



EUROPEAN PROGRAMMES ON WORK AND LABOUR INNOVATION – A BENCHMARKING APPROACH

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WORK-IN-NET

Labour and innovation: Work-oriented innovations – a key to better employment, cohesion and competitiveness in a knowledge-intensive society

Contents

	Preface	5
1	Purpose and content of the report	7
2	Framework and implementation of the benchmarking exercise	9
2.1	Naschold's 'best practice' model for national workplace development strategies	9
2.2	Updating Naschold – changing economic and policy context for workplace development programmes and strategies	11
2.3	Purpose and implementation of the benchmarking exercise	14
3	Research and development activities of the participants in comparison	18
3.1	Profiles of the participants' research and development activities	18
3.2	Policy context	24
3.3	Orientation	28
3.4	Participation	32
3.5	Infrastructure	35
3.6	Horizontal networking	39
3.7	Aims vs. resources	43
4	Conclusions and recommendations	47
4.1	Main findings of the benchmarking exercise	47
4.2	Topics for discussion and further examination	49
	References	55

Preface

This report contains the main findings of the benchmarking exercise that was carried out in Spring 2005 as part of the WORK-IN-NET project. The full name of the project is 'Labour and Innovation: Work-Oriented Innovations – a Key to Better Employment, Cohesion and Competitiveness in a Knowledge-Intensive Society'. WORK-IN-NET is a four-year (2004-08) project funded within the Sixth Research Framework Programme of the European Commission. The overall aim of WORK-IN-NET is to set up sustainable communication and cooperation channels in Europe between the still fragmented national and regional research activities in the area of work-related innovation issues. To cope with the lasting innovation, productivity and employment challenges in European countries, the focus of WORK-IN-NET lies on three key themes:

- qualitative human resource development,
- corporate social responsibilities and cultures, and
- regional development alliances.

Innovative interactions of all – national and regional - stakeholders and extended development coalitions are vital for achieving the goal set by the Lisbon European Council – to become the most competitive and dynamic knowledge-based economy in the world by 2010, capable of sustainable economic growth with more and better jobs and with greater social cohesion. The following pages offer an overview about the discussions during the benchmarking workshop. The main objective of this first meeting of all WORK-IN-NET experts was to foster a systematic exchange of information and good practices concerning existing research programmes on work oriented innovation and innovative development coalitions.

This report was written by Tuomo Alasoini in cooperation with Tiina Hanhike, Maarit Lahtonen and Elise Ramstad from the Finnish Workplace Development Programme (TYKES) at the Ministry of Labour. Special contributions and comments to the report were made by Paul Oehlke and Claudius Riegler from the Project Management Organization at DLR on behalf of the German Federal Ministry of Education and Research.

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1 Purpose and content of the report

This paper describes the framework and process of a benchmarking exercise that was carried out as part of the WORK-IN-NET project in spring 2005 and summarizes its major outcomes. The benchmarking exercise focused on the activities of research and development (R&D) programmes and other funding institutes on work-oriented innovations that participate in the four-year (2004-08) project. The participants for benchmarking were

- the Finnish Work Environment Fund (FWEF)
- the Finnish Workplace Development Programme (TYKES) by the Ministry of Labour (MOL)
- the National Framework Concept ‘Innovative Development of Work – The Future of Work’ by the Project Management Organization (PT) at DLR on behalf of the German Federal Ministry of Education and Research
- the Programme ‘Work-Oriented Modernization’ (MWA) by the Organization for Innovative Employment Promotion (G.I.B.) on behalf of the Ministry of Economy and Labour Affairs of the German Federal State of North-Rhine Westphalia
- the Programme ‘Health and Safety at Work’ by the Institute for Labour Foundation (IpL) on behalf of the Ministry of Health of Emilia-Romagna, Italy
- the Value Creation (VC) 2010 Programme by the Research Council of Norway (RCN)
- the Programme ‘Goal-Oriented Projects for Small and Medium-Sized Enterprises’ by the Polish Federation of Engineering Associations (FSNT NOT) on behalf of the Ministry of Scientific Research and Information Technology
- the Innovation and Enterprise Centres for small and medium-sized enterprises by the Polish Federation of Engineering Associations (FSNT NOT)
- the Swedish Council for Working Life and Social Research (FAS)
- the Knowledge Platform ‘Learning and Health in Working Life’ and the DYNAMO Programme by the Swedish Agency for Innovation Systems (VINNOVA)

The main rationale behind the exercise was not to look for potential strengths and weaknesses of individual countries, regions, programmes or institutes, but to learn from the experiences of each other, identify good cases and practices and raise them to the European policy agenda. In administrative terms, this paper constitutes deliverable 3.2 of the WORK-IN-NET project.

Chapter 2 of the report contains a description of the framework and implementation of the benchmarking exercise. In *Chapter 3*, we first make an attempt to draw profiles of the participating programmes and institutes on a heuristic map that is based on the dimensions of the framework and we then give an overview on the participants' activities on all the six dimensions, i.e. policy context, orientation, participation, infrastructure, horizontal networking and aims vs. resources. *Chapter 4* contains conclusions and recommendations for national and EU policy-makers and for the future work of WORK-IN-NET.

2 Framework and implementation of the benchmarking exercise

This chapter starts with a description of Frieder Naschold's 'best practice' model for national workplace development strategies that was used as a loose framework for the benchmarking exercise (2.1). We then make an argument for the need to update some of the assumptions that lie behind this framework and the empirical analysis on which it is based (2.2). The last section (2.3) examines the purpose of the benchmarking exercise and how it was actually carried out.

2.1 Naschold's 'best practice' model for national workplace development strategies

In recent years, many authors have provided interesting descriptions on the history, extent and contents of different approaches and programmes that have been launched in support of developing working life and work organizations in different countries (e.g. Ashton et al. 2003; Brödner & Latniak 2003; Business Decisions Limited 2000; Cole 1989; Gallagher 2001; Gustavsen et al. 2001; den Hertog & Schröder 1989; Totterdill et al. 2002). These overviews have been mainly used for the purpose of revealing the richness and diversity of development trends found in this area or of targeting criticism to the lack of activeness shown by the policy-makers to systematic improvement of working life and work organization. It is obvious that a mechanical comparison of different programmes or approaches is not productive, simply for the reason that their targets, their criteria for success and their resources, as well as the context in which they were created and implemented are all different.

One of the few authors who has in an ambitious way tried to build a more systematic set-up for making comparisons between different strategic approaches to workplace development on national level is Frieder Naschold (1994). On the basis of a comparison of workplace development strategies in six countries (Australia, Japan, Norway, Sweden, Germany and the USA), Naschold has identified several generic principles which according to his view help

improve the effectiveness of strategies. His 'best practice' model for national workplace development strategies consists of the following six principles:

- The strategic justification for a workplace development strategy arises primarily from macro-level industrial policy issues rather than the industrial relations system or the research and development system (POLICY CONTEXT).
- On the programme and project level, the aim is to attain an international or global standard, rather than settling for a national or local standard (ORIENTATION).
- In development operations, the aim is a type of indirect intervention that combines simultaneous design and process orientation and broad company- or workplace-level participation as opposed to traditional design solutions provided by experts or centralized bargaining solutions by the social partners (PARTICIPATION).
- The development strategy is supported and guided by a strong national infrastructure which comprises a large number of experts (INFRASTRUCTURE).
- The players are networked on the micro level (the company or workplace level) (HORIZONTAL NETWORKING).
- The resources and duration of the programme-based operations are adequate in relation to the aims of the programme (AIMS VS. RESOURCES).

According to Naschold, so far no country has united all these principles in its workplace development strategy; according to his comparison, Japan appears to have come closest in the early 1990s. While giving merit to the attempts of the Swedish and Norwegian development strategies in the 1980s and early 1990s to broaden the basis for employee participation and influence, he criticizes these strategies for their lack of a clear link with industrial policy, and for the fact that the programmes and their projects were characterized by a lack of international benchmarking and that the ambitious goals of the programmes were at odds with their resources and duration. This criticism was based particularly on the evaluation results of the Swedish Leadership, Organization and Co-Determination (LOM) Programme (1985-1990) and the Norwegian Centre for the Quality of Working Life (SBA) Programme (1988-1993). The other objects for comparison and representations of national strategies included the German Work and Technology Programme (and its predecessor the Humanization of Work Programme) and the Australian 'awards restructuring' framework. In the case of Japan and the USA, Naschold examined the national policy context and infrastructure for workplace

development from a somewhat broader perspective and with a special reference to quality improvement activities. Naschold's country-wise comparisons on the dimensions of his model can be summarized in Table 2.1.

Table 2.1. National workplace development strategies in the early 1990s in Naschold's comparison (+ showcase, - lagging-behind case).¹

	USA	GER	AUS	JAP	SWE	NOR
Policy context	-	(-)	(-)	+	(-)	(-)
Orientation	+			+	-	-
Participation	-			(+)	+	+
Infrastructure	(-)	+	-			
Horizontal networking	-	(-)	(-)	+	(-)	(-)
Aims vs. resources		+		+	-	-

2.2 Updating Naschold – changing economic and policy context for workplace development programmes and strategies

Though subsequent workplace development activities particularly in the Scandinavian countries have taken note of Naschold's analysis, it is a pity that there have not been serious attempts to update his analysis or challenge his conclusions against the new economy and policy context. One may ask, for example, whether it is justified to make country-wise comparisons between programmes (as in the case of Germany, Norway and Sweden) and broader policy frameworks (Australia and the USA) or even social movements (as in the case of Japan). In retrospective, it is also easy to argue that his analysis provided questionable assumptions concerning the future outlook of productivity development and competitiveness of the US and Japanese economies. Productivity trends during the last 10 years or so clearly show that the USA has again strengthened its position as the global leader, while the Japanese economy has been losing its position in relation to that of the USA (as well as some other advanced industrial countries). There is no room here for a more detailed discussion on that

¹ This table is a reconstruction by the authors of this report, based on Naschold's analysis. This table is not to be found in his original work.

issue or the reasons for the turn of the tide. One may simply argue that Naschold's analysis underestimates the learning capability and productivity potentials of the US production regime and, accordingly, overestimates those included in the Japanese lean production model.²

The context of and the challenges for workplace development strategies have been changing remarkably since the early 1990s. The main drivers for change include the increased globalization of the product and finance markets, the economic and political integration of Europe, the rise of neo-liberalist policies and the subsequent trend towards increased deregulation of the labour market in most industrial countries, advances in information and communications technology (ICT), and the ageing of the population and the workforce. These changes, taken together, have led to different kinds of developments and policy responses in different countries and regions. The economic development in Europe on the whole has been lagging behind the other major economic blocks in the world, despite her ambitious strategies for growth.

Recent comparative surveys on the spread of programmes to develop working life and work organization in European countries show that there has been no significant increase in the volume or extent of these programmes. The survey by the Business Decisions Limited on government-supported programmes for new forms of work organization in 1999 found 18 such programmes in 11 European countries. The report that was submitted to the DG Employment and Social Affairs in January 2000 made a short comparative overview on the programmes in terms of their focus and implementation. A key overall conclusion was that though all the programmes were designed to support the introduction of new forms of work organization, they were highly heterogeneous in many ways. Another key conclusion was that *“National differences in social values, industrial structures, framework conditions and industrial relations make it impossible to design a common policy approach. There is no single, simple, or EU-wide solution. However, it is possible for member states to learn from*

² We elaborate this argument here with two further remarks: Firstly, the success of the US production regime during the recent years is, in addition to skilful utilization of the possibilities opened up by the emerging knowledge society, also based on harsh rationalizations and cost cuttings in many mature industries, i.e. a combination of 'high-road' and 'low-road' strategies. Secondly, it may be misleading to treat the US production regime as the proper entity for comparison with smaller countries, since the recent development paths of different regions and industries in the USA differ widely from each other (see e.g. Florida 2002; Westlund 2004).

each other and hence improve the effectiveness of policy design, management and implementation. Much of this learning could take the form of discussions between practitioners to share experiences about practical matters” (Business Decisions Limited 2000, 30).

