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Information Society jobs – quality for change

**Exploiting the Information Society's contribution to managing change and
enhancing quality in employment**

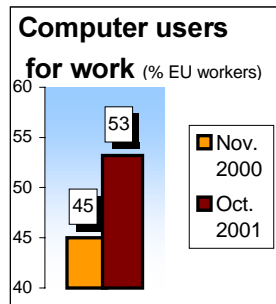
with the support of the High Level Group
"Employment and Social Dimension of the Information Society" (ESDIS)

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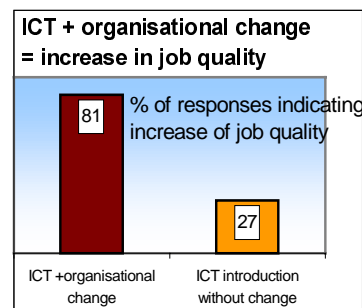
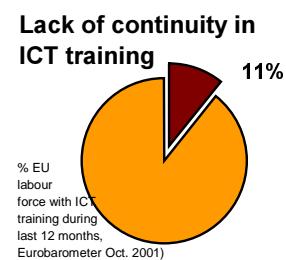
Key messages

The recent slow-down in certain segments of the Information and Communications Technologies (ICT) sector should not obscure the **continuously growing impact of the Information Society on employment**: Since last year, basic ICT usage for work increased by a fifth in the EU, and the lack of ICT and e-business experts remains a real concern. Increasing volatility is making it difficult to forecast demand accurately.



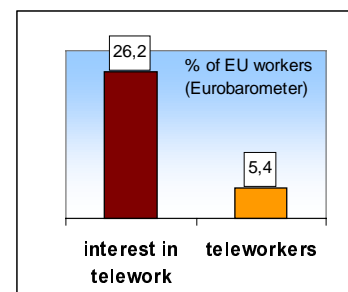
Survey results highlight the **positive impact** of the Information Society (IS) on the quality of jobs – particularly in terms of increased responsibilities, adaptable skills, new forms of work organisation, additional opportunities for flexibility and work-life balance as well as for e-Inclusion facilitating access to the labour market.

However, **this quality potential is still far from being exploited**. Less than a third of the EU labour force has ever received any ICT **training**. Only a small share receives continuous up-dates. Furthermore, there is still too much focus on technical applications – training in contextual skills, necessary for effectively benefitting from IS workplaces, is limited.



At the level of IS experts, more emphasis should be put on **vocational training**: reskilling workers and unemployed to take up vacancies in high quality ICT and e-business jobs. **Targeting women** for these jobs is particularly important: their share of ICT jobs is less than a quarter, and still lower at higher levels. Encouraging girls and women to choose scientific / technological studies during formal education is a key aspect.

Job quality is much higher if the introduction of ICT is combined with **organisational changes**, and if workers are consulted – conditions which are experienced by only a quarter of EU workers. The report stresses the advantages for holistic approaches to changes in work organisation. To benefit from **flexibility gains** in IS jobs, **new risks** to the worker's security and work-life balance need to be prevented. Framework agreements on telework are particularly important. Survey data underline that five times more are interested in telework than the actual number of declared teleworkers. Mobile technologies will further expand the e-work potential.



In today's economic climate it is **all the more necessary to tap the potential of Information Society jobs for managing change** and for sustaining the next economic up-turn. Based on an exchange of practices, the High Level Group **ESDIS**, composed of representatives of the Member States, identifies the quality drivers of Information Society jobs and draws **policy conclusions**, set out at the end of this report.

Introduction

The headlines of the Information Society (IS) have markedly changed. Euphoric claims of a "new economy" paradigm and seemingly infinite opportunities for on-line business seemed to fade away as the "e-bubble" burst – most visibly characterized by the crash in technology stocks, the bankruptcy of numerous dot.coms and a slow-down in core Information and Communications Technologies (ICT) industries. Consolidation in 2001 was severe but cyclical. As to employment, reports on abundant ICT vacancies and the plea for filling this skills-gap have been removed from frontpages (though prevailing as a real concern), as news about lay-offs in the ICT sector and dot.com companies became topical.

... the Information Society's impact on jobs in a changing environment ...

The report confronts this changing climate with an analysis of the IS' fundamental impact on employment. Tracking progress since last year's "Benchmarking Report"¹, it verifies the basic assumptions and major policy objectives set-out in the "**Strategies for Jobs in the Information Society**"². The report addresses different levels of IS jobs, defined here as all jobs for which ICT are a basic tool in delivering work, and – but distinguished from them – jobs which require expertise in ICT and/or e-business. The term "Information Society" is used throughout the paper to focus on ICT. It thus addresses key elements, but not all aspects of the broader impact of the "knowledge-based economy" on employment.

... Information Society jobs as a driver for quality and change ...

But the report does much more than up-dating last year's benchmarks. The second part focuses on the **Information Society's contribution to enhancing quality in work**.

The "Lisbon Strategy" highlighted the link between "more and better" jobs. This has recently been addressed by the Commission's **quality initiative**³ in line with the Social Policy Agenda. In response, the importance of quality in employment policy, has become an explicit concern of the Employment Guidelines for 2002, supported by a set of quality indicators.⁴ In this context, the Council acknowledged the importance of ICT access and training by including it in the indicator list.⁵

¹ Commission Staff Working Document "Benchmarking Report following-up the 'Strategies for jobs in the Information Society'", 7.2.2001, SEC (2001) 222; for this and other relevant documents on IS jobs see the ESDIS site: http://europa.eu.int/comm/employment_social/social/info_soc/esdis/index.htm

² COM (2000) 48

³ **Quality employment**, as defined in the Commission's Communication "Employment and social policies: a framework for investing in quality" (COM (2001) 313 of 20.6.2001), refers to *characteristics of the job itself* (including e.g. job satisfaction, remuneration, working time, skills and training, career perspectives, job content, match between jobs characteristics and worker characteristics) as well as to the *work in the wider labour market context* (e.g. gender equality, health and safety at work, flexibility and security, access to jobs, work-life balance, social dialogue and worker involvement, diversity and non-discrimination)

⁴ Council Decision of 18 February 2002, published OJ L 60, 1 March 2002, p.60

⁵ as a context indicator of quality dimension 2 – skills, life-long learning and career development, Report by the Employment Committee on indicators of quality in work

To support this policy debate, the report elaborates how IS jobs **stimulate and innovate quality** in work. It shows the benefits of IS workplaces for enhancing the adaptability of workers and for **reducing their vulnerability to changes in the labour market**. However, it also addresses **new risks** for quality work due to the IS and highlights the need to **anticipate and prevent** them.

One focus is ICT skills but the Information Society creates demands for other types of skills, both basic and advanced, which also have implications for employment and job quality.

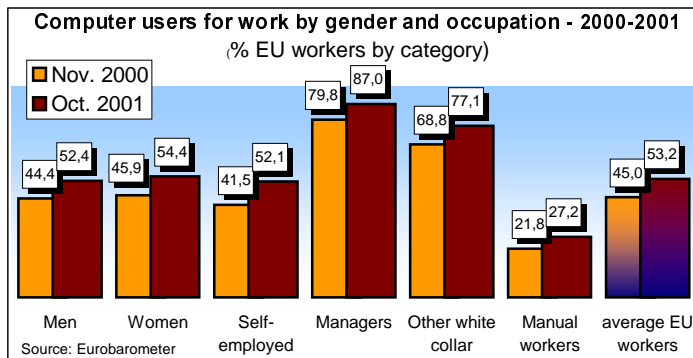
The whole report draws on an exchange of views and policy practices among **representatives of the Member States in the High Level Group Employment and Social Dimension of the Information Society (ESDIS), a group of experts set up after the Lisbon Summit, it also** and presents data from a new Eurobarometer survey on "ICT and work" in October 2001.

- **Part A** provides an **overview of current developments of Information Society jobs and training**, both at the levels of basic users and experts.
- **Part B** addresses the **specific quality elements** on which Information Society jobs impact, and their **relevance for managing change**. The sections largely follow the dimensions of the EU's general approach to "quality in work":
 - the IS's effects on the intrinsic job quality (B.1.),
 - the conditions to fully exploit the potential of IS skills (B.2.),
 - work organisation and its linkage to the introduction of ICT (B.3.),
 - ICT induced opportunities and risks for flexible work arrangements and work-life balance, with a specific focus on progress in telework (B.4.),
 - the urgency to overcome the gender gap in IS jobs (B.5.),
 - the potential of "e-Inclusion" for facilitating access to the labour market (B.6.),
 - the prevention of new health and safety risks due to work with ICT (B.7.),
 - the opportunities for e-dialogue in industrial relations (B.8.).
- **Part C** presents **conclusions**.

Part A: The development of Information Society jobs

The impact of ICT on employment is further rapidly expanding, both at the level of **basic usage** and in some segments of **IS expert jobs**⁶.

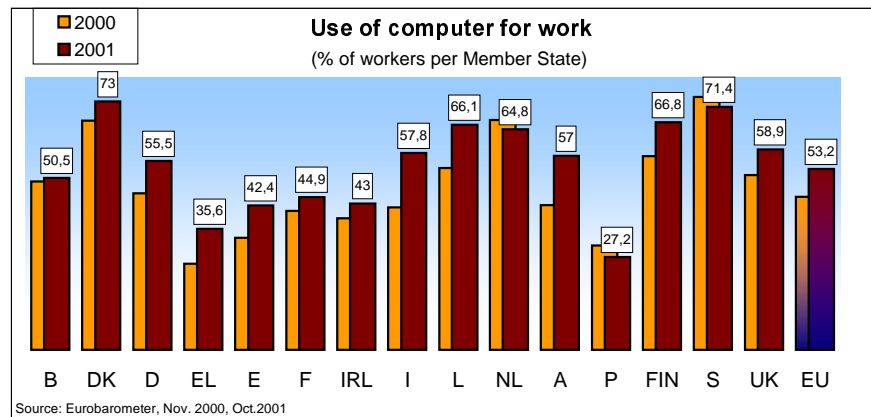
... ICT user jobs significantly increased since last year ...



More than half of EU workers use computers for their jobs, and this number is continuously growing – by about **a fifth since last year**. Three out of four white collar workers are ICT users. However, ICT penetration among manual workers is still worryingly low, presenting a serious barrier for their adaptability. Though ICT usage

is increasing throughout the economy, its intensity differs across sectors⁷ and the uptake is much lower in small and medium sized enterprises (see B.2).

Marked differences among the Member States prevail, but **progress** is overall encouraging and **particularly significant in some countries** which were below the EU average last year.⁸

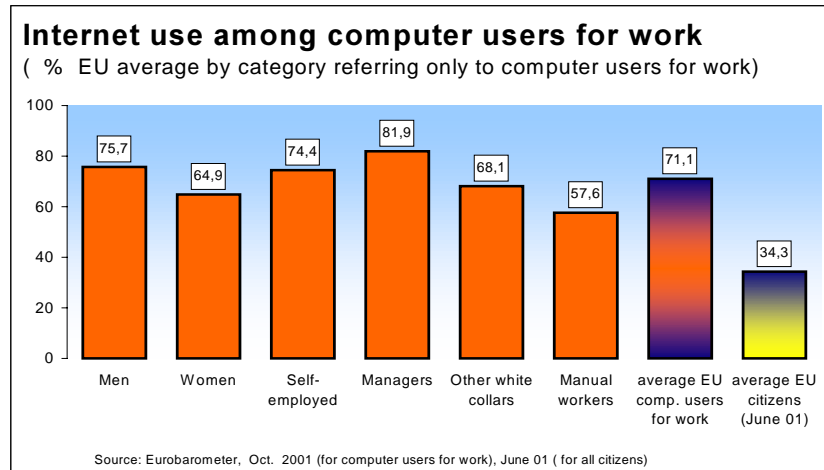


⁶ IS experts defined as ICT and e-business specialists, including different education/skills levels - university (3rd level) or technical (2nd level) education or with specialised vocational training.

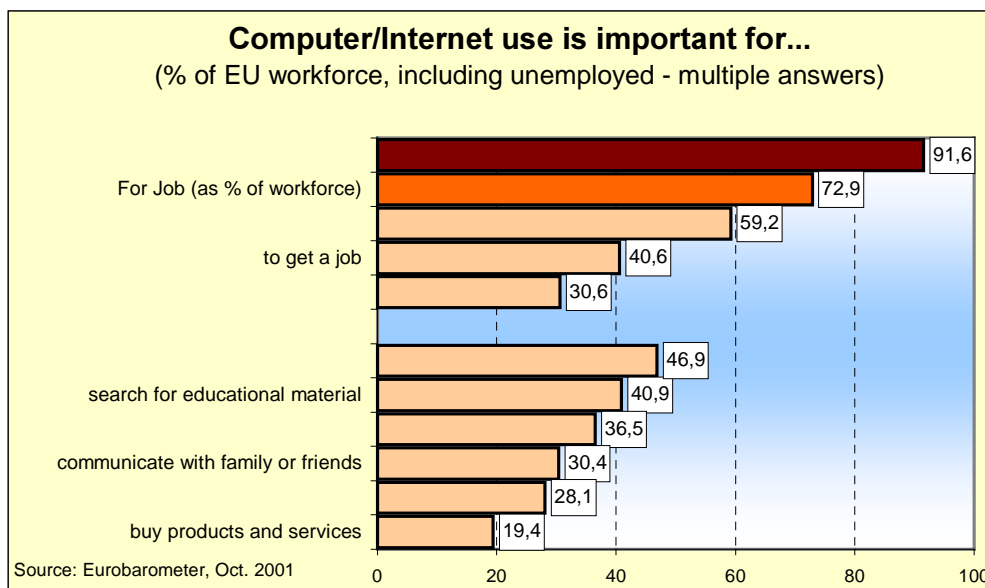
⁷ see EITO report 2001, 139 pp; European Commission, Communication on the impact of the e-economy on European Enterprises: Economic analysis and policy implications, COM (2001) 711

⁸ Eurobarometer have the advantage of an EU-wide survey with samples of about 1000 interviews per Member State. However, readers are reminded that survey results are estimations within confidence-limits of up to 3 % for samples used by Eurobarometer. For these confidence limits, a slight decrease compared to last year, as e.g. for Portugal in the above chart, may not necessarily imply a decrease in actual numbers.

