

# *Information Policies in Spain: Towards the New “Information Society”*

MERCEDES CARIDAD SEBASTIÁN, EVA MARÍA MÉNDEZ RODRÍGUEZ AND DAVID RODRÍGUEZ MATEOS  
Dept. of Library and Information Science, Carlos III University of Madrid, Getafe, Spain

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The concept of a society based on information and knowledge is becoming the norm in every country, including Spain. The need to have well-designed information policies that allow us to come to terms with the new upsurge of media, technology and services that has taken place in our society is discussed first. Information policies required by these changes in society have been implemented in Spain

and are described in relation to the new challenges of the “Society of Knowledge.” Similarly, the background and past efforts made in the field of information policy in Spain are analysed, along with the latest government projects that comprise an attempt to get this country to form part of the “Information Society” with the help of the supra-national information policy of the European Union.

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## *Introduction*

Information in the post-industrial society, in which we are now immersed witnessing a true revolution in science and technological development, has become as important as the steam engine was in the Industrial Revolution. At the same time, developments in information and communication technology (ICT) are producing a transformation in the way we produce, live and communicate that is difficult to evaluate. It is impossible not to be a part of this awesome process of change. The information revolution that has been carried out through ICT is changing the material foundation of society at a faster and faster pace.

This concept of a society based on information and knowledge is gradually becoming the norm in every country, including Spain. This is causing nations to take on commitments to perform activities that range from diagnostics and studies to the creation of more or less developed state apparatuses that make it possible to control and

promote scientific and technical information activities. Throughout this article, we contrast the policies implemented in Spain in the field of information and telecommunications development in order to evaluate our country’s incipient participation in the “global information society” within the broader, general, political framework of the European Union.

## *The need for information policies in Spain*

The use of and access to information have become critical tasks for modern economies and increasingly will become key factors in our globalised society. In light of this situation, many countries have created committees and groups of high-level experts to analyse the situation and propose strategies with the goal of placing themselves at the forefront of the new “information society.” This is the trend in the European Union, where the plans, projects and action that comprise Europe’s true information policies are promoted and tabled from within the 12<sup>th</sup> Directorate

Mercedes Caridad Sebastián is a Full Professor in the Faculty of Humanities, Communication and Information Science, Carlos III University of Madrid, 28903 Getafe, Spain. E-mail: mercedes@bib.uc3m.es

Eva María Méndez Rodríguez is an Assistant in the Faculty of Humanities, Communication and Information Science, Carlos III University of Madrid, 28903 Getafe, Spain. E-mail: emendez@bib.uc3m.es

David Rodríguez Mateos is a Researcher in the Faculty of Humanities, Communication and Information Science, Carlos III University of Madrid, 28903 Getafe, Spain. E-mail: pirio@bib.uc3m.es

General for Telecommunications, the Information Market and Research Evaluation. In this sense, Spain, as a member of the European Union, cannot sit on the sidelines, but rather must establish policies and strategies that allow it to become one of the countries leading the construction of the information society.

Among the many definitions of the term that make it possible for us to justify the need for information policies, we should emphasise the one that Hill (1995) provides in an article titled "Information policies: premonitions and perspectives". Information policies, according to this author, "are designed to define the needs and regulate the activities of individuals, industry and commerce, as well as those of all sorts of institutions, organizations and national, local and supra-national governments. They must regulate the capacity and liberty to acquire, possess, keep, use and transfer information itself." The author emphasises all of the surroundings and contexts involved in the creation and implementation of information policies. These include the economic, social, cultural and strictly political factors, as well as the world of information itself and the context of research, in terms of the need to turn information into knowledge for the advancement and development of new societies.

Therefore, we analyse the surrounding factors that have led us to believe in the need for information policies in Spain. During the crisis that affected the European economy in the early 1990s, the need to confront several structural matters arose. One of these matters was the high level of unemployment and the social impact it entailed. European governments were aware of their inability to sustain an adequate rate of technological innovation and competitive adaptation or to produce enough jobs. This socio-economic situation led to the report *White paper on growth, competitiveness and employment: the challenges and ways forward into the 21<sup>st</sup> century* (European Commission 1993), which is also known as the Delors white paper. It proposes a whole course of action on information policies in Europe. It was the main work of political discussion emphasising the need to prepare the legal and institutional framework to build the information society of the present and the future.

In addition to this European situation were such factors as the globalisation of the economy

at the international level, the acceleration of technological change, the need for new education and training models, a gradual decrease in the public sector's presence, the displacement of demand towards emerging markets (for instance, the telecommunications market) and a transformation of the labour market and employment structures towards international co-operative work, etc.

Furthermore, we can observe changes in the macro-industry of information itself that will have a direct effect on the political processing of information in Spain. These changes include the convergence of media, technology and telecommunications services, which will increasingly require the establishment of a policy or order that serves to regulate this convergence. They also include the liberalisation and globalisation of communications, the normalisation of computer usage, the concentration of ICT on technological research and development policies, thereby causing research and development investments to be aimed in this direction. To all of these factors, we must also add the widely accepted "blind faith" that suggests that an information policy can contribute potentially to the economic and social welfare of a country.

