

EUROPEAN

COMMUNITIES

Information

R + D

SERIES: RESEARCH AND DEVELOPMENT

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WHAT IS THE COMMISSION DOING TO HELP RESEARCH WORKERS
AND ENGINEERS TO OBTAIN EASIER ACCESS TO THE INFORMATION
AND DATA THEY NEED?

1. Introduction

It is well known that the economic development of countries depends on their natural resources, their capital investment and, above all, human factors. In the case of our European Community, relatively poor in natural resources, the other two factors assume, in comparison, a considerable magnitude; the knowledge generated by our brains thanks to our investments is potentially one of our most important resources - but only if it can be exploited. This enormous wealth constituted by knowledge which already exists or is being created will be of use only if transformed into a flow of scientific, technical, economic and social information accessible to everyone in the Member States of the Community. It is this transition from the stage of knowledge, i.e. the raw material, to information, i.e. to products which are directly assimilable, which requires an effort comparable in scope, magnitude and complexity to those required, for example, by the production of energy and the manufacture of finished industrial products. One must visualize the European Community as being a heterogeneous environment of over 250 million inhabitants who have different languages and cultures and whose nine nations had, until very recent times, different concepts and policies with regard to information.

The Community action concerning scientific and technical information was certainly prompted in the first place by the realization that information is an economic factor and a resource* but also, though indirectly, by the Common Market Treaty provisions on non-discrimination, which entail equality of access to information for all the citizens of Europe.

2. An initial three-year plan for scientific and technical information

The European Community is now nearing completion of an initial three-year plan of action concerning scientific and technical information for 1975-77; this first concrete achievement, which goes beyond national frontiers, covered three aims:

- to create and develop sectoral information systems;
- to set up a telecommunications network (EURONET) and, lastly,
- to devise and develop the tools and infrastructure needed to achieve progress in information technology.

The budget allocated to this first plan of action was 6 500 000 u.s.a., an amount whose instalments, which increased in size over the three years, reflected sustained progress of achievement.

The work carried out by the Commission, with the valuable advice of the Committee for Scientific and Technical Information and Documentation (CIDST), made it possible to create several important data bases, more particularly in the fields of environment, energy conservation and agriculture, where there are now complete files on the current research projects in the Community. Through other measures joint action was started on medicines and physics data banks and on information for industry; patents literature has also been the subject of several studies.

The setting up of the EURONET telecommunications network will be an event which will mark an epoch in European telecommunications. The agreement of 15 December 1975, which entrusts the Community's postal, telegraphic and telephone services with this task, is mainly designed to solve the problem of access to scientific and technical information at European level; the repercussions of this enterprise are worthy of interest, however: for the first time in history all the Member States' postal, telegraphic and telephone services have worked together to produce a joint solution with the help of joint technology and it is explicitly intended that the EURONET telecommunications network shall constitute the starting point of a public network for the transmission of data.

* It took the launching of Sputnik by the USSR, chiefly through good utilization of scientific information already available, to bring this idea home to the Americans.

EURONET, the European information network which will be inaugurated at the end of 1978, will open up a Europe-wide market to the most modern information services which use computers. For historical and economic reasons, Europe has run a poor second to the United States in this field; in 1975, whereas three major American information services satisfied a million requests for document retrieval and earned thereby an income estimated at \$10 to \$20 million, in Europe the number of document retrievals carried out over the same period amounted to barely 100 000. The modern techniques of packet switching that EURONET will use will make it as effective, rapid and reliable as the American networks and should enable the rates charged to be much the same as the telecommunications rates in America. And, of course, this new technology provides availability beyond the dreams of the old networks. However, building a new network from the ground up is no small undertaking; among the major problems to be solved, incompatibility is one of the biggest. There is technical incompatibility due to the different computers and terminals connected with the network and to the different standards used by the information systems to which the network will give access; international recommendations of the X25 and ESP 20 type, the rapid adoption of which was stimulated by the EURONET project, efficiently regulate relations between different equipment and the network, whilst the prospective adoption of a new common job-control language, which would be a collection of standardized instructions, would enable users to go from one data bank to another using the same language. The human incompatibilities have not yet been solved - far from it; but on the fringe of the three-year plan the Commission has, for its own departments, been running an extensive scheme for computer-assisted translation; the first results of this scheme are promising and should do much to help all Europeans, irrespective of their native language, to obtain easy access to information in foreign languages; what is more, if Europe manages to develop machine translation of good quality she will thus possess the means of amplifying the influence abroad of her thought, culture and science.

The supporting measures provided for in the plan of action have hitherto chiefly consisted of exploratory studies. The chief concern is to train specialists and instruct users, for the new working methods and new techniques will force on both suppliers and receivers of information profound changes in their habits and they must be prepared for them without delay.

3. A Common Market in Information

The creation of a network such as EURONET is not an end in itself; it must be the prologue to a longer-term comprehensive scheme aimed at ensuring cooperation and sharing resources, not only in the field of automated information, with its heavy calls on advanced technology, but also in that of non-automated information which will continue to exist alongside and in which human beings are irreplaceable. The aims of the second three-year plan concerning scientific and technical information fit quite naturally into this scheme:

- it will first of all be necessary to convert EURONET into a public operational network which will incorporate not only bibliographical data bases but factual data banks and will be equipped with guidance and reference services, manually operated at first and then automated, that will improve access to existing services;
- a real common market in scientific and technical information will have to develop; this is essential if it is really desired to promote fruitful cooperation based on a set of rights and duties formally agreed upon by the information services existing in the Community, in order to rationalize them and to improve the quality of their products and services while reducing overall expenses in a context of free competition; the user will have to be given assistance and appropriate tools so that he can make the best use of each type of service and of every documentation base;
- information services, more especially those of EURONET, will have to take advantage of the latest advances in technology and methodology, in particular through the promotion of new useful standards and through progress in the field of computer-assisted translation.

When the network is started, the income obtained from its use will at first probably not cover its running expenses; this deficit will gradually decline, for present forecasts indicate that the number of document retrieval operations in Europe will increase by some 20 to 40% yearly; considering that the largest firms in the Community now spend approximately 1% of their turnover on information systems, it seems clear that if EURONET and the services it will offer can be made sufficiently attractive, then not only the large companies but the myriad smaller firms and individual users such as doctors, lawyers and teachers will seize this chance to use the stored knowledge, invention and ideas of Europe's brains. The hidden wealth is waiting; EURONET provides the key.

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