In another survey that also was commissioned by the DG Employment and Social Affairs, Brödner and Latniak (2003), while using somewhat stricter criteria, found national programmes to support the development of work organization in only seven member states. They consider the lack of activities in most member states worrying, taking into account the recommendations by the European Commission’s Green Paper ‘Partnership for a New Organization of Work’ (1997), the European Employment Strategy and its employability and adaptability pillars and the objectives laid down for Europe’s future development by the Lisbon Summit in 2000. In their view, public debate over the years has been mainly concentrating on macroeconomic framework conditions and institutional settings, whereas the significance of internal factors of success, such as flexible work organization, human resources development or organizational learning has been neglected. They call for a need to revive public awareness and the interest of companies and the social partners, and to define a coherent European strategy for the development and dissemination of new forms of work organization.

Though it seems that there has been no significant development in programmatic approaches to the development of working life and work organization in Europe in quantitative terms, one can talk of progress in the contents of these approaches as a result of programme and policy learning. To update some parts of Naschold’s analysis by examining the contents of the new generation of workplace R&D strategies and programmes of the past 10 years constitutes an important motive for the benchmarking exercise in the WORK-IN-NET project. We look at fresh European approaches in the light of Naschold’s framework, which we still regard – despite the above criticism – a useful tool to raise relevant issues in a comprehensive way to mutual discussion between the participants of the project and to the European policy agenda.

2.3 Purpose and implementation of the benchmarking exercise

The object of benchmarking was R&D by the participating programmes and institutes that promote work-oriented innovations. According to the project plan of WORK-IN-NET, the foci concerning work-oriented innovations in the project is laid on

- human resource management, which improves the quality of working life, the innovative potential of employees and labour productivity;
- corporate social structures, which help implement innovative work organizations in an increasingly knowledge-intensive economy; and
- broad development coalitions, which promote the implementation of sustainable regional innovations systems with a view to job creation and improved social cohesion.

Naschold's 'best practice' model was utilized here as a source of inspiration and a tool for structuring the agenda for discussions rather than a fixed benchmark for R&D of the participating programmes and institutes. Firstly, while Naschold's analysis focuses dominantly on productivity and competitiveness alone, the foci of the WORK-IN-NET project is on sustainable development of working life in a broader sense in which sound productivity growth is combined with improved quality of working life, social cohesion and ecological sustainability (see above). Secondly, his model incorporates generic characteristics of *national development* strategies, whereas in the case of WORK-IN-NET the participants comprise a wide variety of both programmes and institutes, both research- and development-oriented activities, and both national- and regional-level players. Instead of conventional 'mechanistic benchmarking' which looks at 'best practices' by making comparisons between comparable units, we applied 'reflexive benchmarking' which makes use of the diversity of the participants with a view to learning from differences (cf. Schienstock 2004). The emphasis in this kind of approach is on dialogical methods, not on advanced systems for measurement and comparison.

The benchmarking process started by collecting information on the various participants' R&D activities with a semi-structured questionnaire, which examined the issues included in Naschold's model (Table 2.2). This took place in January and February 2005. The ten returned forms were distributed to the participants before the benchmarking workshop, which

took place 9-11 March 2005 in Helsinki. The information that was gathered this way constituted the ‘first order’ data bank for discussions at the workshop.

Table 2.2. Benchmarking questionnaire.

<p>Object of examination (i.e. the name(s) of the institute or programme(s)) and a short description of its R&D on work-oriented innovations</p>
<p>I The strategic justification for R&D on work-oriented innovations</p> <p>(a) Where does the strategic justification primarily arise? What are the most important stakeholder groups of the institute or programme(s) with respect to goal setting of R&D on work-oriented innovations? What is the role of the players of the industrial relations system, R&D system (universities, etc.), industrial policy, technology policy, educational policy, occupational health and safety policy or any other area of public policy?</p> <p>(b) Have there been changes in their relative importance during the last five years?</p> <p>(c) Are there anticipated changes in their relative importance in the near future?</p>
<p>II Standard setting for the goals of R&D on work-oriented innovations</p> <p>(a) What kind of standards steer the goal setting of R&D on work-oriented innovations in the institute or programme(s) on the programme level and the project level? Are there explicit references to global, European, national or some other level of standards?</p> <p>(b) How will the quality of outcomes of R&D activities with respect to these standards be monitored and assessed on the programme level and the project level? Have, for example, evaluation studies or benchmarking activities been carried out?</p> <p>(c) What kind of results has this monitoring and assessment provided so far?</p>
<p>III Participation of the players on the company and workplace level</p> <p>(a) Are there systematic procedures to ensure that the interests of companies and workplaces will be paid sufficient attention when setting goals for R&D on work-oriented innovations in the institute or programme(s)?</p> <p>(b) How do these procedures ensure that personnel at the participating companies and workplaces will also have a say with respect to the goals of individual projects?</p> <p>(c) Does/Do the institute or programme(s) use procedures to ensure that also the voice of disadvantaged employee groups (in terms of gender, age, qualifications, ethnic background, etc.) will be heard?</p> <p>(d) Are there means to assess how well the institute or programme(s) has/have succeeded with respect to (a), (b) and (c)?</p>
<p>IV The national infrastructure supporting R&D on work-oriented innovations</p> <p>(a) What role do the different types of expert organizations (such as universities, research institutes, polytechnics, educational institutes, consulting companies, development agencies, regional agencies, etc.) play in the projects? Are there means to assess their relative importance as experts?</p> <p>(b) Does/Do the institute or the programme(s) have goals concerning the development of the pool of experts or the role and significance of different types of experts organizations in the projects?</p> <p>(c) Are there means to monitor and assess the success of the institute or programme(s) in achieving these goals?</p>
<p>V Networking of the players</p> <p>(a) Is networking between participating companies and workplaces with a view to exchanging information and learning from each others’ experiences an explicit goal in R&D projects on</p>

work-oriented innovations by the institute or programme(s)? If so, what are the main means used to promote it?

(b) Is networking between different types of expert organizations (such as universities, research institutes, polytechnics, educational institutes, consulting companies, development agencies, regional agencies, etc.) an explicit goal? If so, what are the main means used to promote it?

(c) Are there systematic procedures to monitor and assess the level of networking achieved?

(d) What kind of results have been achieved so far?

VI Resources vs. aims of R&D on work-oriented innovations

(a) How much resources are annually allocated to R&D on work-oriented innovations by the institute or programme(s) in terms of finance and staff? In the case of programme(s), what is their duration (i.e. time resources)?

(b) Are the financial and staff resources (and the time duration in the case of programme(s)) sufficient compared to the goals set to R&D activities?

VII Any other aspects or themes to be used in benchmarking

Altogether 23 people from six countries participated in the workshop. The event was opened by a general introduction to the conceptual framework and to the dialogical method that was used in examining the different themes. Each of the six themes in Naschold's model was discussed in successive order using the following procedure: The Norwegian Value Creation 2010 Programme was selected as a 'mirror' for the benchmarking dialogue.³ Each theme was opened by an external expert who posed questions to the representatives of the Norwegian programme on different features (strengths, weaknesses, highlights, etc.) of their activities. After a 'point of saturation' was reached, it was the time for the representatives of other programmes and institutes to take the floor and start to reflect their own experiences, using the 'mirror' as a point of reference. In most cases, this method helped the discussion roll easily, taking from one to two hours per theme on average.

The secretariat of the workshop wrote down key observations of the discussion on powerpoint slides, which were projected on the whiteboard on a real time basis. At the beginning of the last day, the written notes were distributed to the participants who had some 20 minutes to read them through and reflect on them with the persons sitting next to them. This was followed by a general discussion, in which everyone had the opportunity to raise on the agenda overall observations concerning their own learning experiences, interesting practices

³ The only exception was the fifth theme, horizontal networking, in which the German Framework Concept 'Innovative Development of Work – The Future of Work' was used as the 'mirror'.

presented by the other participants, the conceptual framework of benchmarking and the methods used during the workshop. The concluding session also made it possible for the different participants to make corrections to the notes. The overall impression was that the dialogical approach had worked out well in keeping up discussion on right tracks and issues that were of interest to the participants.

3 Research and development activities of the participants in comparison

In the first part of this chapter, we give a short look at programme-based development of working life and work organization in the participating countries and regions and we then make an attempt to locate the participating programmes and institutes on a heuristic map that is based on Naschold's framework (3.1). Thereafter, we examine the activities of the participants on all the six dimensions of the framework, i.e. policy context (3.2), orientation (3.3), participation (3.4), infrastructure (3.5), horizontal networking (3.6) and aims vs. resources (3.7).

3.1 Profiles of the participants' research and development activities

The countries and regions that take part in the WORK-IN-NET project differ greatly from each other in terms of the richness of their history with programmes to develop working life and work organization as well as in terms of the volume and content of their current activities in this area.

Norway is the pioneering country with the longest history of experiments with job redesign and efforts to enhance workplace democracy, which dates back to the early 1960s. During the last 40 years or so several programmes and projects, based on social partnership, have been carried out. An important milestone in this development was the agreement on enterprise development that was signed by the Confederation of Trade Unions (LO) and the Confederation of Business and Industry (NHO) in 1982. In the agreement, the social partners centrally encouraged for bipartite local initiatives to develop new forms of cooperation and work organization and started to offer economic support for projects, conferences and fellowships. This agreement and the cooperative structures that have emerged and developed on that basis constitute the framework also for the ongoing Value Creation (VC) 2010 Programme (2001-10) and its predecessor, the Enterprise Development (ED) 2000 Programme (1994-2001). The idea of social partnership has shown to have strong

sustainability in Norway, irrespective of changes in daily political life (Gustavsen et al. 2001; Qvale 2002).

Also *Sweden* has a rich history of innovative experiments with, for example, job redesign, group work, factory layouts and workplace democracy since the late 1960s. Some of the best-known examples of initiatives to develop working life and work organization in the country include the LOM Programme (1985-1990), in which the engine for development activities at workplaces was the idea of democratic dialogue (Naschold 1993), and the massive Swedish Work Life Fund Programme (1990-95) with as many as 25,000(!) projects (Gustavsen et al. 1996). In recent years, however, R&D on working life in Sweden has undergone several reorganizations and the commitment by the employer associations to tripartite cooperation on central level has eroded. The functions of the Work Life Fund, for example, have been partly taken over by the European Social Fund. Without new massive national initiatives, R&D on working life and work organization in Sweden is now characterized by increasing diversification and regionalization of activities. Both Swedish partners to WORK-IN-NET, the Swedish Council for Working Life and Social Research (FAS) and the Swedish Agency for Innovation Systems (VINNOVA), were established in 2001 as a consequence of a series of institutional rearrangements.

Germany has a continuous chain of national programmes to develop working life and work organization since 1974 when the Humanization of Work Programme started. In the 1980s, the programme underwent many changes in content and in 1989 it was further developed into the Work and Technology Programme. In 2001, the Federal Ministry of Education and Research launched a new five-year Framework Concept 'Innovative Development of Work – The Future of Work' to cope with new demands caused by demographic, technological and organizational changes on employees and companies. The emphasis and the context in which the various programme phases have been carried out in Germany differ from those of the Scandinavian countries in many respects. The stronghold of the German programmes was to be found more in the area of technological and organizational designs to help improve job contents, safety at work and employee qualifications than in the promotion of participatory processes at workplaces. Also the debate over the management and dissemination procedures of programme activities has been occasionally a target of conflictual views on the part of the social partners to a greater degree than in the case of Norway, in particular (Fricke 2003; Oehlke 2001).