Nevertheless, as we shall explain below, Spain's information system is a product of the co-existence of all of these circumstances, which are randomly inter-related, thereby reducing their ultimate effectiveness. All of this leads us to think that Spain should start moving along the path towards an information society. In order to do so, well-designed policies that will lead to greater competitiveness and employment in our country must be established. The information society that Spain pursues must give back the greatest benefits possible in terms of the quality of life of its people. It must therefore provide a response to their main concerns: employment, security, privacy, leisure, entertainment, greater access to education and health care and simplification of relations with the public administration. Moreover, their level of development will noticeably affect the competitiveness and ability to innovate of businesses in every part of the economy.

However, despite a great desire to become an information Society, Spain's Ministry of Industry has published a report that says Spain is not adapting to this new information society as quickly as the other countries in Europe are. The study, which

was performed by Sedesi (Spanish Association of Information Technology Companies), shows that the average amount of money a Spaniard spends on this type of technology was only one-third the average amount spent by a European. Spain is at the level of Portugal in this field, with 26.8% of the amount spent, as compared with the average of 73.4% in the EU. The United Kingdom and Ireland are the top countries in Europe in terms of average per-citizen investment in these forms of technology. As the data in Table 1 shows, the average number of computers per citizen is only 8% in our country, far below the levels in countries such as the United Kingdom or Germany. The report also reveals that Spain's public administration has invested less money in this field than most of the countries in Europe (Redacción 2000). Despite this, more and more efforts are being made to establish information policies in Spain and to spur our country's inclusion in the information society.

### Origins of the information policies in Spain

In the early 1980s, the information and documentation industry in Spain was in quite a troubling state of affairs, because it lagged behind the other developed countries, thereby jeopardising the chances of our country's painless inclusion in the incipient information society. The first political footsteps were taken in 1982, when the Sub-directorate General for Documentation and Scientific Information was created within State Secretariat of Universities. As Román (1997) stated, "the creation of a Sub-directorate General devoted to the coordination of scientific information tasks in 1982 was the first indication, at least in terms of political intentions, that an information policy would be created." The work at this new Sub-directorate General culminated in what was known as the IDOC Plan. This plan urged the administration to confront the challenge that the changes caused by the information society would mean for Spain. However, five years would have to go by, until 1988, before the Spanish Administration would begin to build the foundation for an information and documentation policy through the National Research and Development Plan.

Information policies in Spain, and other countries, have been closely related to scientific policy.

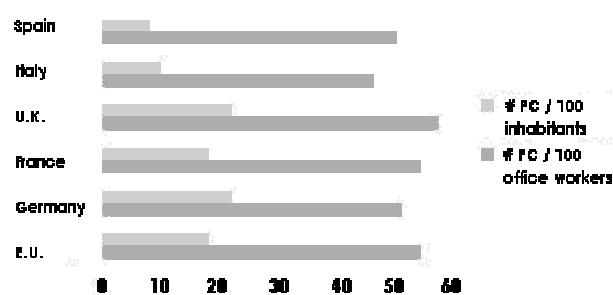


Table 1: Use of Information Technology in Spain, 1997  
Source: EITO (European Information Technologies Observatory)

It is therefore necessary to emphasise the *Law on the Development and General Coordination of Scientific and Technical Research*, commonly referred to as "The Science Law," as another important breakthrough in the establishment of information policies in our country. This law led to the establishment of a specific regulatory framework for the definition and execution of a science and technology policy and was therefore yet another step towards establishing information policies related to research and development.

The following is a detailed description of these two relevant factors, which comprise the most important forerunners to the information policies in Spain.

### The IDOC plan

In 1983, the Sub-directorate General of Documentation and Scientific Information within the Ministry of Education first attempted to develop a National Plan for Information and Documentation by promoting a report for reflection and diagnostic study of the status of information in Spain. The final result was the report titled *National Plan of Action for 1984–1986 on Scientific and Technical Documentation and Information*, known since then as the IDOC Plan. In order to draft this report, a committee was created which, in turn, established eight work groups with over 80 professionals from 60 institutions participating.

The purpose of the IDOC Plan was to sensitise the highest levels of the administration to the political, economic and cultural value of information and documentation activities, in such a way that they would understand how urgent it was to create an information policy, which had thereto-

fore been non-existent. In order to do so, five lines of action were proposed:

- to create the proper administrative legal framework,
- to strengthen the creation of information resources,
- to facilitate the training and specialisation of human resources to perform information and documentation tasks,
- to sensitise institutions and Spanish society to the value of information, and
- to promote the performance of research in the field of information and documentation to make it possible to achieve the other policy objectives.

The national information policy that the IDOC Plan intended to promote had to be treated like any other existing policy and had to be integrated among the other actions taken by the state administration in co-ordination, promotion and planning.

