this respect, trust, commitment, and partnership – as core elements of employee motivation – are results of the change process. During the change process, i.e. by co-operative activities of management and employees, the new organisational principles and practices are jointly developed. In the latest EC report on the programmes, it was emphasised that "creating a culture of partnership takes time" (EC 2000, 15). We would like to add: in many cases, it needs external support – e.g. by consultants focusing on organisational development – and furthermore, it needs a promotion which is especially helpful if it is jointly provided by social partners organisations.

Secondly, a change of the organisational structures normally leads to new tasks or to a different set of tasks to be performed by the employees. Apart from co-determination rights or information and consultation practices – which directly involve the employees and their representatives –, in many cases the wage and remuneration systems as well as working time regulations or personnel development schemes are closely linked to tasks and task descriptions. Accordingly, these systems must be adapted to the new structural determinants especially if profit sharing and different

types of bonuses are discussed. As many of the wage systems are based on social partners' collective agreements on different levels, these organisations become involved in these changes.

As there is a kind of tradition of excluding bargaining of wages from these programmes, there is still a need to "backing up" change processes by social partners in a certain way. The implementation and the success of these changes are closely related to the "framework conditions" of the industrial relations setting in each enterprise, sector, or region. The wage systems need to be adapted to the changing structural prerequisites.

Thirdly, the social partners' organisations are important for raising the awareness on certain aspects and on the importance of organisational change. By distributing information on methods and effects of the organisational restructuring among members and in public, by supporting these change processes in different ways (offering tools etc), and by influencing public policy (i.e. by supporting programmes like those we investigated) and accompanying public discussion, they can provide an active role to a development of a sustainable and 'high road' oriented development of organisational structures in their countries.

Keeping in mind that enterprises themselves have to decide whether to change organisational structures or to join the programmes, there is a danger of "preaching to the saved": Only enterprises which are already aware of these problems will often take the chance to become active or to join the programme activities while at the same time a large part of the enterprises seems to keep existing structures and practices. As long as we can identify a limited dissemination of these practices in many European countries (cf. 2.1, 2.2), there is a need to intensify the promotion of organisational change practices, especially in the SME sector.

It is fairly evident that the tradition of industrial relations and their prevalent character (co-operative vs. adversarial) has a major influence on the existence and the shaping of the programmes in each country. Furthermore, the experiences e.g. of the "lean production" debate led to some sceptical view on co-operative restructuring efforts inside the unions (e.g. the "lean and mean" discussion in the Netherlands and Sweden) while at the same time, there is still an ongoing emphasis towards deregulation of industrial relations. Nevertheless, the continuing challenge of Europe's industry needs to be managed by joint activities of the social partners – without neglecting different legitimisation, orientation, and interests. But there is a need to further develop partnership and co-operative practices, and in this respect these national programmes can be seen as a kind of learning environment. The re-orientation of the social partners' attitudes can be seen e.g. in Finland where the adversarial industrial relations of the 1980's changed towards a more co-operative structure. In Portugal, there is some indication for a beginning change related to state's programmes.

From these considerations, we can highlight some influences and options for activity of the social partners:

- Social partners influence government towards initiatives to disseminate knowledge on organisational change, best practices etc. (support the input of the policy process by contributing to programme design) and thus foster the development of co-operation and trust based relations in the whole country,

- Social partners support government's intention and activities to accelerate and support organisational change (support the programme "output" of policy development on the operational or project level).

Accordingly, at least three different levels of activity and support of the social partners for the programmes in question can be discriminated.

First, as in most cases, the social partners' organisations are represented in the design and development periods of the programmes. There are representatives and experts joining the programme development in advisory boards or councils in which the policy activities are advised and discussed. This is the case in Denmark, in Finland, in Germany, in Ireland, in Portugal, and in Sweden. E.g., the Irish National Centre for Partnership and Performance (NCP) which has been established under the social partnership agreement "Programme for Prosperity and Fairness" e.g. is working with the Department of An Taoiseach and it has a 16 member council: 4 employers representatives, 4 Union representatives, 4 government representatives, and 4 independent members. For the UK Partnership Fund, no information on a co-operative board or council is reported. A specific point in Sweden is that the unions and employers' organisations are members of the boards of the operating agencies (NIWL, VINOVA), as well.