User jobs are increasingly **networked**, with about three out of four computer users for work accessing the Internet.⁹



Digital skills are more and more a must for the **employability and adaptability of all workers**. More than 90 % of users perceive computers and the Internet as important **for doing, getting or keeping a job**. But even a significant share of non-users underlines the importance of ICT for employment.



However, only 29 % of the EU labour force indicate to have ever had a **computer training** for a job. As appropriate and continuous training is essential for fully exploiting the potential of ICT, this indicator **remains seriously low, though** there has been a **significant increase since last year**. These aspects of life-long learning in IS skills are further elaborated in **section B.2**.

⁹ for a detailed analysis of Internet usage and digital divides among the EU population see the Commission Staff Working Paper on "e-Inclusion", SEC (2001) 1428; for the eEurope benchmark of Internet access in EU households see the [Communication on eEurope benchmarking, February 2002].

... the EU policy framework is in place ...

As a firm response to the EU's Lisbon Strategy, the **Employment Guidelines** (for 2001 as well as for 2002) broadly integrated Knowledge Society objectives.¹⁰ For the first time in 2001, Member States were asked in their National Action Plans for Employment to set out in detail, alongside their life-long learning strategies, their e-learning strategies for all citizens (**Guideline 5**). Social Partners were specifically called upon to establish the conditions for giving every worker the opportunity to achieve information society literacy (**Guideline 15**). Further, ICT training has been highlighted as facilitating the access to the labour market for unemployed and inactive people and reducing skills gaps (**Guideline 2**).

In response, most **National Action Plans on Employment 2001** included measures to **promote ICT skills**, often with a priority for disadvantaged groups and as part of a cross-cutting e-strategy. Upgrading the ICT skills of teachers and trainers is considered a priority, as are internet access and computer equipment for educational establishments. In some countries ICT training has started to be incorporated to a larger extent in activation measures. **However**, the Joint Employment Report 2001 also concluded, that there was **too little emphasis** in the National Action Plans 2001 on enhancing the **IS literacy of workers** within the activities of the Social Partners.

With the active support of the Member States, considerable progress has been achieved in implementing the first set of goals of the **eLearning Action Plan** (2001-2004) which promotes a multi-dimensional approach to effectively integrating ICT in education and training systems.¹¹ e-Learning is part of the priorities of the e-Europe 2002 Action Plan. A first Interim report highlights eLearning activities of the Commission and other European institutions in 2001.¹² Further, a study benchmarking ICT usage in schools and by teachers has been presented.¹³ Almost all schools have Internet access, but attention should shift to better connections and wider educational use of ICT. Internet access is not enough. It is important that schools have the equipment and resources to allow convenient and appropriate use of ICT by teachers and pupils.. Though the vast majority of **teachers** has become digitally literate, their training should particularly stimulate the **application of IS tools** across educational subjects. Progress in "learning with ICT to learn" is still limited, but will be essential for the adaptability of the future workforce.

In promoting skills, training and the knowledge-based economy, the European Union also backs up its aims and priorities with financial support from the **European Social Fund**. From now until 2006, over 12 billion Euro from the Fund has been earmarked for life-long learning initiatives. For the so-called 'Objective 1' regions, the poorest regions in Europe, an estimated 6 billion in Community Funds will go towards encouraging access to the knowledge society. **... the gap in IS expert skills persists -**

¹⁰ Council Decision of 18 February 2002, published OJ L. 60,1 March 2002, p.60

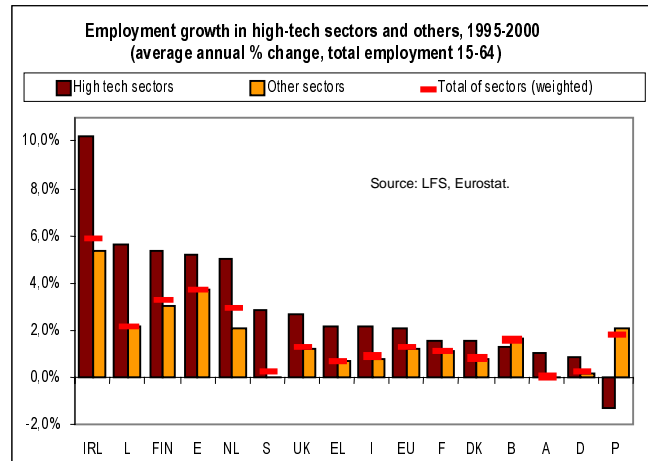
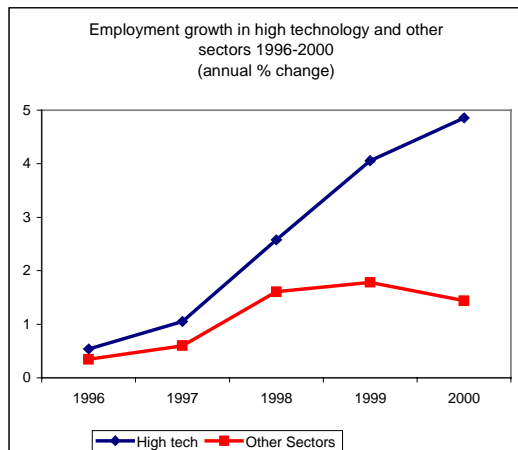
¹¹ Further to the Commission's eLearning Initiative in May 2000, the eLearning Action Plan was adopted in March 2001; the Council resolution of 13 July 2001 (OJ C 2001/204) reaffirms the importance of e-learning – see http://europa.eu.int/comm/education/elearning/doc_en.html

¹² Commission Staff Working Paper: e Learning: designing tomorrow's education. SEC (2001) 236, 28.2.2002.

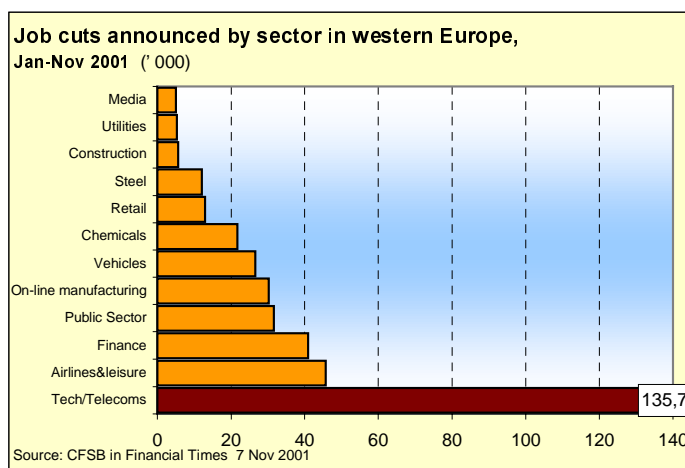
¹³ Commission Staff Working Paper: eEurope 2002 Benchmarking – European youth into the digital age, SEC (2001) 1583 – it presents Eurobarometer data developing further the indicators on ICT in schools of the ESDIS Benchmarking Report of February 2001;

lay-offs are limited to certain ICT segments and predominantly affect lower skilled workers ...

Until 2001, the **ICT sector** has clearly been among the highest growing segments of knowledge-based employment. Overall, the knowledge-intensive and high-tech sectors were the **main drivers of employment in the EU**, with 60 % of all jobs created between 1995 and 2000, and 1.6 million new net jobs in 2000 alone.¹⁴ Employment in “Computer and related activities”¹⁵ – one of the several components of these sectors - grew at yearly rates above 13 %.



For 2001, this growth was significantly lower, as economic slow-down particularly affected some ICT segments, like IT manufacturing and telecoms. The ICT market grew by 5.1 % in the EU compared with only 0.5% in the USA. Growth is expected to increase again from mid 2002. In fact, the ICT sector has seen the single largest number of redundancies in any sector. Almost 150.000 job losses were announced



between February and November 2001 in Western Europe. Of these, five of the biggest ICT companies in Europe (Alcatel, Ericsson, Siemens, British Telecom and Telecom Italia) announced more than 100.000 job cuts. As ICT is a typical investment good, economic slowdown immediately reduced demand which will probably go back when the economy picks up again,

reaccelerating the demand for ICT skilled workers in the coming years.

¹⁴ For an extensive analysis of employment in knowledge-based economy see European Commission, Employment in Europe 2001, July 2001 and its "Autumn Update", December 2001

¹⁵ according to the the LSF-EUROSTAT terminology.

However, this **current slow-down in some segments** of the ICT sector, should not obscure the **persisting overall IS skills shortage**, which continues to be a **significant barrier**. It needs to be stressed that the employment growth in this sector over the last years (see above) was much higher than the job losses over the last months. Furthermore, analysis provided by ESDIS members underlines that the largest share of recent **redundancies in ICT industries concerned low-skilled labour**, while IS experts were considerably less affected.

There are also positive **factors driving the European ICT and e-business market**, and hence the demand for skilled labour:¹⁶

- First, e-business is proliferating in traditional business, and more and more also in small and medium sized enterprises (SME) though sectoral differences prevail.¹⁷ This creates new work related to the strategic development and implementation of e-business solutions, within the software segment, IT consultancies, service providers as well as directly within the applying companies. In line with this trend, there is an increasing adoption of Internet-centric solutions and a boost in system integration and IT services across economic sectors. Further, broadband diffusion enables more advanced Internet/multimedia applications and services.
- In this context, software remains the fastest-growing segment of the ICT sector – with growth rates expected still over 10 % according to recent industry-led research.¹⁸ Further, the introduction of unmetered Internet access, which could eventually be a result of the so-called unbundling of the local loop, should favour consumer and professional usage. And finally, e-government programmes at national, but notably also at local levels, are positively affecting the demand on the ICT market.

One frequently quoted estimate expected the number of unfilled vacancies in ICT and e-Business jobs in Western Europe to rise from 2.2 million in 2001 to 3.7 million in 2003 (of which 1.7 million ICT skills, and 2.0 million e-business skills) This was revised downwards in mid 2001 to be 1.1 million ICT skills in 2002 rising to 1.6 million ICT skills in 2004¹⁹. Though some caution is suggested with respect to these figures, as the methodology used is not transparent and this forecast does seemingly not relate demand to actual wage levels,²⁰ the basic message of **continuing tight labour markets for (certain profiles) of ICT and e-business experts** is also confirmed by other analyses.

Most ESDIS representatives, on the basis of national research or more anecdotal, but up-to-date reporting from employment services, highlight that IS skills shortages are still significant in their Member States, affecting particularly IT software, IT services and e-business skills.

¹⁶ see EITO report up-date, 22 October 2001

¹⁷ European Commission, Communication on the impact of the e-economy on European Enterprises: Economic analysis and policy implications, COM (2001) 711

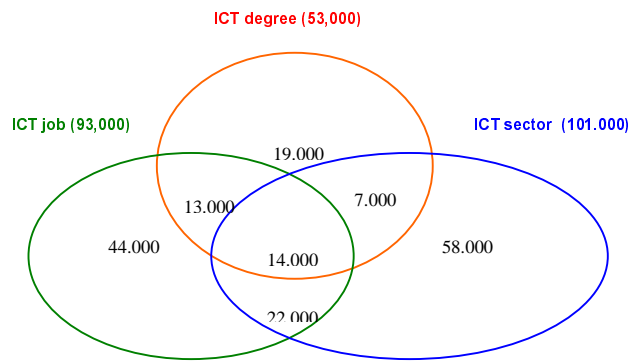
¹⁸ *ibid.*

¹⁹ EITO/IDC 2001

²⁰ see European Commission, The EU Economy 2001 Review, chapter 6.

An important advantage of the above EITO/IDC study is its emphasis not to **equate IS expert skills demand** with vacancies in the ICT sector proper, but to stress their **relevance across the economy**.

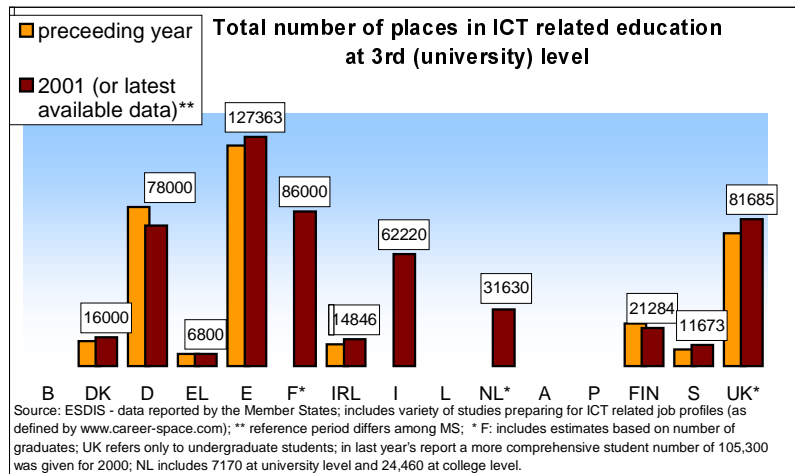
Fig. ICT Labour Market in Denmark

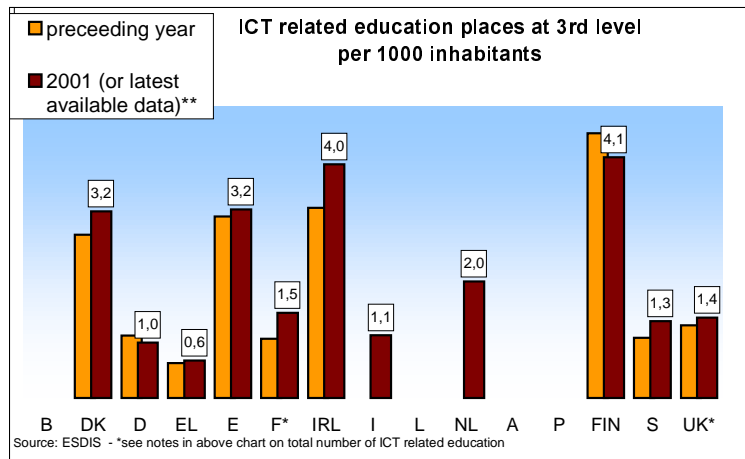


ICT skills challenges beyond the borders of the sector are also highlighted in a detailed report issued by the **Danish** government on the Danish ICT labour market. More than half (57 %) of IT [*expert*] jobs are in other sectors than ICT. Only 28% of IT jobs are held by workers with an IT degree and 37% of the 53,000 employed with an IT degree neither have an IT job nor work in the sector. It should be added, that this study only refers to core ICT jobs, leaving aside an increasingly important share of e-business jobs.

