
Appendixes

1. The first appendix contains a list of the names of the members of the committee who were appointed to study the problem of the...
2. The second appendix contains a list of the names of the members of the committee who were appointed to study the problem of the...
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Notes on Computer Work Monitoring in Other Countries

Introduction

Because the American economy is so tied to the global economic structure, increasing attention has been given to approaches taken by other industrial nations in their efforts to maintain a competitive edge and adapt to microelectronic technology. It is helpful to look at the experience of other countries in evaluating what lessons might be learned with respect to work monitoring. There are a number of ways in which the different legal structure and the institutional structure of labor relations has resulted in different policies toward monitoring.¹

The American labor relations system and labor law model differ importantly from many other industrial nations. Most other industrial democracies have a higher level of unionization. Table 17 shows the approximate percentage of the work force that is unionized in the United States and in 15 other developed countries. Given the higher level of union participation in the work force in some of these countries, unions have naturally had a greater influence in a wide variety of workplace

¹Parts of this section draw heavily from Steven Deutsch, "The International Context of Labor-Management Relations: Implications for Workplace Monitoring," paper prepared for OTA, 1986.

Table 17.—Percent of Unionized Workers by Country

United States	22%
France	23
Japan	30
Canada	35
Switzerland	35
West Germany	40
Netherlands	40
Italy	50
Ireland	50
Britain	52
Austria	60
Belgium	65
Norway	65
Denmark	70
Finland	85
Sweden	90

SOURCE: Alan Westin and Russell Pipe, "Electronic Monitoring in Other Industrialized Countries," contractor report prepared for OTA, 1986.

issues, including introduction of computer technology and use of work monitoring. In addition many of our competitor nations have a tradition of governmental involvement in labor relations and a more developed tripartite government-labor-management approach to industrial policy, economic development, and growth. This approach has no real equivalent in this country, but there are increasing calls for some efforts in this direction.

A tradition of worker participation, including employee involvement in applying new technology in factories and offices, is also more developed in some other industrial countries. In some countries, this participation depends almost entirely on the collective bargaining process, as for example in England, Australia, and Canada, where the adversarial labor relations model is closer to that of the United States. In others, however, worker participation or "co-determination" is required by law, as in Sweden, Norway, Germany, and Holland. In some of these countries as well, work environment laws define certain workplace rights and give guidelines for job design. Tables 18 and 19 list some work environment legislation. The Norwegian Work Environment Act of 1977 reads, in part:

General requirements.—Technology, organization of the work, working hours and wage systems shall beset up so that the employees are not exposed to undesirable physical or mental strain and so that

**Table 18.—European Work Environment Acts
Providing Goals for Changing Working
Conditions During Office Automation**

Federal Republic of Germany	The Works Constitution Act of 1972
The Netherlands	Working Environment Act of 1980
Norway	Work Environment Act of 1977 ^a
Sweden	Working Environment Act of 1974
Denmark	Act Respecting the Working Environment
German Democratic Republic	Labour Code as Amended, June 1977

^aThese Acts deal with all working conditions, thus are specifically applicable to office automation.

^bAlso known as Act Respecting Worker's Protection and the Working Environment

SOURCE Office of Technology Assessment, 1984

Table 19.—European Acts Requiring Employers To Provide Information About New Technology and Worker Representation in the Decisions About the Quality of Worklife

Country	Information provision	Work representation
Federal Republic of Germany	Works Constitution Act of 1972 ^a	Works Constitution Act of 1972
The Netherlands	Works Council Act of 1979 ^a	Works Council Act of 1979
United Kingdom	Employment Protection Act of 1975	Employment Protection Act of 1975
France	Act No. 82-915 of 28 October 1982	Act No. 82-689 of 4 August 1982
Sweden	Act Representing Co-Determination of Work of 1976 ^b	Act Representing Co-Determination of Work of 1976

^aInformation is provided to a Work Council which can be a cross-section of all interested parties including government, industry, and labor.

^bInformation is provided to the worker or worker representative.

SOURCE: International Labour Organization, *Automation: Work Organization and Occupational Stress* (Geneva, Switzerland)

their possibilities of displaying caution and observing safety measures are not impaired. . . .

Arrangement of work.—The individual employee's opportunity for self-determination and professional responsibility shall be taken into consideration when planning and arranging the work.

