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**Questionnaire and survey data base**

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## ***Questionnaire and survey data base***

on organisational surveys and a review of existing statistical resources with documentation of key indicators for measuring organisational change in organisational and individual surveys

*WP4 Quantitative pillar*

Monique Ramioul & Rik Huys (HIVA-K.U.Leuven)

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**works**  
CHANGES IN WORK

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# 1 Introduction

Within the overall WORKS project, the aim of Workpackage 4 is to provide a state-of-the-art overview of the existing statistical sources in the different European countries and at the European level. The research activities focus on the extent to which these sources and data bases make it possible to monitor changes of work quantitatively. Objectives of this research phase are the systematic mapping of European organisation and individual/household surveys that are relevant to measure changes in work; the identification of indicators for further use in the project, the investigation of the accessibility and feasibility of using existing data bases; the assessment of problems of comparability across different data bases and the examination of the strengths and weaknesses of the national and European statistical systems with regard to the issues addressed in the project. In doing so, the research activities in Workpackage 4 should foster the convergence of instruments to measure changes in work in the knowledge based society at the European level.

This deliverable presents the research activities undertaken in Workpackage 4 to achieve these goals by means of the following issues:

- construction of a digital toolkit: a questionnaire and survey database for organisation surveys (Chapter 2);
- translation of the research questions in WORKS for the quantitative analysis (Chapter 3);
- identification of indicators in surveys to answer the research questions (Chapter 4);
- a workshop on organisation surveys to investigate the possibilities of the quantitative analysis (Chapter 5);
- identification of sectors and occupations for the quantitative analysis (Chapter 6);
- outlook for the second year of the WORKS project (Chapter 7).

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- CEE: Centre d’Etudes de l’Emploi (France);
- ISER: Institute for Social and Economic Research (United Kingdom);
- FFCT: Fundação da Faculdade de Ciências e Tecnologia (Portugal);
- IRES: Istituto di Ricerche Economiche e Sociali (Italy);
- ATK: Arbetstagarkonsultation AB (Sweden);
- SINTEF: Stiftelsen for industriell og teknisk forskning ved Norges tekniske høyskole (Norway);
- ISB: Institute of Sociology, Hungarian Academy of Sciences (Hungary).



## 2 Digital toolkit

In Europe, there is an established practice of organisation (panel) surveys in different countries on several issues relevant for the project. However, drawing a European-wide picture of changes in work organisation on the basis of these organisation surveys is very difficult due to the lack of common definitions and indicators of changes in work organisation as well as due to important differences in the design and the methodology of the organisation surveys in different European countries.

To enhance the understanding of the different approaches by organisation surveys in European countries and to provide a basis for further convergence between these organisation surveys, a major part of the research activities in Workpackage 4 were devoted to the construction of a 'digital toolkit'. This toolkit is an interactive survey and questionnaire database on the themes of work organisation and restructuring.

To select the most important surveys among the many organisation surveys carried out in European countries, the following criteria were used:

- *content*: the organisation survey must cover a broad range of topics that are related to work organisation and restructuring;
- *scope*: the organisation survey must cover a wide range of sectors, preferably organisations in the whole economy;
- *periodicity*: the organisation survey must be carried several times over the years with the same or a similar questionnaire.

By means of these criteria, twelve organisation surveys were selected that are of major importance in the research field of work organisation and restructuring (see Table 2.1).

**Table 2.1** Organisation surveys included in the digital toolkit

Acronym	Full name	Countries covered
PASO	Panel Survey of Organisations	Belgium
DISKO	Danish Innovation System – Comparative Analysis	Denmark
COI	Changements Organisationnels et l’Informatisation	France
REPONSE	Relations Professionnelles et Négociations Entreprises	France
IAB	Institut für Arbeits- und Berufsforschung	Germany
ISI	New Production Concepts in Germany	Germany
OSA	Organisatie voor Strategisch Arbeidsmarktonderzoek	Netherlands
WERS	Workplace Employee Relations Survey	United Kingdom
Eurostat-ICT	Community Survey on ICT Usage and e-Commerce in Enterprises	Europe
CIS	Community Innovation Survey	Europe
ESWT	European Survey on Working time and Work-Life balance	Europe
CVTS	Continuing Vocational Training Survey	Europe

The interactive digital toolkit is available at the project website ([www.worksproject.be](http://www.worksproject.be)) and can be accessed by means of the ‘digital toolkit’-button. The toolkit provides the following information on each of the surveys:

- *organisation*: name of the organisation conducting the survey;
- *country*: countries covered by the survey;
- *website*: URL of the website providing more information on the survey;
- *periodicity*: years in which the survey has been conducted;
- *longitudinal*: whether the survey is repeatedly executed in the same organisations (panel survey) or executed in new samples of organisations (cross-sectional survey);
- *population*: characteristics of organisations included in the survey (*e.g.* sector, size, ...);
- *sample*: number of observations in the survey;
- *questioning method*: oral, postal, telephone, web or combination;
- *linked survey*: whether the organisation survey is linked to other questionnaires in the same organisations, *e.g.* questionnaire of employee representatives and/or employees;
- *main topic*: main research theme covered by the survey.

Moreover a comparative table is available that provides an overview of the different methodology applied in the organisation surveys.

Next to methodological information on the major organisation surveys in European countries, the toolkit is mainly a questionnaire database that allows the user to search for the questions used in the surveys as indicators of changes in work organisation and restructuring. The questions can be accessed by means of the following concepts:

- *the organisation in its environment*: questions related to the relationship between the organisation and its environment or other organisations;
- *production concept*: questions related to the structure of the division of labour in the organisation;
- *employment relationship*: questions related to the personnel policy and industrial relations in the organisation.

These concepts are further unfolded in different sub concepts allowing for a targeted search of questions in the different organisation surveys (see Table 2.2).