... as job-cuts and vacancies co-exist, more than ever IS training efforts have to match industry needs ...

- Though benchmarking in this area is difficult, due to the different curricula in place across the EU, data submitted by the Member States indicate little progress since last year in **ICT related training at 3rd (university) level**. Thus, **efforts need to be redoubled** to ensure the "significant increase in IT training places", an eEurope target to be achieved by 2002.





- However, some Member States also reported that available places in higher ICT related education could not be filled because of a lacking demand from students. Thus, increases in education and training places needs to be combined with **practical awareness** raising **before career choices** are made, with a particular focus on attracting women to these jobs.

In **Sweden**, the industry sponsored non-profit organisation "*transfer*" organises a network of experts from IS industries who voluntarily offer to teach school classes in IT related subjects bringing IT work reality into the classroom. With similar intentions, the project "Train of the Future" organised by the Association of the Swedish IT and Telecom Industry aims at giving pupils practical information on IT jobs before they make their choice to upper secondary school.

- IS training and jobs at higher skills levels remain strongly male dominated. **Measures to enhance gender balance need to be substantially reinforced**, as is set-out in **section B.5**.
- Earlier ESDIS reports stressed the **importance of IS training below university level**. National analysis (e.g. in Denmark, Spain) reaffirms that large parts of IT expert vacancies do not ask for university degrees. At the 2nd level of education a variety of training systems exists in the Member States, allowing only for comparisons with illustrative purpose (see table below).
- **Vocational training**, offering short-term courses in IS subjects beyond basic IT literacy, becomes ever more important as e-business enters traditional sectors. **In particular, smaller companies can frequently not afford professionals with a university degree, and will frequently not even need them**. There is a tendency that user companies less and less need their own IT development, and instead acquire standard programmes and systems which can be applied with less sophisticated skills (see **section B.2**).
- In many Member States, in line with Employment Guideline 2, IS training has become a priority for **activation measures** for unemployed persons, as is set out in **section B.6**.

Tab. ICT related training places at 2nd (technical) level (illustrative data)

| Country | No. of places | | Notes |
|---------|---------------|---------|--|
| | 2000 | 2001 | |
| D | 53.000 | 55.000 | ICT and media training places |
| EL | 28.600 | 35.826 | 2001: male 23.937, female 11.889 |
| | 86.184 | 121.178 | overall female participation about 60 % women; the number includes |
| E | | | - 2 nd level (conversion) training in ICT subjects for employed 2000: 35.621; 2001: 34.415 - for unemployed 2000: 50.563 (of which 40,8 % women), 2001: 48.528 (57,8 % women); - only 2001: 2 nd level students 29.235 (66,7 % women) |
| | 107.339 | 33.339* | * figures on bacs reported to ESDIS Jan. 2002, refer to 2000, ie. the number includes: - 32339 with ICT related Bacs professionnels et technologiques (of which 2507 or 7,8 % women), the number represents 12,2 % of the total number of bacheliers professionnels et technologiques - the number reported for 2000 referred also to 75.000 places in training of the centres of the chambers of commerce |
| IRL | 4.937 | 5.100 | in 2000/2001 a total of 62,931 students took part in courses which had an ICT component, of which 4,937 took part in ICT specific courses; the respective figures for 2001-2002 are 64,500 – 5,100. |
| I | | 104,188 | students in secondary schools with ICT focus |
| FIN | 12.831 | 15446 | the reported number refers only to students at Polytechnics (which are at a higher level than vocational training institutions and should thus be rather considered as 3 rd level); female participation 22 % |
| S | 32.350 | - | |

Source: ESDIS, Jan.2001/Jan.2002

- The tendency to **lay-off (relatively) older ICT workers**, particularly widespread in the ICT sector, has sharpened with the current economic slow-down. In addition to education, there is hence an increased need to exploit the potential of ICT experts made redundant in some segments, particularly older workers, transferring them to other ICT vacancies, as set out in **section B.2**.

... further initiatives to monitor and match skills and demand

ICT skills have been a particular concern of the **High Level Task Force on Skills and Mobility** mandated by the Stockholm European Council to identify main barriers to occupational and geographic mobility in the New European Labour Markets and recommendations to overcome them.²¹ Its Final Report²² underlines, inter alia, the need to better monitor the demand for ICT and e-business skills and to match them, and the related curriculum developments, with industry requirements, facilitating the exchange of these skills across Member States.

²¹ in response to the Commission's Communication on the New European Labour Markets COM(2001)216

²² http://europa.eu.int/comm/employment_social/general/index_en.htm The recommendations of this Task Force are a basis for the Commission's Action Plan for Skills and Mobility which it intends to submit to the Barcelona European Council in March 2002. p.m. reference

The development of enterprise surveys in Member States, in connection with the proposal to establish a Community vacancy survey, should improve the available information on skill shortages in the future.

One of the key actions stemming from the **"Helping SMEs to Go Digital"** initiative launched in March 2001 has been the setting up of an ICT skills Monitoring Group with representatives from all Member States. The group is analysing and monitoring the demand for ICT and e-business skills, using the results of the work carried out by industry, as well as by other organisations. Cooperation with industry, academic, professional and educational organisations as well as other relevant stakeholders has been established.

There are also some good examples for **up-to-date monitoring of IS skills needs in the national and local labour markets:**

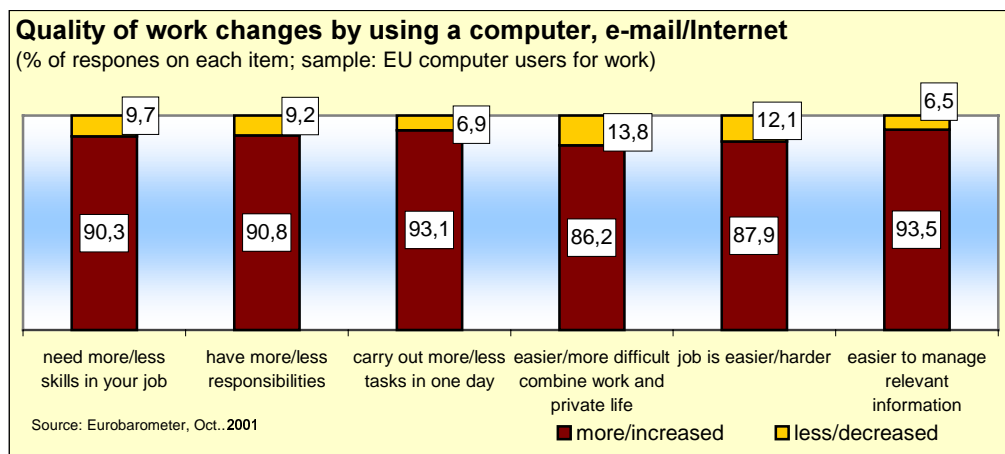
In **Denmark**, the government has established an **"IT barometer"** which monitors the development on the IT labour market providing up-to-date calculation of the movements on the IT labour market as well as an extrapolation of the expected demand. It is a reference point for defining the education and retraining efforts in the IT area. Further, Danish job centres are continuously updated by the companies on the demand for manpower with IT qualifications combined with the registration of the IT qualifications of the unemployed in a national IT-based network (AMANDA). In this context, in 1997 Denmark created a national on-line job and CV bank. In **Austria**, the "Prospect" initiative monitors closely, based on networks, the specific IS skills demand of enterprises in the region of Styria.

Part B: The quality of Information Society jobs - enhancing opportunities for change

B.1. Overview/intrinsic job quality

The Knowledge Society opens new perspectives for the quality of work: creating the conditions for change in existing jobs; generating new working methods and new ways of organising work; allowing greater flexibility in the workplace;.

New Eurobarometer data confirm the perception of an **overall positive impact of ICT for quality jobs**, elaborating the first analysis presented in last year's "Benchmarking Report"²³. Nine out of ten respondents say that Information Technologies help to use higher skills, to increase responsibility, to work more productively, to manage better relevant information flow, and to better combine work and private life.



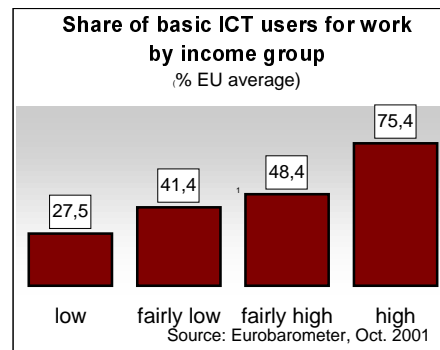
The Employment Strategy's key indicator for **intrinsic job quality** refers to the move between **salary levels**.²⁴

- In this respect, ICT literacy *as such* does **not guarantee** any prediction about the worker's salary level. **Some segments** of user jobs are characterized by low salaries and **limited opportunities** of career development. This is in particular frequently the case in call-centre work. However, the vast majority of users, by indicating that **ICT skills increase the responsibilities** in their job, imply a **positive impact on career development**.

²³ see reference in the introduction (footnote 1.)

²⁴ The key indicator for intrinsic job quality is: "Transitions between non-employment and employment and within employment by pay level."

- The other way round, strong usage gaps according to income suggest that ICT skills can be seen as *one among other conditions to enter jobs with higher salaries*.



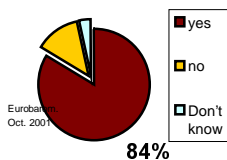
- As concerns IS experts, tight labour markets have contributed to high income levels. For example, a study in France highlights that, for the same degree of education, salaries in the ICT sector are 10 to 15 % above the average in other sectors of the private industry. However, it should be stressed that strong differences in salaries exist for various job profiles and skills levels in the ICT sector.²⁵

B.2. ICT as an engine for up-skilling and adaptability

In quality terms, life-long learning and vocational training aim at making the job more satisfactory, developing tasks, career prospects and security in the current job and the adaptability at the labour market.

... IS skills are felt as a real benefit for jobs throughout the economy ...

**Computer training
made job easier**
(% of trained workers)



Three out of four workers that have received ICT training underline that it has made their job easier. But acquiring **IS skills** has a **particular quality**. It provides the key to basic tools which are **transferable across modern workplaces**. A key which does not only allow to do the job, but which opens also access to **networking, new e-learning techniques** and content. IS skills are not only about technology, but about learning to learn. Life-long learning is easier as choice of domain becomes ever vaster

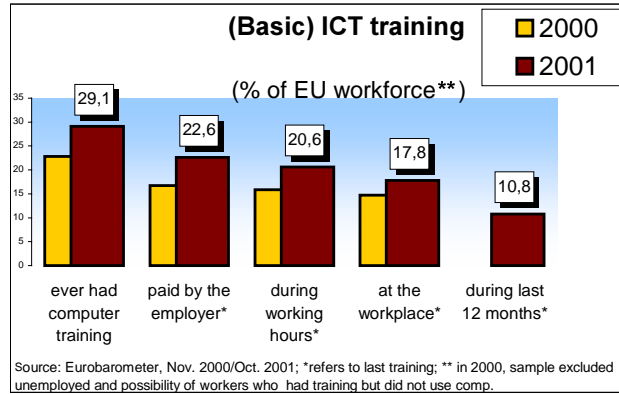
with the Internet. As highlighted below, not only workers, but also their employers benefit from investment in IS skills. Survey data underline that productivity gains from ICT are significantly higher if combined with appropriate training (see section B.3.b).

²⁵

see also: ILO, World Employment Report 2001, Life at Work in the Information Society.

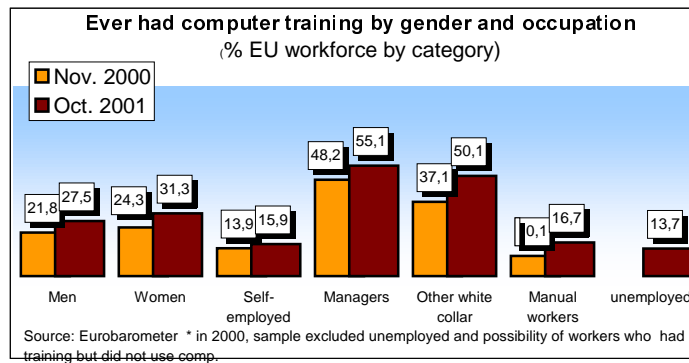
... relative progress – but overcoming serious lack of ICT training remains a priority for managing change ...

Since last year, according to Eurobarometer data, **considerable progress** has been made in supplying the workforce with ICT training.



Nevertheless, the **serious concern** raised in last year's report **remains valid**: still, only **less than a third of the EU workforce** has benefitted from ICT training – only about a fifth with the support of their employer. Other users have to learn on their own – which will frequently not only mean higher efforts for the individual worker, but also negatively impact on the company, as the quality and productivity potential of ICT is not appropriately exploited (see **section B.3 b**).

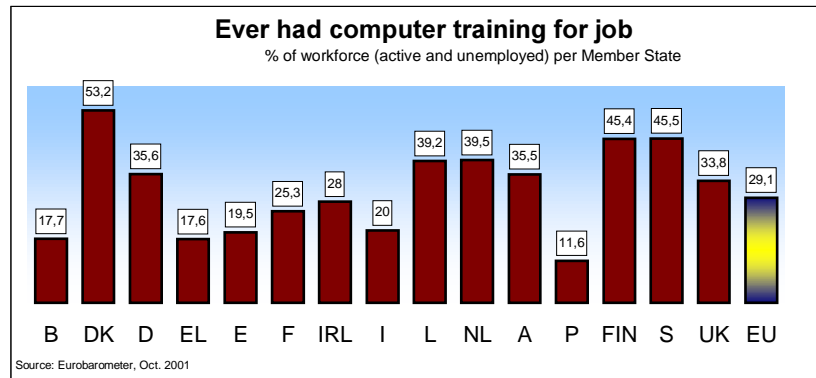
Training efforts are primarily focussed on management and white collar workers, **while the vast majority of manual workers and unemployed²⁶ remain excluded** from up-skilling in ICT.



