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## National Dependability Policy Environments

### PORTUGAL

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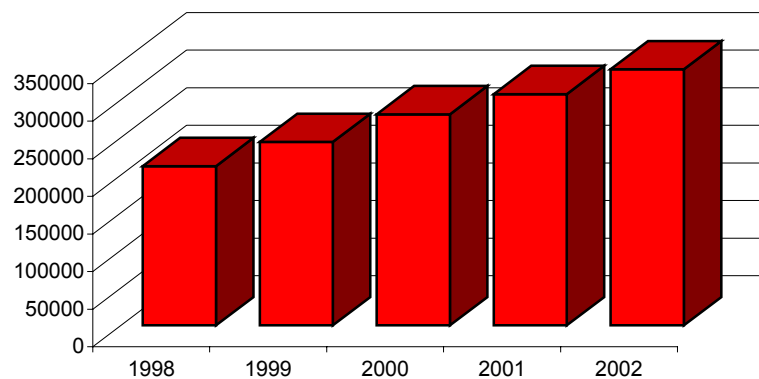
### Overview of the Country's Information Infrastructure

Taking advantage of the international momentum regarding information technology, Portugal has renewed its advance towards an Information and Knowledge Society. To achieve this goal, there has been the need to generalise the access to modern means of information and knowledge and enable citizens to efficiently use these new technologies. In response, the Portuguese Government has set in motion a series of initiatives that have led to a general increase on ICT use and investments.

Between 1996 and 1998, investment in telecommunications increased from 33.04 million EUROS to 51.85 million EUROS. Since then, there has been a slight decrease in investment with the total falling in 2000 to 46.6 million EUROS.<sup>1</sup> There has been an increase in the contribution of telecommunications to GDP. In terms of operating income to GDP, the percentage rose from 3.96% in 1996 to 4.97% in 2000. The percentage of revenues to GDP also rose – from 3.6% to 4.71% in the same period.<sup>2</sup> The share of ICT in employment rose slightly from 3.09% in 1996 to 3.24% in 1998.<sup>3</sup> The total value of ICT trade has increased from 11.6 billion EUROS to 15.9 billion EUROS during the same period.<sup>4</sup>

#### Sales of PCs in Portugal (1998-2000)

(Source: EITO Report)



The total number of Internet customers has grown massively in the last few years. In 1997, there were a total of 88,670 Internet customers; by the third quarter of 2001 this figure had risen to over 3 million. During this period, business access increased from 16,469 customers to 22,829, although individual customer paid access decreased from 196,324 to 164,435. Between 1999 and 2001, free internet dial-up access increased from just over 400,000 to 2,798,350. Cable access similarly increased from 297 to some

<sup>1</sup> Statistical Yearbook 2000, ICP, p. 22

<sup>2</sup> Ibid., p. 21

<sup>3</sup> A expressão do Sector das Tecnologias da Informação e da Comunicação no contexto da Economia Portuguesa, Conselho interministerial para Sociedade de Informação, available at <http://www.cisi.mct.pt/ficheiros/ficheiros/si/stat/fsistat001.pdf> (visited on 21 March, 2002)

<sup>4</sup> Evolution of trade in ICT companies (Evolução do Volume de Negócios das Empresas do Sector T.I.C face ao Total do Volume de Negócios)

70,350 users.<sup>5</sup> The number of registered ISPs grew from 10 to 47 between 1997 and 2001, with the number of active ISPs increasing from 9 to 30. The national total number of Points of Presence (POP) rose from 288 to 526 and the number of dedicated line Internet accesses, from 544 to 2,487. Between 1998 and 2001, the number of Internet hosts rose from 10,776 to 37,519.<sup>6</sup>

In terms of the telecommunications infrastructure, there were 31 active and 16 inactive licensed telecom operators in the third quarter of 2001, compared with 18 and 9 respectively in the first quarter of 2000. With regard to installed lines, digital access has seen significant growth – with the total number (including ISDN basic rate, ISDN primary rate, Diginet Accesses and others) increasing from 154,141 in the first quarter of 2000 to 240,449 by the third quarter of 2001. During this period there was a corresponding decrease in analog accesses – from 3,644,490 to 3,492,629.<sup>7</sup>

### ***Main ICT Regulatory and Legal Developments***

The Portuguese telecommunications market has evolved from a state-run monopoly to the current free market, with regulatory and competitive oversight from ICP – Anacom. The strongest player in this field is formerly fully state-owned Portugal Telecom. In order to provide a more level field and allow effective market competition, the regulator (ICP-Anacom) has implemented the portability of telephone numbers for land-line and mobile telephones, and is also active in the regulation of access to the Local Loop (Local Loop Unbundling).