**Table 2.2** Overview of concepts used to search the questionnaire database of organisation surveys

The organisation in its environment	Production concept	Employment relationship
Characteristics of the organisational environment	Characteristics of the organisation	Characteristics of employees
Characteristics of the product, the product market and relationship to the market	General characteristics of the organisation Characteristics of management or ownership General strategy	
Relationship with other organisations	Use of technology Automation	Personnel policy Recruitment/retention policy
Relationship with parent company, subsidiaries or affiliated organisations	ICT's Innovation	Training policy Promotion policy/Internal labour market Wage policy
Relationship with suppliers, sub-contractors or other companies		Working and production times
Relationship with public institutions		Work contracts Other HRM-issues
	Organisational structure New management concepts Structure of production process or departments Work organisation Hierarchy Involvement of employees Teamwork Functional flexibility Nature of tasks Kind of work Required qualifications for work, learning opportunities in work Level of automation, information in work Health, safety or stress	Industrial relations Industrial relations: nature Industrial relations: topics Industrial relations: output

This digital toolkit serves several of the stated purposes of Workpackage 4:

- *convergence*: the digital toolkit is an important instrument to achieve a greater convergence in organisational survey research. First of all, the digital toolkit makes clear to what extent survey methodology and questions used as indicators of work organisation and restructuring are different between the organisation surveys. Thereby it allows assessing to what extent differences in results between the organisation surveys may be attributed to different approaches rather than differences of substance. But more importantly, the digital toolkit also provides a basis for future convergence in the way work organisation and restructuring is questioned in European countries. Survey organisers can use the digital toolkit in order to construct questionnaires on work

organisation and restructuring and the implications for work and employment. The ensuing debate on best practice indicators and the multiple uses of such questions will enhance the comparability of organisation survey results across European countries;

- *indicators*: the digital toolkit provides a wealth of information on how topics related to work organisation and restructuring can be translated into indicators. Thereby it provides inspiration in determining how the research questions of WORKS can be made operational. This is useful for the task to establish indicators to investigate the research questions in the quantitative analysis (see also Chapter 4), but also useful to establish the relevant questions in the case study research ('Qualitative pillar' of the WORKS project);
- *future work*: the digital toolkit allows determining quickly which organisation surveys collect data on the issues addressed by the research questions of the WORKS project and to what extent and detail this data collection is done. It thereby allows to direct the literature review on the results of organisation surveys to be carried out in the second project year to the most relevant organisation surveys for each of the research questions (see also Chapter 7).

## 3 Translation of the research questions

On the basis of the papers and the conclusions from the theoretical report of the ‘Theory pillar’ (Workpackage 3), the key research questions of WORKS have been identified and are endorsed by the Scientific Board. These research questions will guide the case study research in organisations and with individuals, but they also guide the focus of the analysis in the ‘Quantitative pillar’. The research questions listed below are guidelines to develop the two tasks in the quantitative analysis during the second project year:

- provide comparative background statistics;
- literature review of organisation surveys.

The research questions are grouped in five key issues for the WORKS project. These are:

- *the restructuring of the global value chain*: analysing global division of work and networking; analysing drivers of change;
- *changes in work organisation*: analysing new forms of work organisation, division of work and changes in workplace design;
- *flexibility*: analysing the use of different forms of flexibility;
- *skills and internal labour markets*: analysing the impact on the internal labour markets, in particular skills acquisition and policies;
- *career trajectories and the quality of working life*: analysing impact on career trajectories and occupational identities.

Analyses can be carried out in the comparative background statistics of individual/employee surveys and/or in the longitudinal literature review of organisation surveys. The quantitative analyses will be restricted where possible to the selected sectors and occupational groups of the WORKS project (see Chapter 6). For more in-depth and longitudinal analysis (*e.g.* related to the organisational survey reviews) general trends are however relevant as well.

In general the focus of the project is on the interrelations between restructuring of value chains and changes in work organisation and quality of working life. For the literature review of organisation surveys on the one hand (Chapter 3.1) and for the comparative analyses of individual/employee data on the other hand (Chapter 3.2), this central theme can be translated in the following research questions:

### 3.1 The restructuring of the global value chain

One of the central aims facing the WORKS project is how to understand the relationship between changes taking place at the level of the global economy and changes taking place at the workplace level. The concept of the global value chain is useful for providing a window into this relationship. The focus of WORKS is on the *restructuring* of value chains. Restructuring refers here to *legal/contractual and/or geographical changes in the structure of the*

*core value chain*: on the one hand processes of outsourcing/insourcing/mergers *etc.* (legal dimension) and on the other hand actual relocation (spatial dimension) of business functions (jobs of a functional unit). The assumption is that restructuring of value chains is influenced by national institutional settings. Here, the concept of the *business function* is relevant. The increasingly generic ways in which business functions are carried out within sectors suggests that selecting the same business function within the same sector provides a unit of analysis that will maximise international comparability between different national institutional settings.

The '*institutional settings*' will be investigated 'at work': basic employment condition differentials such as employment contracts, wages, working time arrangements, access to training *etc.* are regulated at the national/regional/sectoral/entreprise level. They can be driving factors for restructuring of value chains and they are of course affected by restructuring in return. Further, educational levels; qualification structures and VET are also related to the institutional context. All these dimensions can be investigated and compared to understand different institutional settings under which companies operate (see below).

To understand the interrelationship of global restructuring and restructuring at the workplace level we face a lack of clear definitions of business function which could enable these changes to be tracked statistically, whether these changes involve spatial relocation or result from legal/contractual externalisation (outsourcing). It becomes necessary to try to identify in the statistics in which geographical locations of business functions are being carried out and under what contractual relationship (whether they are being provided to a parent company or carried out under a contract for the supply of services). Unfortunately, business functions are not easily identified in official statistics and relatively few organisational surveys ask questions enabling this information to be collected systematically. It is therefore necessary to find proxy indicators to give some indication of trends. An analysis of some data from the European Labour Force Survey (CLFS) has indicated that it is possible to derive some information from it on occupational and sectoral shifts in employment over time by country within the EU and Accession States. Additionally, some organisation surveys include questions related to outsourcing and e-business practices that may shed light on trends related to changing the nature and structure of value chains.

#### *Questions for the literature reviews of organisation surveys*

- Description of (changes in) the vertical integration or disintegration of the selected sectors; geographical location of the different steps and functions in the core process from design to market of the product/service.
- Description of the integration versus outsourcing (make or buy) of generic business functions; legal and geographical location of the generic business functions.
- What is the evidence from organisation surveys on the structure of the primary process and its relationship with staff departments in view of the restructuring of the value chain and the outsourcing of supporting services?
- How have sectors involving the supply of business services grown over the past decade and what has been the relationship of this growth to trends in other sectors that can be presumed to be their clients (*e.g.* production industries, energy, public administration)? What shifts can be traced?

- How does this growth differ within Europe? Is there any evidence that this growth has been greater in New Member States, giving support to the hypothesis that these are becoming a 'back office' for companies in parts of the EU where costs are higher?

### 3.2 Changes in work organisation

Restructuring of value chains implies that the division of labour changes at the level of the work organisation in the firm, in each affected unit and at the workplaces involved. Core issues in the comparative study of changes in the division of labour and changes in work organisation are (1) processes of standardisation of work; (2) specialisation of work into separated fragmented tasks, (3) the division between high-skilled work and low-skilled work (4) management coordination and governance mechanisms (5) the balance between autonomy and control for workers.