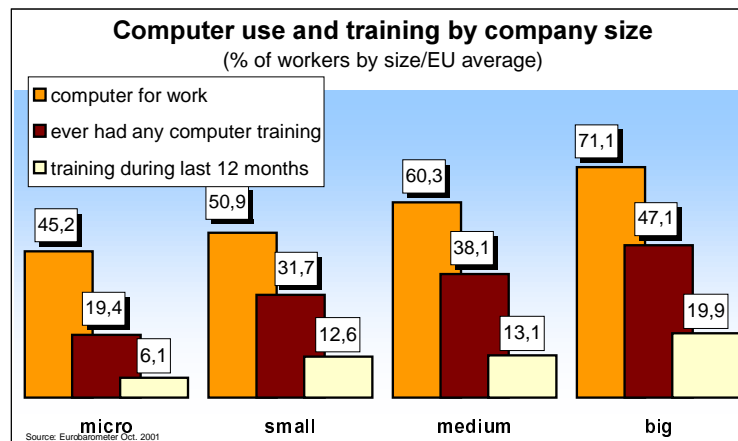
Marked **differences among the Member States** prevail, raising not only concerns in terms of quality work, but also affecting the readiness for the knowledge-based economy.

²⁶

Issues of ICT training for the **unemployed** are elaborated in section **B.6**.



Company size strongly impacts on the ICT opportunities of workers. Workers in **smaller companies**, and particularly micro enterprises, are seriously lagging behind. This is a particular barrier for the overall progress of the knowledge-based economy in Southern Europe, as e.g. in Italy and Greece the share of micro-sized enterprises is higher than in other Member States.



This **evidence** highlights that further **increasing investment in IS training is urgently needed** to broaden the quality basis of the knowledge based economy, which will be essential to **meet the challenges of change and preparing for the next economic up-turn**.

... the key role of Social Partners ...

In this respect, **Social partners** have to support individual companies, where appropriate, taking up their **responsibility** for ensuring all workers with the opportunity to get IS skills, as envisaged in the Employment Guidelines.

In a less favourable economic environment, the initiative of Social Partners committing to **appropriate framework** conditions will be still more essential putting an emphasis on the **long-term benefits** of IS training for quality work.

Further to the scarce inclusion of such activities of Social Partners in the NAPs 2001, noted in the Joint Employment Report,²⁷ ESDIS reported on more recent initiatives, including:

²⁷ http://europa.eu.int/comm/employment_social/empl/esf/jointrep2001_en.pdf

In **Belgium**, recent targets set by Social Partners to considerably strengthen life-long learning pay particular emphasis to awareness raising and training in ICT. In the **Netherlands**, a Joint Paper ("Er is meer nodig") agreed between the social partners and the government focussed, inter alia, on ICT skills, including fiscal incentives for employers to train their employees, the introduction of a Personal Development Plan and Personal Development Accounts. This account enables all employees and job seekers to save money for training (which may include ICT training). Furthermore, reference was made to a manifold of training initiatives at sectoral level.

... crucial elements for ensuring quality through basic IS training ...

But IS training may not stop at providing courses on ICT tools. Further to an exchange of practices, **ESDIS** concluded that the following elements are **crucial for exploiting the quality potential of basic IS training**:

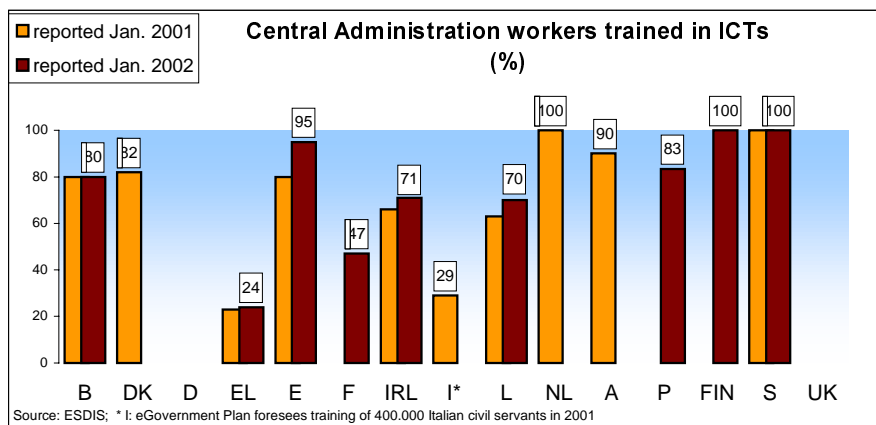
- There is still too much focus on specific ICT applications. Workers should rather be encouraged to **learn to use these applications in the working context**. ICT training should be **integrated in a multi-skilling strategy** which prepares for inter-personal and organisational abilities, including abstraction, inter-activity, networking, higher reactivity to changing situations, which become more and more important due to the introduction of ICT.
- Training should be tailored to the needs of the individual worker, and should be delivered in accordance with **personalised career development plans**, including innovative ways to overcome employees' resistance to change.
- On the other hand, the training of individual workers should be only one component of training efforts, **integrated into** a training strategy for the **whole workplace, related to organisational change and the innovation of working methods** (see section **B.3**).
- **Management at strategic level** should ensure a commitment **beyond short-term objectives** and the appropriate allocation of resources (financial, time, personnel, etc.).
- The **inclusion of all workers** in basic IS related training should be ensured, even if they do not yet need it for their current tasks, taking particularly into account the **needs of manual and lower-skilled workers**.
- **Continuous training** is needed to cope with technological change. However, survey data suggest that **only a small minority of workers receives regular updates** (only 10,8 % had ICT training in the last 12 months, including also those who received a training for the first time).
- As set out above, **enhancing ICT competence in small enterprises should be a priority** to speed up their involvement in the knowledge-based economy, particularly in e-business. At European level, the promotion of ICT skills in SME (though mainly at expert levels) is a key objective of the Go Digital Initiative (see Part A), supplementing actions in the Member States:

In **Sweden**, the national programme *IT.SME*, co-ordinated by the Swedish Business Development Agency (NUTEK), aims at developing IT skills in SME, focusing on the needs of micro businesses (0-10 employees), and encouraging the strategic use of IT in these companies. First results of this programme confirm a strong need for this kind of support at national basis spreading good examples among SMEs all over the country. Particular needs of SME in peripheral or dispersed communities, which use IT to a much lesser extent than businesses in other parts of the country, are addressed by an additional programme involving regional and local authorities. In **Austria**, the "eFIT im eBusiness" initiative of the WIFI (training institute of the Chamber of Commerce) offers a comprehensive programme including IS awareness, advice and training activities for SME, in addition to several other IS measures by the government targeting SME. In **Greece**, the national "Go Digital Initiative" which broadly supports the up-take of ICT and e-commerce in SME includes training support by 2000 certified instructors, consultancy by a call-centre, as well as direct visits of experts providing up-to 3 days advice for each interested SME. In **Belgium**, both the Flamish and the Wallon region subsidise half the amount of "training cheques" which are distributed to SME to stimulate life-long learning among their workers, including on ICT subjects. The programme of training institutes where the cheques can be traded in by the workers is advertised on-line.

- A valuable approach consists in **mainstreaming** ICT across vocational training, integrating **ICT modules in all vocational courses** (see also section B.6). In fact, as the IS permeates the whole economy, IS tools should be integrated in delivering a variety of vocational training content. As a prerequisite, the participants should be made familiar with the effective application of these tools.

In **Denmark**, IT training has become a mandatory part of all vocational degrees. In **France**, about 40 % of life-long learning courses for workers relate to training and updating ICT related skills. While these courses are the most numerous, they are also the shortest (nine out of 10 courses lasted less than a week). In **Austria**, where a wide range of IS skills initiatives for workers has been launched (see also the Austrian NAP), the share of vocational courses co-funded by the ESF which include ICT subjects is 70 % for managers and white collar workers, and 40 % for manual workers.

- **Furnishing all public employees** with basic ICT literacy and, as appropriate, skills in handling on-line public services should be an **integral element of e-Government strategies**. Figures provided by ESDIS indicate that many Member States have already made **considerable progress** in meeting this target.



- To valorise training efforts on the labour market, ICT courses offered by employers and by all kind of public and private vocational training should be linked to **widely recognised ICT skills accreditation**. In this respect, ESDIS recalls its recommendation to recognise the European Computer Driving Licence (ECDL) as a **Europe-wide accreditation scheme without prejudice to either existing national schemes or the possibility of including other schemes**.²⁸
- Workers should also be provided with **appropriate opportunities to exploit e-Learning** (distance learning) facilities, in terms of **equipment and time**. There seems to be still much room for improvement – only 2 % (*check!*) of EU workers indicate to have obtained a certificate by distance learning. But 40 % say that ICT are important for accessing learning content and tools.
 - Studies indicate that subjects learnt by this method concern still primarily ICT and languages, and only to a minor extent training in work-specific vocational issues.
 - SME could particularly benefit from e-Learning which overcomes barriers of scale and may more easily arrange time-constraints, particular in a company with limited staff. However, so far, big companies benefit much more - according to a French study 80% of companies using eLearning tools have more than 1000 employees. Access to appropriate technical platforms still represents one major barrier for SME.

This is why **France** is developing a **network of access points for distance learning** capable of providing a broad scope of services is developed, supported by a national portal supplying on-line services and resources for training professionals. (Further examples are provided in the e-Inclusion report)

... at IS expert level, limitations to skill development need to be overcome ...

In principle, the work of **IS experts** enjoys high quality in terms of knowledge and skills. However, due to very fast technological development and a specialisation of skills, many of these workers face the **risk of limitations in their individual skills development**. Frequently, they have not acquired the ability to exploit their ICT knowledge for coping with changes in the technology, work methods and work organisation.

Over the last years, there has been evidence of a paradox, that **relatively older** ICT experts, sometimes only 40 years old have been made redundant despite the overall skills shortages in the sector. With the recent wave of lay-offs in ICT industries, this problem becomes accentuated. Frequently they entered their jobs at a time, when formal degrees were not yet available in the current form or not yet needed in this segment of the labour market. The risk of a devaluation of their work experience combined with a lack of formal education can trap these workers, particularly as private enrolment in advanced IS training is very costly.

Thus, ESDIS highlights the need for **training incentives to those (older) IS experts** to **maintain** their employability and adaptability. Relevant measures have to be developed favoring the training (LLL) of staff within their companies.

²⁸

The full text of this recommendation can be consulted at:
http://europa.eu.int/comm/employment_social/soc-dial/info_soc/esdis/contributions.htm

In **Denmark**, the Institute for IT Skills Development (IITK) is a recent initiative aiming at further educating and advising IT experts in market-relevant skills development, targeting professionals with either a formal IT degree or with long and thorough work experience which tend to have outdated educational skills, but have the capacity and will to familiarise themselves with new areas. In **Austria**, the "Implacementstiftung für Ältere" provides up-skilling packages which are individually designed in co-operation with older job seekers and companies.

... the potential for conversion to IS experts needs to be further exploited ...

In addition, vacancies for IS experts remain a target for the conversion of the unemployed and workers outside IS jobs ready to change, in particular if they bring with them a suitable education or work background. Complete beginners may up-skill to opportunities at medium skills level (e.g. web-designer,...) – see also **section B.6**.

ESDIS underlines that the potential for adaptation and **conversion** to IS expert skills, matching the needs of industry, is **far from being sufficiently exploited**. Drawing on experiences in the Member States, ESDIS concluded that the following **criteria are important for the success of conversion courses** in IS expert skills, i.e. integrating the participants in quality jobs:

- A **comprehensive skills and training needs analysis** should be conducted in advance, **in co-operation with industry**, taking into account the labour market conditions.²⁹ In this respect, the results of the analysis of skill profiles at European level should be adapted to the local situation.
- Participants should be **appropriately matched** to the relevant course according to their previous skills and work **experience**.
- The training should provide the right **balance** between, on the one hand, the demand of many companies for **practical and specific technical skills** instead of a general IT degree, and on the other hand, broadening **contextual skills necessary in an e-business environment**, e.g. project management, interpersonal skills, ability to adapt to changing technical solutions. Theoretical lessons should be combined with stages and training on the job. Students should receive continuous feedback on their progress.
- Certification on completion of the course should have a **wide accreditation value** across the industry.
- Follow-up providing **recruitment services**, in co-operation with the relevant industry.

In **Greece**, within the Operational Programme "Information Society" co-financed by the ESF, courses by certified vocational training centres and on the job training periods in ICT enterprises will be offered to 3000 young economists and scientists converting them into IS experts. In **Italy**, the www.skillpass.it programme, launched in 2000 by the public holding company Sviluppo Italia in cooperation with several banks, has already trained 4,500 professionals at high expert level, providing also recruitment services for net-economy jobs. In **Ireland**, the "FastTrack IT" initiative, implemented in partnership with national training and employment services and IT industry, provides training for long

²⁹ In this respect the European Monitoring Centre on Change was established last year as a tool to anticipate industrial change and to explore ways to successfully manage this change, with the active participation of Social Partners and member States.

term unemployed in IT targeting software testing, teleservices, maintenance and service, and operating systems. The skills needed range from low level (data entry, customer service) to medium (software tester, help line agent) to high level (programmer, software tools developer). Under the programme, these skills are integrated with core personal skills in literacy/numeracy, communications and decision-making. The industries provide training accreditation, guarantee work placement, and, subject to suitability, guarantee employment. In **Denmark**, two IT universities have been set-up, providing also vocational degrees which can be obtained as a vocational part-time study. In **Spain**, complementary and integrated activities include the programme Forintel aimed at training workers to IT professionals, the Centro Experimental de Tecnologías Avanzadas empowering vocational training centres in ICT, and training for teachers and adults by the Centro Nacional de Comunicacion Educativa. In **Austria**, among other initiatives, the Territorial employment pacts have produced 11 one year courses with different IT related curricula. Further, the Austrian Labour Market Service (AMS) offers a specialised platform for the recruitment of IT experts (<http://www.ams.or.at/itjobs/>).