In addition to national programmes, some federal states in Germany like Bremen, Saxony and North-Rhine Westphalia have run programmes of their own while attempts to launch similar activities in Lower Saxony and Schleswig-Holstein have failed. In 1985, the Federal State of *North-Rhine Westphalia* launched a social-oriented technology policy programme (SoTech), which was influenced by the national Humanization of Work Programme and in which the emphasis was on developing socially acceptable ways of shaping new technologies (Latniak & Simonis 1994). In 1994, SoTech was followed by a more development-oriented QUATRO Programme which placed more emphasis on work organization, group work and employees' social competencies. Six years later the Ministry of Economy and Labour launched a new programme under the heading of Work-Oriented Modernization. The new programme is embedded in the Objective 3 Programme of the European Social Fund and it focuses more on dissemination with the help of consultancy services than its predecessors.

Finland, Italy and Poland are all latecomers in programme-based development of working life and work organization. In Finland, the first national programmes started in the early 1990s. In Emilia-Romagna, the Health and Safety at Work Programme – the first and only regional programme of its kind in Italy so far – was launched in 1998, while the Polish activities in this area are of still more recent origin.

The establishment of the Finnish Work Environment Fund (FWEF) in 1979 signified a remarkable improvement in the available funding for R&D on working life in *Finland*. At the beginning, the mandate of the Fund covered only occupational-health-and-safety-related matters, but in the late 1980s it was enlarged to industrial relations and, further, in the mid-1990s to productivity research as well. Though the Fund became an important initiator of many large 'programme-like' R&D projects in the course of time, the first national programmes, which were based on broad tripartite cooperation, started only in 1993 and 1996 with the launch of the National Productivity Programme and the Finnish Workplace Development Programme (TYKE). The Ministry of Labour coordinated both programmes. In 2004, the two programmes were joined together under a new six-year 'umbrella', entitled as the Finnish Workplace Development Programme (TYKES). Programme-based development in Finland has taken place in a favourable industrial relations climate during the past years like in Norway, yet with more direct governmental influence (Alasoini 2004; Arnkil 2004).

The Programme Health and Safety at Work in *Emilia-Romagna* started in 1998 on the initiative of the regional trade unions and the regional Ministry of Health. The main motive behind the programme was a concern over the high number of mortal occupational accidents in the region. The programme focuses on the improvement of working conditions and the quality of working life with a view to reducing the number of accidents from a practice-oriented view and using a multidisciplinary approach. The programme aims to increase understanding on how and to what extent the so-called ‘social determinants’, such as the labour market structure, the legal system, training and social policies and social background factors, affect working conditions. The aim is to provide practical guidelines for action for the different stakeholder groups in the region. Cooperation between the regional government and trade unions and the regional labour institute (*Istituto per il Lavoro*) that was also founded in 1998 constitutes the main supporting structure for the programme, while the participation of employers takes place mainly on company level.

In *Poland*, the main source of funding for R&D is the Ministry of Scientific Research and Information Technology. The topic work-oriented innovation is associated with horizontal priorities and in this way it touches many programmes and projects. The focus of activities is on the SME sector and in the generation of employment.

In Table 3.2, we have drawn a heuristic map that is based on Naschold’s framework to describe the profiles of work-oriented R&D strategies by the partners to WORK-IN-NET. The six dimensions of Naschold’s model have been further divided into 18 sub-dimensions. Full explanation of the sub-dimensions and the abbreviations and symbols used in the table is given below (Table 3.1).

The purpose with Table 3.2 is not to make a ranking order between the participating programmes and institutes, but to find a simple and structured way for making their diversity visible. On many of the dimensions, it is not possible to use quantitative, strictly comparable data in locating the different programmes and institutes. The table is a reinterpretation and reconstruction and of the reality, as we see it, based on the material available. The primary material we have used to draw the map consists of the benchmarking questionnaires, discussions at the workshop and different kinds of other background information (e.g. brochures, articles, www pages).

Table 3.1. Explanation of the sub-dimensions and the abbreviations and symbols used on the heuristic map for comparison.

1	Policy context
1.1	Who are the major and minor players and where does the strategic justification for R&D activities come? (IP = industrial policy, IR = industrial relations, OHS = occupational health and safety, R&D = research and development)
1.2	Is the focus of activities on national (NAT) or regional (REG) level?
1.3	Is the focus of activities on research (RES) or development (DEV)?
2	Orientation
2.1	What is the level of orientation with respect to the standards of programme and project activities? (REG = regional, NAT = national, INT = international)
2.2	Is there evidence-based data on the achievement of the standards set? (YES/NO)
3	Participation
3.1	Is the focus of project activities on design- (DES) or process-oriented (PRO) approaches?
3.2	How strong is the influence of companies and workplaces on the content of project activities? (... = weak, +++ = very strong)
3.3	How strong is employee influence in companies and workplaces on the content of project activities? (see 3.2)
3.4	How strongly is the gender perspective emphasized in the goal setting of project activities? (... = weakly, +++ = very strongly)
3.5	How strongly is the age perspective emphasized in the goal setting of project activities? (see 3.4)
4	Infrastructure
4.1	How strongly is researcher education and training included in programme and project activities? (see 3.4)
4.2	How diverse is the expertise pool that is used in project activities? (... = not diverse, +++ = very diverse)
5	Horizontal networking
5.1	What kinds of workplaces constitute the core that participates in project activities? (COMP = companies, SME = small & medium-sized enterprises, MUN = municipalities, ALL = all kinds)
5.2	How strongly is networking between companies and workplaces supported by project activities? (see 3.4)
5.3	How strongly is networking between companies and workplaces supported by other means (e.g. conferences, seminars, workshops)? (see 3.4)
6	Resources
6.1	What are the financial resources for R&D? (... = small, +++ = considerable)
6.2	What are the staff resources for R&D? (see 6.1)
6.3	What are the time resources (time span) for R&D? (see 6.1)

Table 3.2. Heuristic map of the profiles of work-oriented R&D activities by the WORK-IN-NET partners.⁴

	FWEF	MOL/ TYKES	PT-DLR/ Innovative Development of Work	G.I.B./ MWA	Emilia- Romagna/ IpL	RCN/ VC 2010	FAS	VINNOVA
1.1A Major players	OHS IR	IR	R&D IR	IP IR	OHS IR (unions)	IP IR	OHS R&D	IP R&D
1.1B Minor players	...	IP	IP OHS	R&D	...	IR
1.2 National/ Regional	NAT	NAT	NAT	REG	REG	REG	NAT	NAT (REG)
1.3 Research/ Development	RES (DEV)	DEV (RES)	RES (DEV)	DEV (RES)	RES (DEV)	RES/ DEV	RES	RES (DEV)
2.1 Level of orientation	NAT	NAT/ INT	NAT/ INT	REG/ NAT	REG/ NAT	INT/ NAT	INT	NAT/ INT
2.2 Standard level evidenced	To great degree	YES	YES	YES	To some degree	YES	YES	YES
3.1 Design/ Process	DES	PRO (DES)	DES	DES	DES	PRO	DES	DES
3.2 Workplace influence	+	+++	++	+++	++	++	...	+
3.3 Employee influence	+	++	+(+)	++	++	++	...	+
3.4 Gender perspective	...	+	+	++	+	...	++	++
3.5 Age perspective	...	+	++	+	+	...	+	...
4.1 Researcher education & training	++	++	+	+++	++(+)	...
4.2 Diversity of experts	++	+++	+++	+++	++	++	+	+++
5.1 Workplace type	ENT MUN	ALL	ALL	SME	ENT	ENT	ALL	ENT
5.2 Networking: project activity	+	+(+)	++	++	...	+++	...	+
5.3 Networking: other means	+	++	++	+	+	++	...	+
6.1 Financial resources	+(+)	++	++	++	+	++	++	++
6.2 Staff resources	+	++	++	++	+	++	++	+
6.3 Time span	+++	++	+++	+++	+	+++	++	++

⁴ Information on the activities of the Polish partners is missing on this table as they are of more recent origin and, therefore, more difficult to 'locate' on the map.

3.2 Policy context

Naschold's (1994) line of reasoning with respect to the importance of the linkage between national workplace development strategies and industrial policy can be summarized as follows: Without an adequate link with macro-level industrial policy issues and, consequently, with the strategic development goals of workplaces, there is a danger that workplace development could easily remain simply a way of intervening reactively with various 'corrective' measures, for instance in the problems caused by new technologies, production models or management methods. Programme-based workplace development that originates one-sidedly from the problem settings of the industrial relations system carries the danger of producing 'structurally conservative' solutions for the economic, workplace and occupational structure. The main problems and development needs of working life are seen too much from the perspective of existing and gradually disappearing structures, and development operations may not necessarily have much to give to support the emergence of new, developing structures. In particular, many evaluations of programmes for the quality of working life from the 1970s and 1980s point to the weakness of the programmes in this respect. Few companies were interested in taking an active part in them, their results were not very widely disseminated and they had no particular significance for industrial policy issues.

Here, while taking Naschold's basic argument on the importance of the linkage between workplace development strategies and industrial policy seriously, we take a somewhat more institutional perspective. Unlike Naschold, we do not look at policy contexts and major players of *national development* strategies, but those of *individual* programmes and institutes, which fund R&D on work-oriented innovations, and in which the focus may be on research or development and on national or regional level. The aim of the following examination, therefore, is not to make far-reaching value judgements on the benchmarking participants' activities, but to simply characterize their 'location' in the national or regional policy context.

As far as we can see (Table 3.2), there are three cases among the participants, in which industrial policy aspects are strongly involved in their activities. The main objective of the Norwegian VC 2010 programme is to encourage and contribute to organizational development and innovation, both within individual enterprises and in enterprise networks, based on new forms of cooperation between the key players in the value creation processes.

LO and NHO, the two central labour market organizations, are the key stakeholders of the programme, but the actual attachment of the programme to industrial policy takes place on regional level. VC 2010 contains 11 regional main projects, encompassing about 45 researchers and about 260 enterprises by the end of 2004. The main projects are guided by regional steering groups, in which the main players of economic and regional development policy (like regional scientific and educational institutes, labour market organizations and public authorities) are represented. The idea to build regional partnerships around the main projects is a logical extension of the previous Enterprise Development 2000 Programme, which was built on seven, mainly regional, modules (see Gustavsen et al. 2001; Levin 2002). Regional universities, university colleges and research institutes coordinate the main projects, and programme funding focuses on the work of researchers in these projects. Hence, in the programme there is also an ambitious goal to promote the role of (action) researchers as development agents in enterprises and enterprise networks as well as a supporting structure for regional development policy. The research and the development aspects probably prevail in VC 2010 in more equal terms than in the activities of any other participant.

Also the North-Rhine Westphalian (N-RW) Work-Oriented Modernization Programme is deeply embedded in regional industrial policy. It is a part of a 'medium-sized enterprise offensive', which is a joint campaign of the federal state, industry and trade unions in N-RW to improve service provision and create favourable framework conditions for SMEs. The programme focuses on the improvement of the competitiveness of SMEs, modernization of work organization, support for life-long learning and improvement of the employability of employees. The programme provides support to three kinds of projects. Pre-operating studies aim at developing new methods and tools for the use of companies, combining the research and the transfer aspects. In joint projects, which are based on cooperation between a number of SMEs and a consulting or educational company, the focus is on development and dissemination of new methods and tools in the selected companies. *Potenzialberatung*, i.e. consulting services for developing the further potentials of individual SMEs, is by number (1,363 projects in 2004) and the total volume of funding (about EUR 6 million in 2004) the biggest form of project activity in the programme. There are 16 agencies on sub-regional level, which have the responsibility to integrate the two first types of projects, pre-operating studies and joint projects, into local policy strategies and to promote them. Like its Norwegian counterpart, the North-Rhine Westphalian programme provides funding for the development of a very broad range of issues in companies. Compared to the Norwegian case, however,

there is a stronger focus on the SMEs sector and on consultancy and dissemination. In addition, the role of the (regional) government as an initiator of activities has been stronger in the case of NR-W.