With respect to changes in the division of labour, the popular assumption of a transition from Taylorist to post-Taylorist work organisation has for several reasons turned out to be only of limited value as a general research hypothesis. In view of the complex developments in today's workplaces such generalisations are not valid. There are not only clear counter-tendencies, but change processes are also much more complex. *Standardisation and Taylorisation* of work continues and affects work processes hitherto not taylorised (in particular services both in the private and the public sector). This is due to the codification of knowledge related to the use of ICT. The complexity and uncertainty of *knowledge (high-skilled) work* has always implied the need for a work organisation with a high degree of autonomy, self-organisation and discretion, and delegation of responsibilities. These jobs require autonomy and opportunities for learning and intensive interaction and collaboration with others. So the question is for which activities restructuring of value chains leads to more standardisation and specialisation of work; and for which activities, on the contrary broader jobs, with a high degree of autonomy, self-regulation and delegation of responsibilities are created.

However, the review of the literature showed that the relative *autonomy* of workers in such workplaces should not lead us to assume that (*new*) *forms of control* do not play a role. The new organisational environment related to restructuring at the level of value chains, both stretching across the traditional boundaries of organisations and bringing different employers and customers into the firm, raises the question to what extent autonomy is counterbalanced with new forms of control, like formalisation of collaboration with colleagues (*e.g.* in geographically distributed teams), performance monitoring (whether electronically or not), target setting, 'marketisation', accountability and control by customers.

In investigating these issues there should again be a focus on changes related to the restructuring of value chains in the selected sectors and occupational groups.

#### *Questions for the literature reviews of organisation surveys*

- What is the evidence from organisation surveys on the level of specialisation of jobs versus broader jobs, integration of indirect tasks and functional flexibility?
- What is the evidence from surveys on the 'knowledge-intensity' of tasks in the selected business functions and sectors or for the selected occupational groups?
- What is the evidence from organisation surveys on the polarisation of required qualifications of jobs?

- What is the evidence of organisation surveys on learning opportunities in and during work?
- What is the evidence from organisation surveys on *decentralisation* of decision-power, forms of mutual coordination, (virtual) teamwork and project work?
- What is the evidence from organisation surveys on the nature and level of control through different means?

*Questions for the comparative analyses of individual/employee data*

- What is the evidence from organisation surveys on the level of specialisation of jobs versus broader jobs, integration of indirect tasks and functional flexibility?
- What is the evidence from surveys on the 'knowledge-intensity' of tasks in the selected business functions and sectors or for the selected occupational groups?
- What is the evidence from organisation surveys on the polarisation of required qualifications of jobs?
- What is the evidence of organisation surveys on learning opportunities in and during work?

### 3.3 Flexibility

Studies of different forms of flexibility are quite common and experiences with empirical research (both quantitative and qualitative) are considerable. The challenge here is to clearly link trends in flexibilisation to the restructuring of value chains in the sectors and business functions and occupational groups under investigation.

#### 3.3.1 Organisational dimension

Core issue is the '*flexibility-mix*' that companies use to secure a flexible adaptation to a changing or unstable environment (in terms of required changes in production volume, production mix, customer requirements, labour market specificities *etc.*). This flexibility policy of companies includes forms of *temporal, contractual and functional* flexibility.

The classical segmentation model where in the 'core' long-term contractual employment relationships (and functional flexibility) are counterbalanced by a periphery of a contractual loose and insecure/flexible workforce, is questioned due to growing pressure on the so-called core. This pressure should be linked to the corporate restructuring. The relationship between 'functional flexibility' and 'numerical flexibility' should be reconsidered in the new organisational structures that can be observed as the result of the restructuring of value chains. Workers may well be required to be very flexible in terms of task assignments even across the boundaries of their firm, with whom they have a contract (in varying and ad hoc project teams, through ework, in geographically distributed teams). This employment contract can be stable and undetermined. In that case this refers to the '*employability* discourse' where only employment is guaranteed but not exactly a fixed job or task. On the other hand, involvement in work relations across the firms 'walls', might also imply more flexible contractual relations with different employers, while at the same time the job content is defined.

*Questions for the literature reviews of organisation surveys*

- What is the evidence of increases in external, contractual forms of flexibilisation, for instance short-term contracts, interim work/employment by temporary work agencies?
- What is the evidence of increases in temporal forms of flexibility, like part-time work; shift work; variable working times, evening- and night work; weekend work?
- How do these changes relate to changes in the 'environment' of firms?
- How do these changes correlate with specific forms of restructuring like outsourcing, relocation?
- How do these changes correlate with (if evidence is available) indicators of 'new forms of work organisation' (e.g. project work, team work etc.)?

**3.3.2 Individual dimension**

*Working hours and time use* are at the core of quality of working life. Thus it needs to be explored how they are affected by value chain restructuring, e.g. through changing the temporal aspect of workflows and by redistributing the burdens of flexibility. This not only relates to the different positions of units or companies in the value chain, but also to relations between occupational groups and between men and women.

From the perspective of the individual, the literature overview leads to the conclusion that it is not possible to take it for granted that organisational careers are either disappearing or becoming anachronistic in new patterns of work organisation and restructuring, although the boundaryless concept seems compatible with value chain restructuring. Empirical studies have to consider both *boundaryless and organisational careers* and to investigate the various rationales underlying them. From the career point of view, subjective factors, including attitudes towards work, are put forward to explain differentiations among workers. Institutional factors are not neglected, but integrated in the enactment process. From the labour market point of view, the multiplication of *transitions* and diversification of trajectories encompass a wide range of situations, mainly shaped by the increasing flexibility of work contracts and work status. Transitions are also shaped by public policies (re-insertion of the unemployed, conversion after re-structuring, re-entry into the labour market, etc.). Boundaryless trajectories also include constrained *mobility or precariousness*, not only 'voluntary' nomadic pathways.

*Questions for the comparative analyses of individual/employee data*

- What evidence is there from administrative or population survey sources of changes in career trajectories, e.g. changes in mobility between employment, self-employment, unemployment, multiple job-holding, full-time education and economic inactivity for the selected occupational groups? How are these distributed according to age, gender and other social variables?
- What evidence is there from time use surveys of changes in use of time at work and in the balance of time between home and work in the selected sectors and occupational groups?
- How do these changes correlate with gender; age, ethnicity, skills levels?