Summing up the empirical information, with a different emphasis and extension in each country and varying among the programmes this type of policy related activity is a kind of "Good practice in Europe" for the vast majority of the programmes we could identify and furthermore, it is the most widespread action performed by the social partners in the EU countries related to these programmes.

Secondly, focusing on the operative level of programme management, the activities of the social partners are less widespread. According to our results, in the Danish Action Plan e.g., the social partners have been active in the project steering group and the work environment councils participated in the local steering groups of the enterprise projects. In some of the programmes, as are e.g. in Germany or in Sweden, there are expert boards or programme management groups joining the selection of projects or following the ongoing projects. In Portugal, the social partners were involved in these operational activities, too. Compared to the programme development level, we can say that there is a limited participation of the social partners on the operation level.

Thirdly, social partners' activities on a project level are fairly exceptional. For Sweden, it is reported that direct participation of employees is the regular case in the projects while a representative participation is performed according to the enterprise tradition and practice. Only for programmes in two countries, we could find activities of the social partners' organisations on the enterprise level.

- In the German programmes, there are a few projects carried out by unions or union related organisations. On the one hand, they are directed towards the development and dissemination of adapted information and tools for works council members e.g. On the other hand, there is a project of the service sector union (VER.DI) investigating into the options to work structuring in call centres (i.e. a research oriented project). Furthermore, in the enterprise projects of the German programmes, representatives of management and works councils must be involved.

- In Ireland, we could identify an active role of the social partners on a project level as well. For example, both ICTU and IBEC nominated individuals to work on the “Working Together for Change and Modern Workplace – Guidance for the Unionised Commercial Sector” project.

But these cases are fairly unique in Europe, as far as we can see. In all the other programmes, the involvement of the social partners on an enterprise level is limited to the specific forms of representation which are introduced by legal regulations, by collective bargaining in the countries, or – as is reported for Sweden e.g. – following traditions and practices of bargaining and participation in each of the joining enterprises.

Looking at the European picture provided by our questionnaire, we can see that apart from the Portuguese case, we could only identify programmes focusing on organisational change in EU countries with a long tradition in co-operative industrial relations, i.e. in Sweden, Denmark, Finland and Germany. In these countries, the social partners are joining the programme development and the implementation by representatives participating in expert or advisory boards, and – with less extent – in programme implementation. They take an active part in some programmes concerning the selection of projects (e.g. in Germany) or following the activities of the projects (e.g. Sweden). We have only limited information that social partners would join the projects or perform own projects in these programmes. This is only the case in Ireland and Germany, with less emphasis in Sweden while in Portugal, Finland, and Denmark no activities on project level were reported.

6 Recommendations for Further Initiatives

In this final section of the report we derive a number of recommendations for further initiatives from the balance and evaluation of the material gathered above. They are grouped according to the main actors involved: enterprises, social partners and policy makers. Future initiatives promoting the development of new forms of work organisation must consider and reflect on general trends that recently have been investigated and sketched out in this report, in particular the polarisation of work structures, the innovation strategies, and the new dimensions of work-related stress.

6.1 Initiatives on the level of enterprises

(1) Considering the unbroken trends towards customer orientation and integration of production and services, it still is rather unknown territory, *which effects these new management strategies really have on work organisation*, in particular on working tasks and working conditions. Although there exist a number of case studies covering these issues, an overall picture is still missing so far. Therefore, comprehensive investigations are needed to identify new working contents, working conditions, and work loads in this context, since the different acting perspectives and practices of producing things and of communicating with customers are eventually coming into conflict.