The activities of the Swedish Agency for Innovation Systems (VINNOVA) represent the third example of a close linkage between R&D on work-oriented innovations and industrial, or innovation, policy. In VINNOVA's strategic plan for 2003-07, learning and health in working life is one of the four knowledge platforms, i.e. generic fields of knowledge which are meant to support and contribute to 18 defined growth areas. Growth areas (e.g. telecom systems, pharmaceuticals and diagnostics, wood manufacturing, green materials from renewable resources) are "sectoral innovation systems in which initiatives can have a significant impact on growth". Working Life Department, which runs R&D programmes like DYNAMO (Dynamic Labour Markets and Organizations), is one of the six departments under the Competence Areas Division in VINNOVA's organization. The role of the labour market organizations as strategic players is now weaker in the case of VINNOVA (and in Sweden in general) than in the Norwegian and North-Rhine Westphalian programmes since the refrain of the central employer associations from participating in many of the national-level R&D activities. This 'strategic vacuum' has been partly filled by growing involvement on the part of the academic community and private businesses. This change is also reflected in the introduction of the concept of the Triple Helix, which now constitutes a key guiding principle for VINNOVA's activities. According to the principle of the Triple Helix, "in order to create the right conditions for sustainable growth, it is essential that there is a high level of interaction above all between businesses, research bodies and political institutions".

The Finnish Workplace Development Programme (TYKES) and the German Framework Concept 'Innovative Development of Work – The Future of Work' represent strategies, which are based on tripartite cooperation, but in which the industrial policy aspects are somewhat less explicit than in the three examples above. TYKES and its predecessors, TYKE and the National Productivity Programme, have emerged from close cooperation between players in the industrial relations system, but they all have been justified with broader innovation and economic policy argumentation, too. TYKES is a development-oriented programme with a research element, i.e. part of the project activity is based on research-assisted approaches and the programme has specific targets concerning researcher education (see Section 3.5). In terms of the mutual weight between development and research TYKES resembles the North-

Rhine Westphalian programme, but in terms of objects of R&D it is more focused. The narrower focus and the less explicit linkage to industrial policy aspects reflect the fact that in Finland exists an established, complex institutional division of work between sources responsible for funding of vocational training; occupational health and safety issues; technology and business development; regional development; the development of work organization, work processes and human resource management (i.e. focus areas of TYKES); and consulting services for SMEs. This complexity may well undermine the effectiveness of the overall high R&D activity in Finnish public policy.

In the case of the German Framework Concept 'Innovative Development of Work', the whole spectrum of strategic players is probably more diverse of all programmes and institutes under study here. As a 'framework concept', Innovative Development of Work can be characterized as a 'meta programme', which has adopted a highly holistic approach in terms of the scope of R&D on work-oriented innovations. In this way, it aims to establish a balance between business success and personal development. The framework concept contains four fields of action for R&D: the development and maintenance of competence and employability, sustainable company development, the promotion of equal opportunities and utilization of untapped potentials, and new ways of implementation and transfer. But globalization, the European integration and the German unification have been putting an enormous pressure on German economy and the competitiveness of German companies during the last 10-15 years. This has made many companies and even public policies to turn to cost-cutting and restrictive labour strategies in the pursuit of quick, visible gains in competitiveness, while reducing their interest in projects and programmes with participatory, longer-term approaches to innovation.

The Finnish Work Environment Fund (FWEF), the regional programme of Emilia-Romagna and the Swedish Council for Working Life and Social Research (FAS) differ from the other partners by their stronger orientation to the occupational health and safety issues. In FWEF, the central labour market organizations of the private and municipal sectors are the key stakeholders and decision-makers over funding of projects. Their position is firmly embedded in legislation on the Finnish employment accident insurance system and the Fund itself. Though the mandate of the Fund has enlarged over the years, occupational health and safety still forms the most important area in research funding with a share of 60%.

The Health and Safety at Work Programme of Emilia-Romagna is carried out in a more conflictual political and industrial relations climate, in close cooperation between the regional government, trade unions and the Institute for Labour Foundation. The employer associations have held a cautious, and even critical, attitude towards the programme mainly for two reasons: firstly, they are, in principle, critical to the intervention by the regional government in this field. The second source of criticism concerns the close relationship between the trade unions and the labour institute, which coordinates the programme. Trade unions on regional and local level have derived benefit of the programme, for example, by utilizing its outcomes on the bargaining table.

In the case of FAS, there is less contribution by the players of the industrial relations field. The academic community now plays an increasing role in the Board, which makes the most important decisions over programme and project funding. Of all the partners to WORK-IN-NET, FAS is the most oriented to research. The activities of VINNOVA and FAS are meant to supplement each other; VINNOVA is more focused on growth, innovations and regional dynamic, while the focus of FAS is on high-level academic research on working life. With regard to work-oriented innovations, FAS has three main areas of research – work and health, work organization and labour market – each with its own main themes. The other main areas of research funding are public health, welfare and social policy, and social services and social relations.

3.3 Orientation

The level of orientation and standard setting in workplace development strategies is another key dimension in Naschold's (1994) framework. The criticisms he levelled at Swedish and Norwegian strategies of the 1980s and early 1990s was that insularity of local or national solutions was typical of programmes and projects in both countries. In his opinion, this has been fed by the 'hegemonic' position that both countries developed in the 1960s and 1970s in the international debate on industrial democracy and socio-technical systems design. However, the 'hegemonic' position in these fields had not been a help to Sweden and Norway in the international productivity competition for a long time. According to Naschold's analysis, the 'hegemonic' position had by the early 1990s shifted to Japan, as indicated by

Japan's superior productivity performance and the vivid discussion on the lean production model (for more details, see ILO 1993; Womack et al. 1990).

Table 3.2 examines this dimension by distinguishing between different levels of orientation by the WORK-IN-NET partners and by assessing whether there is evidenced-based data on the achievement of the standards set. It seems that also along this dimension there exist wide differences between the participating programmes and institutes. Once again we would like to emphasize that the aim of the following examination is not to put the partners in a mechanical ranking order and that the different partners can play widely different roles in their own national or regional innovation environments. Furthermore, it would be naïve to presume that orientation to global or international standards on programme or project level would be an end itself. With increasing globalization and networking of the economy, it is increasingly important to look for new ideas, sources of inspiration and possible target levels from a wide perspective and across traditional (national, regional, industry-wise, etc.) boundaries. Yet, workable company- or workplace-level practices and solutions that research and development activities are supposed to provide must be socially embedded, i.e. they are local creations and configurations.

There are two cases among the WORK-IN-NET partners, in which the level of orientation is primarily and explicitly international. According to the guiding principle of FAS, FAS "initiates and supports basic and applied research with a view to improving our knowledge about working life, public health and welfare". The focus on *both* applied *and* basic research understandably calls for active international research cooperation and contacts and a reference to international standards in research. In fact, most research projects and programmes funded by FAS involve some form of international collaboration. Behind this drive is the overall goal of Swedish research policy, according to which Sweden is a leading research nation which conducts research of the very highest international calibre. The main target area for VINNOVA is to contribute to increasing the returns on Swedish investments and to ensuring that Sweden becomes one of the world leaders in terms of growth. Despite substantial investments in R&D and the knowledge produced by the Swedish R&D system, however, Sweden's long-term growth figures have remained relatively low ('Swedish paradox'). Taken together, the activities by FAS and VINNOVA clearly show that R&D on work-oriented innovations in Sweden is now characterized by an increasingly outwards-looking orientation.

Standards of the international level are now given more weight than before also in the Norwegian programme strategy. The Enterprise Development (ED) 2000 Programme that was carried out in 1994-2001 took the idea of connecting local and national improvements to international or global discourses and development trends as an explicit aim. The programme also set out ambitious targets for the individual projects concerning the use of international benchmarking (Gustavsen et al. 2001; Mikkelsen 1997). The Value Creation 2010 Programme follows this line of programme strategy, too. The programme is aiming at international cooperation on three levels: between researchers, between enterprise networks and between coalitions or regional partnerships that consist of industrial- and innovation-policy players. On research level, for example, VC 2010 has set targets of international level concerning published material and the quality and content of teaching and the performance of participants of the PhD programme that is carried out as part of the programme.

Another example of a partner with a focus on the international level is the German Framework Concept 'Innovative Development of Work'. Its starting point is to develop and implement new solutions, with a view to facing new global development tracks like the transition to a knowledge-based and service-oriented society as well as more specific challenges related to the European integration and German unification. Therefore, there is a discussion under way to actively utilize international yardsticks like FAS or TYKES in making assessment on the quality of its R&D operations.

The vision of the TYKES programme is that by the year of 2009 "Finland has a network of expertise for work organization development which creates national competitive edge and which effectively promotes qualitatively sustainable productivity growth", i.e. productivity growth which is combined with improvement in the quality of working life. The programme could at least be considered to be applying international standards in its setting of general targets. TYKES also utilizes databases of European surveys on the spread of new forms of work organization and other human resource management (HRM) practices for comparative purposes and for the evaluation of project outcomes and modes of operation of the participating workplaces. On the whole, however, international orientation is not as pronounced in the Finnish programme's main forms of activity as in the case of its German, Norwegian and Swedish (especially FAS) counterparts.

The level of orientation of the Finnish Work Environment Fund is even more explicitly national. FWEF primarily supports applied research projects, the results of which can be utilized for the development of the work environment and (industrial) production as well as the overall development of working life. The projects that FWEF funds should have innovative value, provide information that can be utilized at workplaces and belong to the best in Finland. The Fund strives to guarantee this at the decision-making phase by scientific pre-evaluation, in which all the most important project applications must pass a pre-evaluation by a group of scientific experts. For post-evaluation, however, the Fund has not yet developed as systematic means.

The level of orientation of the two regional programmes among the WORK-IN-NET partners can be characterized as a combination of elements of the regional and national level.⁵ The overall goals of the Programme Health and Safety at Work of Emilia-Romagna are in line with European directives and recommendations, yet there are no formal procedures to monitor and evaluate the achievement of the standards set for the programme. In practice, evaluation takes place at public conferences and workshops where the programme stakeholders and practitioners make judgements of the results of the projects. Another aspect of this kind of evaluation is the potential transferability of the results to other regions in the country.

The Work-Oriented Modernization Programme of North-Rhine Westphalia has a highly structured system for monitoring and assessing outcomes on both programme and project level. Follow-up focuses on changes in the competitive position of participating SMEs and the qualification standards and employability of employees, and the extent of employee participation in the course of the change process, in particular. The programme, for example, monitors the development of the number of employees in the participating companies both in the short and longer term, i.e. both one year and three years after using consulting services (*Potenzialberatung*) provided by the programme. Other SMEs both in the same federal state and the entire country are used as points of reference.

⁵ It is worth mentioning here that both the regions, Emilia-Romagna and North-Rhine Westphalia, have more inhabitants than small nation states, such as Finland or Norway!

3.4 Participation

The dimension of participation contains five items here. The first of them is the division between design- and process-oriented approaches in project activities. In design-oriented approaches the role of external expertise is to explore the existing and/or the possible future states and features of the phenomenon in question (e.g. the organization of work) by mirroring them to different theories or models of design, whereas in process-oriented approaches external expertise is used to assist the company or workplace concerned to find proper ways to implement participatory processes of change on the basis of theories or models of change and intervention. Design orientation is characteristic of conventional, constative research as well as many (probably most) development approaches. According to Naschold's (1994) view, in national development strategies this division should be bridged and aim at approaches with simultaneous design and process orientation.