### 3.4 Skills and internal labour markets

With respect to skills provision and qualification, it is important to acknowledge both the importance of the (national; sectoral) *institutional environment* of companies and the actual qualification policies at the level of the firms and the workplaces, related to the *internal labour market*. With respect to the first, the national/sectoral institutional environment related to skill supply, it is obvious that the availability of skills not only influences locational decisions by companies, but also the particular ways in which they are formed seem to play a role in shaping specific forms of work organisation at a local level. Labour supply is still mainly embedded in the national context, and hence the problems concerning the supply of skills must also be put in the context of national institutions and practices. National and sectoral differences in *workers' access to training* could therefore be analysed. However, in view of the project's focus, access of employees to training provisions *within their organisation* seems a core issue as well and provides an important window into different dimensions of skills formation.

A first question here is what is the precise role and importance of *in-house skills provision* and development versus *skills acquisition on the external labour market* in restructured organisations? It can be assumed that the blurring of boundaries of organisations, related to contractual restructuring and geographical relocations might reinforce the deterioration of internal skill development mechanisms. On the other hand, the emergence and growth of intermediary service suppliers might give birth to new internal labour market structures, providing employees with new learning opportunities and more horizontal and vertical mobility opportunities or on the contrary with more standardised and divided work processes and tasks. Next, the *networking* beyond the initial company can provide learning opportunities because employees gain access to networks of experts, new information and knowledge. On the other hand, the risks inherent in networks often result in a significant increase in performance monitoring. Increased performance monitoring and control systems (such as scripts and procedures) accompanying new forms of networked organisations supported by ICTs, can in turn limit the opportunities employees have to exercise and develop technical or professional skills. Information on training provisions at the firm level can be an indicator of well-developed internal labour markets.

Second, Access to training can also shed light on differences in the *employability* of workers affected by restructuring because training is often regarded as a key accompanying measure to manage changes and to cope with the effects of restructuring. The employability debate in more general terms addresses a.o. the hypothesis that those employees who have been carrying out the same job for years may lessen their chances of improving their labour market status, especially when have had no (or only limited) chances for participation in CVT courses. A hypothesis that could be explored here is that a high participation in employer-provided training can improve the employability of the workforce both in terms of mobility within the organisation and in relation to the external labour market.

A third aspect relates to the phenomena of *overqualification and overeducation*. These raise the questions, important from the point of view of organisational policies and changes at the workplace: how much skill is required to do a given job? What 'degree of fit' (between individual skills and job description) is necessary before someone with a particular educational credential is considered as part of the labour supply for a given occupation? This again implies a focus on training practices within companies addressing

such issues as the nature of apprenticeships that are offered; the limits imposed on organisational flexibility by the training and qualification structures and the balance between on-the-job and off-the-job training.

Finally, the literature review shows that there is a growing shift to *social and relational* forms of knowledge and a shift from *technical to social collaboration structures*. The question then is what is the relative importance of soft and generic skills versus technical and professional skills for the occupations under investigation? How can these soft skills be described? To what extent are soft competences linked to skilled work?

#### *Questions for the literature reviews of organisation surveys*

- What is the educational background of the employees of the selected occupational groups and how do these differ amongst the companies, the sectors and the countries?
- What is the proportion of enterprises in the selected business functions and sectors that offer vocational training to their employees? What specific training practices exist (on the job, off the job; apprenticeships *etc.*)?
- What are the participation rates of the employees to vocational training in the selected occupational groups of these firms?
- How do participation rates differ according to employment contract, working time regime, hierarchical position and other variables?
- How do participation rates differ according to gender, age, skills level, and ethnicity?

#### *Questions for the comparative analyses of individual/employee data*

- What are the participation rates of the employees to vocational training in the selected occupational groups of these firms?
- How do participation rates differ according to employment contract, working time regime, hierarchical position and other variables?
- How do participation rates differ according to gender, age, skills level, and ethnicity?

### **3.5 Career trajectories and the quality of working life**

Changes in the division of labour along the value chain, in workflows, in control strategies etc directly impact on day-to-day work practices with possible consequences for all dimensions of quality of work: workers of dependent supplier companies may face increasing workloads and time pressures; the transfer to a specialised IT service provider may improve access to training and career options; geographically distributed work may impact on working hours, demands on flexibility and skill needs *etc.* In addition, the very dynamics of restructuring may increase the level of insecurity and enhance competition. This, in turn, may affect job security, stress levels and career options.

*Quality of work* is not only affected by actual shifts of boundaries or changes in functional relations. The mere existence of differentials also impacts on the bargaining position of actors within countries, sectors and companies because of potential restructuring (outsourcing, relocation) that can be used as a threat. Another important interrelation between restructuring and quality of work therefore are the consequences of changing power relations that can be seen most clearly in processes of ‘concession bargaining’ but that may also become evident in work practices (working hours, flexibility etc). As a consequence, a key focus of the project is to gain insight into national/regional and sectoral

differentials in working conditions amongst occupational groups in order to understand both the locational decisions of restructuring companies and the longitudinal effects of restructuring on these working conditions. Next to flexibility and working time arrangements (explained earlier), *wages* are a core dimension in such comparative analyses.

*Questions for the comparative analyses of individual/employee data*

- What evidence is there from European Surveys on differences in wages of the selected occupational groups between countries, regions, sectors?
- What evidence is there from European Surveys on differences in wages of the selected occupational groups according to gender; ethnicity, skills level and other social variables?
- What evidence is there from European Surveys of increases or decreases in stress and other work-related health conditions? How are these distributed by sector, occupation and social variables such as age and gender? Can they be correlated with indicators of new forms of work organisation (project work, team work *etc.*)?

These research questions will guide the literature reviews of organisation surveys and the quantitative analysis on secondary data from European individual/employee surveys, that will be executed during the second project year by all partners involved in the 'Quantitative pillar' of the WORKS project (Workpackage 8 and 9).

## 4 Identification of indicators

In order to answer the research questions listed in Chapter 3, it is necessary to further identify how the concepts on changes in work organisation can be translated into indicators and questions. This will allow to focus the quantitative analysis on the relevant variables as well as to focus the interview guidelines for the case study research during the second project year.

These indicators are listed below and grouped according to the five key issues of the WORKS project.

### 4.1 Key issue 1: the restructuring of the global value chain

*Dimension: ownership of the organisation*

- management versus ownership;
- geographical location of ownership.

*Dimension: vertical integration of the organisation*

- production steps included in the organisation;
- location of final assembly.

*Dimension: integration of supporting and preparatory activities in organisation*

- business functions<sup>1</sup> executed by organisation or externally (parent company, other organisation - and its geographical location);
- also the reverse: provision of business functions by the organisation to other organisations.

