ABSTRACT
This article describes the work that has been done in Portugal with regard to the Information Society and citizens with special needs (i.e. citizens with disabilities, the elderly and the long-term bed-ridden) as a result of legislation (government resolutions), Ministry of Science and Technology policies (creating a special unit), participation in international initiatives (on-line discussion forum on the eEurope document), and the implementation of a plan of action, the basic goals of which were to provide accessibility to the Information Society for these citizens: access to the Internet, adapting or creating accessibility to initiatives being implemented as part of the Information Society to make them as inclusive as possible, and providing these citizens with infrastructures, equipment and training in new technologies. It is essential to look to the future in terms of full use of all the potential of the new technologies, when it comes to both products and services.

Keywords
Web accessibility, universal design, disabled, elderly, info-inclusion, assistive technologies, accessibility kits, internet posts for all, telematic networks.

1. CITIZENS WITH SPECIAL NEEDS IN PORTUGAL
The estimates of the number of people with disabilities in Portugal date back to 1996 and are the result of a study conducted by the SNRIPD – National Secretariat for the Rehabilitation and Integration of People with Disabilities. The study found that there are about 1 million people with disabilities.
The population with disabilities can be divided as follows:

<table>
<thead>
<tr>
<th>Type of Disability</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visual Impaired</td>
<td>135,428</td>
</tr>
<tr>
<td>Blindness</td>
<td>14,609</td>
</tr>
<tr>
<td>Auditory impaired</td>
<td>115,066</td>
</tr>
<tr>
<td>Deafness</td>
<td>19,172</td>
</tr>
<tr>
<td>Speech impairment</td>
<td>66,778</td>
</tr>
<tr>
<td>Other communication impairment</td>
<td>87,665</td>
</tr>
<tr>
<td>Personal Care</td>
<td>130,801</td>
</tr>
<tr>
<td>Mobility</td>
<td>357,495</td>
</tr>
<tr>
<td>Daily Living Skills</td>
<td>106,870</td>
</tr>
<tr>
<td>Facing certain situations</td>
<td>418,889</td>
</tr>
<tr>
<td>Behaviour</td>
<td>199,525</td>
</tr>
</tbody>
</table>

source: SNRIPD/Quanti 1996

In Portugal there about 1.5 million people over the age of 65 in a total population of about 10 million. An estimate made by ACESSO leads to the conclusion that more than 50% of this target group has at least one type of disability.
2. BACKGROUND AND LEGISLATION

Green Paper
Under the direct responsibility of the Minister of Science and Technology, a Mission Team for the Information Society was set up with the goal of starting a national debate on this matter. As a result of this discussion, a Green Paper containing a set of measures to implement the Information Society was presented to Parliament and approved by the Council of Ministers in 1997.

One of the key areas of this document is to ensure that the information society is democratic. A concern of the utmost importance within this framework is guaranteeing that everyone, including people with special needs, has access to the benefits of new information and communication technologies.

In this context, the document proposes two concrete measures for people with disabilities:

- Giving priority to programmes to include citizens with disabilities in the Information Society;
- Including older workers and citizens with disabilities in the labour market.

Ministers Council Resolution 96/99 and 97/99 and INCNESI
Following the submission of an electronic Petition for the Accessibility of the Portuguese Internet by the Portuguese Accessibility Special Interest Group – PASIG (9,000 citizens submitted this petition to the Portuguese Parliament), the Council of Ministers approved a Resolution obliging Directorates-General and similar agencies and departments to adopt rules of accessibility for people with disabilities in their web design (Resolution 97/99).

The same Council of Ministers approved the National Initiative for People with Special Needs in the Information Society (INCNESI), jointly with a Guidance Paper (Resolution 96/99).

The broad objective of this initiative is to help citizens with special needs, namely people with physical and mental disabilities, the elderly and the long-term bed-ridden, to take full advantage of the benefits that new information technology can offer them as a factor of social integration and improvement in their quality of life.

The principles are as follows:

Principle 1: The benefits of the information society are for all.
Principle 2: Priority should be given to developing products and services for people with special needs, on economically accessible terms.
Principle 3: To promote the universal design concept.
Principle 4: To ensure that research and development are carried out to extend existing knowledge and skills in connection with the integration of people with special needs into the information society.
Principle 5: To reinforce the co-operation between users and the public and private sectors in developing technologically advanced products adapted for people with special needs.
Principle 6: To raise society’s awareness of the need to integrate people with special needs.