The second and the third sub-dimension concern the influence of companies and workplaces and that of their employees on the content of project activities. Naschold's model emphasizes the significance of broad company- or workplace-level participation in development operations as opposed to ready-made 'top down' solutions provided by experts or the social partners. As an element of broad participation, we also look here at the significance of the gender and age perspectives in the goal setting of project activities.

The Norwegian VC 2010 programme differs from the others by its radical process orientation and strongly constructivist starting point. Like its predecessor, ED 2000, VC 2010 has not set down any strict planning and design criteria for aspects such as management or the organization of work. Instead, the programme starts out with the assumption that foci and targets of development action would emerge 'locally', i.e. with the help of dialogues supported by researchers in companies and company networks. Instead of any strict, pre-determined design criteria, researchers who would like to attach a new company project to the regional main project must convince the regional steering group that the company project concerned is based on broad participation by the employees.⁶ All this means that thematically the projects cover a wide variety of subjects.

⁶ The official sub-title of the programme is 'Enterprise Development through *Broad Participation*'.

The project activity of the Finnish TYKES programme, too, is dominated by process-oriented approaches, though the programme is thematically more focused and pays more attention to the development of new designs with the help of its project activity than its Norwegian counterpart. TYKES funds four kinds of projects: workplace development projects and basic analyses in which the workplaces themselves usually apply for funding, and method development projects and learning network projects in which R&D units are applicants. Workplace development projects constitute the main form of project activity by number in TYKES. They are usually initiated by the workplaces (companies, public bodies or NGOs) concerned, and the management and staff must commit themselves to the project goals and to implementing the project together. The programme's project assessment data (Ramstad 2005) shows that, in reality, top management is the main initiator in most cases, and the management has greater influence on the planning of the projects than the staff. Yet, the comparable data available indicates that employee participation in organizational processes of change at workplaces that have taken part in the programme's development projects has been clearly more extensive than at Finnish workplaces on average.

The Work-Oriented Modernization Programme of North-Rhine Westphalia is structured very much in the same way as in the TYKES programme. Of all the participants to benchmarking, these two programmes are the most oriented to development and to responding to the development needs of companies and workplaces. In the case of the North-Rhine Westphalian programme, all funded projects must have a commitment by the companies in the form of their own funding and a written contract or letter of intent. In addition, a project must be implemented in a participatory way and the works council⁷ concerned (if existing) must declare its acceptance in written form.

National workplace development strategies in Germany have been characterized by design-driven and more technology-oriented approaches than in the Nordic countries. The implementation of the German programmes has been backed by a well-established system of representative participation on both programme and project level. On programme level, the interests of companies and workplaces in making decisions over new subjects or focus areas

⁷ In the Nordic Countries, it is usually the local union branches or the senior shop stewards (or, depending on the case, the corresponding staff representatives) who must show their commitment to the project before a decision over funding can be made.

for R&D are represented by the employers' associations and trade unions very much in the same way as in, for example, the Finnish or the North-Rhine Westphalian programmes. In the Framework Concept 'Innovative Development of Work', new research needs and standards are transformed into special calls. The calls are designed in cooperation with the Project Management Organization, the Ministry and the Advisory Board, in which the social partners and the academia are represented. The partial reduction of the interests of German companies in long-term, 'high-road' innovation approaches in recent years (cf. Section 3.2), however, has led to an actual reduction of the role of the social partners as initiators of new topics for R&D on work-oriented innovations, too. Individual projects in companies must provide a written declaration of cooperation by the works council, in which the works council and the employees it represents make a commitment to participate in the project before a decision over funding can be made. As in the case of TYKES, again, it is an open question in many cases whether this commitment will turn into active, direct participation by the shop-floor employees concerned.

Generally speaking, the level of workplace and employee influence on the content of project activities varies with differences in the mutual weight between research and development in the participating programmes and institutes. For FAS, which is the most research-oriented partner in WORK-IN-NET, the issue of workplace and employee influence is of minor significance. In the case of the Finnish Work Environment Fund, the interests of workplaces are represented by the central labour market organizations in the Board that makes the decisions over funding for research and development projects. In development projects and smaller development grants, which require active involvement by the workplaces concerned, the participation by employees must be ensured with a written document. In the Health and Safety at Work Programme of Emilia-Romagna, programme goals and the contents of individual projects are discussed in the Steering Group with trade union representation. The programme also arranges separate meetings and distributes questionnaires to companies and trade unions to get their views heard when planning new operations.

The gender perspective is most pronounced in the goal setting of the activities of the Swedish and German participants. Equality and the mechanisms of gender-based division of labour in society and working life are important focus areas for research funding of FAS. In 2003, FAS supported 68 projects classified as having an explicit gender profile. The funding accounted for 14 percent of the total annual research budget. In addition to that, FAS also funds research

on ageing. Gender equality is a focus area also in the contemporary research profile of the Working Life Department of VINNOVA. VINNOVA has a special area for R&D on gender equality in working life under the four-year (2003-07) national programme 'Work Life Development for Sustainable Growth'.

In the German Framework Concept 'Innovative Development of Work', the promotion of equal opportunities and utilization of untapped potentials is one of the four fields of action. In addition to gender issues and with respect to the rapid demographic change in Germany, this action field, in particular, covers employees who are in danger of segmentation or exclusion owing to their age. Cross-sectional issues, such as the development of inter-generational personnel policies, the expansion of options for older employees and the inter-generational transfer of knowledge and experience, are some of the key topics under this field of action. The German framework has funded analyses on the manifold problems caused by the ageing of the workforce, related company projects and transfer activities. They have been supplemented by a series of booklets, Internet presentations and workshops, sometimes with international participation and support of the European Commission.

For the Value Creation 2010 programme and the Finnish Work Environment Fund the gender or the age perspective is not a special area of interest as such. The TYKES programme monitors the number of women and employees over 45 years ('ageing employees') who participate in the development projects and has targets for that, respectively. For example, concerning the division of participants by gender in the projects, the goal is that at least half should be women. The share of ageing employees of all participants is one of the many contributing factors when making a decision on funding a development project.

3.5 Infrastructure

An advanced national development infrastructure is one of the six underpinning elements of a successful workplace development strategy in Naschold's model (1994). Naschold considers very important to pool different kinds of expertise on national level to support development strategies and not to utilize solely micro-level development approaches. In modern polycentric societies, there are usually several innovation centres, of which no one can claim

to have superior knowledge or monopolize knowledge forever (Fricke 1994). The idea of polycentric society implies that new useful knowledge is generated through interaction and dialogue between various innovation centres in society rather than by ‘trickling’ information from ‘the top down’ or from ‘the core’ to ‘the periphery’ in a hierarchical manner. In workplace development, innovation centres typically comprise, in addition to companies and other workplaces, R&D institutes of different kinds, consulting firms and development agencies, labour market organizations, public authorities, professional associations and, in some cases, even social movements.

Here we limit our examination mainly to R&D infrastructure, which we consider the main axis on which comparisons between countries, regions, programmes or institutes can be made. This section will concentrate on two aspects, in particular: firstly, we look at the role of researcher education and training in the activities of the participating programmes and institutes as a means to strengthen the national (or regional) pool of experts in R&D on work-oriented innovations. Secondly, we examine how diverse is the pool of expertise that is used in project activities. Once again, we would like to remind the reader that the responsibility for reinforcing the infrastructure for R&D may widely differ by country and the programmes and institutes under examination may play quite different roles in their own national or regional environments in this respect.

Among the participating programmes and institutes there are three cases where researcher education and training is attached to project or other activities as an explicit goal (see Table 3.2). The most obvious case is the Norwegian Value Creation 2010 Programme, which can even be characterized as a kind of a ‘virtual university’. Researcher education and training is also an integral element in the operations of FAS and TYKES.

VC 2010 is a research-supported development programme and, at the same time and unlike the other participating programmes, an educational programme in itself. There are about 45 researchers (some of them on a part-time basis) from regional and national institutes (universities, research institutes and university colleges) working in the 11 regional main projects, which geographically cover the whole country. The researchers act as development agents in enterprises and enterprise networks. They may take different roles and use different methods and tools, such as providing advice in concrete problems, organizing dialogue conferences, making evaluations or documenting development processes and results achieved.

As a new element compared to the earlier Norwegian R&D programmes on working life, such as the Norwegian Centre for the Quality of Working Life (SBA) and the Enterprise Development 2000, the Value Creation 2010 Programme encompasses a research module that is funded by the Ministry of Education and Research to educate PhD students in social (working-life) research. The first research module started in 2003, with a total of 25 students mainly from the participating R&D institutes. The programme supports the development of R&D infrastructure also by organizing seminars and workshops for the researchers involved in the projects and monitoring the effects of research work as well as with the help of external programme evaluation.

Consultants do not have a direct role in the projects that are funded by VC 2010, yet consultants may in some cases work as external experts in other projects in the companies that take part in VC 2010 also. The general impression in both Norway and Sweden, the two countries with the longest history of researchers involved in companies' development projects, is that consultants and action researchers do not consider each other competitors. Rather, action researchers seem to have created themselves a context and market of their own. In some cases, particularly the personnel may appreciate the fact that action researchers are ready to commit themselves in development projects for longer periods of time than is usually the case with consultants and that they use different methods and tools in a reflexive way and their fees are not paid (in most cases) by the company concerned. On the other hand, Norwegian and Swedish experiences also show that in many companies, particularly in SMEs, there may prevail a high level of suspicion towards working with experts coming from the academia (e.g. Levin 2002; Tell 2001).

Another participant who has researcher education and training as a core activity is FAS in Sweden. FAS initiates and supports high-quality basic and applied research on working life. The most important form of assistance is research project grants. As much as 95% of the project funding by FAS takes place at university departments or university-linked institutes. To stimulate research within specific areas, FAS awards long-term grants to research programmes at academic departments of excellence. FAS also funds research positions at Swedish universities and provides grants to visiting researchers as well as scholarships to post-doc studies abroad. Researchers' scientific merit and the societal relevance of research are assessed through a peer review process. The researchers in the projects are also required an eminent CV, a good publication record and evidence of high quality of research. FAS aims

to keep up a balance between researchers of different levels of education (junior scholars/doctoral candidates, post doc and senior scholars) and between genders. The academia has a strong hold on the activities of FAS also through representation in the Board.

Also in the case of the Finnish Workplace Development Programme, strengthening the national infrastructure for R&D on work-oriented innovations has been one of main target areas since 1996. In the new programme period of TYKES, it has become an even more important goal and it is also indirectly written into the programme vision (see Section 3.3). TYKES promotes the expertise of R&D units and cooperation between R&D units and workplaces that is based on research-supported development. Consultants play a leading role in workplace development projects, while method development projects and learning network projects are generally coordinated by universities, state research institutes or polytechnics. The aim is to raise the total percentage of funding for the three last-mentioned institutes of the programme's expert funding for projects to a minimum of 45 per cent in TYKES (in the previous TYKE programme, the share was about 35%). Unlike VC 2010, TYKES does not have a specific researcher education or training programme. Instead, TYKES supports doctoral dissertations and licentiate theses that are based on the materials of funded projects, especially method development projects and learning network projects. The target number for new doctoral dissertations or licentiate theses emerging on the basis of projects materials for the entire programme period is 70. TYKES also arranges workshops for researchers who work in the projects with a view to promoting mutual learning, contributing to the provision of joint scientific outputs (e.g. publications) and developing the programme design.

The Finnish Work Environment Fund supports researcher education and training by submitting grants to research and development projects and scholarships for demanding research work (up to one year), the preparation of doctoral and licentiate theses and visiting international conferences. The research and development projects are usually carried out by university units or big state research institutes, such as the Finnish Institute for Occupational Health and the Technical Research Centre of Finland (VTT). In development-oriented projects and development grants, also consultants are involved.

