

# The New Process of Work

**Maria do Rosário Alves de Almeida**

*Open University of Lisbon, Portugal*

## INTRODUCTION

Toward the end of the twentieth century, more specifically in the 1990s, many organizations initiated changes in the way they used space and time. New methods of working emerged that gave some organizations the possibility of integrating the physical work environment into their business processes, increasing the occupation density of any given space while simultaneously creating more effective working spaces that promoted interactivity and communication (Comisión Europea, 2002).

This new, multidisciplinary milestone is leading to designs that enable distributed organizations to embrace advances in distributed computing (Conselho da União Europeia e Comissão das Comunidades Europeias, 2000) and virtual networks, bringing together architects, town planners, designers of interiors, experts in information systems, and management of technology, innovation, and quality in linguistics and computer mediated communication. Special attention should be dedicated to studying the interaction between physical spaces and those facilitated by technology, with emphasis on different levels of privacy in different types of space<sup>1</sup>.

The characteristic of *e-Work*, whereby the work is given to the workers without displacements, may constitute a factor that will enable countries to retain their intellectual and highly qualified or skilled workers, who in principal will be more prepared to perform tasks connected with information and communication technologies (ICT). In the age of information, it is possible to be connected while physically decentralized, to keep minds united while people remain apart (Nilles, 1994).

It has been shown that worksite and remote work, more than replacing each other, are complementary, leading to a greater division of workload and more outsourcing, transforming monolithic organizations into less dependent, collaborative networks.

Within the strategy of sustained development and environmental protection defined by the Euro-

pean Council in Lisbon, and extended in Stockholm, Göteborg and Laeken, *e-Work* appears as a specific aspect sanctioned of the new means proposed by the European Commission for regional planning and for inverting trends that are less and less sustainable, such as traffic congestion, emission of greenhouse gases, and intolerable environmental degradation (Comisión Europea, 2002).

The i2010<sup>2</sup> initiative is part of the renewed Lisbon strategy (Commission of the European Communities, 2006). The new strategic framework established by i2010—European Information Society 2010—promotes an open and competitive digital economy and emphasises the role of ICT for innovation in the workplace (European Commission et al., 2006).

## ANALYSIS OF E-WORK CONCEPTS

In terms of conceptualization, the origin of *e-Work* seems to be a 1969 article by Alain Kiron in the Washington Post that introduced the term “dominetics.” Around 1971, Schiff began talking about “flexiplace” (Olson, 1985).

In 1973, Nilles, together with a team of investigators from the areas of engineering, management, and communications, undertook the first telework project entitled “Development of policy on the telecommunications-transportation tradeoff,” partially financed by the National Science Foundation. The final report was published in 1974, followed, in 1976 by the book “The telecommunications-transportation tradeoff: Options for tomorrow.” In his book, Nilles expounded the concepts of “telecommuting” and “telework,” referring to the replacement of displacements to the workplace by work done using telecommunications (Padilla, 1998).

According to Torres (2004), telecommuting and telework signify working at a distance and avoidance the displacement to the workplace.

Nilles pursued his investigation, creating designations and publishing articles and books. One of his

best-known definitions of telework is “Telework is sending the work to the worker instead of sending the worker to work” (Nilles, cited in Torres, 2004).

In 1979, Schiff coined the term “flexiplace” and published one of the first major media telework articles in the Washington Post: “Working at home can save gasoline” (Joice, 1999).

Obviously, the new forms of working are related with remote work. For Olson (1983), remote work is done outside the organization in terms of space and time, being related to the “computerized office” and to the designation of “telecommuting.” According to the investigator, technologies that are interlinked with office informatics such as computer and other types of communication, give workers the possibility of teleworking.

In the early 80s, Gordon (Gil Gordon Associates)<sup>3</sup> hosted the first national conference on telecommuting in the United States of America and established the first nationally recognized newsletter on telework issues (Joice, 1999).

In 1987, based on research, planning, and design work by Fleming, California state government official, and Nilles, the State of California launched the first comprehensive public-sector telecommuting pilot program (Joice, 1999).

For Huws, Korte, and Robinson (1990, cited in Urze, Barroso, & Gomes, 2002), a precondition of remote work, especially telework, is the “computerization of the office.” As well as this, “elusive offices” (ones that do not actually exist) are also mentioned, referring to organizations that control activities indirectly, via network of contracts with suppliers, with direct control over marketing, distribution and sales operations. For these researchers, these three aspects, office computerization, telecommuting and remote work are the core of the telework concept.

Other authors have considered telework as home-based works (i.e., work done at home with ICT support). However, there is a problem with defining the term “at home” as it is normal that some workers occasionally work at home, as well as those who work at home and visit clients or employers, being able to carry out their company activities during broad time periods. However, according to Huws et al. (1990, cited in Urze et al., 2002), the fact that certain individuals work from home using ICT does not necessarily mean they should be classed as teleworkers. Employees of decentralized organizations that are linked by electronic communica-

tion systems may also not be considered as teleworkers. Furthermore, they believe that telework should be based on a contractual relationship, whether by subcontract, self-employment, employed by another, or on temporary contract. In the view of these authors, the concept of telework centers on three essential elements: where the work takes place, use of electronic equipment and the communication between teleworker and contractor or employer, and it consists of the following:

*We define telework as work the location of which is independent of the location of the employer or contractor and can be changed according to the wishes of the individual teleworker and/or the organisation for which he or she is working. It is work relies primarily or to large extent on the use of electronic equipment, the results of which work are communicated remotely to the employer or contractor. The remote communications link need not be a direct telecommunications link but could include the use of mail or courier services (Huws et al., 1990).*

According to Martino and Wirth (1990, cited in Silva, 2000), telework is “work undertaken in a place where, separated from central offices or production centers, the worker does not maintain personal contact with his colleagues, but is in a position to communicate with them by means of technologies.”

For Rubinstein (1993, cited in Baptista, 2003), telework consists of “a professional activity carried out at distance, owing to interactive use of new information and communication technologies, which applies to working for someone else or independently, and includes all tasks that involve the use, treatment, analysis or production of information.”

In 1997, the *Livro Verde para a Sociedade de Informação* (Green Book of the Information Society), written by the *Missão para a Sociedade da Informação/Ministério da Ciência e Tecnologia* (Mission for the Information Society/Ministry of Science and Technology), published in Portugal<sup>4</sup>, defined telework as “a flexible mode of working, covering various areas of activity, in which workers can carry out their functions from home or from a workplace (telecenter) for a predetermined percentage of their working hours.”

Based on the investigations that have been undertaken, and attempting to schematize the theories of researchers such as Nilles, Huws, Olson, Gordon, Mullner, and Maciejewski, Korte, and Wynne (1996,

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