3. Action

ACESSO Unit of Minister of Science and Technology
In 1999, the Minister of Science and Technology set up a support unit, ACESSO, to monitor the implementation of the National Initiative for People with Special Needs in the Information Society and propose appropriate measures and technical solutions. It is the responsibility of this Task Force, for example, to support the Government and Public Services in the designing of accessible web sites for people with disabilities.
The web accessibility guidelines
In January 2000, ACCESSO issued the first version of Web Accessibility Guidelines (based on the version 1.0 of WAI guidelines – single level A) – Visitability Requirements - for the public administration and gave two training courses on web accessibility for webmasters and designers in the public service.

A discussion list on-line at European Level of CSN
In December 1999 the European Union launched the eEurope document, an important basis to implement a new society on information and communication technologies. This document was one of the supports to the EU Extraordinary Summit held in March 2000 with important repercussion on all levels of action plans and strategies within the member states and EU.

In preparation for the European Ministerial Conference on Knowledge and Information Society (Lisbon, April 2000) and due to the fact that society in general knew very little about the importance of accessibility for the disabled in the information society, an on-line discussion forum on the eEurope document (point 7. citizens with special needs area) was set up on the Internet in February and March 2000. This discussion group concluded that accessibility to information is a horizontal problem that concerns the whole of society. Awareness campaigns and financial support are also key issues and the group recommended action in the following fields:

- legislation
- standardisation
- public procurement
- web accessibility
- centres of excellence
- virtual European network
- European curriculum on design for all
- benchmarking of best practices
- increasing awareness
- education and research.

Both the results of the discussion forum and of the Ministerial Conference contributed to the final proposal presented at the European Summit in Feira and to the decisions made by the 15 member states on this issue under the Portuguese presidency.

The discussion forum, in which 20 countries and 92 members participated, proved to be a truly new technological-based tool not only for disseminating and discussing information but also for creating a preliminary international network of institutions and people concerned for citizens with special needs in the information society.

This initiative, which is still very much alive, has been the basis for further discussion on a subject that needs constantly new approaches in order to justify and support European policies in this area.

The eeurope-pwd@egroups.com list is open to all institutions, researchers, companies or individuals directly or indirectly related to this issue.

Aware of the important contribution made of this initiative, last October Portugal proposed that the leadership of the discussion forum should rotate through all the 15 member states. Sweden thus took over in January 2001.

Each Member State can also introduce improvements in this area during its European Presidency.

National Level – Internet Initiative
To accomplish both Portuguese goals with regard to the Information Society and those emerging from the Plan of Action of the Initiative “eEurope: an Information Society for all”, last August the Council of Minister approved the creation of an Interdepartmental Committee. This committee consists of a representative from
each ministry and its job is to take measures to achieve political interaction between the different governmental departments.

As part of a coherent approach to the challenges of the Information Society, also in August 2000, the Council of Ministers approved the "Internet Initiative" and the guidelines for its implementation. This initiative is aimed at advancing the modernisation of the country by changing operating methods, promoting networks and co-operative work, and sharing resources. The initiative’s goals are to foster social cohesion and fight info-exclusion, bearing in mind the special needs of people with disabilities.

Here, ACESSO takes into account the document governing its activities, the INCNESI, and reflects a concept that was given a lot of attention when the eEurope document was being discussed. This concept has to do with the fact that the action required for citizens with special needs is transversal. It therefore put forward two measures, which are already being implemented.

A network of solidarity to ensure that e-organisations for the disabled are present on the Internet and build their own contents. This network is fully sponsored by the Ministry of Science and Technology, from support for web contents to the cost of phone calls.

**INCREASE SOCIAL NETWORK**

(“REDE SOLIDÁRIA” – SOLIDARITY NETWORK)

**NEW NETWORK (RCTS)**

- STATE DEPARTMENTS
- TECHNICAL HIGH SCHOOLS
- PRIVATE R&D INSTITUTES
- SECONDARY SCHOOLS
- BASIC SCHOOLS
- LIBRARIES
- UNIVERSITIES
- ORGANISATIONS OF AND TO DISABLE PEOPLE.

**POSSIBLE TRENDS**

- TELEMEDICINE (HOSPITALAR PORTAL).
- TELEWORK.
- TELETRAINING.
- DISTANCE LEARNING.
- LIBRARIES ON-LINE (TALKING BOOKS, VIDEOBOOKS, eBOOKS).
- TECHNICAL AIDS DATABASES.
- DISABLE CONTENTS.
- VOICE RECOGNITION.
- SPEECH SYNTHESIZER.
- TEXT TO SIGN LANGUAGE.
- AUTOMATIC TRANSLATION.
- UMTS DEVELOPMENTS.
- DIGITAL TV DEVELOPMENTS.
In addition to contents, the network will also organise special computer workstations for citizens with special needs at the branches of the organisations themselves.