Efforts shall be made to avoid undiversified, repetitive work and work that is governed by machine or conveyor belt in such a manner that the employees themselves are prevented from varying the speed of the work. Otherwise efforts shall be made to arrange the work so as to provide possibilities for variation and for contact with others, for connection between individual job assignments, and for employees to keep themselves informed about production requirements and results.

Control and planning systems.—The employees and their elected union representatives shall be kept informed about the systems employed for planning and effecting the work, and about planned changes in such systems. They shall be given the training necessary to enable them to learn these systems, and they shall take part in planning them,

This law, and the Swedish Work Environment Act of 1978, were both based on evidence that machine-paced, monotonous work, done in social isolation and involving shift work, leads to unhealthy outcomes in both emotional and physical terms.²

There is a well-established international communications system across management and union circles which has shared research results and ex-

perience in job redesign, improvement of working life quality and participative management. There is evidence of a substantial growth of a more participative and cooperative trend in the American labor-management relations community,³ and the Federal Government has started an initiative on labor-management cooperation in the U.S. Department of Labor.⁴

Since collective bargaining covers only one-fifth of the American work force, other initiatives have been explored by advocates and policymakers, including the use of occupational safety and health laws and agencies (which somewhat parallel work environment laws in other nations that have addressed job stress, work organization and technology concerns). Concern over health effects, stress-related worker compensation claims, are among the driving forces for reform here. Thus far, only modest changes in Federal legislation and standards, such as the OSHA hazard communication standard, have been seen. More activity seems focused at the State and local level in efforts to pass legislation to protect employees against possible health and safety hazards associated with video display terminals (VDTs.) European developments have been a significant stimulus for some of this effort.

²Bjorn Gustavsen and Gerry Hunnius, *New Patterns of Work Reform: The Case of Norway* (Oslo: Oslo University Press, 1981); Bertil Gardell and Bjorn Gustavsen, "Work Environment Research and Social Change: Current Developments in Scandinavia," *Journal of Occupational Behavior*, vol. 1, January 1980.

³For example *Business Week*, "The Hollow Corporation," Mar. 3, 1986; Steven Deutsch and Sandra Albrecht, "Worker Participation in the United States: Efforts to Democratize Industry and the Economy," *Labour and Society*, vol. 8, July-September 1983, pp. 243-269.

⁴See U.S. Department of Labor, Bureau of Labor-Management Relations and Cooperative Programs, *U.S. Labor Law and the Future of Labor-Management Cooperation*, BLMR 104 (Washington, DC:1986).

Policy Approaches to Monitoring in Selected Countries⁵

West Germany

Both the West German Trade Union Federation (DGB) and a number of individual unions have been active in trying to set ergonomic and work environment standards for VDT users. In 1979-80 German unions opened a campaign to write "model codes" for VDT work into both industrywide and plant-level agreements. These models included a ban on individual monitoring, for example: "It shall not be permitted to monitor the performance of workers, for the purposes of measurement, control, or comparison, by use of the installed [VDT] equipment."⁶ A study of about 50 actual contracts concluded during this period found that work monitoring clauses like the above were often included. Part of the concern about monitoring arises at least partly from the fear of social isolation of monitored workers. A study of bargaining agreements found that such clauses are often included in actual labor management agreements as well.

Another example of a clause preventing monitoring comes from the 1984 contract between the Commerzbank AG and the bank employees' union:

The performance or behavior of employees shall not be effected by means of existing or planned EDP. Data and programs which serve to verify performance or behavior shall be erased. . . . ; A guarantee shall be given that personal data on the employees which are a by-product of the working process or which can be deduced from work process data will not be such as can be used or interpreted as a check on personnel behavior or performance.

An interesting feature of the West German labor relations scene is the Works Council, an elected group which management must consult in all matters of "internal order" in an enterprise; its functions are independent of the collective bargaining process. Works councils are active in the process of 'co-determination,' that is, they represent the employees' voice in the selection of technology and

in other matters. According to the Act on Works Constitution, which created works councils, . . . the works council will, if no statutory rules or collective bargaining agreement exist, co-determine: . . . the introduction and use of technical installations that are intended to monitor conduct or performance of employees.