Besides defining the *status quo* of the information sector in Spain, the final report by the committee of experts included a series of recommendations to create an information policy (Ministerio de Educación 1995):

1. To develop to the fullest extent possible the national capacity for production and dissemination of scientific and technical publications, thereby making the Spanish language a more effective tool to spread Spanish culture and science.
2. To develop to the fullest extent possible the national capacity to compile and process information by strengthening Archives, Libraries, Museums and Documentation Centers.
3. To develop an infrastructure for the distribution and recuperation of information at the domestic and international levels.
4. To place a greater emphasis on the development of the human resources needed to render information and documentation services.
5. To make society more sensitive to the value of information and information and documentation services.
6. To promote research and development activities with a specific purpose that are fundamentally oriented towards making it easier to follow the aforementioned recommendations.
7. To create a synergy of co-operation activities with Latin America in the fields of information and documentation, in order to create an "information community" in Spanish and Portuguese-speaking countries through computer-based telecommunications.

8. To create a body that carries out the consultations and promotions needed to establish and implement information and documentation policies.
9. As a final recommendation, the Commission stated that the State Administration should urgently analyse the information and documentation activity sector and establish its development policy without delay.

Unfortunately, all of these recommendations by the expert committee of the IDOC Plan were nothing more than good intentions. A census of libraries and documentation centres was initiated. A program for scientific journal subsidies was created, and the granting of these subsidies was made dependent on criteria of quality, compliance with international rules, and so forth. The possibility of resuming and updating work on the national catalogue of publications, periodicals, etc. was studied. However, none of these strong recommendations in the committee's reports had much of an effect. No national information policy was specified in the following years either, nor did anyone establish a national information plan with a budget endowment.

Despite all of this, it should be pointed out that the IDOC Plan was a significant breakthrough in Spanish information policy, but a proper legal framework was also required for effective action by the public sector. It seemed clear that Spain was taking its first footsteps in research and development policy.

### *The Science Law and the First National R+D Plan*

*Law 13 of April 14, 1986 on the Promotion and Coordination of Scientific and Technical Research* (Presidencia del Gobierno, 1986) [1], the so-called "Science Law," was the first regulatory attempt to develop and to co-ordinate scientific research through the creation of a National Research Plan and to act as a basic R+D promotion, co-ordination and programming mechanism to ensure the establishment of an all-encompassing science policy.

This law provided for the creation of entities responsible for the National Plan, including the Interministerial Commission of Science and Technology (CICYT), the Advisory Council for Science and Technology (CACYT), the General Council of Science and Technology and the Center for Technological and Industrial Development (CDTI).

The most important of these is the CICYT, which is responsible for drafting the national plan, as well as for the planning, co-ordination and tracking thereof. Its main functions can be divided into four groups: functions involving the plan itself, those involving necessary resources, those related to relations with the government and those related to international relations.

All in all, the First National Research and Development Plan was created in compliance with Articles 149.1.15 and 44.2 of the Spanish Constitution (1978), which attribute jurisdiction on promotion and co-ordination of science and scientific and technical research to the Spanish State. Among the objectives of this plan, we should emphasise those described in the Science Law:

- the progress of knowledge;
- the advancement of innovation and technological development;
- the preservation, enrichment and optimal utilisation of natural resources; economic growth, the creation of jobs and the improvement of work conditions;
- the development and strengthening of the ability to compete in industry, commerce, agriculture and fishing;
- the development of public services; the improvement of health, social welfare and the quality of life;
- the strengthening of the national defense;
- the preservation of the country's Artistic and Historical Heritage;
- the promotion of artistic creativity and the progress and dissemination of culture;
- the improvement of the quality of teaching and the adaptation of Spanish society to the changes entailed by scientific development and new forms of technology (Ministerio de Educación 1986).

In order to achieve all of these goals, as well as fostering basic research and promoting applied research at businesses in private entities, the Science Law established three types of programs.

#### *National Research and Development Programmes*

These are understood to be those programmes that seek out an objective of a national interest and are evaluated and monitored by the corresponding entities designated by the CICYT. These programs are divided into the fields of: production and communications technology, quality

of life and natural resources and social, economic and cultural studies, as well as other special programs at the same level. In the information and documentation sector, the *IRIS Project* (Interconnection of Standard Computer Networks) [2], the *National Research Staff Training Program* and the *Program for Production and Communications Technology*, the purpose of which was to provide incentives for the acquisition of technology for Spain, are worth mentioning, as is the training of the personnel responsible for implementing them.

#### *Sector-specific Programs*

These programs are oriented towards specific areas of interest for one specific entity or ministerial department that are directly related to some other domestic program. Among the sector-specific programs, we should mention the *Program for the General Promotion of Knowledge*, the purpose of which is to provide for and finance the research of a general nature that is not included among the priorities of the National Programs.