Most of the projects funded by the German Framework Concept 'Innovative Development of Work' are coordinated by research institutes and universities. The so-called combined projects (see Section 3.6) may include also other partners, especially SMEs, but also

consultancy firms and development agencies. In the past, researcher education and training was not an integral part of the German programmes. Now this issue is, however, getting increasing attention and there are efforts to increase the number of PhD students in the projects. This is promoted, for example, by organizing series of workshops on the career perspectives of younger scientists.

As a general rule, in research-oriented programmes and projects the universities and research institutes usually play the prominent role, while in more development-oriented activities the pool of experts used is usually more diverse. In the Work-Oriented Modernization Programme of North-Rhine Westphalia, for example, universities and research institutes play an important role in pre-operating studies, whereas in joint projects and in *Potenzialberatung* consulting companies, as disseminators of new knowledge, are the main group of experts. With the increased orientation of the programmes in the region to SMEs and to development and dissemination over the years, the role of consultants has been growing and that of the universities and research institutes, respectively, decreasing. This line of development is a stark contrast to the situation of FAS, in which only a limited number of universities and research institutes actively take part in the projects as experts.

3.6 Horizontal networking

Networking between players on micro level, instead of stand-alone development approaches, is the fifth feature of Naschold's (1994) 'best practice' model. The difficulties that the earlier programmes experienced with disseminating the results of development projects afterwards were the main reason why Scandinavian programmes gradually began to emphasize the need to raise the number of workplaces that take part in programmes and encourage them to network amongst themselves. From the 1980s, a paradigmatic change began to take place in Scandinavian workplace development, as networks began to be considered primarily as tools for constructing new knowledge rather than just the means of disseminating information afterwards. One of the reasons for the emergence of this new 'network paradigm' was the success of the Japanese quality movement in creating a nationwide quality improvement network at this time (Cole 1989). This success was a stark contrast to the failure of the Scandinavian and other western programmes to promote the spread of new forms of work

organization. Naschold considered the attempts of the Swedish LOM programme and the Norwegian SBA programme to be in right direction, but that neither of them had advanced very far in creating networks.

Networking is a fuzzy concept and there can exist networks of many different kinds. Here we focus on horizontal networks between companies and workplaces. The means to promote horizontal networking with the help of programmes and institutes that fund R&D on work-oriented innovations can be categorized on the basis of the level of their interactiveness in the following order, for example: internal cooperation within projects, cooperation among projects, interactive forums for debate, training sessions and seminars, and the provision of documentary material for the purpose of information dissemination (e.g. publications, web-based information registers on 'good practice' cases). In Table 3.2, we have divided the means used by the participating programmes and institutes to promote horizontal networking into two: firstly, we examine how strongly networking between companies and workplaces is supported with the help of project activities as such. In addition, we try to depict how actively the partners to WORK-IN-NET use other, less intensive means (e.g. conferences, seminars, workshops) to promote horizontal networking.

The idea to promote networking between companies is strongly built in the very essence of the Value Creation 2010 Programme. A valuable lesson learnt from the failures of the LOM and SBA programmes in building up sustainable networks for the Enterprise Development 2000 and the Value Creation 2010 Programmes was, firstly, that a region is a natural basis for networks and, secondly, that it is usually easier to promote further development of cooperation between companies and other players with already existing links of interaction than to establish totally new networks. There already exists a lot of published material with detailed descriptions on the modules of ED 2000 and regional development coalitions of VC 2010, of which many evolved from the modules of ED 2000 (e.g. Gustavsen 2003; Gustavsen et al. 2001; Levin 2002). The 11 regional main projects in VC 2010 differ widely from each other in terms of the number of the partners and the composition of the groups of enterprises involved and the past history of cooperation between the partners. The regional main project of Hordaland and Rogaland on the south-west coast of Norway, for example, consists of seven enterprise networks, three of which took actively part in ED 2000 also. The networks represent different branches of industry, such as oil and gas production, process industry, energy supply, tourism, marine harvesting, maritime and shipping industry and agriculture.

One of the networks dates back as far as 1957. The material on the experiences with modules and development coalitions strikingly shows that building up networks that are capable of acting as development units proper is often a time-consuming effort, which requires patience, mechanism to create trust between the partners for the exchange of information as well as good skills at using dialogical methods.

The issue of horizontal networking has not played as important role in the German R&D programmes on work-oriented innovations so far, but particularly since the launching of the new Framework Concept 'Innovative Development of Work' in 2001 this issue has gained increasing attention. In the former programme activities, there were attempts to gather single projects together on a branch or cluster basis, for example. The new framework concept promotes networking between companies by using a more systematic approach, in which single projects that start on the basis of the same call are grouped into bigger entities that are called 'combined projects'. Combined projects generally contain from two to five companies and research institutions with a number of researchers (and possible other experts) with common interest. In 2004, for example, the framework granted funding to 373 partial projects, which were organized into 81 combined projects (i.e. a combined project, on average, consisted of five partial projects). The participants to combined projects are required to sign a cooperation agreement. The reason for grouping projects this way is to boost the R&D units' and companies' self-organized drive for cooperation and opportunities for learning from each other and to avoid narrowness in approaches. In some cases, combined projects which share recognized similar development themes, are gathered into even bigger units of development in the course of their implementation. They are called 'clusters' (*Fokusgruppen*). A cluster of projects, which is afterwards gathered together to establish a network of expertise with a view to disseminating knowledge in an area of national importance, is called a 'focus group'. An illustrating example of such a strategy to promote horizontal networking is a sub-programme 'Work in E-Business' (BMBF 2004). The sub-programme comprised 16 projects, which were divided into three thematic clusters. Now the new knowledge created by the sub-programme forms the basis for the operation of a focus group.

In the Work-Oriented Modernization Programme of North-Rhine Westphalia, particularly the project type 'joint projects' was designed for the purpose of promoting horizontal cooperation between companies. Joint projects aim at developing and disseminating new methods and

tools, and they are based on cooperation between, typically from 3 to 10, SMEs and a consulting or educational company. From the beginning of the programme in 2000 to the end of 2004, the programme had granted funding to 373 such projects, in which more than 2,600 SMEs had taken part. Examples of the subjects of joint projects include strategic networks of craft companies, cooperation of media companies and cooperation of companies along value chains. Different advisory committees on sub-regional level have been established to identify important clusters for the future development of the sub-region concerned. The committees' work and decisions over strategic goals for the sub-regions also steer target areas for pre-operating studies and joint projects. All in all, there seems to exist a dense web of horizontal linkages that are connected to the programme on several levels.

One of the most critical issues raised by the evaluation study of the Finnish Workplace Development Programme in 2003 concerned the basic unit of development activity in the programme. Most of the programme's projects took place at individual companies or workplaces. Though the workplace development projects were quite successful on average and their results were considered positive, the evaluation study suggested that an individual company or workplace may be too small a unit for achieving broad and lasting effects in working life (Arnkil et al. 2003). The new TYKES programme has responded to this critique by mainly two renewals: firstly, the programme now aims to divide the projects systematically into different modules and strives to encourage mutual interaction and cooperation between the participating workplaces within the modules with the help of workshops, study visits, benchmarking, good practice cases, etc. TYKES has quantitative target figures concerning the percentage of development projects that feel that the contacts with other experts and interaction with other projects that they have gained through the programme were important for the implementation of their own project. Secondly, the programme introduced a new type of project activity, the learning networks, in 2004. Learning networks are joint learning forums of R&D institutes (such as universities, state research institutes, polytechnics or other educational institutes) and workplaces. The purpose of the learning networks is to increase the development of expertise of the participants, to create and experiment with new forms of long-term (3-5 years) development cooperation between R&D institutes and workplaces, and to generate new, innovative solutions for Finnish working life. The participants must share a common object of interest. In addition to common interest, the participants may be united by, for example, a geographical area, sector

of industrial cluster, a position in the same value chain, or a similar position in the value chain. By spring 2005, ten learning networks projects were started.

All partners to WORK-IN-NET arrange conferences, seminars and workshops to promote the exchange of ideas and experiences. In most cases, there are events for both practitioners and academics, but with somewhat different emphasis. FAS is the most obvious exception in the sense that its activities almost exclusively concentrate on promoting networking between scholars. The Finnish Work Environment Fund does not actively promote horizontal networking between workplaces with the help of project designs as such, but it arranges networking seminars for projects dealing with the same subjects and smaller-scale workshops around specific research themes. In addition, the Fund has efficient channels for disseminating information on ongoing and finished research at its disposal. The Health and Safety at Work Programme of Emilia-Romagna arranges workshops and conferences particularly for participating companies and worker representatives for comparing experiences on specific subjects. Experiences of the programme so far seem to indicate that it is relatively easy to find shared interest between different stakeholders in the area of occupational health and safety, where the objects under examination are usually concrete and tangible.

3.7 Aims vs. resources

The financial budget, the number and expertise of the staff and the time span reserved for project activities can be considered the three critical resources for any R&D programme. The significance of the two first factors is easy to understand, while that of the third may need some further elaboration. The time span of a programme first of all affects the time span of the projects in it. Development work aimed at gaining full benefits of new forms of work organization or other advanced HMR practices takes time, and as a consequence short-term programmes run the risk of their projects failing to achieve this, and of being forced instead to aim for fast and visible but also one-off, inadequately established and – at worst – purely cosmetic changes. In Naschold's (1993, 68) view, "innovative developments require a minimum project duration of 2.5 years". If a programme has a short duration, this also makes it more difficult to disseminate the results and experiences from projects and to build cooperation networks. Furthermore, additional funding resources are always expended when a

programme is being started or closed. This often leads to reduced cost-effectiveness for short-term programmes.

The issue of the resources available for the participating programmes and institutes in relation to their aims is very difficult to grasp without a detailed analysis of every programme or institute concerned. Here we are forced to concentrate on the resource side only. We look at the partners in terms of their financial, staff and time resources for R&D on a somewhat imaginary scale, ranging for 'small' to 'considerable'. The construction of the scale is based on mutual comparison between the partners rather than making comparison to, for example, programmes or institutes, which fund technological research and development and which, on average, have more extensive resources available.

Despite the fact that the German Framework Concept 'Innovative Development of Work' is not the only national R&D activity in the area of work-oriented innovations, the overall trend of public funding in this area has been somewhat downwards in Germany. It is now around EUR 30 million per year; in financial terms, the heyday of German programme-based activities was in the 1980s with an annual appropriation of around EUR 50-100 million (Fricke 2003, Oehlke 2001). This is associated with a lessened discussion on the role work-oriented innovations and high-road strategies as a means to respond to the challenges of globalization, the European integration and the German unification (see Section 3.2). The implementation of the framework is coordinated by the division of Work Design and Services of the Project Management Organization in the German Aerospace Centre (PT-DLR). PT-DLR is a big institute for the management of national research programmes, which employs 500 persons of which more than 50% are scientists. The total number of persons working for the division of Work Design and Services is 21 (11 of them with scientist's background). Of all the participating countries and regions, Germany has the longest (more than 30 years) unbreakable chain of successive programmes in the area of work-oriented innovations.

The annual budget of VC 2010 from the Research Council for research is EUR 3.5 million, but the operations within the programme are supported from many other sources (e.g. enterprises, regions) in addition to that. This means that the total value of funding may well be two-folded or three-folded. In spite of the strong backing by the labour market organizations, the programme has not received as strong political backing in the form of financial resources as hoped for in the beginning. Some 10 persons in the Research Council are directly or

indirectly engaged in the programme. The research element is given special notion in VC 2010 and the programme has a separate researcher manager who has an important advisory role in research-related issues. Characteristic of the Norwegian programme is an exceptionally long (from 2001 to 2010) programme period and the fact that there exists a lot of project-level continuity from ED 2000 to VC 2010. All this creates favourable conditions for long-term innovation approaches.