Norway

There *is an* understanding in Norway, among both unions and employers, that the work measurement capabilities of new office technologies have great potential for increasing productivity and helping in planning and management of work. However, there is a strong aversion to using the information for individual performance measurement.

The general trend is to use the work monitoring system to collect information, but to only use aggregate data. The social security administration, for example, recently introduced a computerized case handling system. The daily work statistics on individuals are collected by the system, but the reports issued are aggregated by work groups. At the present time the data are available to both union and management as part of an experiment designed to test the productivity of two different work organization approaches.

Similarly, the bank union has included in its technology agreements with employers that data on work volume and speed be used only at the work group level:

. . . local regulations laid down under the collective agreement are designed to ensure that such information . . . is not used to evaluate employees. The union points out that the only way to assess the impact on employment and working conditions of new technologies. . . is by using such work measurement devices. However the union stresses the importance of controlling the use to which the information is put,

Sweden

The Swedish Codetermination Act of 1976 requires that employee representatives participate in decisions about computer system design, including the possible use of electronic monitoring. Further, The Work Environment Act of 1978, which guarantees workers the right to a "satisfactory" work environment, is generally interpreted to mean that jobs should be designed to avoid machine pacing or individual computer monitoring, if possible.

Electronic monitoring systems, as negotiated between employers and unions, are generally only used to measure group performance, as in Norway.

⁵Much of the information in this section comes from Alan F. Westin and Russell Pipe, "Employee Monitoring in Other Industrialized Democracies," contractor report prepared for OTA, 1986.

⁶"West Germany: Workplace Agreements on New Technology," *European Industrial Relations Review*, No. 106, November 1982, pp. 7-9. Cited in Alan F. Westin and Russell Pipe, "Employee Monitoring in Other Industrialized Democracies," contractor report prepared for OTA, August 1986, p. 23.

However, in some cases, where the union has agreed to the necessity, individual monitoring can and has been used. This has been the case, for example, where computers are used to keep track of inventory in order to prevent theft. In addition, nonunionized temporary workers are sometimes paid by piece rates, so their work is sometimes monitored electronically.⁷

Canada

Canada has a voluntaristic labor union system similar to that in the United States, although the level of unionization is higher. There are no specific provisions dealing with work monitoring in any of Canada's national or provincial labor codes, nor have there been any regulations on monitoring issued by national or provincial regulatory authorities, although several have been considered. What limitations on employer conduct that have taken place have been the result of (a few) collective agreement clauses negotiated on that topic, or arbitrator rulings interpreting rights of employees under contract.

Electronic monitoring appears to be fairly common in Canada, in the same sorts of work it is applied to in the United States. Service observation is also an established practice in the telephone industry and in other types of telephone customer service.

A survey conducted for the Canadian Labour Congress' (CLC) 1980 study of VDT health and safety issues found that monitored workers experienced stress-related illnesses (general tiredness, irritability, headaches, and sleeplessness) to a greater extent than nonmonitored workers. As a result, the report recommended that "direct electronic monitoring of individual worker's activities and productivity be discontinued." Where productivity monitoring was deemed necessary, the report suggested that indirect or aggregate monitoring techniques be used.

Canadian unions began mobilizing around VDT related issues, including work monitoring, in the early 1980s. Model contracts proposed by the Canadian Union of Public Employees and the Canadian Labour Congress, among others, contained language barring monitoring of individuals. For example:

It is recognized that volume measurement may be necessary to obtain an objective evaluation of the level of production of a group, a section or an office. However, there shall be no individual work measurement.⁸

Such language has been adopted in a few contracts. The Postal Workers, for example, negotiated for work measurement by group in 1981 when new equipment was installed. The Telecommunications Workers got a coremitment from British Columbia Telephone Co. that data collected on computerized cash registers at Phone Marts would be used only for inventory purposes, rather than individual performance.

A task force appointed by the Canadian Ministry of Labour also addressed the question of electronic monitoring in its 1982 report *In the Chips: Opportunities, People, Partnerships*. The task force considered monitoring "the most serious manifestation" of the introduction of new office technology, pointing to the stress, performance pressure, and lack of autonomy suffered by monitored workers.

The Task Force regards close monitoring of work as an employment practice based on mistrust and lack of respect for basic human dignity. It is an infringement on the rights of the individual, and undesirable precedent that might be extended to other environments unless restrictions are put in place now. We strongly recommend that this practice be prohibited by law.