#### *Programs agreed upon with the Autonomous Regional Governments*

Spain, although it is not a federal state, is divided into nineteen autonomous regions, each of which has jurisdiction on different activities, among which research and education are included either partially or in their entirety. The autonomous regions must propose to CICYT the integration of research and development programmes that require co-ordination with the National Plan. They will be co-financed by the CICYT and the autonomous region that makes the proposal.

The Science Law and the National Research and Development Plan reflect the need to increase awareness and involve society in scientific and technological development, which seems to have been achieved, because since then, a greater following and presence of science and technology have been observed. The National Plan continued in subsequent periods through the Second National Plan (1992–1995), the Third National Plan (1996–1999) and the Fourth National Plan (2000–2004). Coupled with other activities they will help move Spain towards the information society.

### *Spain moves forward to the information society*

In recent years, Spain's public administration has implemented various initiatives for the development of the information society. This action can be classified into two different areas. On the one hand, there has been an attempt to promote and regulate the development of the forms of telecommunications infrastructure needed for information. On the other, with regard to the dissemination of contents, plans have been drafted to spread information in specific fields, whether scientific research (within the framework of the National Research and Development Plan) or the modernisation of the information systems of the administration itself, for both its internal operation and the dissemination of public information to the people.

Only in 1999 was the need for a joint policy oriented towards the information society noticed, like the management of the European information society, through the creation of a public body, the Interministerial Commission on the "Information Society" and New Forms of Technology in Spain (Ministerio de Industria y Energía 2000). A specific plan for this purpose constituting a permanent commitment by the government, the *Info XXI Plan*, was drafted.

Described below are three areas of action: infrastructure, a sector-specific information policy and, last of all, the recent attempt to co-ordinate an information policy. There are also comments on the initial plans in this direction, the legal rules that give shape to them and the specific steps that have been taken.

#### *Action taken in infrastructure: The General Telecommunications Law (GTL)*

The obligation imposed by the European Union to liberalise telecommunications, coupled with the growing proliferation of information dissemination technology, have forced the Spanish government to establish various rules and regulations to do away with the telecommunications monopoly without ceasing to offer this public service. Therefore, after having produced specific rules and regulations to liberalise the telephone service and promote the use of different types of technology, through different physical means

such as cable and satellite, the *General Telecommunications Law* was passed in 1998. The following are the most notable of its objectives:

- a. To grant the administration the faculties needed to ensure free market conditions favouring the people's right to access universal information services.
- b. To regulate the public service obligations of the public network operators, in order to guarantee the protection of general interests in the liberalised market.
- c. To distribute competence on telecommunications among the various bodies of the Spain's State Administration.
- d. To make the fees applied to these technological services uniform.

This and other legal rules to this respect have led to the existence of several telecommunications operators in Spain, thereby allowing for a decrease in prices and the opportunity to select various forms of access to telecommunications services, including the Internet, from among different operators and access providers. However, there is still a monopoly in some services, such as the basic local telephone system.

#### *Information Policies in R+D: The Science Plan*

As has already been pointed out, the dissemination of information produced through research performed with public funds and the organisation of libraries, archives and other documentation centres, have been the first and foremost fields of information policy in Spain. In the case of information on Spanish scientific production in recent years, the activity which took place during the *Third National Research and Development Plan* (1996–1999), which was designed and monitored by the Ministry of Education and Culture and applied by the CICYT should also be mentioned.

During these four years, we can point out the following as specific examples of the dissemination of information from the above plan:

- The National Program for Information and Communication Technology (ICT), intended mainly for experts in information processing, given that it pursued the following targets: communication systems and services, communication technology and information processing and, last of all, computerised telecommunications architectures. This program also dealt with computer-based telecommunications applications and services, with attention to several work groups in charge of:

- Increasing the use of computerised telecommunications applications: for libraries, archives, museums and information centres; teaching; network access, including virtual reality techniques; work at a distance and through co-operation; remote purchasing and, last of all, medicine.
- Developing computerised telecommunications services: information providers, non-interactive multimedia communication services, data protection services, charging and payment services and service quality and management.
- Increasing the use of network technology: evaluation of new architectures for supporting services and computerised telecommunications applications, interconnection of high-speed networks, specification of access interfaces and terminal adapter elements, analysis and evaluation of performance parameters and analysis and implementation of traffic adaptation techniques.
- The Program for the Promotion of General Knowledge, which involves bibliographic acquisitions within the framework of subsidised research projects.

The *Fourth National Research and Development Plan* is currently being carried out. It encompasses the years 2000–2004 and is more oriented towards the business world. Among its objectives are the following, which involve exchanging information:

- Public offers of aid and subsidies to foment the relationship between businesses, technological centres and public research entities (OPIs) and universities, in two new fields, energy and transportation.
- An increase in the resources used in the fields of biotechnology, health and pharmaceuticals in order to promote their development, the exchange of knowledge and the creation and strengthening of centres of technology and small and medium-sized businesses.
- To promote an information society-related research and development support program, which would be given the support of private information technology sector companies.
- To increase international financing and support for the building of large scientific and technical installations.