*Dimension: business functions supported by ICT's and their location*

- such as: maintenance and development of software; call centres and customer services; accounting; design; personnel administration; training, sales; ...

*Dimension: inter-organisational relationships*

- integration in networks;
- relationships with suppliers/customers, ...;
- distributed work, virtual teams;
- dispatching of employees; project work.

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<sup>1</sup> Examples of business functions are: maintenance; logistics; customer services; administration and accounting; recruitment and selection; training; marketing; R & D - product development - engineering; general services as catering, cleaning, security; ...

*Dimension: level and location of purchases*

- level of purchases related to turnover;
- location of suppliers;
- wage costs related to turnover.

## 4.2 Key issue 2: changes in work organisation

*Dimension: relationship between production and supporting, preparatory and coordinating functions in the organisation*

- division of labour between production and staff departments/hierarchy with regard to different business functions (see also question on outsourcing of business functions);
- hierarchical levels/span of control;
- use of 'new management concepts' as business units; TQM; Kanban; Lean Production; ...

*Dimension: structure of production process*

- relationship between production groups;
- lay-out of production process;
- product/market oriented organisational structure.

*Dimension: work organisation*

- application of teamwork;
- division of labour within teams: team members, team leader; separate supporting functions in the team; ...;
- relationship between team leader and team members: separate team leader, chosen team leader; collaborating team leader; ...;
- measures for employee input in work organisation: suggestion schemes; quality circles; work consultation; team meetings; ...;
- task composition of production employees (job enlargement/enrichment): tasks regarding the preparation of production; the support of production; coordination of production tasks; determination of work conditions; ...;
- flexible allocation of employees to jobs (polyvalency; rotation; ...);
- nature of tasks: repetitive work; routine work; isolated work; autonomy in work (work rhythm, work sequence, work method, ...).

## 4.3 Key issue 3: flexibility

*Dimension: contractual flexibility*

- temporary contracts;
- temporary (Interim) employment;
- posting of employees (employees put at the disposal of an organisation);
- homework of (fake) self-employed;
- use of freelancers;
- contracts with availability on demand;

- labour pools;
- flexible retirement (systems of early retirement);
- flexible vacancies;
- temporal flexibility;
- overtime work;
- variable working times;
- flexible working weeks;
- annualisation of working times;
- temporary unemployment;
- deviating working times (evening, night, weekend, shift work);
- flexible part-time work.

*Dimension: functional flexibility*

- incidental deployment for several tasks (jobs);
- flexible deployment (polyvalent employees);
- task (job) rotation.

*Dimension: financial flexibility*

- flexible wages: related to different criteria (e.g. productivity, quality, suggestions, ...) and at different levels (individual, team, department, organisation, group, ...).

#### **4.4 Key issue 4: skills and internal labour markets**

*Dimension: nature of work*

- information intensity; knowledge intensity of work;
- eWorking; mobile working;
- tätigkeitstype: reflecting the level of automation of work (manual work at product; manual work at machines; steering of machines; system regulatory work);
- qualifikationstype: reflecting the level of complexity of work (low qualified work, trained work, schooled work, complex work);
- occupational distribution of employees;
- share of direct/indirect employees;
- distribution of employees according to functional domain;
- kind of work of production employees (e.g. assembly; transport; commercial activities; maintenance; research; education; service to persons/organisations; administration; ...).

*Dimension: knowledge and skills*

- application of available qualifications in work (available, demanded and required qualifications);
- displacement on the labour market;
- skill/earnings polarisation;
- informal learning opportunities in the job;
- standardisation of work/knowledge versus tacit knowledge; communities of practice; spatial proximity; occupational identity;

- formal training and education in/outside organisations (budget; number of hours; number of employees; kind of training; ...);
- recruitment requirements.

#### 4.5 Key issue 5: career trajectories and the quality of working life

##### *Dimension: employee flexibility*

- the provision of time sovereignty and flexible working time arrangements such as;
- sliding working hours;
- sabbaticals;
- time credit;
- planning holiday period;
- phased retirement;
- paid educational leaves;
- preferences regarding working times;
- preferences regarding type of contract (e.g. unwillingly part-time or interim, ...);
- working time autonomy versus responsibility.

##### *Dimension: working conditions*

- health and safety risks at work (physical and mental);
- outcomes of health and safety risks at work (physical, mental).

##### *Dimension: career trajectories*

- destandardised career trajectories;
- transitions in and out of the labour market;
- seniority in organisations; job mobility;
- work-household balance;
- time-use.

In order to establish to what extent these indicators are available in surveys, a breakdown of questionnaires from surveys has been performed. For the organisation surveys, the digital toolkit (see Chapter 2) already provides the results of such a breakdown. For the individual / employee surveys an additional breakdown according to these indicators has been performed for the following surveys:

- European Values Survey;
- European Social Survey (2002, 2004);
- Labour Force Survey (including modules on Lifelong learning/Health and Survey);
- Eurobarometer (versions 34.0; 35.0; 44.0; 44.1; 44.2; 44.3; 47.1; 52.1; 54.0; 54.2; 55.2; 56.0; 56.1; 58.0; 59.0; 59.1);
- European Survey on Working Conditions (1991, 1996, 2001, 2005);
- European Community Household Panel (2000).

The results of these questionnaire breakdowns allow pinpointing those variables in organisation and individual/employee surveys which may provide answers to the WORKS research questions.

In addition the identification of indicators and questions assures a common approach of the different partners involved in the WORKS project. Although organisation surveys and individual/employee surveys are different in nature, it is important to provide clear links between them. The application of the same indicators in both kinds of surveys enhances the comparability of the results of their analysis during the second project year. Furthermore this identification of indicators and questions also focuses the guidelines for the case study research in the 'Qualitative pillar' of the WORKS project. The use of these common operationalisations of key indicators related to 'changes in work' is an indispensable tool to assure a common understanding and approach in the research activities of all partners in the different pillars of the WORKS project.



## 5 Workshop on organisation surveys

As part of Workpackage 4, a workshop 'Measuring changes in work' was held in Leuven on 22-24 February 2006. The aim of this workshop within the objectives of Workpackage 4 were:

- to contribute to a critical assessment of available data and indicators from surveys to answering the research questions of the project;
- to contribute to the final definition of concrete projects for secondary analysis in the second project year;
- to identify gaps on indicators and data when we confront the research questions and the available data at European level;
- based on this confrontation between 'What do we want to measure?' and 'What have we got in the existing surveys?', to define better indicators and related survey questions;
- to contribute to the preparation of the 'winter school on organisation surveys' that will be organised in January 2007.