B.3. Matching new technologies with new work organisation to drive productivity, innovation and social capital

a) General trends

Technological innovation is generally seen as an enabler of productivity, economic growth and employment. While the modalities for measuring and assessing ICTs related changes are still controversial, mainly due to the lack of a representative corpus of empirical evidence, a wide consensus exists on the following fundamental points:

- the proliferation of ICTs, together with the increasing competitiveness of the global business environment, contribute to the spread of a **model in which knowledge is the key element**.
- In this model, **human capital** plays a crucial role in terms of innovation, creativity, capacity to anticipate - and quickly respond - to changes in the production requirements.
- However, the potential of both, technology and skills can be translated into increased productivity only where the **appropriate organizational structures are put in place**, within the enterprise and across its environment.³⁰

A shift is underway from the centralized, hierarchical organization, where mass production, standardization of products, highly structured tasks, strict division of labour, etc. were the rule, to **networks of enterprises** within a global economy, where tasks are increasingly diverse, decision taking is decentralized, hierarchies flatter, greater autonomy is granted to workers but higher expectations are set in terms of ability to adapt to constant change, innovativeness, readiness to assume ever increasing responsibilities. To support this development, the European Commission created, as a follow up to the Green Paper "Partnership for a new Organisation of Work", the European Work Organisation Network (EWON) which assists in building

³⁰ see European Commission, Green Paper on "Partnership for a new Organisation of Work", 1997; see also the Commission's Annual Economic Review 2001 which puts emphasis on work organisation in the context of ICT.

the organisational competence needed by employers and employees to increase productivity and to improve working life in an environment requiring continuous innovation.

The changes taking place represent therefore a great **opportunity for the workers**; the knowledge-based society requires **jobs which are more skilled, more independent, creative and diverse**. These changes are far reaching indeed, as highlighted in many different sections of this paper. They affect the nature of work itself - as well as society at large – along the three main axes of the regulation of time, space and contractual relations.

To ensure the quality of employment, **workers** – and their representatives - should be empowered in this process, should **be consulted about change at all levels**³¹. Furthermore, the values of cohesion and inclusiveness of European society should remain at the core of public policy in the making of an information society at the service of the citizen.

As a matter of fact, not only great opportunities but also **a certain number of risks** seems to be brought about by ICT related changes in the organization of work.

The increase in jobs requiring high training and autonomy seems to be accompanied by the opposite phenomenon of **re-taylorisation** of tasks and impoverishment of work content, work intensification and more sophisticated controls. This trend – accompanied by the spreading of atypical forms of employment - point to a **polarization of the work force** into a core of relatively stable and skilled workers and a group of low-skilled, temporary workers on the periphery.³²

Call centres are frequently mentioned as a particular case for retaylorisation, but also under certain conditions for improving job quality through new models of work organisation.³³ Working conditions in call centres are of particular concern for the high share of employment they represent: eg. in the **UK** they employ more than 400.000 people, 2 % of the total workforce, and more than coal, steel and automotive manufacturing put together. Critics of working conditions in some centres, like a report published last year by the UK Trades Union Congress stressed over-zealous monitoring, clumsy management and low pay as reasons for high absenteeism. However, a report by the UK's Health and Safety Executive of December 2001 found that call centres were not the IS's version of the Dickensian 19th century work-house. Still, the report did warn of dangers to workers from infrequent breaks and dealing with abusive callers. Now the call centre industry launched an initiative to improve working conditions further and encourage staff to stay longer. This involves a three pronged strategy: boosting training as it has been assessed as crucial for the employees motivation to stay in call centre jobs, emphasising career development, and publishing codes of conduct. A number of codes of conduct exist but none are yet an industry standard. One drawn up in 2000 is entitled a "framework for best practice" and covers employee relations, health and safety, and handling of customer complaints. (see also a similar **German** initiative quoted in section B.7).

³¹ In this context, see the Directive 2002/.../EC establishing a general framework for informing and consulting employees in the European Community to be published

³² see TRANSFER – Quarterly of the ETUI – Volume 7 – Summer 2001

³³ Bittner, Susanne et al., Call Center – Neue Taylorisierung oder innovative Dienstleistungsorganisation?, IAT Jahrbuch 1999/2000

ESDIS underlines the need for enhancing initiatives at European and national initiatives aiming at **monitoring and evaluating impacts, preventing possible risks and maximizing the positive effects of ICT on productivity as well as quality of work**. As underlined by the European Employment Guidelines, particular Guideline 13, work re-organization is a process which – although triggered by technological innovation and market forces - should be steered by the social partners and, in line with Guideline 14, by public policies in the Member States.

This principle has been widely recognized by the Member States, which together with information society strategies, launched a number of **national strategies** in support of information society in general and work organization in particular, even if this last issue has received less attention than technological development or workforce training as such.

However, experience shows and research points out that a process of **change is most often successful when it is “holistic”, taking into account not only technology as such, but its social, cultural and environmental aspects as well**. In a “learning” organization, there are logical and systematic interdependencies between the basic principles underlying the way it operates (multi-skilled employees, versatile job assignments, job rotation, cooperative working practices, employee empowerment and broad participation, new reward systems, etc. – just to mention a few). A single factor cannot work in isolation, but only in synergy with all other dimensions involved.³⁴

Within the **Finnish National Workplace Development Programme**, it has been demonstrated that applying these principle helps a company in creating new knowledge in a fast and cost-effective manner, produce innovation and quickly respond to change. Moreover, the Programme shows that **promoting the “learning organization” is an effective way to combine the key public policy aspects of workplace development**, in terms of employment creation, maintenance of working capacity, lifelong learning, quality of working life. Management and employees should be involved in the process on an equal footing, and the interests of both taken into account.

“**Proactive**” enterprises – studied in the context of the **Finnish Flexible Enterprise Project** – seems to be in the best position to **manage change**, that is to “act before external shock or change actualizes”. These workplaces are characterized by a high degree of participation of employees on the decision making process and a high level of personal responsibilities. “Proactive” enterprises are more successful than “traditional” ones, whether measured by growth in productivity or by the increase in the number of employees. They **make use of the appropriate IT tools**, but attitude - rather than technology per se - is considered the key to success. Another recurring characteristic of “proactive” enterprises is the creation of cooperative functional networks, with clients, government agencies, consulting firms, educational institutions and various other actors.

In the knowledge-based economy, outsourcing/subcontracting relationships are gradually switching to virtual **networks of partners** entertaining not only commercial but also more reciprocal and cooperative forms of relationships. Specific internet-based e-business applications make possible this trend, by providing the

³⁴ see Learning Organisations, Learning Society – NWPD - Yearbook 1999 – Edited by Tuomo Alasoini and Petteri Alme; Workplace Innovations – NWPD - Yearbook 1997 – Edited by Tuomo Alasoini, Mari Kyllönen, Antti Kasvio

supporting medium and by channeling transactions and exchanges. Collaborative models enhance product and service supply and, therefore, corporate profitability. Typical models include real-time collaborative design, joint product development, collaborative marketing and exchange of personnel.³⁵

These networks typically involve SMEs and/or large companies, together with a variety of other bodies, possibly including universities, government agencies and civil society representatives. They can **promote best practices, innovation and enhance social capital as well.**

This trend is spreading across Europe, frequently thanks to the initiative and support of public/private partnerships.

In Spain, public support is granted to projects promoting networks of SMEs and other enterprises aiming at introducing ICTs in their production and resources management systems, or at implementing e-commerce solutions. Projects such as *Tictrad*, *Prince XXI* or *CNL* (a net of local business centres) are targeted at different business sectors, including traditional ones, linking enterprises among each other and with IT vendors, chambers of commerce and other public and social actors. Provision of personalized consultancy, assistance and extensive training are promoting the **valorization of the enterprises and of their social environment as well.**

In **Italy**, where the knowledge economy has triggered the creation of new jobs and new enterprises in traditionally less developed southern regions, the experience of the **Scientific and Technological Park of Sicily (PSTS)** demonstrates how cooperative projects of innovation involving key actors can contribute to the creation of human and social capital leading to concrete work opportunities, sustainable employment and quality of work. The **Innovation and Quality project** targets Sicilian SMEs active in different business sectors, including leading-edge and traditional ones. Partnership with research networks, technology providers, universities and the PSTS allowed the adoption by 120 enterprises of **new innovative technologies as well as new organizational and operational methods**, with positive results not only on productivity but also on quality of work for both employers and employees.

Networking and knowledge transfer constitute – together with market pull and technology push – one of the overarching **framework conditions** which create the innovation environment conducive to productivity and growth. However, analysis underlines most EU countries need to strongly enhance knowledge transfer mechanisms from the science base to the industry, especially considering the existing barriers to the commercialisation of research. In spite of a number of good practices adopted so far, there is in fact a lack of efficient networks at a variety of levels.³⁶

However, experience from several countries, notably the US, indicates that clusters represent one of the most effective mechanisms for facilitating the flow of knowledge through the economy, crossing organizational and administrative boundaries. Networks are crucial in spreading the social learning and tacit knowledge upon which knowledge-based industries tend to rely.

³⁵ see COM (2001)711 final

³⁶ see Report on R&D by the Economic Policy Committee (EPC/ECFIN/01/777) – p.m. quotation of final version

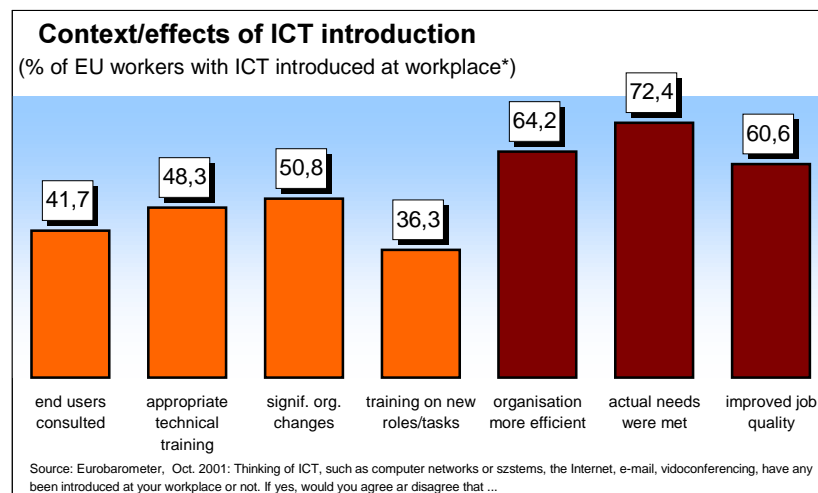
In particular, networking can play an essential role to ensure that all regions in the EU could benefit from the highest level of expertise, and draw on the R&D relevant to their needs. The wider diffusion of knowledge facilitated by closer networking will become especially important with a view to EU enlargement.

Finally, it should be underlined that work organization issues related to technological innovation are not only relevant for the private sector, but for **public administrations as well**.

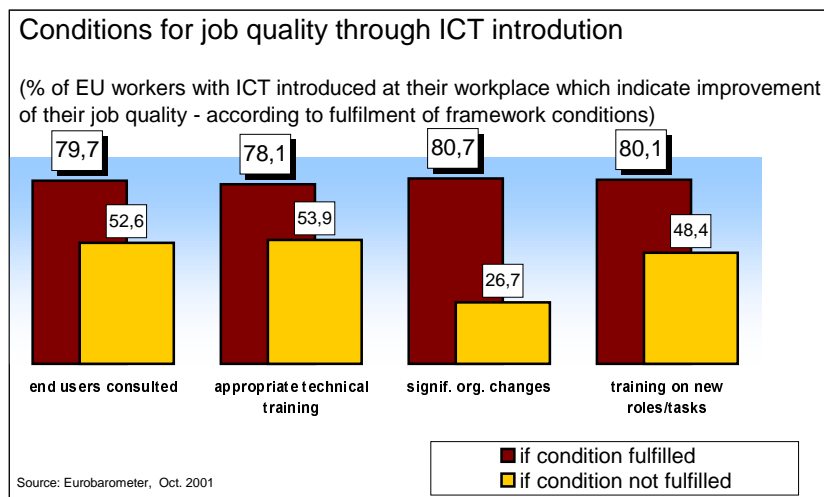
Among a vast number of e-government initiatives across all Member States, e.g.: In **Greece**, specific action lines of the “Operational Programme Information Society” match the introduction of ICTs in public administrations with organizational changes of the departments concerned, as well as with extensive training actions. In **Spain**, good practices are adopted by the Ministry of Finance and the Ministry of Labour and Social Affairs. In **Belgium**, the creation of a Federal Service for Informatics is foreseen within an encompassing strategy towards the e-Government which involves a radical change in the internal organization of the administration itself, as well as of its interactions with the citizens. In the **Netherlands**, the e-government strategy has resulted in important changes transforming communication from distributive to responsive-oriented models. In **Portugal** an important step towards transforming administrative procedures has been made by granting legal value to electronic forms. In **Ireland**, the BASIS project aims at electronic delivery of integrated public sector information to the business community, in a client centered manner.

b) Survey data: complementarity of ICT and organisational change

Despite good practices, the vast majority of European companies seems not to sufficiently exploit the potential of ICT in terms of job quality and productivity. According to Eurobarometer data **only about half** of the workers at workplaces where ICT have been introduced (ie. about a fourth of all EU workers) indicate that significant **complementary changes have been made in their organisations**, with still a lower proportion in smaller companies. Even less say they had been consulted and/or had received training on new roles and tasks, **missing important conditions for managing successfully change**.



Most important, EU-wide data confirm basic assumptions of work organisation theory. Workers that benefit from **complementary measures**, particularly an organisational change at the workplace, perceive the introduction of ICT much more satisfactorily, in terms of **higher job quality**.



B.4. The Information Society's effects on the balance between flexibility and security and between work and private life.

a) New opportunities and risks:

In the terminology of the Employment Strategy's quality indicators, flexibility refers to the proportion of fixed-term and part-time contracts. In this respect, the evidence for IS jobs needs to be differentiated:

- **Overall, knowledge-based employment** is commonly associated with driving **flexible working forms**.
- However, from a limited sectoral perspective, employment in the **ICT sector is characterised by less flexible contracts**. According to Eurostat data (LSF), 8.9 % of workers have temporary contracts and 7,8 % part-time contracts in the sector "computer and related activities", while the average of EU workers is respectively 13,4 % and 18,4 %. This evidence is confirmed in detail by congruent results in national studies, e.g. in France, Spain, Belgium. However, as in many aspects, the situation is very different among segments of the IS sector – the permanent contracts are much higher in IT manufacturing than in IT service segments.
- Flexible work arrangements, like part-time or fixed-term contracts, are more **widespread in ICT based services**. Analysis also indicates that even among lower skills jobs, like in call-centres, the choice of such flexible arrangements is in many cases the **outcome of individual choices**.³⁷ In these newer and faster

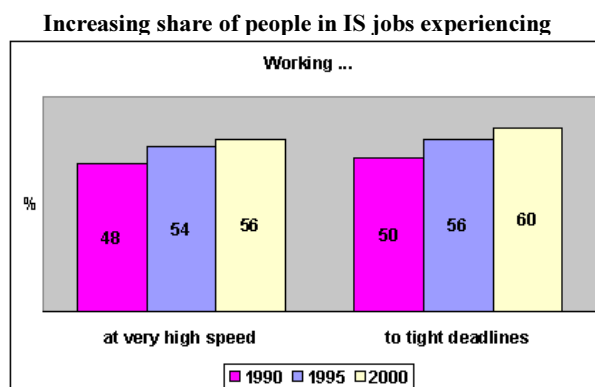
³⁷

Case studies provided by ESDIS members. General figures on the voluntariness of fixed-term and part-time contracts referring to the whole economy are provided in European Commission, Employment in Europe 2001, p.69

growing segments the rotation of jobs is also much higher and job change is frequently driven by other than economic reasons.