(2) The *working principles of collaborative enterprise networks and of virtual enterprises* equally are rather unknown territory. Especially, knowledge is missing about how the independently operating units can develop the necessary social relationships

like trust or shared know how needed for cohesion and about the consequences these inter-organisational activities have for new forms of work organisation as well as for working conditions and work loads. Further knowledge is needed to understand which new roles and working tasks are emerging and which new competencies and qualifications are needed. Here again the overall picture is still missing, despite some singular experiences.

(3) There are a number of indications that indeed new working tasks and working conditions will come into existence with broad dissemination of new management strategies such as customer orientation, decentralisation, or collaboration in enterprise networks. If this is true for a greater number of workers, a gap between the new working requirements and existing organisational cultures will open up. Consequently, this will give rise to the *need for cultural change and collective learning processes* as well as *for the development of appropriate procedures to master these change processes*.

(4) The alarming *differences in performance, quality of work, and employment between “low road” and “high road” strategies of innovation need to be reflected* on a broad basis. According to the data presented, the vast majority of enterprises either working in traditional tracks of division of labour and hierarchical command and control or just following the mainstream “low road” of innovation, under-utilises its resources and still operates below its potential. Many enterprises, thus, act counter to their own interests of exploiting business opportunities and of making profits. Even worse: They frequently deprive themselves of the human resources and the capacity to radically change their work organisation to pave the way to the “high road”. Since they thus fail to build the business processes and the human resources for the “high road” strategy as a necessary entrepreneurial basis, Europe as a whole will fail to achieve its strategic objectives for employment and for building an advanced and productive knowledge-based society. Reflecting on the conditions for implementing the “high road” strategy, further recommendations have to be regarded.

(5) The working situation for (mainly intellectual) workers with high qualifications, broad scope for action and learning in high performance teams such as self-managing groups or project teams is rather unknown terrain, in particular with respect to work-related stress. In the past, the paramount focus of work analysis and design has been on functionally divided shop floor work and routine office work that, of course, formed the vast majority of work places. While the share of highly qualified work in flexible decentralised, more autonomous groups and project teams is rapidly increasing, *more and more workers are experiencing all kinds of high work load and multiple stress reactions* such as states of exhaustion, depressions, or burnout syndromes. As signalled by these growing numbers of cases with work-related mental stress reactions, it becomes necessary to shift the focus of work analysis and design to these new kinds of working situations. This appears even more indicated as the stress reactions, beside the individual workers’ health risks, causes rapidly growing costs on the level of the enterprise as well as on the level of the society (Gabriel/Liimatainen 2000). Moreover, this also requires, under the theoretical perspective of a resource-centred analysis of work, that new methods for identifying, analysing, and evaluating the specific resources needed for work in relation to given requirements are being developed and tested. With respect to work design and the implementation of “sustainable work systems”, it is further necessary to explore the

conditions under which these resources can regenerate and develop rather than being consumed in work processes.

(6) Under the same resource-centred perspective, a diversity of *approaches to constrain and to cope with high time pressures and work loads* already being tried out in some advanced enterprises *should be tested more systematically*. Enterprises with large numbers of highly demanding work places causing mental stress should be encouraged to experiment with new forms of sustainable work systems. In order to develop best practices in this respect, they should be supported to explore appropriate opportunities and conditions for a good balance of requirements and resources in work processes such that the personal and social resources can regenerate and develop. The results should then be generalised and integrated in good management practice.

(7) Considering ageing work forces throughout Europe, *initiatives for organising work-related continuous learning processes are needed*. The implementation of life-long learning strategies primarily is a matter of long term development of human resources in enterprises and highly depends on new forms of work organisation that offer sufficient learning opportunities. Reflecting on own practices and learning then are an integral part of work tasks contributing to continuous improvement of working processes, and most learning occurs during work. Offline training efforts may complement and support such work-related learning if appropriately designed. Best practice demonstrators in this perspective should be developed.