### *The Administration's promotion of informational content*

Now more than ever, Spain's information policy is similar to that of the European Union. Through the INFO2000 Program, Europe is attempting to create an "Information Society" that promotes access to multimedia contents. In this sense, in

1996, the Information Society Analysis Group pointed out *the need to ease Spanish society's access to contents, thereby favouring the development of browsing tools and Spanish-language applications and stimulating interaction* (Grupo 1996).

In addition to this, it should be added that over 500 million people around the world speak the Spanish language, which opens the door to the potential dissemination of contents to other countries of the same language. Nevertheless, we only discuss public action that affects Spain in this paper.

The aforementioned Secretariat General of Communications (a part of the Ministry of Development) began to promote a series of projects in 1996, whose goal was to take full advantage of public information tools. Among the planned objectives, the following projects and activities are the most notable:

### *PISTA Project (Promotion and Identification of Emerging Advanced Telecommunications Services)*

Planned for 1996–2001, PISTA is a proposal to create incentives for the use of network telecommunications in ten key sectors: administration, health, the media, education, libraries and museums, production and industrial design, tourism, manufacturing, graphic arts, transportation and cable communications.

Among the applications produced by PISTA are the instalment of a computerised telecommunications-based *one-stop bureaucracy point* (centralisation of all the procedural steps that must be undertaken for each of the different bodies of the administration in one sole place); an aid application for the Ministry of Health; a system for obtaining still images for the media; an intranet for centres of learning; the Z39.50 query client extension in Spanish for libraries and museums; the use of co-operative work by video-conference in institutions devoted to production and industrial design; and the creation of a Point of Common Access to Tourism Products and Services.

Of special interest in the field of documentation is the plan's activity for libraries and museums, which are considered large suppliers of multimedia contents and are very competitive when Spanish-language contents are placed on networks. Participants in this project include Telefónica Sistemas the Spanish National Library,

the Spanish Society for Scientific Documentation and Information (SEDIC, one of the most important documentation specialist associations in Spain), the Sub-directorate General for Library Coordination (Ministry of Education and Culture), the Library of Andalusia, the Library of Castile-León, the University of Valencia and the Regional University of Cantabria.

PISTA was strengthened in 1998 through the launch of PISTA-Cable, the target of which included the following:

- Small and medium-sized businesses.
- Business and long-distance work training programs in rural areas.
- Long-distance training, e-commerce and co-operative work services in urban areas.
- Remote banking services.

#### *ARTE/PYME*

Run by the Secretariat General of Communications, a part of the Ministry of Development, ARTE/PYME addresses the following activities:

- To increase the awareness of small and medium-sized businesses about the importance of advanced telecommunications services.
- To provide economic advice to determine the exchange of experiences through networks.

Among the specific program activities, the most notable are:

- The *Remote Book Ordering Program*, implemented by the Spanish Federation of Book Merchants. A system that allows for making orders and bibliographic queries over the Internet was developed. This project is based on the Spanish ISBN Agency's database.
- An economic report on *e-commerce*, which emphasised the experimental growth thereof around the world. In Spain, electronic purchases produced 3.5 billion pesetas in 1998, compared to 800 million in 1997. The study also revealed that small and medium-sized businesses are the ones that sell the most through the Internet.

#### *The first initiatives towards the Information Society*

Only in recent years has the heart of the Spanish administration detected the need to co-ordinate the various efforts made by different government

institutions in order for Spanish citizens to take part in a true information society. The government is aware of the importance of the information society for the future of Spain, especially for the education of upcoming generations, the increase in the economic competitiveness of companies, the promotion of our language and culture, the social cohesion of the country and its position in the international arena, in an environment characterised by economic globalisation, the opening of markets and innovation. Various initiatives have therefore come about:

- The Interministerial Commission for Science and Technology (CICYT) created under the aegis of the Science Law in 1986, is an entity that monitors all of the research performed using funds of the Spanish State. It began to report directly to the President of the Government in 1998. The Commission includes representatives from all the ministries.
- The Advisory Council for Telecommunications (in charge of consulting the Ministry of Development, from May 2000 the Ministry of Science and Technology, on telecommunications) in conjunction with the Superior Information System Council (part of the Ministry of Public Administration with the task of establishing the computer policy for all Spanish governmental bodies) has drafted a catalogue of activities carried out by the Spanish state administration with regard to the "Information Society." (Ministerio de Administraciones Públicas, Ministerio de Fomento 2000). In other words, it has made a list of the initiatives implemented for the dissemination of electronic information at both the internal level, among different institutions, and the external level, for the public. Two-thirds of the activities it mentions were related to the dissemination of administrative information, either to the public or among the various bodies of the administration. One-sixth of the activities was legal provision, whereas the remaining portion was for the promotion of initiatives by businesses and people, as well as for the use of information technologies among these groups.
- The recent creation, in July 1999, of the Interministerial Commission for the "Information Society" (Ministerio de Industria y Energía 1999), presided over by the Ministry of Industry, with the participation of high-ranking officials from all the Spanish ministries, with the exception of the Ministry of Defense. The purpose of this institution is to create a strategic initiative to include Spain in the "Information Society" through co-ordination with other institutions (the aforementioned councils) and the Autonomous Regions (17). The government, being aware of the importance of the leadership it must hold in promoting the "Information Society" in our country, as well as the development of the forms of technology that comprise the material foundation for this new society, has decided to carry out a series of measures and action programs. (Minis-



terio de Industria y Energía 1999). The objectives of are to :