It was the explicit aim of the workshop to invite experts external to the WORKS project. These external experts were invited to clarify their experiences from their own surveys on measuring specific concepts and indicators on organisational change that are relevant to the WORKS quantitative analysis projects. This was to be done by presenting a SWOT analysis of these concepts and indicators for measuring organisational change. In addition they were invited to contribute to the identification of gaps and missing links in measuring organisational change through existing surveys. Within their presentation, the external experts provided:

- a presentation of the survey;
- an outline of conceptual framework behind the survey;
- an overview on indicators in the survey;
- a focus on specific questions in the survey related to a dimension of changes in work;
- an example of results derived from these questions;
- an assessment of the questions discussed, their results and suggestions for improvements: have questions proved to be relevant; was response sufficient; are questions internationally comparable;
- suggestions for key questions; *etc.*;
- proposals for further international collaboration and comparison.

The presentations made at this workshop are available at the website of the WORKS project under the heading 'conference paper' ([http://www.worksproject.be/Rel\\_publications.htm#conference](http://www.worksproject.be/Rel_publications.htm#conference)). The contributors to the workshop as well as the title of their contribution are included in the following workshop-agenda.

## 5.1 Workshop 'Measuring changes in work'

*Wednesday 22 February 2006: Setting the scene of the quantitative research in WORKS*

- Welcome and introduction – Monique Ramioul, WORKS project co-ordinator.
- What do we want to know: the hypotheses and research questions of WORKS based on the 'Theory pillar' and on the approach of the 'Qualitative pillar' – Monique Ramioul, HIVA and Jörg Flecker, FORBA.
- Measuring changes in work through quantitative analysis – Nathalie Greenan, CEE.
- WORKS list of 'key indicators' for the five issues of WORKS – Rik Huys, HIVA.
- The mapping of relevant individual/ household surveys and questions that provide comparative data at the European level on these indicators – Malcolm Brynin, ISER-University of Essex.
- Experiences with questions on flexibility in the Belgian PASO survey – Geert Van Hootegem and Stijn Gryp, K.U.Leuven.

*Thursday 23 February 2006: Learning from European experts:*

- Introduction: The mapping of relevant organisation surveys and questions that provide comparative data at the European level on these indicators, the digital toolkit – Rik Huys, HIVA.
- Experiences with questions on organisational restructuring in the European Emergence survey – Ursula Huws, WLRI.
- Experiences with questions on new forms of work organisation in the ESWC – N. Lorenz, GREDEG.
- Experiences with questions on new forms of work organisation in the German ISI-survey – H. Armbruster, ISI.
- Experiences with questions on innovation in the Danish DISKO-survey – P. Nielsen, AAU.
- Experiences with questions on quality of work in the Dutch survey on Work in the Information Society – S. Dhondt, TNO.
- Discussion on future possible collaboration in organisations surveys.

*Friday 24 February 2006: A roadmap for measuring changes in work in WORK*

- To agree on a list of 'projects' for secondary analysis for each of the five key themes and on a distribution of work between all partners involved of these projects.
- Planning of next phase: a 'roadmap for the future' of surveys in Europe.
- Closing.

The workshop contributed to a better assessment of the possibilities to measure key dimensions of changes in work by means of surveys and to a better assessment of the extent to which surveys can provide answers to the WORKS research questions. As a result of the discussions, it was decided to focus the analysis in the second year of the WORKS research project to a literature review of organisation surveys (Workpackage 8). Of each of the identified major organisation surveys in the European countries, a wealth

of information to answer the WORKS research questions is already available in publications resulting from the analysis of these surveys. Moreover due to difficulties to access databases and the current incomparability of survey methodology and questions, an additional analysis of these separate databases is not effective.

In addition, the workshop contributed to the convergence between organisation surveys and provided a forum to present the digital toolkit on organisation surveys and questions developed in Workpackage 4 (see Chapter 2) to the relevant survey researchers in different European countries.

This allowed to strengthen the European Working Group on organisation surveys, that will continue to cooperate during the second working year of the WORKS research project. Members of this group will:

- contribute to the literature review on organisation surveys to be carried out in Workpackage 8 of WORKS;
- contribute to a training initiative for researchers (winter school) on analysis of data from organisational surveys to be carried out in Workpackage 8 of WORKS;
- cooperate in the analysis of the European Survey on Working Times (ESWT), an organisation survey of the European Foundation;
- cooperate in the start up of the MEADOWS project (Measuring the Dynamics of Organisations and Work, A coordinating action project research area 8, topic 8.2.2).



## 6 Identification of sectors and occupations

As mentioned in Chapter 3, the quantitative analyses will be restricted where possible to the selected sectors, business functions and occupational groups of the WORKS project. The research team of the 'Qualitative pillar' has proposed to the Scientific Board a selection of business functions and sectors and (related) occupational groups, based on a combination of different criteria that are required to result in validated and comparative conclusions on 'changes in work related to the restructuring of value chains put in a regional perspective'. The Scientific Board has endorsed this proposed selection. The selected business functions and sectors are as follows:

- *clothing industry*: R&D (design), production and logistics;
- *food industry* (beverages and possibly frozen food): production and logistics;
- *information & communication technology - software*: R&D (research *e.g.* in the fields of artificial intelligence, voice recognition, biometrics) and Production, *i.e.* software development;
- *public administration - information services for citizens* (at the level of local, regional or national government): customer services and IT support;
- *Services of general interest (postal services and railways)*: customer services and IT support.

The occupational groups under investigation in the case studies are closely linked to the business functions and sectors:

- *research and development*: designer (clothing industry) and researcher (ICT sector);
- *production*: skilled and semi-skilled production workers (clothing industry and food industry) and IT software developers (ICT sector);
- *logistics*: managers and skilled and semi-skilled workers (clothing industry and food industry);
- *customer services*: front office employee and back office employee (on line, off line) in the public sector and in sectors of general interest (postal services and railways) (public and private);
- *IT (business service)*: IT professionals in the public sector and in sectors of general interest (postal services and railways) (public and private).

In order to restrict the quantitative analysis to these selected sectors, business functions and occupations, they must be translated to the categories available in the databases. Therefore a translation must be made to the occupation and sector codes applied in the CLFS. This results in the following matrix to identify the selected occupations and sectors (see Table 6.1).