In terms of public funding for R&D on working life and work organization per capita over the years, Sweden probably holds the top position in the whole world. The current picture, however, is fragmented and there has been a lot of institutional discontinuity owing to many reorganizations during the past 10-15 years. This makes it difficult to draw far-reaching conclusions on the 'time resource' aspect of the activities of the two Swedish partners to WORK-IN-NET. FAS allocated about EUR 10 million to research on working life in 2004, while the respective figure for VINNOVA is somewhat smaller. Research on work and health, work organization and labour market together accounts for more than half of the annual research funding in the case of FAS. In the case of VINNOVA, instead, the share of funding on R&D on working life and work organizations constitute only a minor proportion of the total funding. In FAS, about five persons of the total of some 20 works with working-life-related projects; in VINNOVA, the respective proportion is five of about 150.

Finland is a latecomer in programme-based approaches to promote work-oriented innovations compared to Germany and its Scandinavian neighbours. In recent years, however, funding for R&D on working life and work organization has been faring well, and, percentage-wise, it has increased more rapidly than the overall public funding for R&D. This can be interpreted as a reflection of the increased priority of this area in Finnish public policy as well of the deeply-rooted tradition of tripartite cooperation in labour policy issues. The annual financial resources of the Finnish Workplace Development Programme have risen from the level EUR 2.8 million in 1996 to EUR 12.5 million in 2005 step by step. At the same time, the number of the programme staff has increased from four full-time persons to 12 by 2005. Now this favourable trend, however, seems to be halting, and the future level of funding will depend on new governmental decisions. The programme has been in operation since 1996, yet the breaks between programme periods (1999/2000) and 2003/04) have hampered the systematic development of the programme and long-term operations and programme activity. It is an important improvement that the TYKES programme period is now six years instead of four as

before. This will improve the long-term perspective of programme-based workplace development in Finland and give project activity more room for manoeuvre.

The Finnish Work Environment Fund represents continuity in R&D funding on working life and work organization in Finland. The Fund's jurisdictional position and stream of income is guaranteed by legislation. The Fund's annual funding to research and development projects is about EUR 5 million EUR, of which about EUR 2 million focuses on the area of work-oriented innovations, and about EUR one million to grants for development projects at individual workplaces.

The Federal State of North-Rhine Westphalia has a long history of successive programmes, beginning from 1985 onwards. The contemporary Work-Oriented Modernization Programme with the annual project funding of more than EUR 12 million represents the 'third generation' of programme-based activities in the region. The programme is coordinated by the Organization for Innovative Employment Promotion (G.I.B.). G.I.B. has a staff of 60 persons, of which five work for the Work-Oriented Modernization Programme.

The Ministry of Health in Emilia-Romagna has run the Health and Safety at Work Programme since 1998, as the first – and so far the only – publicly funded, regional programme on R&D on work-oriented innovations in Italy. The annual funding for the programme is decided on an annual basis and it is now EUR 80,000. The programme is coordinated by a staff of 4-5 persons at the Rights and Opportunities Department of the Institute for Labour Foundation.

4 Conclusions and recommendations

This chapter starts with a short summary of the main findings of the benchmarking exercise (4.1). In the second part of the chapter (4.2), we raise a number of topics for discussion for national and EU policy-makers and for the future work of WORK-IN-NET.

4.1 Main findings of the benchmarking exercise

The benchmarking exercise examined the participating programmes and institutes from the point of view of Naschold's 'best practice' model for national workplace development strategies. This proved to be a useful tool, which helped raise relevant issues to mutual discussion. The model was applied in a dialogical and reflexive way with an eye to making the differences between the programmes and institutes visible and utilizing them as a source of inspiration and learning for the partners.

POLICY CONTEXT of the participating programmes and institutes was examined on three sub-dimensions. The labour market organizations and the players of the industrial relations system in general are major stakeholders in six cases of eight in Table 3.2. The respective number for the three other groups of players (industrial policy, occupational health and safety policy, and research and development) is three of eight. In Sweden, where the labour market organizations now play a lesser role, the 'strategic vacuum' caused by the refrain of the central employer associations has been partly filled by growing involvement on the part of the academic community. Five partners of eight have the main focus of activities on national level, while in three cases the focus is on regional level. The mutual weighting of research vs. development also differs by partner. The Swedish Council for Working Life and Social Research (FAS) is the only partner that exclusively centres on research, while the Work-Oriented Modernization Programme of North-Rhine Westphalia is the most oriented to consultancy and dissemination.

We made a distinction between three levels of ORIENTATION with respect to the standards of programme and project activities. FAS has an explicit international-level orientation in its operations. In many respects, this is also the case with the Norwegian Value Creation 2010

Programme and, to a lesser extent, with working-life-related activities of the Swedish Agency for Innovation Systems (VINNOVA), the German Framework Concept 'Innovative Development of Work – The Future of Work' and the Finnish Workplace Development Programme (TYKES). The Finnish Work Environment Fund clearly focuses on standards of the national level, while for both regional (Emilia-Romagna and North-Rhine Westphalia) programmes it is a question of a combination of standards of the national and regional level.

The dimension of PARTICIPATION was looked at along five sub-dimensions. In most cases, project activities by the partners are dominated by design-oriented approaches. VC 2010 differs from the others by its radical process orientation and constructivist starting point. The TYKES programme, too, has a stronger process orientation than the others. The direct influence of companies and workplaces on the content of project activities is strongest in the two most development-oriented programmes, TYKES and the Work-Oriented Modernization Programme, while for FAS this issue is of little significance. The gender perspective is taken more care of in the project activities of the Swedish and German participants than in the case of the other partners. The German framework concept also pays more attention than the others to R&D on inter-generational issues as well to the problems of the ageing workforce.

With respect to INFRASTRUCTURE, we looked at the role of researcher education and training as part of the partners' activities and the diversity of the pool of experts used in the partners' project operations. VC 2010 can be characterized as an educational programme itself. Also in the case of FAS, researcher education and training is a core activity. On average, the Nordic partners to WORK-IN-NET seem to put more weight on this objective than the German and Italian ones. On the second sub-dimension, the diversity of the pool of experts, FAS differs from the other partners by its narrower pool of experts who actively take part in funded projects.

We divided the means to promote HORIZONTAL NETWORKING between companies and workplaces that take part in project activities of the participating programme and institutes into two. We first looked at the design of the projects in itself, and then at other, less intensive means, such as conferences, seminars and workshops. The idea to carry out project activity in networks of workplaces is most firmly established in the Norwegian VC 2010 programme, but in some other cases, too, there is now increased attempt to build up bigger project entities with a view to supporting horizontal networking between companies and workplaces. FAS,

again, differs from the other partners on this dimension; its activities aim at promoting horizontal networking between scholars alone.

On the last dimension in Naschold's model, AIMS VS. RESOURCES, we were for practical reasons forced to centre on the resource part only. The resources available to the participating programmes and institutes were divided into financial, staff and time resources. The German Framework Concept 'Innovative Development of Work' seems to be the best-equipped partner in terms of absolute figures and if consider the current framework as a direct continuation of the previous German programmes. If we broaden our view to country-wise comparison and use figures that are in proportion to the size of the economy, the three Nordic Countries would probably be ranked highest in terms of public funding of R&D on the promotion of work-oriented innovations. In reality, the issue of resources available is complicated and it can be viewed from many other perspectives, too (see the next section).

4.2 Topics for discussion and further examination

The future role and potential of European programmes and institutes that fund R&D on work-oriented innovations is a vast issue, but here, in the last section of this paper, we do not want to move too far away from the original focus of the benchmarking exercise. We limit our discussion more or less to a few selected issues that were raised by the partners in their written descriptions to the questionnaire (see Table 2.2) or in discussions at the three-day workshop in Helsinki and that could be taken into further examination by the WORK-IN-NET project.

(1) How to make a convincing case?

European policy-makers' readiness to (pro)actively promote work-oriented innovations differs widely by country and region. Particularly two background conditions seem to create a favourable environment for investments in this area, namely the general level of activeness of innovation (or R&D) policy and collaborative industrial relations, often backed up by a moderate left or centre-left government. In the case of work-oriented innovations, the role

played by the labour market organizations is obviously of more crucial significance for the activeness of public authorities than in most, if not all, other areas of innovation policy. The challenge for the players in programmes and institutes that fund R&D on work-oriented innovations then is to make a convincing case, which would help to make working life and work organization an integral area of innovation policy, irrespective of fluctuations in industrial relations climate or the political orientation of the government. Making a convincing case calls for *both* sufficient evidenced-based data on the significance of work-oriented innovations for achieving key public policy goals (economy and productivity growth, the quality of (working) life, enhancement of equal opportunities, creation of new employment opportunities, or even sustainable development and ecological concerns) *and* success in turning the case into ‘policy discourse’ of the key decision-makers.⁸

Of the partners to WORK-IN-NET, particularly the Norwegian VC 2010 programme and the Work-Oriented Modernization Programme of North-Rhine Westphalia seem to have managed to make progress in this direction. Also in the case of VINNOVA, working-life issues are, at least on conceptual level, considered critical conditions for achieving growth in selected areas. Yet, the (still) rather marginal position of work-oriented innovations in innovation policy at large is seen in the relatively modest financial resources of *all* the programmes and institutes that fund R&D on work-oriented innovations.

(2) How to deal with the expanding object for R&D?

Over the years, the object for R&D on work-oriented innovations seems to be expanding. If we take a look at trends in the countries with a reasonably long history in this area (e.g. Germany and Norway), we can see a gradual shift of emphasis from traditional shop-floor-related issues (job design, human-machine interaction, physical hazards and stress factors at work, etc.) to issues that are related to the entire work organization, production system,

⁸ This issue and the difficulties related to it are commented quite strikingly in the following citation by the representatives of the German Framework Concept ‘Innovative Development of Work’ on the benchmarking questionnaire: *“The rationale that good work pays has successfully been demonstrated in a plethora of well-documented case studies. It has been verified empirically even in branches which mainly are dominated by SMEs. It has been theoretically justified e.g. in the discussion on national innovation systems. However, the wider diffusion of this rationale seems to be blocked by an invisible wall.”*

enterprise or even enterprise network and region (e.g. Fricke 2003; Gustavsen et al. 2001; Oehlke 2001; Qvale 2002). All these are complex, systemic entities with a change dynamic of their own. Owing to that, they do not easily lend themselves to traditional, expert-based solutions with a linear model for change with relatively simple cause-and-effect relationships.

In modern polycentric societies (see Section 3.5) with increasing dispersion of knowledge and increasingly complex objects for activity, no single player can claim to have superior knowledge in defining, let alone solving, the most urgent developmental problems encountered. Programmes and institutes that fund R&D, too, must rethink their roles in the provision of new knowledge and reposition themselves in relation to other sources of expertise. In innovation policy, there is, for example, a growing need for multi-disciplinary approaches, for bringing about new kinds of networks that connect players with widely diverse bases of expertise, and for cooperation and co-funding between different programmes and institutes.

The holistic approach to innovation adopted by the German Framework Concept 'Innovative Development of Work', the increasing cooperation in R&D between FAS and VINNOVA in Sweden and between TEKES (Technology Development Agency), FWEF and TYKES in Finland, and the attachment of the development of working life and work organization to regional development strategies by VC 2010 are all good examples of this line of development in practice. Yet, there also exist many possible stumbling blocks and hindrances for joining together players with different conceptual frameworks and discourses, which should be overcome in order to take the full benefit of integrated developmental approaches.

(3) How to better the social inclusiveness of work-oriented innovations?