In order to foster telecommunications and information services, the Portuguese government and parliament have approved the Telecommunications Act. This act includes a group of Laws and Decree-Laws that establishes rules for the general provision of information and telecommunications services. In addition, to these laws, there is also other legislation dealing with interconnection between public telecommunications networks, numbering and public telecommunications service concessions (Decree-Law 40/95, 15 February and Decree-Law 458/99, 5 November 1999).

Regarding the development of an Information Society in Portugal, an action plan has been prepared detailing several initiatives. Firstly, there is the Science, Technology and Society Network (RCTS) which aims to upgrade the network that interconnects public educational institutions, through the increase of network bandwidth and the number of connected institutions. It also provides e-mail, conferencing and WWW facilities amongst others. Secondly, there is the “Internet on Schools” Program which includes the installation of computers and Internet access. Thirdly, there is the “computer for everyone” initiative which aims to foster the usage of computers, by offering, for example, income tax deductions for part of expenditures on PCs, modems, ISDN adapters and Internet connections.

The “Digital Cities” program, launched in 1998, is a set of co-ordinated projects aiming to improve urban life, combat social exclusion, and improve competitiveness of economic sectors through the use of ICT. The program is integrated with RCTS. The National Initiative for Citizens with special needs is aimed at providing the benefits of ICT to the physically and mentally disabled, the elderly, and the bed-bound so as

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<sup>5</sup> ICP : [http://www.icp.pt/publicacoes/estcom/stcm/stdados3\\_01.html](http://www.icp.pt/publicacoes/estcom/stcm/stdados3_01.html), (visited on 21 March, 2002)

<sup>6</sup> Source: ICP : [http://www.icp.pt/publicacoes/estcom/stcm/stdados3\\_01.html](http://www.icp.pt/publicacoes/estcom/stcm/stdados3_01.html), (visited on 21 March, 2002)

<sup>7</sup> Source: ICP : [http://www.icp.pt/publicacoes/estcom/stcm/sft3\\_01.html](http://www.icp.pt/publicacoes/estcom/stcm/sft3_01.html), (visited on 21 March, 2002)

to enable social integration and improve their quality of life. This initiative was established by the resolutions of the council of Ministers 96/99 of 25 August and 97/99 of 26 August 1999. The government also aims to implement programs leading to the growth of Portuguese language contents on the Internet.

E-commerce and e-government are also extremely important for the Portuguese government. The National Initiative for Electronic Commerce aims to foster the development and expansion of electronic commerce; define the juridical regime of electronic documents, digital signature and electronic invoice; encourage the use of the Internet and other means of electronic commerce; and develop a consistent set of rules regarding the security of transactions done electronically, the protection of private transactions and of private life, the defence of consumer rights and the protection of intellectual property. Meanwhile, the e-government initiatives are included in the “Programa Operacional Sociedade da Informação” (Program for Information Society) in the “Open State” action. The objective of the “Open State” action is to enable, through the use of IT, the management, processing, archival and exchange of information, between Public Administration, economic agents, and Citizens.

### ***Assessment of Phenomena Undermining Dependability***

The main body dealing with cyber-crime activities in Portugal is the PJ - Policia Judiciaria<sup>8</sup>. Between the years 1997 and 2000, they recorded an increase in the number of inquests concerning such crime. The number of cases of illegal access rose from 16 to 74. The number of cases of system interference rose from 0 to 20 and of computer-related fraud 5 to 11. On the other hand, the number of offences related to infringements of copyright and related rights dealt with by the PJ decreased from 9 to zero<sup>9</sup>.