In a more general term of flexibility, work with ICT encourages **frequent changes** of tasks and physical **location becomes less important** if e-work methods are used, and knowledge-based production facilitates the **adjustment of working hours** to suit both employer and employee.

- In principle, this opens **new opportunities for improving work-life balance**. This can considerably expand the job opportunities of people which have to meet family commitments (e.g. child-care) during the working day. In fact, new **Eurobarometer data confirm** that workers regard ICT as a opportunity for better combining work and private life (see section B.1).
- However, **men indicate benefits at higher rates than women**. In this respect, a study under the 4th Action Programme for Equal Opportunities underlines that for many women on-line work from home results in a non-stop working day, as their children take their full attention during day-time, leaving on-line work for late in the evening. On the contrary, most men working from home do not have to combine it with equally intensive child care obligations. Thus, gender equality in flexible e-work will much depend on framework conditions which support women to actually benefit from flexibilities to better balance work and life (e.g. child care facilities).
- There is also a trend that, while the working time during the day becomes more flexible, additional **work outside regular working hours at home becomes more frequent**. **Working pressure**, intensity and speed increase as deadlines become generally tighter in an IS environment. In fact, about a quarter of EU workers indicates to use the **computer for work at home**, with highest rates among self-employed and managers (see chart below in section telework). In this respect **excessive flexibility** may turn into a **reduction of job quality**. There is strong evidence for these risks, as underlined in recent studies of the Dublin Foundation and the ILO's World Employment Report 2001 which focused on quality in Information Society jobs.



Source: Dublin Foundation Survey on Working Conditions

A further aspect of work/life balance concerns the **private usage of ICT**, particularly **e-mailing and consulting the Internet, at work**, which can add significant value to both, the quality of work and life. However, there is also the **risk**

that surveillance and monitoring of e-mailing/Internet usage is not adequately respecting the private sphere of workers' privacy rights.

Last summer, the Commission launched a **consultation of Social Partners** on possible Community action in the field of data protection for workers. Among other issues, this **consultation addresses the surveillance and monitoring of the use of e-mail/Internet**.

Furthermore, the Article 29 working party which is concerned with the uniform application of the data protection Directive 95/46/EC is currently addressing this issue and may provide some practical guidance in the future.

b) Progress in Telework

Telework represents a specific case of ICT driven flexibility. It affects several aspects of quality, creating a new potential for productivity gains, enabling new forms of work organisation and work/life-balance, removing barriers to mobility (e.g. for people in remote areas or with disabilities), and opening, thus, new job opportunities for people excluded so far from the labour market. Detailed survey results presented in last year's "Benchmarking Report" underlined that **teleworkers overwhelmingly stress positive effects on the quality of work and personal life**, contrasting with more sceptical expectations of those who have never experienced telework.

However, to fully exploit this quality potential, **safeguards** need to address critical issues. In this respect, **ESDIS notes the importance of key principles for telework** set-out in the Commission's consultation of Social partners, including:

- a right of return to previous (non-telework) employment;
- the maintenance of job status;
- equal treatment;
- access to the same information as other colleagues;
- coverage of additional costs;
- adequate appropriate training;
- respect for health and safety provisions;
- respect for working time provisions;
- respect for privacy;
- the maintenance of collective rights

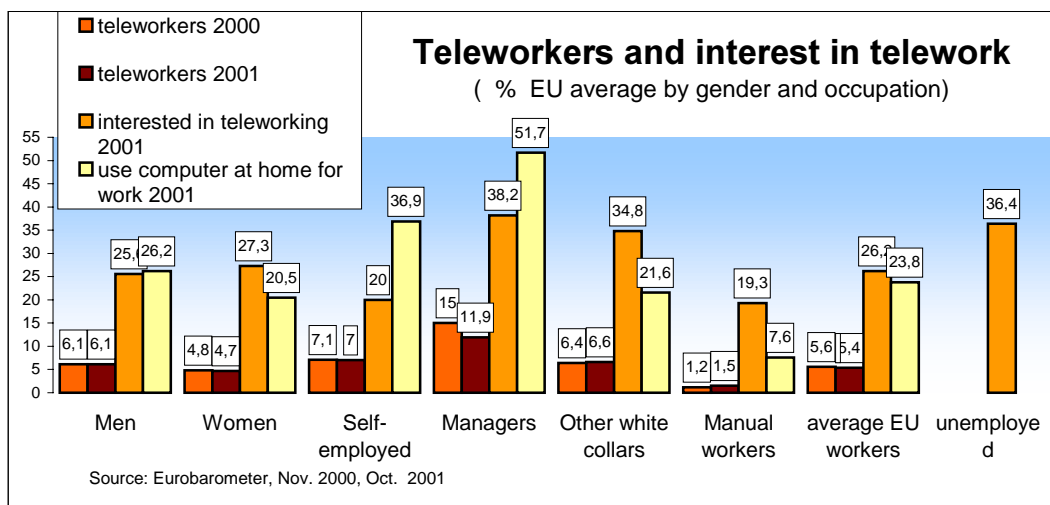
... a quarter of the workforce is interested in telework ...

New Eurobarometer data indicate that optimistic expectations in sharply increasing telework have not been met over the last year, if a *traditional* definition is applied.³⁸ Teleworkers are still at about 5 % of EU workers, and marked differences prevail among Member States, and according to occupation and gender (for detailed analysis see last year's report).

However, this survey also highlights the **huge untapped potential**, as one worker in four would be interested in teleworking. Frequently this interest is combined with

³⁸ Definition of Eurobarometer question: "Telework occurs when paid workers carry out all, or part of, their work away from their normal places of activity, usually from home, using ICT."

occasional experience in e-working, though not covered as declared telework. About a quarter of EU workers indicate to use the computer at home for work.



Further, the EMERGENCE project within the EU's IST R&D programme, applying a **broader definition** of telework³⁹, stresses that the dominant forms of eWork by employees within organisations have become the use of **remote offices**, many of them call centres, and the employment of **multilocational workers**, rather than fully home-based eWork. In addition, the largest and strongly growing proportion of e-work involves **outsourcing driven** by the search for technical expertise (software development and support, creative work including design, editorial work, multimedia content generation etc...), cost and quality considerations.

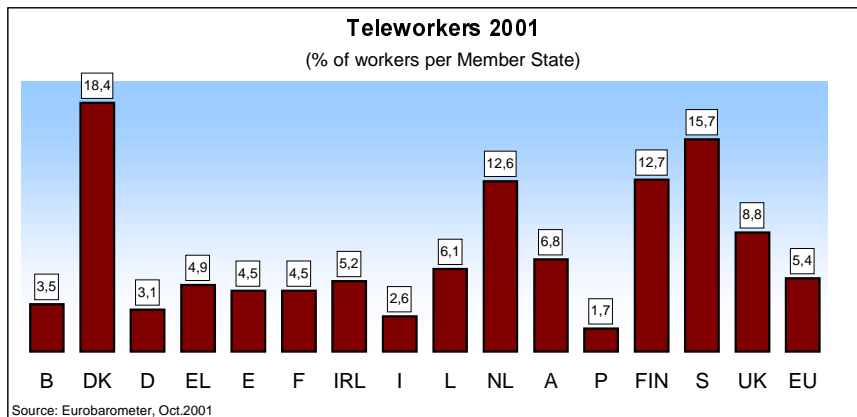
New e-work facilities, via advanced mobile and handheld devices, are expected to spread across the workforce in the years to come. This could strongly extend the potential benefits of e-work (e.g. in terms of productivity, work organisation, and work/life balance), but will also create new challenges for safeguarding quality.

... reaffirming the benefits of telework framework agreements and best practice...

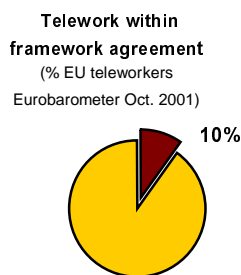
A framework safeguarding certain rights of teleworkers (in comparison to workers on the premises of the company) should stimulate the attraction of telework. In many countries where framework agreements are applicable (for a part) of teleworkers (e.g. Denmark, Netherlands, Ireland, Austria) the up-take is higher.⁴⁰ In addition to efforts at national and sectoral levels of industrial relations, there are many good examples of telework guidelines introduced at the company level.

³⁹ The definition of "e-work" applied by the EMERGENCE project encompasses any work which is carried out away from an establishment and managed from that establishment using IT and a telecommunication link for receipt or delivery of work.

⁴⁰ Though in the UK where there is a relatively high up-take of telework there is no framework agreement.



But according to Eurobarometer data only a small proportion of EU teleworkers is included in any kind of framework agreements, (or is aware of it).⁴¹



Thus, to promote a **telework framework at European level**, the Commission launched in 2000 a consultation of the **Social Partners**, along the principles set out above. Further to sectoral agreements in European telecoms and commerce, the Social Partners started in 2001 **negotiations** with a view to a general framework on telework at European level to be implemented in

accordance with the procedures and practices specific to management and labour and the Member States.

... public and private initiatives to promote telework are growing ...

In addition to efforts from the Social Partners and individual companies, ESDIS highlights the **need for public and public/private incentives** to ensure quality in telework, and reports an **encouraging** number of **recently introduced initiatives**, particularly also in countries with lower telework rates, including the following:⁴²

- **fiscal stimulation** of telework (e.g. in the **Netherlands**)
- Several initiatives aim at **SME**, for which innovative work organisation may involve a particular challenge, and where a limited scale could make it harder to enforce safeguards for individual teleworkers. (In **Italy**, a national agreement on the introduction of telework in SME was reached in 2001. In **Germany**, a public-private partnership with Deutsche Telekom, the initiative „Telearbeit im Mittelstand“, explored and disseminated telework practices in 400 SMEs, creating 1.700 telejobs.⁴³ An innovative example in **France** is the creation of a common on-line platform for architects, construction companies, and contractors which enables distance checks of construction sites, the consultation of plans or technical and legal data bases.)

⁴¹ They were asked whether they telework within the framework of an agreement (for the company, the sector, or the whole industry).

⁴² comprehensive policy initiatives are being prepared in Spain and Greece, further to studies commissioned by the respective governments; practices can also be found at: www.euro-telework.org, in particular in its section “MIRTI Handbook” (Model of Industrial Relations in Telework Innovation)

⁴³ Final Report: TA Telearbeit GmbH „Telearbeit im Mittelstand — Erfahrungen aus der Praxis“, 1999

- stimulating benefits of telework for **women** (e.g. several local initiatives in **Italy**)
- exploiting telework for the reintegration of people with **disabilities** (e.g. in the **Netherlands**, in the "Knowledge district" Eindhoven)
- **on-line advice for teleworkers** (e.g. In **Germany**, "ONFORTE - Online Forum Telearbeit" (www.onforte.de), a co-operation of the Ministry of Economy, Deutsche Telecom and several trade unions, offers for free a network of "virtual" consulting services for teleworkers on legal and social issues, and supports the development of telework agreements at company level. In the **Netherlands** a "telework monitor" is being developed, informing about good and bad practices.) In **Ireland**, a Government sponsored E-Work Business Awareness Campaign is being undertaken, aimed at influencing business decision makers to consider eWork as a conventional business solution. It includes briefing guides for managers, a helpline, and a website providing useful resources for those businesses who wish to explore e-working as well as a major media campaign.
- technical infrastructure is an essential prerequisite: **high-speed connections** and the provision of **telecentres** (e.g. several local initiatives around telecentres in **France**; see also the examples of PIAPs in the e-Inclusion report)
- assistance in **matching** demand and supply in telework (e.g. in **Germany**, the public initiative www.telejobservice.de provided for free specialized on-line recruitment matching seekers of telework and employers for short-term tasks.)
- finally, telework is also increasingly promoted in the **public sector** (e.g.: In **Italy**, a law on telework in public administration ("Bassanini ter") was introduced in 1999, followed-up by agreement with public workers' unions. The **German** project "DATEL – Datensichere Telearbeit in kommunalen Verwaltungen", completed in 2001, encouraged telework in local administrations, with a particular focus on ensuring data security.)

B.5. Encouraging gender equality at all levels of IS jobs

Gender balance is far from being achieved in IS jobs. However, empiric evidence suggests the need to clearly **differentiate**:

... at basic level , the ICT gender gap is particularly high among job-seekers ...

- The Eurobarometer survey indicates no significant difference as concerns the usage of computers **for work** and participation in basic ICT training. In fact, the proportion of **women is even slightly higher** than that of men (see charts in sections A and B.2).
- However, **female computer users** have **less access to the Internet**, indicating their higher proportion in low-quality computer jobs without networking benefits (76 to 65 % of computer users for work – see chart in section A).
- These figures of "ICT usage for work" have to be relativized, as the employment rate of women is known to be significantly lower than that of men. As shown in detail in the e-Inclusion report, the **gender gap in ICT access is particularly relevant among the unemployed. Women outside the labour market** have the lowest access rates. Thus, overcoming this gender gap in IT competence will be an **important element** for measures **increasing the employment rate** of women, a paramount objective of the Lisbon Strategy.

... only a quarter of ICT sector workers are women, and still less in qualified positions ...