Another measure has to do with the fact that citizens with special needs must be taken into account by the municipalities when creating their Public Internet Access Points (PIAP). At least one computer per area must be adapted for use by the disabled. Architectural barriers to access must not be forgotten either.

ACESSO has sent all municipal councils a list of the equipment to be considered (assistive technologies – software and hardware) in order to do this.

National Level – Operational Programme to Information Society

Within the Third Community Support Framework, the Operational Programme for Information Society (POSI) fits into the on-going policy measures for the implementation of a knowledge-based information society in Portugal.

The Programme is organised in three priority areas: Developing Skills, Digital Portugal and The Open State: Modernising the State Administration.

In the Operational Programme (POSI), concern for the access of Citizens with Special Needs (CSN’s) to the Information Society is expressed in measure 2.1, of area 2, which refers to the generic concept of accessibility.

Under this measure, “Digital Portugal” will stand for a new social and economic space in which accessibility plays a critical role. As a matter of fact, the rapid spread of citizens’ access to computers and to the Internet, using the broad band when appropriate, is decisive in the development of the Information Society and the fight against info-exclusion.

POSI will make it possible to finance projects involving telecommuting and specific web contents for citizens with special needs, such as portals for the elderly. It will make it possible to produce material that is specially designed for the deaf and blind. It will also make it possible to provide training in basic skills specially designed for this segment.

As a result of the INCNESI plan, the scope of the measures proposed is transversal to many areas and is not limited to measure 2.1 of area 2 of POSI. Its fulfilment will be the responsibility of central public bodies, regional and local administrations, universities, R&D centres, public and private non-profit organisations, that develop scientific and technological activities, public and private bodies involved in teaching or disseminating science and technology, technological centres, institutions promoting or involved in scientific and
technological activities, schools of all levels of education, private institutions of public interest, regional and local development agencies, company associations, companies that work for the Information Society. From this brief description, it is clear to see that the target group for the concept of accessibility is not only the elderly, people with disabilities or long-term bed-ridden people.

With the INCNESI document as a reference, it is important to be aware of the changes in the most diversified sectors, especially the European plans of action (eEurope 2002, eInclusion, e-learning, Life long learning, etc.), Portuguese plans of action (Initiative Internet, Digital Portugal), including forthcoming legislation (copyright law, telecommunications law, television law), in order to achieve two goals: on one the hand, to improve the methodology and measures expressed in the INCNESI and, on the other hand, to enrich the above-mentioned documents with measures from the INCNESI. This dissemination of measures to other decision-makers, acts as a multiplication factor of the action being taken in different sectors of the society, leading, naturally, to inclusion.

From our field experience we can state that legislation is important as a support of a strategy (Resolution 96/99 and Resolution 97/99), as guidelines for a plan of action, but, by itself, it does not guarantee effective implementation. To reach the final platform, we need intense work to apply the legal provisions and exhaustive technical and scientific monitoring in order to increase awareness, mainly in the different players that influence decision. The following actions and documents are examples of this:

- the conference on “The Accessibility to the Public Administration Web Sites – To Design Web Universal”;
- a brochure on dissemination of the Visitability requirements (based in the web accessibilities guidelines of the W3C);
- training courses on accessibility to the Web;
- WebMasters HelpDesk for Public Administration;
- the Accessibility Guide of Telecommunications that emerged from a survey of users and experts in reaction to the tender for the UMTS licence. The main goal of this guide is to increase the awareness of the telecommunications operators towards something that was only mentioned generically in the licensing tender rules;
- the Accessibility Guide to the Digital Television, still in its development phase (December 2000), has exactly the same goal.

4. Outlook for the future

Our main challenge is anticipating the major restructuring processes that information and communication technologies are going to bring about throughout society. We are faced with a new paradigm, a new revolution that is comparable to but much vaster and faster than the beginning of the industrial age and, to a certain extent, to the appearance of the printed word.

We will be to anticipate events in several different areas, all of which are closely linked to services and equipment for citizens with special needs.

Government, integrated social support structure, education, medicine, life-long learning, alternative curricula, telecommuting, mobility, transports and services are all areas that will have to be rethought.

This more humanised point of view may finally fill a need and attract to these areas some of the women that have so far stayed away from research and telecommunications.
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