It is important to note that there are other public bodies in Portugal dealing with specific issues such as the data protection issues of confidentiality and issues of intellectual property. These are covered respectively by the CNPD, and the IGAE – Inspeção-Geral das Actividades Económicas<sup>10</sup> and IGAC – Inspeção Geral das Actividades Culturais<sup>11</sup>. The PJ, therefore, do not deal with all such cases. Moreover the above data also reflects shifts of responsibility in investigating these issues along the last five years. Regarding “undeclared crime”, experts agree that from 70% to 80% of all cyber-crime is not declared by the victims to the proper authorities.

### ***Government Initiatives Aimed at Tackling Cyber-Security***

The Policia Judiciaria is responsible for the investigation of computer crimes through the SICIT - Secção de Investigação de Criminalidade Informática e de Telecomunicações (Computer and Telecommunications Crime Investigation Unit). Besides the investigative responsibilities, it is also engaged in trans-national co-operation with Interpol, Europol and other police forces in the world. There is also active participation in international work-groups and other activities related to Law Enforcement in the digital age, as well as activities aiming to raise awareness on computer crime issues.

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<sup>8</sup> Judiciary Police

<sup>9</sup> Interview with Policia Judiciaria

<sup>10</sup> Inspection of Economic Activities – Oversees economic activities, deals with counterfeit goods (From clothing to Recordings), among other issues.

<sup>11</sup> Inspection of Cultural Activities – Oversees cultural activities, has activities on licensing of theatres and of Video and Sound Recordings for Sale/Rent among others.

The CNPD – Comissão Nacional de Proteção de Dados, acts in controlling data bases containing personal data and in verifying compliance of these data bases to the Data Protection Law.

The government aims to foster security on-line by encouraging the use of both digital certificates and of digital signature. Legislation aimed at creating conditions for the use of both of these has been passed, in the form of the Decree-Law 290-D/99, of 2 August 1999.

Regarding Computer Emergency Response Teams, the FCCN (Fundação Para a Computação Científica Nacional, National Scientific Computing Foundation) acts, informally, as a CERT within the RCTS. There are plans to implement a CERT with national scope, but as it still is in the early planning stage there is no precise information on which shape this will take.

The fight against cyber-crime is supported by a comprehensive legal regime. The Law on Computer Crime, Law 109/91, relates to actions on/against computer/information systems, networks and semiconductor products/projects. Unauthorised copying of computer programs is addressed in the Decree-Law 252/94, 20 October 1994.

The Data Protection Law, Law 67/98, 26 October 1998 – from the 95/46/CE Directive, deals with the protection of individuals regarding the processing of personal data. It also states the scope of the CNPD – Comissão Nacional de Proteção de Dados<sup>12</sup>, which acts in matters pertaining to the Data Protection Law.

### ***Industry and Other Non-Government Activities Related to Dependability***

APDC (Associação Portuguesa para o desenvolvimento das comunicações)<sup>13</sup> and Apritel (Associação dos Operadores de Telecomunicações)<sup>14</sup> are active in the area of co-ordination and development of telecommunications. However, no activities in the field of dependability have been noted. Public-Private Partnerships are not well developed in Portugal either. Besides ICP – Anacom, a regulatory body, there are no entities dealing with any aspect of dependability which bridge public and private sectors

### ***Research and Development***

Several research bodies, mainly universities, have activities related to dependability within their Computer Science departments. These include the University of Coimbra; the Science faculty at the University of Lisbon; Minho University; the University of Oporto; and the Computers and Systems Engineering Institute, INESC and FCNN (Fundação Para a Computação Científica Nacional). An assessment of the research and academic activities of these initiatives seems to indicate that Portugal has developed a strong expertise in the areas of vulnerability assessment, monitoring and detection and risk mitigation. In addition, the country is also devising a solid expertise in the field of cryptography, early warning, viruses and intrusion detection. Moreover, increasing interest is developing in the analysis of the socio-economic and political implications of information security and dependability as a whole.

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<sup>12</sup> National Data Protection Commission

<sup>13</sup> Portuguese Association for the development of communications.

<sup>14</sup> Telecommunications Operators Association.