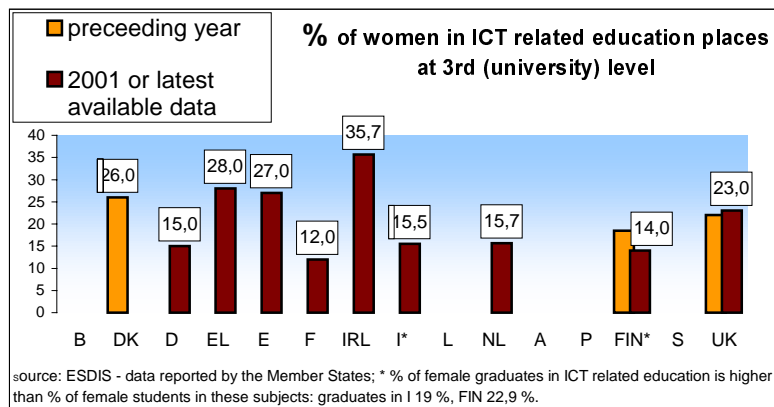
- Women continue to be very **underrepresented in ICT expert jobs and training**. The **gender gap strongly increases**, the higher the ICT content of job profiles and curricula is.

According to sectoral data of the **Eurostat** Labour Force Survey (which however include all quality levels of jobs in this sector) the proportion of women is only 26,5 % in computer and related services, 23,8 % in high-tech manufacturing. Similar levels are reported in national studies for the entire ICT sector - in **France** about a third and in **Belgium** 27 % (in 2000, compared to 25 % in 1995).

This detailed Belgian study⁴⁴ provides also evidence for a strong vertical segregation, with women in less qualified positions,⁴⁵ and **career barriers for women** in the ICT sector, which are far beyond the average of private sector work.

... no improvement of female participation in 3rd level training, but considerable efforts in vocational ICT training ...

Current figures on the up-take of women in ICT related training at 3rd (university) level, around a **quarter or less**, with the exception of Ireland, do not allow one to expect a significant change of the current gender gap in the short-term.



However, the situation seems to be better at the level of vocational training, also for ICT jobs above basic level.

Spain reports that in ICT related vocational training at this level 60 % of participants are women. In **Greece**, the number of women participating in ICT skills programmes of the Employment Agency (OAED) is being significantly increased.

⁴⁴ Valgaeren, Elke, Loopbanen van vrouwen in management en ICT, Diepenbeek, SEIN, LUC, 2001, <http://www.luc.ac.be/sein/ned/npublic.html>; on the female participation in training and jobs in Spain see Instituto de la Mujer, Las mujeres y el conocimiento científico y tecnológico, Cimop 2000 and "Evolución de la situación de las mujeres en España a lo largo del siglo XX", Universidad de Salamanca, 2001.

⁴⁵ Among management (in a broad sense) in the ICT sector, the proportion of women is only 20 %.

Against this background, **ESDIS** concludes that **drivers for gender e-quality include:**

A key to overcome IS gender gaps, particularly at higher skills levels, is to **reinforce attention to technological subjects at school**. At present, in most Member States the gap starts there.

e.g. in **France** the proportion of boys passing the specialised "bac de sciences et technologies" is ten times higher than that of girls.

- **awareness raising** and professional orientation, both to familiarize women with practical aspects of IS job opportunities, and to sensitise IS employers on issues of gender equality.

In **Belgium**, the Federal Ministry for Employment and Equality recently launched an awareness campaign *Electronica*, co-funded by the ESF, which aims at encouraging women to enter IS jobs, and on the other hand convincing employers to offer ICT job opportunities to women. The project includes advertisements, an internet-site with a data base on ICT training as well as Information centres.

- making **curricula more attractive** to women;

In **Denmark**, one objective of establishing new degrees that combine IT with the humanities is to attract more women.

- **gender mainstreaming** in all training efforts, while **favouring the participation of women with specific incentives**. In this respect, ESDIS notes with interest the setting of **concrete gender-specific targets for ICT training initiatives**, like in the **German** NAP Employment 2001, or examples of training initiatives with quota reserved for women.

- offering **all unemployed women** the opportunity to become **ICT literate** (see section B.6)

- focus on IS training for women **after longer periods out of work**, in particular for childcare, at a skills level **that leads to IS quality jobs**.

In **Austria** several projects, like e.g. the TechnoMedia Centre, Karenz.plus and Karenz.works, provide training for IS jobs for women after a maternity period at home. Studies underline the success factors of such initiatives combining training with subsidised stages in companies, which lead to higher salary levels than before a maternity break.

- efforts by **social partners to address working conditions in ICT industries** which make work **more attractive**, including enhanced opportunities for voluntary part-time work.

B.6. e-Inclusion for quality jobs

In a **separate report**, the Commission's services with the support of ESDIS have comprehensively addressed the Information Society's potential and risks for social inclusion,⁴⁶ providing an analytical basis for the recent Council Resolution on "e-Inclusion". From a perspective on quality employment, ESDIS particularly recalls the following aspects of e-Inclusion:

... mainstreaming basic ICT literacy for all unemployed ...

Ensuring basic ICT skills has to be an integral part of enhancing employability, as the lack of ICT literacy represents a fundamental barrier for (re)-entering employment. It should be offered in a way responding to specific needs of people disadvantaged in the labour market (as e.g. very successful the **Irish** CAIT Initiative which, among practices from all Member States, is illustrated in the e-Inclusion report).

In some Member States basic ICT literacy has already become **mainstreamed in activation measures**:

In **Germany**, all unemployed without any ICT skills are offered for free to obtain the Internet-Driving Licence [=ECDL?]. This initiative, launched in October 2000, has been well received with about 80,000 unemployed having already obtained this certificate. Particularly encouraging is the high participation of women (60% of total certificates). In **France**, all vocational training for job seekers run by the AFPA includes systematically 14 hours learning on the Web, with about 100,000 persons benefitting from this programme in 2001.

Taking into account these experiences, ESDIS notes with interest the **proposal** of the Spanish delegation to promote **EU-wide basic ICT literacy training for the unemployed**. The proposal foresees the development of a basic ICT module of 25 hours which should be offered:

- to all European unemployed who attend vocational training;
- to all unemployed women during the next five years (20 % per year) to overcome their particular barriers in accessing IS user jobs.

A further consideration of this proposal within the framework of the European Employment Strategy could, on the one hand, effectively promote the acquisition of basic skills among the unemployed and, on the other hand, prepare them for taking up vocational training at higher skills levels. Recalling its recommendation of 5 October 2001,⁴⁷ ESDIS suggests to combine this proposal with promoting the up-take of a Europe-wide accreditation scheme such as the European Computer Driving Licence (**ECDL**) among the unemployed.

⁴⁶ Commission Staff Working Paper "e-Inclusion. The Information Society's potential for social inclusion in Europe, 18.9.2001, SEC (2001) 1428; Council Resolution of 8 Oct. 2001 on 'e-Inclusion' – exploiting the opportunities of the information society for social inclusion, OJ 2001/C 292/02

⁴⁷ http://europa.eu.int/comm/employment_social/soc-dial/info_soc/esdis/is_01_18.pdf

... however access to quality jobs needs more than just basic ICT literacy ...

It should be made clear to the unemployed or people re-entering the labour market, that ICT literacy adds necessary value to other skills, but it scarcely provides a job guarantee as such. Further, it is essential to **prevent that activation measures under an attractive "ICT label" lead disadvantaged people into IS jobs which are in reality dead-end low-pay jobs, without job security.**

... ensuring that IS activation measures translate into real benefits ...

In principle, however, **a large number of IS job profiles remain a promising quality target** for activation measures. Particularly in e-business related segments, there is still a high potential of vacancies **at a level of training** which can be obtained in courses of a **relatively short duration**, compared to other "traditional" skills which frequently require longer and more formalised training.

A successful example in this respect, the **Swedish** SwiT programme has already been illustrated in the e-Inclusion report. In the **Netherlands**, further to recommendations of an expert committee (Risseeuw Commission), the Dutch government has set up special projects, together with the IT sector and schools, to attract disadvantaged candidates to IS jobs (including women, older people, ethnic minorities). In **Denmark**, the National Labour Market Authority AMS runs targeted IT courses for highly educated unemployed of about half a year including practical experience. In **Spain**, 14.000 unemployed are being converted into IT professionals (in a programme from 2001 to 2004). In **Austria**, among several initiatives, "Telesoft 2" prepares unemployed for different job profiles of lower-medium IT skills level (from call-centre worker to web-design) with more than 75 % finding a job after 90 days. (see also examples referred to in section B.2., e.g. the **Irish** Fast Track Initiative.)

If targeted at IS job profiles in demand and with high quality potential, IS activation measures can play a crucial role **in social plans responding to recent mass lay-offs.**

In **Belgium**, the social plans responding to recent company closures provide, within their training supply, modules in ICT, adapted to the individual and labour market needs.

... on-line placement and recruitment facilitates access to the labour market ...

ICT support access to the labour market also by providing online services matching job offers and seekers more easily and at a wider scale.

In **Austria**, the "eJob-Room" of the Public Employment Service (AMS), awarded with the "eGovernment label" by the European Commission, is used by more than 110.000 job-seekers per month offering them for free direct contact with possible employers across the country (25.000 vacancies per month). In **Ireland**, the Irish national training authority, FÁS IT department, developed specialised software which facilitates a co-ordinated approach to the management of client records, services and interventions in response to company/factory closures. In **Belgium**, job placement activities have been modernised due to ICT, supplemented by the introduction of higher quality management and organisational structures, with call-centres and web-sites matching a high number of job offers and curricula vitae. In **Portugal** an on-line recruitment service has been created which targets jobs in the scientific and technological area.

... an integral approach to exploit ICT opportunities for people with disabilities

...

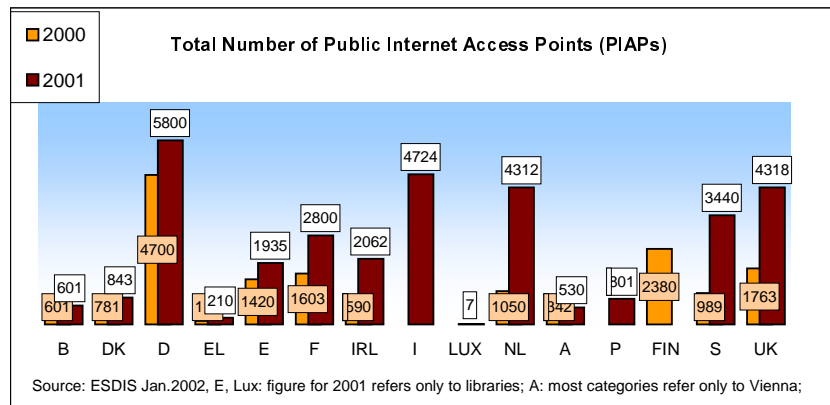
If e-accessibility principles are respected, ICT can bring people with disabilities into new areas of quality employment. However, removing technological barriers is only one aspect. ICT opportunities need to be an integral part of a job strategy for people with disabilities.

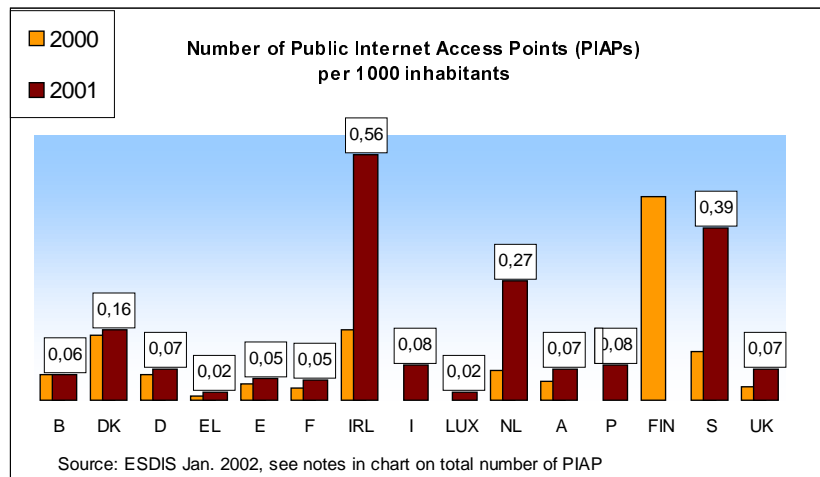
ESDIS, with the support of the eAccessibility expert group, will draw up a **special report by the end of 2002**, addressing major components of the **impact of the Information Society on the life and employment of people with disabilities**, contributing to the preparation of the year of people with disabilities in 2003.

In **Sweden**, the Swedish Handicap Institute has conducted a programme of development and practical tests of ICT systems for disabled persons (1998-2001), integrating an application programme, an information campaign, a ICT training programme for people with disabilities, and a study of the social and economic consequences of ICT measures. In **Italy**, the employers association Confindustria has recently adopted an Action Plan for improving the quality of life of people with disabilities which includes measures to enhance their participation in training and work through ICT.

... further access in Public Internet access is needed

The e-Inclusion report highlighted the essential role of public Internet access points (PIAPs) for bringing disadvantaged people into IS opportunities. However, considerable **progress** in the quantity of PIAP since last year is **visible only for some Member States**.





B.7. Ensuring the healthy usage of ICT

... ICT can eliminate traditional dangers to health and safety at the workplace, but new risks need to be prevented ...

On one hand, ICT have the potential to substantially improve workplace health and safety by taking workers away from heavy, noisy and inherently dangerous equipment through remote control or full automation processes for production line. With appropriate work organisation, they can also reduce work burdens as suggested by the overwhelming majority of users which underline that ICT "made their job easier" (see chart in section B.1.)

On the other hand, there is an increasing evidence for **serious new health and safety risks** relevant to ICT work including⁴⁸

- **psychosocial effects** such as stress symptoms⁴⁹ due to excessive working hours, work load and increasing complexity of tasks or isolation in home workers. Several of the quality elements of IS work, can produce negative side-effects: information overload through e-mail, difficulty to distinguish significant and insignificant information, permanent accessibility (see section on private life/work), stress of continuous up-skilling, decrease of human relationships replaced by virtual contacts.
- **physical impairments** such as repetitive strain injuries and musculo-skeletal illnesses due to inadequate or ergonomically unadapted equipment or to forced postures and combined effects of both.

⁴⁸ see e.g. recent publications by the European Agency for Safety and Health at Work in the Context of the European Week for Safety and Health 2000 or the Swedish 2001 EU Presidency Initiative Worklife 2000 and the results of labour force surveys e.g. performed by the Dublin Foundation for the Improvement of Living and Working Conditions complete quotations

⁴⁹ According to a French study, e.g., the proportion of workers declaring strong work pressures has increased from 12 % in 1984 to 40 % in 1998.