The Task Force recommendations were in general considered too sweeping, too costly, and too "pro-labor" and were not endorsed by the Ministry of Labour. However, there have been attempts to pass legislation at the provincial level to create ergonomic standards for VDTs and to ban individual monitoring. Legislation was introduced in Ontario, British Columbia, and Saskatchewan between 1981 and 1985, but none of the bills passed.

Japan

Interviews and published reports indicate that individual electronic monitoring is not common in Japan. This may be due in part to the still low penetration of automated equipment into offices there, but is most strongly related to cultural values toward work. According to an executive of one computer firm:

Individual work monitoring is not an issue in Japan. Employers do not measure individual output and make individual judgments on that basis. If

⁷Interview with Elizabeth Lagerlof, Labor Specialist, Swedish Embassy, Mar. 26, 1986.

⁸Canadian Union of Public Employees, Model contract on Technological Changes, 1982. Cited in Westin & Pipe, op. cit.
⁹Westin

they tried to do that, unions would complain, because it would violate the union-company attitude toward worker productivity. The climate in our workplaces is for employees to work hard, and for the whole work group—employees and managers—to strengthen the norm of hard work. We would not measure each person.

In one documented case, individual monitoring has been used, not to increase worker performance, but to insure that employees did not hurt themselves by working too hard. In the 1960s, a wave of repetitive strain injuries among keypunch operators was attributed to the high number of keystrokes they performed daily. Several companies and unions proposed voluntary limits on keystrokes and in 1964 the Ministry of Labor issued a guideline of 12,000 keystrokes per hour. The guideline also called for breaks of 10 to 15 minutes per hour of work, a total of 300 minutes keypunching per day, and regular medical exams. To enforce these guidelines, employers have monitored individual performance, at least on a test basis. These Ministry of Labor guidelines are still in use, and are the model for updated guidelines now being considered for VDT work. ”

Privacy Legislation

Most Western European nations have privacy legislation intended to ensure that personal privacy is not eroded as a result of data processing applications. Most of these laws were passed in the 1970s, beginning with Sweden's Data Act of 1972; this was the same epoch as the work of the U.S. Privacy Protection Commission (final report in 1977), the passage of the Privacy Act, and several other privacy-related laws in the United States.

Unlike the approach of the United States, however, European laws do not leave it to the injured individual to complain or sue if he or she believes that personal data has been misused. Rather, independent government agencies (data protection authorities) were created to supervise and enforce prescribed data handling practices. All databases containing *personal* information must be registered with the data protection authority so that their use can be supervised. In most cases, this applies to both government and private databases. One principal focus of the data protection authorities has been to prevent linking of databases to build up “profiles or “dossiers” of citizens.

¹⁰Westin and Pipe, *op. cit.* Information compiled by Alan F. Westin, from interviews with industry, legal, and academic experts, Tokyo, May 1985.

Table 20 outlines the main provisions of legislation of 11 nations that use the Western European model of privacy protection. These features generally include a requirement that the data be collected for legitimate reasons and used only for the specified purpose, and that the individual have the right to inspect the data. In some countries, citizens can withhold sensitive information; anyone storing it in a database without their consent would be in violation of the data protection law.

While the words “work monitoring” do not appear in the privacy legislation of any European country, computerized work monitoring is covered by data protection legislation to the extent that: 1) information is collected and stored by computer and 2) information can be related to a specific employee. Table 21 indicates coverage of computer usage monitoring, telephone call accounting, and work measurement records under the laws of 11 nations.

Although records created by work monitoring are covered by privacy laws in these nations, it appears that these laws have not been used extensively to prevent or modify any monitoring practices that unions or individual workers might have found objectionable. Data protection authorities have been preoccupied with their first-line responsibility of bringing major government and private databases into compliance with the law, and recently have had to deal with increasingly frustrating problems of enforcing the laws in an era of proliferating personal computers. There appear to be no jurisdictional problems involved with data protection authorities becoming involved in the case of some inappropriate use of work monitoring records; data privacy officials in some countries have expressed increased interest and frustration with their inability to regulate such aspects of the new information technologies. It appears that the unions, works councils and labor courts have not requested their involvement. Thus, trade unions and labor law will continue to be the focal point of actions to deal with monitoring.