**Table 6.1** WORKS case study matrix & business functions: Translation to ISCO codes and NACE codes (in italic) for the quantitative analysis\*

Business function/sector	R&D	Production	Logistics	Customer service	IT
Clothing industry	3471 * <i>D.B</i>	8262 8263 8264 8264 8265 7432 7433 7434 7435 7436 * <i>D.B</i>	413 * <i>D.B</i>		
Food industry		741 827 * <i>D.A</i>	413 * <i>D.A</i>		
ICT: Software	2131 * <i>K.72</i>	2131 2139 * <i>K.72</i>			
Public administration: information services for citizens				42 344 346 * <i>L.75</i>	
General interest services: post & railways				42 * <i>I.60 I.63</i> <i>I.64</i>	213 312 * <i>I.60 I.63</i> <i>I.64</i>

\*Explanation of the ISCO and NACE codes is provided in the Annex.

This detailed matrix of sectors can still be adjusted according to the possibilities of statistical analysis (especially regarding the amount of observations available) and to the particular cases selected by the 'Qualitative pillar' for their case study research.

After a review of the available European individual/employee surveys and a breakdown of their questionnaires (see Chapter 4) the most appropriate databases to address the WORKS research questions were selected for statistical analysis during the second project year (Workpackage 9). These databases are:

- ECHP: European Community Household Panel;
- CLFS: Community Labour Force Survey;
- ESWC: European Survey on Working Conditions;
- Wage indicator.

## 7 Outlook

The activities in Workpackage 4 have led to some final results. A digital toolkit was constructed that includes a user-friendly survey and question database on organisation surveys. A workshop was held on measuring changes in work with contributions from survey researchers from several European countries. These activities served the stated aim of Workpackage 4, namely to provide an overview of the existing statistical sources in the different European countries and at the European level and assess to what extent these sources and data bases make it possible to monitor changes of work quantitatively (see Chapter 1).

In addition many activities have been undertaken to enhance a focused analysis during the second year of the research project. The research questions of WORKS were translated in order to allow for a quantitative analysis. Furthermore, indicators and questions were identified that make the research questions of WORKS operational. By means of a breakdown of questionnaires, the relevant variables in organisation and individual/employee surveys were determined. Finally, the selected sectors, business functions and occupations were defined in Community Labour Force Survey.

Work package 4 therefore provides a foundation for the activities of the different partners in the WORKS project. By applying similar indicators, variables and indicators, a shared understanding and approach of the research questions can be maintained. And it provides a foundation for a swift and informed start of the quantitative analysis during the second year of the project. This second year will deliver the results of the literature study on organisation surveys (Workpackage 8) and the results of the analysis of secondary data from European individual/employee surveys (Workpackage 9) in order to describe and explain the extent of organisational change in Europe.

Within the overall WORKS project, these activities of the 'Quantitative pillar' are aimed to support the case study research of the 'Qualitative pillar'. This support includes:

- providing indicators that are used in quantitative surveys to support developing the interview guidelines for the organisation and occupation case studies;
- providing comparative background information on the sectors and occupational groups selected for the case study research (sectoral and occupational shifts, differentials between sectors, ...). These analyses are targeted at broad European coverage and comparison and will be based on secondary data from European individual/employee surveys. The comparative background information will be an important input for the synthesis reports of the case study research because these data are focused on the selected sectors and occupational groups;
- underpin the organisation case studies and the thematic reports of the project's phase 3 ('Theory pillar') with insights derived from more in-depth analysis on the results of the literature study from organisation surveys. The results of the literature study on organi-

sation surveys will be usefull as background documents for the research at the national level and for providing specific longitudinal trends.

# Annex

## Selected ISCO codes 1998

### 213 Computing Professionals

- 2131 Computer systems designers and analysts
- 2132 Computer programmers
- 2139 Computing professionals n.e.c.

### 312 Computer Associate Professionals

- 3121 Computer assistants
- 3122 Computer equipment operators
- 3123 Industrial robot controllers

### 344 Customs, Tax and Related Government Associate Professionals

- 3441 Customs and border inspectors
- 3442 Government and excise officials
- 3443 Government and social benefits officials
- 3444 Government licensing officials
- 3449 Customs, tax and related government professionals n.e.c.

### 346 Social Work Associate Professionals

### 3471 Decorators and commercial designers

### 431 Material-Recording and Transport Clerks

- 4131 Store clerks
- 4132 Production clerks
- 4133 Transport clerks

## 42 CUSTOMER SERVICES CLERKS

### 421 Cashiers, Teller and Related Clerks

- 4211 Cashiers and ticket clerks
- 4212 Tellers and other counter clerks
- 4213 Bookmakers and croupiers
- 4214 Pawnbrokers and money-lenders
- 4215 Debt-collectors and related workers

### 422 Client Information Clerks

- 4221 Travel agency and related clerks
- 4222 Receptionists and information clerks
- 4223 Telephone switchboard operators

741 Food Processing and Related Trade Workers

- 7411 Butchers, fishmongers and related food preparers
- 7412 Bakers, pastry-cooks and confectionery makers
- 7413 Dairy-products makers
- 7414 Fruit, vegetable and related preservers
- 7415 Food and beverage tasters and graders
- 7416 Tobacco preparers and tobacco product makers
- 7432 Weavers, knitters and related workers
- 7433 Tailors, dressmakers and hatters
- 7434 Furriers and related workers
- 7435 Textile, leather and related pattern-makers and cutters
- 7436 Sewers, embroiderers and related workers

- 8262 Weaving- and knitting-machine operators
- 8263 Sewing-machine operators
- 8264 Bleaching-, dyeing and cleaning-machine operators
- 8265 Fur- and leather-preparing-machine operators

827 Food and Related Products Machine Operators

- 8271 Meat- and fish processing-machine operators
- 8272 Dairy-products machine operators
- 8273 Grain- and spice-milling-machine operators
- 8274 Baked-goods, cereal and chocolate-products machine operators
- 8275 Fruit-, vegetable- and nut-processing-machine operators
- 8276 Sugar production machine operators
- 8277 Tea-, coffee- and cocoa-processing-machine operators
- 8278 Brewers-, wine and other beverage machine operators
- 8279 Tobacco production machine operators

