

# ICT as an Example of Industrial Policy in EU

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## INTRODUCTION

A substantial part of the economic growth that has taken place within the past 2 decades is related to information and communication technology (ICT). First, the ICT sector itself has achieved very high growth rates. Second, productivity gains in other sectors have been achieved, to a large extent, through implementation of ICT-related innovations. It is, therefore, no surprise that ICT plays an important role in virtually all industrial policy programs. Policies stimulating e-government are one of the ingredients in such programs.

In 2000, the leaders of the European Union (EU) adopted the Lisbon strategy to make the EU the most dynamic and competitive knowledge-based economy in the world (CEC, 2000). ICT was seen as a key component in achieving these goals<sup>1</sup>, and a special program—eEurope—has been designed to realize the Lisbon goals in the ICT area. This program is, however, also a continuation of a wide range of ICT initiatives taken by the EU Commission since 1984.

## BACKGROUND

In the eEurope program, the Commission mentions three types of benefits stemming from ICT:

1. The ICT sector itself accounted for 6% of employment in the EU in 2000
2. ICT improves productivity in other sectors
3. ICT boosts citizenship and quality of life (CEC, 2004a).

Although the third point may, in part, be outside the scope of industrial policy, as it does not directly address the economic sphere, the three points reflect very well the dual aspect of the EU ICT policy, which has been inherent from the early beginning:

- **International Competitiveness:** Telecom is considered to be a high-tech sector of strategic impor-

tance with regard to the generation of employment and economic growth. In addition, telecom is a sector in which the EU has a relatively strong position compared to the United States (U.S.) and Japan.

- **The Information Society:** Telecom networks constitute an essential infrastructure for the information society. Cheap and ubiquitous access to advanced telecom services is, therefore, important for the generation of employment and economic growth in any industry.

The first point is typical for sector-specific industrial policy. The objective is to strengthen an industrial sector deemed to be of particular importance to maintain or even improve the EU position in the international division of labor. The major reason is a high growth potential with regard to employment and contribution to GDP.

The second point is somewhat more related to horizontal industrial policy aiming at improving the business environment in general. Here, ICT is seen as a part of the overall infrastructure used by all industries. It should be noted that this distinction is not completely clear-cut. The argument for industrial policies directed towards a specific sector will often be that a particular sector possesses important spillovers to other industries. For instance, one of the arguments used as justification for the support to the agricultural sector is that agricultural production generates employment in food-processing industries.

The telecom sector itself has often used its importance for the entire economy as an argument for support. This argument has also been widely used by other sectors if they had an interest in affecting political decisions. However, with regard to telecom, there has also been a strong pressure from users—in particular, business users—depending on access to more advanced communication services.

A strong ICT sector may support the development of an information society, and an advanced information society will benefit the ICT sector as it stimulates demand and innovation of ICT products and services. Still, the two objectives are addressing two different groups—users

and producers of ICT—and these groups often have contradicting interests.

## **THE EU RESEARCH PROGRAMS**

The first initiative taken by the Commission was the introduction of a number of European-wide research programs. The ESPRIT program supporting IT research was commissioned in 1984 and the first phase of the RACE program, supporting telecom research, was commissioned the year after. Both programs offered support for so-called pre-competitive research. In this way, any accusations of industry subsidies could be avoided, and it was easier for competing companies to exchange information. The core of the RACE program was to develop technologies for developing a broadband in Europe (a distant goal at that time), and the focus was mainly on providing the basic infrastructure, although very few applications justifying the need for huge investments in optical networks were available. An important objective of the program was also to create an international forum for discussions and cooperation between European telecom companies to establish a common vision for the future European telecom networks and, thereby, facilitate integration of a market fragmented along national borders.

The RACE program was extended and followed by a series of other telematic research programs. However, there has been a gradual shift in focus from development of basic technologies towards development of applications. This reflects a trend towards more application-oriented research as well as a shift towards more focus on the demand side. Also, the kind of participants in the research programs has changed. From the beginning, telecom operators were very active in the programs, but following a reorientation of the telecom operators towards more commercial—and more limited—research and development activities, they have restricted their participation. On the other hand, a large number of small- and middle-size consultancy firms and information technology (IT) companies have engaged in the programs.

## **STANDARDIZATION**

A related activity was the establishment of a European standardization body, ETSI. The creation of this body moved a part of international standardization from ITU into the European framework. In addition, it enabled a more direct involvement from industry partners in the standardization process. Many of the EU-funded research projects participate directly in ETSI so that the research made through cooperation between European industry actors can result in common European standards.

The establishment of a European-based standardization body is not only a way to contribute to the development of a common internal market within the EU. It also contributes to strengthening the role of the EU-based industries in the formation of global standards, and thereby it contributes to an improved international competitiveness of the European telecom industry.

## **SECTOR REFORM**

Another line of EU policy has been related to the market reform of the telecom sector. This reform was initiated by the Green Paper issued in 1987 (CEC, 1987) and followed by a series of directives that have been revised a couple of times. The latest major revision was made through the issuing of the new telecom framework directives in 2002. The vision behind the market reform is to change the telecom sector from being a public utility provided by publicly owned—or at least publicly controlled—monopolies into a “normal” industry sector, where private companies compete for market shares and without any sector-specific regulation.

Although the sector reform should be seen in the context of an ongoing reform of public sector activities in general, the primary objective is to initiate a more dynamic development of the telecom sector itself through a complete restructuring and to remove barriers set by former public involvement. It should, however, be noted that the objective of “normalization” of the sector was not clearly defined from the beginning. The first step, which was suggested in the Green Paper, was the liberalization of terminal equipment, creating a common market in this area. The Green Paper of 1987 also suggested a liberalization of other telecom services than telephony, while telephony, which at that time was by far the most important service, as well as the physical network, should be reserved for the incumbent monopoly operators.

A further point is that not all member countries agreed on the proposed liberalization. In particular, France, together with countries from Southern Europe, were very reluctant to liberalize the telecom market, and many countries were concerned about how their own incumbent telecom operator could survive in a liberalized market. A good example of this is Denmark, where the market was divided between four regional operators in limited geographical areas. The Danish government wanted to create a strong Danish actor on the telecom market and merged all operators into one (Tele Danmark). In addition, a substantial part of the revenue raised through the subsequent privatization was given to Tele Danmark, enabling the company to invest in telecom companies abroad.

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