- Promote the generation and development of the “Information Society’s” forms of technology.
- Stimulate the adoption and general use of said forms of technology by companies, especially small and medium-sized businesses, and by the people.
- Promote the use of new forms of technology by the administration, to benefit people and companies.
- Approve the most appropriate regulatory framework.
- Ensure that the administration places more attention on the needs of society.

This initiative is known as the *Info XXI Plan: The Inform@tion Society for All* (Comisión Interministerial de la Sociedad de la Información y de las Nuevas Tecnologías 2000). It forms part of the integrating, philanthropic trends of the new information policies at the international level, which are attempting to make the “Information Society” a free, egalitarian society for all people. In this sense, the new INFO XXI policy can be compared with the eEurope initiative of the European Commission at the Helsinki Summit in December 1999, which was ratified and approved at the special summit on employment in Lisbon in March 2000 (European Commission 2000).

This plan is an attempt to co-ordinate all public activity, whether by the government or the autonomous regional bodies, on the information society during the period from 2000–2006. The broad strategy of this initiative is to design *An Information Society for All*, as expounded in the mission statement of the INFO XXI Plan itself, which also describes Spanish society in the upcoming millennium in the following terms:

- *A society that does the utmost in education and creating jobs* by promoting training in information technology to avoid a state of *info-marginalization* and to reach higher levels of qualification that allow for the creation of new jobs by the “Information Society.”
- *A society with the proper infrastructure and legal framework* to promote the development of a digital economy, while also ensuring the protection of the fundamental rights of the people, such as intellectual property rights, safety and privacy.
- *A society that promotes its culture* through the dissemination of Spain’s language, heritage and culture. In this sense, it is understood that the combined presence of information technology, communications and contents in the Spanish-speaking market is a strategy that can generate great economic growth for our country.

- *A society with a higher quality of life and greater solidarity.* General access to the Internet in our country has already significantly increased the quality of life of the people, because they can gain access to a large amount of information. Nonetheless, it is predicted that digital technology will make it possible to develop sectors such as health, tourism and the environment to their full market potential.
- *An innovative society that facilitates the development of new businesses and industries.* With the right stimuli for innovation, in other words, through the promotion of basic research, the technological industries of the “Information Society” may become a key feature of Spain’s domestic economy.
- *An open and accountable administration that concentrates on the people.* This means that public information must be easier to access and that administrative procedures must be simpler. Moreover, information technology will allow for greater participation by the people in decisions on the public matters that affect them.
- *A society with a powerful fabric of businesses.* Entrance into the information society in Spain must occur in a way that allows companies to play an active role, as well, through the use of ICT, and new production and market methods. That way, they can take advantage of business opportunities and improve their level of competitiveness.
- *A better-structured society.* Acknowledging the risk that a liberalised market such as the telecommunications market in Spain can produce a concentration in the creation of infrastructure in areas with a greater economic potential and profitability, initiatives must be implemented to promote the access of a growing number of people to the new high-capacity networks. Only in this way will equitable, fair, democratic access be created to the information society, access to all.

All in all, the INFO XXI Program is a fundamental initiative proposed to strengthen the action taken by various ministerial departments and public institutions, as well as by everyone with an economic, social or institutional role that is committed to the development of the information society in our country. The INFO XXI Plan will be closely co-ordinated with the National Plan for Scientific Research, Development and Technological Innovation (I+D+I) and with the National Employment Plan, in such a way that the cohesion of the three political plans will allow for the design of a national innovation and employment strategy in the emerging Spanish information society.

This is why an order by the Ministry of Industry and Energy was published in March 2000 (Ministerio de Industria 2000) It regulates the rules, aid

scheme and management of the Technical Research Promotion Program (PROFIT) [3] which encompasses both the National Plan for Research on Information Technology and Communications and the National Information Society Plan by arranging for aid to promote research in ICT that contributes to the advancement of the information society and the culture surrounding it (Ministry of Industry 2000).

All these policies are controlled, since May 2000, by the recent Ministry of Science and Technology, that has taken the competencies of the Ministries of Education and Culture, about research, and of the Ministry of Development, about telecommunications and Information Society.