Some of these effects cannot automatically be attributed to excessive use of ICT but are a direct consequence of work postures or work organisational aspects related to activities involving ICT.⁵⁰

The European Employment Strategy takes these factors into account by including new risks like repetitive strain and exposure to stress **in the list of quality indicators** to be further developed.

... the policy response needs to be enhanced at all levels ...

As concerns specific health aspects of ICT, **legislation is in force to address display screen** use but **other safety aspects** are still under consideration and should be **speeded up**:

Workers are protected against the risks involved in working at **computer screens** by the provisions of Council Directive 90/270/EEC on the minimum safety and health requirements for work with display screen equipment. The Directive requires employers to perform an analysis of workstations in order to evaluate the safety and health conditions for workers. Employers are obliged to plan workers' activities so that daily work at the display screen is periodically interrupted by breaks or changes in activity. Workers are entitled to have appropriate eye and eyesight tests before commencing any display screen work, at regular intervals thereafter, and if they experience visual difficulties. An annex lays down the minimum requirements concerning the components of the workstation: the image on the screen must be stable, the keyboard must be separate and radiation must be at negligible levels.

Many of the key **other health aspects** of the use of the equipment associated with information and communications technologies are the subject of a **long-standing draft directive** first proposed by the Commission in 1992. The proposed directive "on the minimum health and safety requirements regarding the exposure of workers to the risks arising from physical agents" (COM(92)560) covers four physical agents: noise, vibrations, electromagnetic fields and optical radiation.⁵¹

A new Community health and safety strategy for 2002-2006, to be presented by the Commission in early 2002, will reinforce the EU's commitment to achieving the highest health and safety standards on the workplace addressing also new risks.

Within this framework, exchange of practices should further stimulate the adaptation of **national health and safety policies** to new risks.

In **Sweden**, the government recently adopted an "11 point programme" to promote healthy workplaces in a Knowledge based Society.⁵²

⁵⁰ In this respect, also other new risks related to e-work need to be prevented (e.g. respect of health and safety provisions for teleworkers, e.g. at home [see section B], or dangerous mobile work while driving.)

⁵¹ Currently, only provisions relating to noise have been adopted, a common position has been reached concerning vibrations, but it is hoped that the other two fields which are of particular relevance for ICTs will soon become mandatory.

⁵² http://naring.regeringen.se/inenglish/pdf/n2001_056e.pdf

Further, as not all causes of ICT related health risks are appropriate subjects of legal regulation, voluntary efforts by **Social Partners** are decisive. Health and safety at the workplace are also a key element within **corporate social responsibility**.⁵³

In **Austria**, voluntary measures provided by the Austrian Labour Inspection, the Austrian Accident Insurance Board and Social Partners include guidelines for risk assessment and effective technical and organizational measures in relation with ICT work, with a special emphasis on low and medium sized enterprises and guidelines for workers for the assessment of their working conditions. In the **Netherlands**, Social Partners introduced preventive measures in several sectors with a higher risk of ICT-usage (PC work, repetitive actions), supplemented by government action.

Finally, legal provisions and voluntary agreements should be made effective in terms of

- **monitoring of new, arising and known risks and health effects** due to the use of ICT, related to ergonomic, psychosocial and work organisation aspects
- **provision of comprehensive training, advice and consultation** (e.g. related to ergonomic aspects) with a special regard to home workers.

In **Germany**, two pilot projects aim at improving working conditions in **call-centres** (from July 2000 to June 2002), both in the private and public sectors. They analyse health and safety risks for workers of call-centres, and pilot innovative solutions for enhanced working conditions. The project will result in the dissemination of guidelines.⁵⁴

B.8. e-Dialogue in industrial relations

The development of ICT, IS jobs and industrial relations are affecting each other mutually in a various ways (with different results according to the traditions of Social Partnership in the individual Member States):

- first, as underlined across this paper, the knowledge-based economy in general, and the impact of ICT on jobs in particular, **create new issues and challenges for the negotiations between social partners** – ensuring appropriate frameworks for IS skills, new forms of work organisation and flexibility, aspects of health and safety at the workplace, and the balance of privacy and work.

As an example of a list of issues directly related to ICT usage to be addressed according to a trade union perspective, see the campaign of the International association of white collar trade unions UNI "on-line rights for on-line workers"⁵⁵.

- In some cases, trade unions directly support the e-Inclusion of their members.

In **Sweden**, the biggest trade union LO provides cheap computer rental service for their members.

- There is a tendency for **decreasing collective action among knowledge workers:**

⁵³ European Commission, Green Paper on Promoting a European framework for corporate social responsibility (July 2001), p.10

⁵⁴ www.ccall.de , info@ccall.de , www.ver-t-i-call.de

⁵⁵ <http://www.union-network.org/unisite/Sectors/IBITS/ICT/online.htm>

- A more dispersed IS workforce, working flexible hours or teleworking, finds it more difficult to act together.
- Knowledge workers, particularly in some new IS jobs, regard themselves more as professionals, than as workers, preferring thus individual bargaining on working conditions with their employers to the participation in collective action.
- This trend is particularly underlined by research on the segments of the ICT sector concerned with software development and on-line services, which are characterized by extremely low levels of membership in unions and a lack of collective agreements (apart from a few exceptions). But with the current down-turn, new challenges for social dialogue may arise also in these areas.⁵⁶

TAB: ICT employees covered by collective bargaining (source: EIRO, 2001)

| Country | % of employees covered |
|-------------|--|
| Austria | 100% |
| Belgium | 100% |
| Denmark | 60% |
| France | 100% in telecommunications, 73% in IT services |
| Germany | 20% |
| Netherlands | 23% |
| Norway | 70%-75% in manufacturing |
| Portugal | 44% |
| Sweden | 62% |

- On the other hand, social dialogue and worker participation can be substantially improved as trade unions and employers use ICT to communicate with members and employees. Individual workers can express their views more easily to their representatives at company level, trade unions or employers.

This communication can have a **positive effect on the effectiveness of the “consultation economy”** and, thus, on the quality for change.

In the **Netherlands**, Internet facilities are used to communicate the results of the regular consultations between the government, employer organisations and trade-unions, e.g. about wage-developments, pensions, employability and parental and educational leave, to lower levels of employer organisations and trade-unions, but also directly to employers, work-councils and employees. More intensively, the Confederation of Christian Trade-Unions (CNV) uses internet-facilities to develop effective contacts with works-councils, for instance by providing support to increase the influence of works-councils on strategic issues.

- The scope of ICT usage has frequently become subject to agreements (at company level), regulating the **boundaries between company's and the union's "on-line-sphere"**. Such agreements exist both in the private sector...

In **France**, the automobile industry and other big enterprises have reached agreements determining the conditions under which the trade-unions and worker representatives are allowed to use ICT tools provided by the company (concerning the use of the mailing system, the access and presence on the company's intranet, the training of personnel representatives, creation of web site etc.). In these cases, employees are generally allowed

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EIRO report on IIRR in the ICT sector

<http://www.eiro.eurofound.ie/2001/08/study/TN0108201S.html>

to individually communicate with their trade union, but the mailing system can not be used for collective diffusion of manifests.

... and in the public sector.

In **France**, every ministry defines a "charte" on the e-relations between trade unions and public employees. Further, until 2002, all ministerial intranets will be provided with a discussion room to encourage an open debate among civil servants on the implementation of policies, but also on the methods and difficulties of work organisation.

- Finally, ICT can lead to new forms of "trade unions" with virtual character, focusing on on-line service across territorial borders.

As a result of combined efforts of various international and national trade unions, led by UNI, a new site <http://www.e-tradeunions.org> has been set up end 2001 to provide advice to union "web-workers" across the world.

Part C: Conclusions

This report underlines that the basic assumptions and policy objectives set-out in the "Strategies for Jobs in the Information Society" are not rendered invalid by the recent slow-down in some segments of the ICT sector. On the contrary, the **impact of the Information Society on employment continues to grow** spreading throughout the economy – with ICT usage increasing as predicted, e-business successfully entering traditional firms, and shortages of ICT and e-business experts remaining a real concern.

The Information Society contributes to creating more jobs, but also to ensuring better jobs. The report highlights **the added value of IS jobs for enhancing quality employment** – particularly in terms of increased responsibilities, adaptable skills, new forms of work organisation, additional opportunities for flexibility and work-life balance, especially through telework, as well as facilitating access to the labour market.

However, this **quality potential is still far from being fully exploited**. The "quality gap" **reduces the actual benefits of the IS** for individual workers or job-seekers. The lack of adequate investment in human capital and work organisation also impedes the innovation and productivity potential of ICT for the EU economy.

Furthermore, new risks to certain quality aspects of employment emerge due to the Information Society – e.g. gender inequality in IS expert jobs, excessive uncertainty, loss of social safeguards for e-workers, on-line surveillance, new health and safety concerns. The evaluation and **prevention of these new risks needs to be further enhanced**.

In today's economic climate it is all the more necessary to **tap the potential of Information Society jobs for managing change** and for sustaining the next economic up-turn. **Public authorities together with the Social Partners** need to step up their efforts to provide appropriate framework conditions and incentives to further increase the quality value of IS jobs.

Based on the analysis and the practices set out in the report, the **ESDIS High Level Group**, composed of representatives of the Member States, highlighted in particular the **urgency of addressing these challenges**, across all relevant policies and at appropriate levels, recalling the key role the Employment Guidelines attach to the Social Partners in this context: (see details in Annex)

Investing in the quality drivers of Information Society jobs will contribute to enhancing quality employment in Europe, and should, eventually, also materialise in further increasing the Information Society's **quantitative impact on employment** by making change happen.

Annex . Key challenges identified by ESDIS

- *to provide all workers with the **appropriate training to effectively benefit from IS workplaces**, and stressing in particular the need for:*

- mainstreaming ICT related skills in vocational training activities,
- promoting the up-take of EU-wide basic ICT skills accreditation including, for example the European Computer Driving Licence (ECDL);
- combining technical ICT literacy with contextual skills, linked to the transformation of working methods,
- continuously up-dating IS skills in line with technological and organisational change;
- enhancing support to workers of small enterprises which lag behind in IS skills;
- encouraging the usage of appropriate e-Learning facilities at the workplace;

- *to facilitate the **retraining to high-quality ICT and e-business expert jobs**, with the dual objective of enhancing the adaptability and employability of workers and reducing skills shortages (supplementary to the further increase in ICT related education), in particular by:*

- targeting conversion courses with widely recognised certificates, based on an improved analysis of labour market needs and career-perspectives in IS jobs;
- enhancing incentives for people at risk in the labour market, particularly older ICT experts, to take-up such retraining courses;
- considering the conversion to IS job opportunities in the policy response to mass-redundancies;
- fostering the co-operation with industry in this context;

- *to integrate the development of ICT at workplaces into an **holistic approach to changes in work organisation**, and stressing in particular the need for:*

- consulting workers on the ICT development at their workplace;
- providing appropriate training on new tasks and working methods due to ICT induced reorganisation;
- exploiting ICT for transforming workplaces to pro-active learning organisations, creating positive effects on innovation and social capital;
- networking workplaces for sharing and applying best practices;

- *to exploit the benefits of flexible forms of work provided by ICT and their positive impact on the **work-life balance**, while preventing negative effects on the security of workers, recalling the invitation to the Social Partners to develop the framework conditions for modern work organisation under the Employment Guidelines, and considering in particular the need for:*

- encouraging flexible time arrangements which tap the potential of e-work in a way that creates benefits for both, workers and employers;
- while preventing excessive workload due to flexible e-work at home, taking also account of gender-specific effects and the needs for childcare;
- recognising the appropriate private usage of ICT at the workplace as an aspect that increases the quality of work;
- setting conditions for on-line surveillance and monitoring at workplaces, welcoming the ongoing efforts in this respect at European level to provide further classification and guidance;
- encouraging the exchange of ICT skills across national borders and on-line services furthering Europe-wide employment mobility, recalling the recommendations of the High Level Task Force on Skills and Mobility;

- *in particular, to **improve the framework conditions for telework** responding to the widespread interest in it among workers:*

- welcoming that the negotiation on telework has become an important issue in the agenda of European Social Partners with a view to agreements on telework;
- reaping the benefits of the exchange of good practices, including fiscal measures, consultancy services, and the provision of infrastructures;
- considering the gap between the high number of home computers used for work and the significantly smaller proportion of declared teleworkers;
- paying attention to new perspectives of mobile e-work and developing framework conditions in line with technological progress;

- *to overcome the significant gender inequalities which still prevail in **IS training and jobs** and especially the underrepresentation of women in **high quality IS expert jobs**, in particular by:*

- increasing the attraction of these jobs to women through appropriate awareness raising and a review of curricula;
- encouraging the up-take of women across all IS training activities preparing for quality jobs, starting with a reinforced focus on technological subjects in secondary education;
- making working conditions in ICT industries more attractive;

- *to tap the Information Society's potential for **facilitating the access of disadvantaged people to the labour market**, recalling the recommendations of its "Report on e-Inclusion" and, inter alia, stressing the need for:*

- mainstreaming basic ICT literacy in activation measures for the unemployed, noting with interest the Spanish proposal for developing Europe-wide training modules as set-out in this report;
- putting an emphasis to raising IS skills among female job-seekers, particularly after longer periods out of work;
- ensuring that activation measures in IS skills (beyond basic literacy) do not only prepare for low-end jobs, but enable the taking-up of quality IS jobs;

- *to **effectively prevent new health and safety risks** due to the Information Society, including physical impairments and psycho-social effects, in particular by:*

- speeding-up pending legislation and reviewing existing legislation concerned with such risks, in line with the Community's new health and safety strategy;
- underlining the importance of corporate social responsibility to enhance voluntary prevention;
- enhancing the monitoring, consultation and training on new health and safety risks;

- *to stimulate new forms of **e-dialogue and governance in industrial relations**,*

- encouraging the usage of **on-line communication** among Social Partners as well as between workers and their representatives;

- *to promote the development of **ICT equipment and software that responds to the quality needs of workers and workplaces**, including:*

- improving on-line help;
- facilitating the organisation of information to prevent overload;
- enhancing different aspects of ICT security;