6.2 *Initiatives on the level of social partners and policy makers*

(8) Regarding Europe's pretentious strategic objectives on one hand and realising the poor and unbalanced state of dissemination of new forms of work organisation – with public awareness as well as managerial and unionist interest rather shrinking than expanding – on the other, it appears necessary to *define a coherent European strategy for the development and dissemination of new forms of work organisation*. Such a strategy is currently missing as the real development of process innovations in Europe is “project-driven rather than strategy-driven” and “since the publication of the Green Paper there have been no new measures designed to build capacity or to animate workplace change” (Ennals et al. 2001: 271). The strategy has to clearly distinguish between macro and micro level perspectives and activities, but has, at the same time, to safeguard that both are mutually adjusted and complement each other. Efforts of re-regulating framework conditions (such as working time, social security, education and training) under the perspectives of “flexicurity” and “sustainability” as prerequisites for human resources development must be linked to and combined with the promotion of new forms of work organisation serving as vehicles to improved economic performance, competitiveness, employment and growth. Unless the combination of these perspectives is successfully implemented, the agreed strategic efforts to increase employment and to build an advanced and productive knowledge-based society are bound to fail.

(9) The great relevance the development of new forms of work organisation has for both quality of working life and for productivity and growth is, contrary to pressing empirical evidence, still widely underestimated (if not even denied) throughout Europe. Hence, there is a great risk that the EU fails to build cornerstones needed for erecting the four pillars of its Employment Strategy and to pave the way for its imple-

mentation. Consequently, *urgent initiatives are needed to raise public awareness for the underlying work organisation issues* outlined and their impact on growth and human resources development (in particular in the southern EU member states). Such initiatives fostering the broad implementation of “high road” strategies for creating wealth and quality of work should be integrated into the benchmarking procedures of the European Employment Strategy. To this end, annual National Action Plans (NAPs) should contain clear statements on the dissemination of new forms of work organisation and on the impact they have on economic performance and employment based on regular surveys. These results provide indispensable complementary information to national efforts in de- and re-regulating framework conditions (and they may dissolve neo-liberal myths about economic development). The Finnish practices in connection with their National Programmes can serve as a model for this. Unless such regular awareness campaigns and benchmarking procedures are seriously undertaken, the Employment Strategy and building of an advanced and productive knowledge-based society will remain mere illusions.

(10) As the High Level Expert Group on economic and social impacts of industrial change (headed by Peer Gyllenhammar) has already recommended in 1998, a *forum for industrial change processes* (beyond EIRO activities) *should be further developed* (cf. High Level Expert Group 1998). Its objective should be to create and exchange more information and knowledge on industrial change processes with special emphasis on work organisation, innovation and employment. Such activities may also support the efforts of raising awareness for the problems and effects of implementing sustainable work systems on the “high road”. In particular, more light should be shed on and more reflection should be given to the slope between Northern and Southern countries in the implementation of new forms of work organisation. Meanwhile the European Monitoring Centre on Change (EMCC) has been established that may serve as a nucleus for such activities the intensity and impact of which should be increased, however.

(11) The *social partners have great responsibility* in raising awareness of both managers and highly skilled (intellectual) workers for the health risks of demanding flexible work in high performance teams and, accordingly, *for the development and broad implementation of sustainable work systems*. They on their turn are challenged to explore new working time regulations that allow for flexible limitations of working requirements on one hand and enables enterprises to create work processes in which personal and social resources can be regenerated and developed on the other.

(12) As much as new forms of work organisation serve as a vehicle to comprehensively develop and use human resources, as much they also create risks for (mental) health and well-being. The resource-centred perspective on work we have indicated may explain the reasons for that by looking at resources not as such but in relation to the requirements of the working process. According to this perspective, health can only be safeguarded, if conditions of work allow for regeneration of the resources used in work. Complementary to the efforts of analysis, design and evaluation of work that have to be taken at enterprise and work process level, *initiatives for re-regulation of framework conditions on the societal level are needed*, since health damages produced by high work loads (in particular in flexible high performance teams with much autonomy) cause high costs for the social security systems. In particular, this re-regulation efforts should focus on social security issues with specific consideration of flexibility needs of organisations (“flexicurity”) and on issues of con-

sumption and regeneration of individual and social resources (“sustainability”). Examples for such new regulations are flexible working time regulations, sabbaticals, or learning leaves.

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