### *Conclusions: What direction is information policy moving towards in Spain?*

With all we have discussed throughout this article, it seems obvious that the neither the concept nor the form of the information society is part of the typical surroundings of the average Spanish citizen. The data speak for themselves: in 1999, only 7.3% of the Spanish population had access to the Internet. At the same time, over 41% of the American population and approximately 23% of the British had access to the Net (cp. Table 1).

Until quite recently, various bodies of Spain's central administration used several models to control both public information and the production of information by entities financed with public funds. In the nineties, however, after various failed attempts through the IDOC Plan of the eighties, projects involving the information society have come about with a greater emphasis on the development and use of computer-based and computerised telecommunications forms of infrastructure themselves instead of the generation and dissemination of useful contents. Cultural and social aspects and the generation of contents have been set aside in favour of the promotion of the massive use of telecommunications.

Nevertheless, in the last two years (1999–2000), action has been taken to support the implementation of measures recommended at the international level and other measures that are considered appropriate. One breakthrough in this sense was the creation of an Interministerial Commission for the Information Society. It has an active, momentum-building nature to ensure co-ordination;

it plays the role of a promoter in the public administration area for the development and instalment of ICT and the coherence of public policies, while being organisationally dependent upon the highest levels of the government. The creation of this Interministerial Commission follows the model of other countries. These countries, to promote and stimulate the implementation and development of the information society, have carried out initiatives that directly involve their governments, either through independent committees of experts or through interministerial government entities created for this purpose. (Similar to this Interministerial Commission in the United States was the creation of the Information Infrastructure Task Force, which reported to the Vice-President; in France, the Interministerial Committee for the "Information Society"; in Luxembourg, the Information Society Council, etc.)

Now being developed is a form of telecommunications technology (which in our country is named "information society technologies," after the model proposed through the Fifth Framework Program of the European Union. The framework established a specific program to promote IST or *Information Society Technologies*). Its usage by small and medium-sized businesses and by the people, the use of technology by the administration and the assurance that the administration pays greater attention to the needs of society are all being promoted. The *Info XXI* Plan is the first initiative in this direction that comprises an attempt to coordinate public activity towards the information society. It is quite a paradox that it in no way considers the internal creation of contents, which can be deduced from the expense account, provided in the plan itself. Approximately three-fourths of the public financing provided in the first three years of the plan (Ministerio de Industria *et al.* 1999, 21) are divided between the Ministries of Development (infrastructure) and Industry (businesses). The total forecast for state spending on the plan is approximately 420 billion pesetas, 192 billion of which will be contributed by the Ministry of Industry and 154 billion by the Ministry of Development. (Ministerio de Industria 1999, 26.) Because of this, the enormous cultural content that Spain has to offer is not being used to its fullest. Its dissemination is being left in the hands of private, and possibly foreign, initiatives. The government's impact in the at-

tempt to computerise the dissemination of administrative and commercial information has therefore been reduced.

All in all, the information society must improve the quality of life of Spain's people as much as possible. It must therefore respond to their main concerns: employment, safety, privacy, better access to education and health care, an improved relationship with the administration, and so forth. The very building of the information society will be one of the main sources of wealth in our country in the next decade. It is also an opportunity, given that information, besides being a consumer item, has also become an emerging economic sector.

Through the strategic *Info XXI Plan*, Spain has entered the race towards the information society. This is in an environment characterised mainly by economic globalisation and faster technological change, where ever more challenges must be taken on to channel our information policy towards the creation of an infrastructure and an info-structure to improve the quality of life of Spaniards, while making them more competitive and creating jobs.

### Notes

1. In Spain, the office of the President of the Government is equivalent to that of the Prime Minister.
2. The IRIS Project is an attempt to create an interconnected system of computers of different sizes and strengths, so that they may share hardware, software and databases through messaging systems or e-mail. This naturally includes the immediate communications system that allows for the exchange of text, tables and even operations in the form of a multiple conference, thereby comprising a valuable tool for geographically widespread work teams. See National Plan of Scientific Research and Technological Development. 1988–1991. Madrid: Ministerio de Educación y Ciencia (Ministry of Education and Science), 1988, p. 100 and after.
3. For further information on the program run by the Directorate General of Industry and Information Technology, with the national programs for information technology, communications and the "Information Society" for 2000–2003, see the PROFIT Web site: <http://infoxxi.min.es/PROFIT.htm> and [http://www.min.es/infindustrias/noticias/b\\_profit.htm](http://www.min.es/infindustrias/noticias/b_profit.htm)