**Selected NACE codes**

*DA - SubSection DA Manufacture of food products; beverages and tobacco*

DA.15 - Manufacture of food products and beverages

- DA.15.10 - Production, processing and preserving of meat and meat products
- DA.15.11 - Production and preserving of meat
- DA.15.12 - Production and preserving of poultry meat
- DA.15.13 - Production of meat and poultry meat products
- DA.15.20 - Processing and preserving of fish and fish products
- DA.15.30 - Processing and preserving of fruit and vegetables
- DA.15.31 - Processing and preserving of potatoes
- DA.15.32 - Manufacture of fruit and vegetable juice
- DA.15.33 - Processing and preserving of fruit and vegetables n.e.c.
- DA.15.40 - Manufacture of vegetable and animal oils and fats
- DA.15.41 - Manufacture of crude oils and fats
- DA.15.42 - Manufacture of refined oils and fats
- DA.15.43 - Manufacture of margarine and similar edible fats
- DA.15.50 - Manufacture of dairy products
- DA.15.51 - Operation of dairies and cheese making
- DA.15.52 - Manufacture of ice cream
- DA.15.60 - Manufacture of grain mill products, starches and starch products
- DA.15.61 - Manufacture of grain mill products
- DA.15.62 - Manufacture of starches and starch products
- DA.15.70 - Manufacture of prepared animal feeds
- DA.15.71 - Manufacture of prepared feeds for farm animals
- DA.15.72 - Manufacture of prepared pet foods
- DA.15.80 - Manufacture of other food products
- DA.15.81 - Manufacture of bread; manufacture of fresh pastry goods and cakes
- DA.15.82 - Manufacture of rusks and biscuits and of preserved pastry goods and cakes
- DA.15.83 - Manufacture of sugar
- DA.15.84 - Manufacture of cocoa; chocolate and sugar confectionery
- DA.15.85 - Manufacture of macaroni, noodles, couscous and similar farinaceous products
- DA.15.86 - Processing of tea and coffee
- DA.15.87 - Manufacture of condiments and seasonings
- DA.15.88 - Manufacture of homogenised food preparations and dietetic food
- DA.15.89 - Manufacture of other food products n.e.c.
- DA.15.90 - Manufacture of beverages
- DA.15.91 - Manufacture of distilled potable alcoholic beverages
- DA.15.92 - Production of ethyl alcohol from fermented materials
- DA.15.93 - Manufacture of wines
- DA.15.94 - Manufacture of cider and other fruit wines
- DA.15.95 - Manufacture of other non-distilled fermented beverages
- DA.15.96 - Manufacture of beer
- DA.15.97 - Manufacture of malt

DA.15.98 - Production of mineral waters and soft drinks  
 DA.16 - Manufacture of tobacco products

*DB - SubSection DB Manufacture of textiles and textile products*

DB.17 - Manufacture of textiles  
 DB.17.10 - Preparation and spinning of textile fibres  
 DB.17.11 - Preparation and spinning of cotton-type fibres  
 DB.17.12 - Preparation and spinning of woollen-type fibres  
 DB.17.13 - Preparation and spinning of worsted-type fibres  
 DB.17.14 - Preparation and spinning of flax-type fibres  
 DB.17.15 - Throwing and preparation of silk including from noils and throwing and ...  
 DB.17.16 - Manufacture of sewing threads  
 DB.17.17 - Preparation and spinning of other textile fibres  
 DB.17.20 - Textile weaving  
 DB.17.21 - Cotton-type weaving  
 DB.17.22 - Woollen-type weaving  
 DB.17.23 - Worsted-type weaving  
 DB.17.24 - Silk-type weaving  
 DB.17.25 - Other textile weaving  
 DB.17.30 - Finishing of textiles  
 DB.17.40 - Manufacture of made-up textile articles, except apparel  
 DB.17.50 - Manufacture of other textiles  
 DB.17.51 - Manufacture of carpets and rugs  
 DB.17.52 - Manufacture of cordage, rope, twine and netting  
 DB.17.53 - Manufacture of nonwovens and articles made from nonwovens, except apparel  
 DB.17.54 - Manufacture of other textiles n.e.c.  
 DB.17.60 - Manufacture of knitted and crocheted fabrics  
 DB.17.70 - Manufacture of knitted and crocheted articles  
 DB.17.71 - Manufacture of knitted and crocheted hosiery  
 DB.17.72 - Manufacture of knitted and crocheted pullovers, cardigans and similar art.  
 DB.17.73 - Manufacture of knitted and crocheted outerwear  
 DB.17.74 - Manufacture of knitted and crocheted underwear  
 DB.17.75 - Manufacture of other knitted and crocheted articles and accessories

DB.18 - Manufacture of wearing apparel; dressing and dyeing of fur  
 DB.18.10 - Manufacture of leather clothes  
 DB.18.20 - Manufacture of other wearing apparel and accessories  
 DB.18.21 - Manufacture of workwear  
 DB.18.22 - Manufacture of other outerwear  
 DB.18.23 - Manufacture of underwear  
 DB.18.24 - Manufacture of other wearing apparel and accessories n.e.c.  
 DB.18.30 - Dressing and dyeing of fur; manufacture of articles of fur

K.72 - Computer and related activities  
 K.72.10 - Hardware consultancy  
 K.72.20 - Software consultancy and supply  
 K.72.30 - Data processing  
 K.72.40 - Data base activities  
 K.72.50 - Maintenance and repair of office, accounting and computing machinery  
 K.72.60 - Other computer related activities

*L - Section L Public administration and defence; compulsory social security*

L.75 - Public administration and defence; compulsory social security  
 L.75.10 - Administration of the State & the economic & social policy of the community  
 L.75.11 - General (overall) public service activities  
 L.75.12 - Regulation activities of agencies that provide ... social services, excl.  
 L.75.13 - Regulation of and contribution to more efficient operation of business  
 L.75.14 - Supporting service activities for the government as a whole  
 L.75.20 - Provision of services to the community as a whole  
 L.75.21 - Foreign affairs  
 L.75.22 - Defence activities  
 L.75.23 - Justice and judicial activities  
 L.75.24 - Public security, law and order activities  
 L.75.25 - Fire service activities  
 L.75.30 - Compulsory social security activities

*I - Section I Transport, storage and communication*

I.60 - Land transport; transport via pipelines  
 I.60.10 - Transport via railways  
 I.60.20 - Other land transport  
 I.60.21 - Other scheduled passenger land transport  
 I.60.22 - Taxi operation  
 I.60.23 - Other land passenger transport  
 I.60.24 - Freight transport by road  
 I.60.30 - Transport via pipelines

I.63 - Supporting & auxiliary transport activities; activities of travel agencies  
 I.63.10 - Cargo handling and storage  
 I.63.11 - Cargo handling  
 I.63.12 - Storage and warehousing  
 I.63.20 - Other supporting transport activities  
 I.63.21 - Other supporting land transport activities  
 I.63.22 - Other supporting water transport activities  
 I.63.23 - Other supporting air transport activities

I.63.30 - Activities of travel agencies & tour operators; tourist assistance activity  
I.63.40 - Activities of other transport agencies

I.64 - Post and telecommunications

I.64.10 - Post and courier activities

I.64.11 - National post activities

I.64.12 - Courier activities other than national post activities

I.64.20 - Telecommunications