Privacy Legislation and Telephone Call Accounting

In West Germany, telephone call accounting has been the topic of at least two court cases and the subject of a continuing disagreement between the privacy commission and the Federal government. The privacy commission objects to collecting records of personal telephone calls by government employees and urges utmost restraint even in keep-

Table 20.—Main Provisions of Foreign Personal Data Protection Legislation Relevant to Coverage of Employee Monitoring

National legislation													
Provisions	Austria	Canada	Public Denmark	Private Denmark	France	Germany FR	Iceland	Israel	Luxembourg	Norway	Sweden	UK	
Scope of application:													
Central government			Y	Y	Y	N	Y	Y	Y	Y	Y	Y	
Provinces/states			Y	N	Y	N	Y	Y ^e	Y	Y	Y	Y	
Private sector			Y	N	N	Y	Y	Y	Y	Y	Y	Y	
Covers all information traceable to identifiable individuals	Y	Y	Y	Y	Y	Y	N ^f	N ^g	Y	Y	Y	Y	
Information collected and/or processed using computers			Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Limits placed on personal data collection		Y	Y	Y	Y	Y	Y	Y ^d	Y	Y	Y	Y	
Personal information must be collected for specified, legitimate purposes			Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Individuals have right of access to inspect personal information	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Sensitive personal details specified (collection only with data subject's knowledge and consent)			N	N	Y	Y	Y	N	Y	Y	Y	Y	

KEY: Y = Yes; N = No

^aCovers information concerning private affairs, such as financial situation of individuals.

^bCovers information on an individual's personal status, intimate affairs, economic position and vocational qualifications.

^cCollection of personal data limited unless it is "natural part of the normal operations of an enterprise."

^dCollection of personal data limited unless it serves the purpose of a contractual relationship or there is a legitimate interest in (a business) storing it

^eState laws may be enacted that for personal data maintained by the public sector.

SOURCE: Russell Pipe and Alan F. Westin, "Employee Monitoring in Other Industrialized Democracies," contractor report prepared for OTA, 1986.

Table 21.—Applicability of Foreign Personal Data Protection Legislation to Employee Monitoring

National legislation													
Type of monitoring	Austria	Canada	Public Denmark	Private Denmark	France	Germany FR	Iceland	Israel	Luxembourg	Norway	Sweden	UK	
Employee computer-usage monitoring (by IDs, terminals, and passwords)	Y	Y	Y	Y	Y	Y ^a	U ^b	Y ^c	Y	Y ^a	Y	Y	
Telephone-call accounting	Y	Y	Y	Y	Y	U	U	Y ^c	Y	Y ^a	Y	Y	
Work measurement	Y	Y	Y	Y	Y	Y ^a	Y	Y	Y	Y ^a	Y	Y	

KEY: Y = Yes; U = Uncertain.

^aPersonal data covered by this law must be organized or filed so as to be retrievable automatically using identifiers that can be linked to a particular person.

^bInformation must be related to a person's private affairs, such as financial situation.

^cAn official translation (ch. 1, para 2) states that it is an infringement of privacy to: 1) spy on or trail a person in a manner likely to harass him, or any other harassment; and 2) "listen in."

SOURCE: Russell Pipe and Alan F. Westin, "Employee Monitoring in Other Industrialized Democracies," contractor report prepared for OTA, 1986.

ing records of official call destinations. Of particular concern are calls by union representatives and others (counselors, medical services) in sensitive positions. In one agency, on the basis of an unwritten understanding in effect since 1984, calls by the "personnel council" have been channeled through a separate telephone line to bypass the call-accounting system. In general, however the Federal government finds value in call accounting and has not complied with the privacy commissioner's request to terminate the practice and erase previous records. A similar controversy is going on at the state level.

Conclusion

The force of law, tradition of labor-management relations, and the current economic and political milieu have shaped the American approach to deal-

ing with the new technology at the workplace, including electronic monitoring. It is a model which is different in important ways from the more centralized, regulatory, legislated model of employer-employee relations in many other industrial nations. While voluntary and recommended styles of participative management and other approaches towards dealing with microelectronic technology developed abroad may have growing influence in the United States, there will continue to be a distinctly different approach taken in this country in the foreseeable future.