### References

- Caridad M. 1999. *La Sociedad de la Información: política, tecnología e industria de los contenidos*. Madrid: Fundación Ramón Areces.
- Caro Figueroa, L.A. *La sociedad de la información: Nuevas perspectivas para el empleo ante el desafío de finales de siglo*. URL: <http://www.kumiko.com.ar/luiscaro/socinform.htm> (consulted on March 9, 2000).
- Comisión Interministerial de la Sociedad de la Información y de las Nuevas Tecnologías. *Info XXI: la sociedad de la información para tod@s*, 2000. URL: <http://infoxxi.min.es/Documentos/infoxxi.pdf> (consulted on April 6, 2000).
- Cornellà, A. 1998. Information policies in Spain. *Government Information Quarterly* 15(2): 197–220. Available in Spanish at URL: <http://dsi1.esade.es/cornella/ainfopol.pdf> (consulted on February 15, 2000).
- European Commission. 2000. *eEurope: an information society for all. Progress report for the Special European Council on Employment, Economic reforms and Social Cohesion – Towards a Europe based on Innovation and Knowledge*. Lisboa, March 23–24. COM (2000) 130 final. URL: [http://www.ispo.cec.be/docs/policy/docs/e\\_europe/prog\\_rep\\_es.pdf](http://www.ispo.cec.be/docs/policy/docs/e_europe/prog_rep_es.pdf) (consulted on April 10, 2000), [31 p.]
- European Commission. *White paper on growth, competitiveness, and employment: the challenges and ways forward into the 21<sup>st</sup> century*, 1993. (COM (93) 700 final) URL: <http://europa.eu.int/en/record/white/c93700/contents.html> (consulted on February 15, 2000).
- Grupo de Análisis de la Sociedad de la Información. *España en la Sociedad de la Información*. Madrid: Colegio Oficial de Ingenieros de Telecomunicación, 1996 [Spain in the Information Society. Madrid: Colegio Oficial de Ingenieros de Telecomunicación (Professional Association of Telecommunications Engineers)]
- Hill, M.W. 1995. Information policies: premonitions and prospects. *Journal of Information Science* 21(4): 273–82. Information Society Technologies Programme. URL: <http://www.cordis.lu/ist>
- Investigación. Madrid. 1986. *Boletín Oficial del Estado* (April 18).
- Lizcaino, P.J. 1998–1999. El desarrollo de la Sociedad de la Información: propuesta de iniciativa nacional en el campo telemático. *Boletín de RedIris* 46/47. URL: <http://www.rediris.es/rediris/boletin/46-47/ponencia17.html> (consulted on March 2, 2000).
- Martínez, L.J. 1995. Información y Documentación en el Plan Nacional de I+D (1988–1993). *Boletín de la ANABAD* 1: 107–43.
- Ministerio de Educación y Ciencia. Spain. Madrid 1998. *Plan Nacional de Investigación Científica y Desarrollo Tecnológico: 1988–1991*.

- Ministerio de Educación. Directrices para un Plan Nacional de Actuación 1984–86, en materia de documentación e información científica y técnica: anexos, actas, informe, 1985.
- Ministerio de Fomento. Ley 11/1998, de 24 de abril, General de Telecomunicaciones. Madrid: Boletín Oficial del Estado (April 25, 1998)
- Ministerio de Industria y Energía. Real Decreto 1289/1999, de 23 de julio de 1999, por el que se crea la Comisión Interministerial de la Sociedad de la Información y de las Nuevas Tecnologías en España. Madrid: Boletín Oficial del Estado (July 27, 1999) URL: [http://infoxxi.min.es/Real\\_decreto.htm](http://infoxxi.min.es/Real_decreto.htm) (consulted on February 26, 2000); also available at: <http://www.min.es/infoindustrias/Docs/texto.htm> (consulted on March 20, 2000).
- Ministerio de las Administraciones Públicas, Ministerio de Fomento. Catálogo de actuaciones y/o proyectos de los Departamentos Ministeriales y otros Organismos Públicos relacionados con la Sociedad de la Información. 2000. URL: <http://www.map.es/csi/catalogo/grupos.pdf> (consulted on March 16, 2000).
- Ortiz Bru, C.M. 1997. De la ley de ordenación a la Ley General de Telecomunicaciones. *Boletín del Ilustre Colegio de Abogados de Madrid* 6: 7–46.
- Presidencia del Gobierno. Ley 13/1986, de 14 de abril, de Fomento y Coordinación General de la Investigación. Madrid: Boletín Oficial del Estado (April 18, 1986).
- Redacción. España a la cola de la Unión Europea en la adaptación a la nueva sociedad de la información. In: La Empresa – Noticias.com, March 9, 2000. URL: [http://www.laempresa.net/noticias/2000/0003/20000308\\_03.htm](http://www.laempresa.net/noticias/2000/0003/20000308_03.htm) (consulted on March 21, 2000).
- Román, A. 1997. Experiencia española en el diseño de políticas de información y documentación. *Ciencias da Informação* 26(3): 307–12.
- Sanz, M. 1998. Fundamentos históricos de la Internet en Europa y en España. In: *Boletín de la Red Iris*: 45. URL: <http://www.rediris.es/rediris/boletin/45/enfoque2.html> (consulted on March 9, 2000).
- Unesco. 2000. Creating a new UNESCO programme for a just and free Information Society. UNESCO. URL: <http://www.unesco.org/webworld/future/index.shtml> (consulted on April 10, 2000)