



Recommendation 1314 (1997)¹

Final version

New technologies and employment

Parliamentary Assembly

1. The new technologies are generally held responsible for major economic and social changes taking place in our societies, in particular the negative consequences such as unemployment. However, the dynamic relationships between technology and employment are complex: the quality of employment has tended to improve but technology's quantitative effect has been more uncertain.
2. Often these relationships are described as a form of "creative destruction", which means that initially the introduction of a new technology may lead to social and economic upheavals. The positive effects are felt only much later and result from the dissemination and widespread use of several innovations linked to the new technology. These knock-on effects are known as "technological clusters".
3. In reality, the effect on employment is only one of the numerous features of the new technologies. Their mass introduction utterly transforms the organisation of production and labour, the functioning of economic and financial institutions, the education system, and so on. The success achieved by the introduction of a new technology therefore depends to a large extent on the length of time needed for society to reorganise and adapt. Periods of expansion and growth only follow once this new "techno-economic" or "techno-social" model has been implemented.
4. Like steam, electricity and the automobile which have profoundly altered our societies, a new revolution is now under way. This revolution is tied up with the history of computers and, having radically transformed industrial life (robotics) and services (computerised office equipment), it is now reaching fever pitch with the introduction of new information and communication technologies (ICT).
5. More than any other new technology being developed (biotechnologies, new materials, and so on) ICT have the potential to bring about a radical transformation by bypassing space and time in disseminating information. In a world economy based on knowledge, it is obvious that ICT are particularly tailored to needs, which means that they are full of promise. However, their effects are still few and far between.
6. As far as the putative effects of ICT on employment are concerned, reactions vary from optimistic euphoria to complete scepticism. Despite the often reassuring declarations from the Commission of the European Union and OECD, at present, ICT possibilities are under-exploited and the multimedia industry, on which so many hopes are pinned, does not seem to be a sufficiently strong source of growth.
7. It must be concluded that, regardless of their quantitative effects on employment in the short and medium term, ICT must also be appraised in respect of their qualitative impact on tomorrow's working patterns. Although there is no doubt that the ICT hold promise of a rich harvest of attractive and interesting jobs for many Europeans, they may also create exclusion among those who find it difficult to switch from working in a "real" world to working in a "virtual" world.
8. The action to be taken by the authorities concerning the relationship between new technologies and employment is doubly difficult: on the one hand, there is no simple response, and the overall strategy must be multidimensional and include structural, macro-economic, educational and other policies. On the other hand, a

1. Assembly debate on 30 January 1997 (7th Sitting) (see [Doc. 7713](#), report by the Committee on Science and Technology, rapporteur: Mr Beaufays; and [Doc. 7727](#), opinion by the Social, Health and Family Affairs Committee, rapporteur: Baroness Hooper). Text adopted by the Assembly on 30 January 1997 (7th Sitting).



sensible balance must be struck between a strong tradition of ethics and social solidarity, a feature of European society, and the urgent need for the system to adapt itself. It should be recognised that saving condemned jobs "at any cost" is only treating the symptom and slowing down the process of creative destruction. A general principle, however, should be to concentrate on developing technologies that create jobs rather than those that may lead to job losses.

9. The authorities nevertheless have the possibility and the duty to act as a catalyst in co-ordinating the introduction of new technologies and developing human resources. The Assembly therefore asks the Committee of Ministers to invite the governments of the member states to take inspiration from the following measures which, although not an exhaustive list, represent the vital elements for integrating the new technologies and, in particular, switching to an information society as smoothly as possible:

- i. improve access to knowledge and its diffusion, strengthen the links between industry, universities and research bodies;
- ii. encourage the redirection of the whole education system in order to prepare the younger generation for the new conditions and new methods for organising work (recycling, half-time working, home working, flexitime working, and so on), for the greater importance of services and the increased value of creative and non-repetitive activities, in particular to strengthen education and training in science and technology in schools in order to prepare the public better for the upheaval created by technological advances and facilitate their occupational adaptation in the future;
- iii. ensure that basic education bridges the gap between the sciences and humanities, concentrates on abilities to learn and encourages a positive attitude to retraining for alternative employment;
- iv. adapt health infrastructures to the evolution of illnesses, such as stress, related to the new technologies;
- v. revise legislation relating to employment conditions and pay in order to take account of the impact in particular of new information and communication technologies on working conditions (the new cottage industries);
- vi. greatly improve diagnostic tools in order to gauge the performance of research and development nationally and create machinery to improve the evaluation of the current or projected effects of new technologies; this forecasting exercise (technology watch) must be carried out very early in the process in order to avoid mismatches between technological development and the maintenance or improvement of social standards;
- vii. start a Europe-wide dialogue to compare experiences and draw up an inventory of "good practices" (of successful cases) of management and structural adaptation concerning the impact of new technologies;
- viii. implement incentives to encourage better organisational measures in businesses, including their human resource strategy, and create the infrastructures needed to optimise the application of ICT and their beneficial side-effects for competitiveness and, by extension, their potential spin-off for job creation;
- ix. assist the innovative and job-creation capacity of small and medium-sized businesses by facilitating their access to international innovation networks, in particular those businesses whose technology has a high expansion potential;
- x. take advantage of work relocation possibilities offered by new ICT in their job creation policies in disadvantaged areas, nationally and Europe-wide;
- xi. encourage regional and local authorities to play a constructive role in installing information highways, thereby influencing spatial planning and social and economic policy, in particular by taking part in job-creation, professional mobility, electronic trading, and, in so doing, generally mobilising the assets of their respective region or city;
- xii. set up an appropriate framework for industrial dialogue and collective bargaining adapted to the new working methods introduced by the new ICT, taking special account of the following factors:
 - a. social relationships must be remodelled to avoid dangers of exclusion or fragmentation of the community as a result of the current developments; public authorities must monitor this carefully;
 - b. the traditionally vertical pattern of professional sectors and branches, determining social relations, but no longer corresponding to the new reality, must be reviewed and rectified;

- c. the new jobs and duties created by the ICT, such as teleworking, working in virtual teams, and so on, must be given a clear and stable status, and their effects on company and family life must be studied

10. The Assembly recommends that the Committee of Ministers instruct the appropriate intergovernmental steering committee to examine in depth whether the advent of the new ICT and the measures called for should not lead to a re-evaluation of working time.