As stated above, collaborative industrial relations are an important contributing factor to the existence of programmes and institutes that fund R&D on work-oriented innovations. Also in the case of Sweden where tripartite cooperation on central level has eroded, employer associations and trade unions on regional, local and industry level still cooperate and take actively part in R&D programmes and projects of different kinds. The predominant role played by the labour market organizations, while of crucial importance for the sake of representation and legitimacy, may at the same also carry the danger that some matters will be

excluded from the R&D agenda or that some groups of players cannot get their voices heard when new programme and project activities are designed. Even among the group of companies and workplaces that belong to the ‘hard core’ of organized (unionized) labour market, there is the familiar danger of ‘preaching to the converted’, as Brödner and Latniak (2003, 202) call it, i.e. only companies and workplaces that show awareness and are active already from the outset join the programmes and projects and take the benefit of them.

This may lead to at least three kinds of bias in the allocation of funding: firstly, big enterprises with better resources for development and with better contacts to universities, research institutes and consulting companies will take the lion’s share of funding, while for many small and even medium-sized companies the threshold for joining projects may remain too high. Secondly, in many cases (export-oriented and organized) manufacturing companies are in a better position than companies of the (domestic and more often un-organized) service sector to launch projects that fulfil preconditions for receiving external support to them. Thirdly, R&D funding often focuses on companies’ core activities and processes with (usually unionized) employees with high skills and competences, while for (more often not unionized) employees in more peripheral or disadvantageous positions there will remain less, if any, attention.

Extending the scope of workplaces and groups of employees that can take the benefit of work-oriented innovations and increasing the social inclusiveness of R&D programmes and projects on working life and work organization should be a common concern for European countries in pursuit of sustainable economic growth that is combined with greater social cohesion in accordance with the Lisbon strategy. More discussion and exchange of information on successful means to make progress in this matter would be needed across programmes, projects, countries and regions.

(4) How to make a comparable case?

In European public policy, there is now a growing interest in making use of evidence-based data in support of policy interventions. This can be seen, for example, in the current explosion in the number of evaluation studies and benchmarking activities. But as also this benchmarking exercise clearly shows, building up settings in which it is possible to make

sound and valid comparisons between the outcomes of the activities of different programmes and institutes is all but simple. One can talk of ‘configurational’ approach to causality, which implies that the outcomes are always combined effects of the intervention itself, features of the object(s) for development and several (space- and time-bound) contextual factors (e.g. Pawson 2002).

In spite of the methodological difficulties included in making *direct* comparisons between the effectiveness of interventions of different kinds, there is a need to build up new points of references for making *indirect* comparative assessments on the outcomes of programme and project activities. This requires, to begin with, that there exists systematically gathered data on programme and project outcomes and assessments from a variety of sources and that this data is openly available on the web also for wider audience. Databases alone will not, of course, solve the methodological problems that are characteristic of comparative evaluations between programmes and projects. They would, however, and supplemented with more qualitative materials, help contextualize the outcomes and assessments of one’s own activities and contribute to the joint development of evaluation methods across programmes and institutes.

(5) How to create new combinations of expertise in support of work-oriented innovations?

In order to generate innovative solutions to the development of working life and work organization, programmes and institutes that fund R&D should be able to provide means to contribute to the emergence of new combinations of expertise within project activities. New combinations may arise particularly between academics, consultants and practitioners (management and employees), covering in some cases also other groups like labour market organizations, public authorities, professional associations, clients, etc. R&D cooperation, let alone longer-term networking, does not automatically flourish between players with *very different* logics of operation, the ‘classical case’ being SMEs (that operate according to the logic of ‘practice’) vs. universities (that operate according to the logic of ‘theory’) (Tell 2001). But it is often the case that even players with *quite similar* logics of operation may find it hard to make use of and learn from the experiences of other players. The ‘dissemination/transfer deficit’ is a common and much-discussed subject in evaluation studies and critical reviews on R&D programmes.

Among the activities of the participating programmes and institutes there are now interesting experiments with building up new kinds of development coalitions within project activity (see Section 3.6). There is a clear need to have more discussion on their value added to the different stakeholder groups involved and on their role in providing new solutions to the ‘dissemination/transfer deficit’. Moreover, increasing exchange of experiences across countries and programmes is important for the purpose of providing better understanding on how to ‘learn in’ and ‘learn as’ networks.

(6) How to broaden the view on the potential for work-oriented innovations?

Budgets, staff numbers and time frames of different R&D-funding programmes and institutes (see Section 3.7) tell only of their visible resources available. The real driving forces and sources of inspiration for any programme and institute are their visions, missions, guiding principles and concepts, all of which constitute their ‘intellectual capital’. In addition to visible resources (‘structural capital’) and the ideological superstructure, any programme and institute, in order to own credibility, needs generative and transformative capabilities (‘social capital’), i.e. capabilities to harness different networks and mechanisms for dissemination and transfer into use. Deficits in any of these three areas may seriously hinder the overall effectiveness of activities.

This kind of ‘resource-based’ view on the partners’ activities opens up possibilities to find fresh insights and problem settings for benchmarking within the WORK-IN-NET project. One of the lessons learnt from this exercise is that Naschold’s model, if used systematically, manages to capture well particularly the generic structural (and at the same time visible) features of strategies. What is a challenge for the future is to get a more realistic view of the roles and potentials of the different partners in their own environments by taking a broader view on the ‘intellectual’ and ‘social’ aspects of the partners’ activities. This would mean opening the Pandora’s box of new, challenging questions for closer scrutiny. To begin with, ‘what do we actually (on epistemological level) mean by work-oriented innovations?’ But that will be another story...

References

Alasoini, T. (2004). The new Finnish Workplace Development Program (TYKES-FWDP) as an approach to innovation. *Concepts and Transformation* 9:3, pp. 279-295.

Arnkil, R. (2004). The Finnish Workplace Development Programme. A small giant? *Concepts and Transformation* 9:3, pp. 249-278.

Arnkil, R., Rissanen, P., Pitkänen, S., Piirainen, T., Koski, P., Berg, P., Vartiainen, M., Gustavsen, B., Ekman Philips, M., Finne, H. & Riegler, C. (2003). The Finnish Workplace Development Programme. A small giant? *Finnish Workplace Development Programme – Ministry of Labour*. Helsinki.

Ashton, D.N., Sung, J. & Raddon, A. (2003). Raising employer demand for skills. Lessons from abroad. Department of Trade and Industry. London.

BMBF (2004). Arbeit im E-Business. Bundesministerium für Bildung und Forschung. Berlin.

Brödner, P. & Latniak, E. (2003). Sources of innovation and competitiveness. National programmes supporting the development of work organisation. *Concepts and Transformation* 8:2, pp. 179-211.

Business Decisions Limited (2000). Government support programmes for new forms of work organisation. A report for DG Employment & Social Affairs. Office for Official Publications of the European Communities. Luxembourg.

Cole, R.E. (1989). Strategies for learning. Small-group activities in American, Japanese, and Swedish industry. University of California Press. Berkeley – Los Angeles – London.

Florida, R. (2002). The rise of the creative class. And how it's transforming work, leisure, community and everyday life. Basic Books. New York.

Fricke, W. (1994). Scientific knowledge, social change and action research. In: Kauppinen, T. & Lahtonen, M. (eds.) *National action research programmes in the 1990s*. Ministry of Labour. Labour Policy Studies 86. Helsinki. pp. 47-69.

Fricke, W. (2003). Thirty years of work life programmes in Germany. *Concepts and Transformation* 8:1, pp. 43-68.

Gallagher, M. (2001). A review of government support for new forms of working. *AI & Society* 15:2, pp. 149-159.

Gustavsen, B. (ed.) (2003). *Bedriftsutvikling og regionale partnerskap. Erfaringer fra Verdiskapning 2010*. Research Council of Norway. Oslo.

Gustavsen, B., Finne, H. & Oscarsson, B. (2001). Creating connectedness. The role of social research in innovation policy. John Benjamins. Amsterdam – Philadelphia.

Gustavsen, B., Hofmaier, B., Ekman Philips, M. & Wikman, A. (1996). Concept-driven development and the organization of the process change. An evaluation of the Swedish Working Life Fund. John Benjamins. Amsterdam – Philadelphia.

den Hertog, J.F. & Schröder, P. (1989). Social research for technological change. Lessons from national programmes in Europe and North America. University of Limburg. MERIT 89-028. Maastricht.

ILO (1993). Lean production and beyond. Labour aspects of a new production concept. ILO. Geneva.

Latniak, E. & Simonis, G. (1994). Socially oriented technology policy in Germany. Experiences of a North-Rhine Westphalian programme. In: Aichholzer, G. & Schienstock, G. (eds.) Technology policy. Towards an integration of social and ecological concerns. Walter de Gruyter. Berlin – New York.

Levin, M. (ed.) (2002). Researching enterprise development. Action research on the cooperation between management and labour in Norway. John Benjamins. Amsterdam – Philadelphia.

Mikkelsen, L.N. (1997). The Norwegian R&D programme Enterprise Development 2000. Building an infrastructure for improvement. In: Alasoini, T., Kyllönen, M. & Kasvio, A. (eds.) Workplace innovations – a way of promoting competitiveness, welfare and employment. Ministry of Labour. Reports of the Finnish Workplace Development Programme 3. Helsinki. pp. 72-90.

Naschold, F. (1993). Organization development: national programmes in the context of international competition. In: Naschold, F., Cole, R.E., Gustavsen, B. & van Beinum, H.: Constructing the new industrial society. Van Gorcum – Swedish Center for Working Life. Assen/Maastricht – Stockholm. pp. 3-119.

Naschold, F. (1994). The politics and economics of workplace development. A review of national programmes. In: Kauppinen, T. & Lahtonen, M. (eds.) National action research programmes in the 1990s. Ministry of Labour. Labour Policy Studies 86. Helsinki. pp. 109-155.

Oehlke, P. (2001). The development of labor process policies in the Federal Republic of Germany. Concepts and Transformation 6:2, pp. 109-140.

Pawson, R. (2002). Evidence-based policy. In search of a method. Evaluation 8:2, pp. 157-181.

Qvale, T.U. (2002). A case of slow learning? Recent trends in social partnership in Norway with particular emphasis on workplace democracy. Concepts and Transformation 7:1, pp. 31-55.

Ramstad, E. (2005). Self-assessment results of the TYKE programme's development projects (1996-2003). In: Alasoini, T., Ramstad, E. & Rouhiainen, R.: The Finnish Workplace Development Programme as an expanding activity. Results, challenges, opportunities.

Ministry of Labour. Reports of the Finnish Workplace Development Programme. Helsinki. pp. 71-109.

Schienstock, G. (2004). From path dependency to path creation. A new challenge to the systems of innovation approach. In: Schienstock, G. (ed.) *Embracing the knowledge society. The dynamic transformation of the Finnish innovation system*. Edward Elgar. Cheltenham, UK – Northampton, MA, USA. pp. 3-27.

Tell, J. (2001). *Organising university-led learning networks among small-enterprise managers*. Chalmers University of Technology. Department of Operations Management and Work Organization. Göteborg.

Totterdill, P., Dhondt, S. & Milsome, S. (2002). *Partners at work? A report to Europe's policy makers and social partners. Report of the Hi-Res Project (The High Road concept as a Resource) funded by D G Research of the European Commission under the *Competitive and Sustainable Growth: Accompanying Measures Programme**.

Westlund, H. (2004). *Social capital, innovation policy and the emergence of the knowledge society. A comparison between Sweden, Japan and the USA*. Swedish Institute for Growth Policy Studies. A2004:017. Östersund.

Womack, J.P., Jones, D.T. & Roos, D. (1990). *The machine that changed the world*. Rawson. New York.

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