



## EUROPEAN COMMISSION

DIRECTORATE-GENERAL III

INDUSTRY

Legislation and standardization; telematics networks

**Standardisation, including industrial aspects of electronic trading**

Brussels, 29 September, 1998

DG XIII-C5/DR/D(97)

**M/273 - EN**

### **Mandate to the European Standards Bodies for Standardization in the field of information and communications technologies (ICT) for disabled and elderly people.**

#### **1. TITLE**

Standards for disabled and elderly peoples' access to information and communications technologies (ICT) products and services including "design for all".

#### **2. BACKGROUND**

##### **2.1 The market for accessible products and services**

Elderly and disabled people are a large and growing proportion of the European population. There is a large overlap between these two groups since disability is strongly related to age, with 70% of people with disabilities being aged 60 or over. In the Member States of the European Union the number of people who are elderly or disabled is estimated at between 60 and 80 million. The changing European age structure means that by the year 2020, one in four of the population (25%) will be aged over 60, and the largest increase is expected in the oldest age groups (75+) where disability is most prevalent.

It is a major challenge to the European Union to maintain and improve the quality of life, integration and independence of these citizens, as well as to contain the associated rise in the cost of care. Technology can play an important part in responding to this challenge.

##### **2.2 Design for All, Assistive Technology and Usability**

The use of ICT technology is becoming an essential part of the economic, educational and social life of the European citizen, but trend is a double-edged sword since it can also exclude and disadvantage elderly and disabled people by failing to take their needs into account. Access by elderly and disabled people to mainstream technology and technology based services is a major issue in enabling and facilitating their integration.

The provision of technology-based solutions for integrating disabled and elderly people and helping them to lead full and independent lives requires two complementary approaches; the "design for all" approach and the "assistive technology" (AT) approach.

"The design for all" approach foresees the needs and requirements of disabled and elderly people are taken into account, so far as is possible and readily achievable, in the design of mainstream products.

The "assistive technology" (AT) approach, means that technologies are exploited to construct new products and services specifically targeted at elderly and disabled people to permit certain functions or compensate for loss of function. In particular, Assistive Technology is concerned with the development of the specific interfaces needed by disabled and elderly people to gain access to mainstream technology terminals and services.

The "design for all" approach usually pays for itself since a wider population (and market) can be addressed with the basic product which itself is often more usable and attractive. For example, a "design for all" product may suit 95% of the population rather than the 80% addressed when not taking wider requirements into account. In cases where it is not practical or cost-effective to meet all requirements, special interfaces or 'hooks' can be provided to enable the connection of additional (assistive) technology that is tailored to an individual group or groups of disabled or elderly people. "Design for all" is strongly linked to "usability" in that the implementation of the "design for all" approach requires proper consideration of "usability" and therefore shares methods and tools with "usability engineering".

### **2.3 The Role of European Standardization**

European standardization in this area of ICT accessibility can contribute to meeting both the public interest and market needs. It is difficult or impossible for many disabled and elderly people to participate in the information society simply because their particular user requirements have not been considered. All too often the development, of assistive technology solutions are required at great expense and effort when a more effective and cheaper solution would have been to build the appropriate features into mainstream products and services at a fraction of the cost. Thus, the "design for all" approach making products accessible where readily achievable is the preferable route to accessibility on economic and usability grounds.

While the European and global market for accessible products is significant and growing, European industry has not yet seen the market opportunities for accessible products and services developed using "design for all" principles. In general, the ICT industry is poorly informed about the requirements of disabled and elderly users. For instance, they may not know what features to include. In this respect, standards can play a significant role by providing guidance and offering a clear framework for developers who wish to make their products and services accessible. In this way, standardization can act as a seed or catalyst to increase market effectiveness.

## **2.4 The Picture in the US**

Over the past 25 years the USA has produced an array of laws and regulations relating to IT and disability, for example, the Telecommunications Reform Act (1996) requires all telecommunication manufacturers and service providers to ensure that new products are accessible or compatible with assistive technology **where readily achievable**. This effectively creates a broad mandate for accessibility. Rather than addressing inaccessible technology already in place, the US approach will address technologies while they are still under development. A likely effect of this legislation will be that US industry will be better placed to respond to the demographic changes in society and corresponding changes in the market.

## **3. PREVIOUS STANDARDIZATION ACTIVITIES**

Previous activities in this area relate to:

- the TIDE pilot phase horizontal action HEART;
- A DG III/ETSI – sponsored European policy workshop on ICT standardization and disability in Europe, held in Amsterdam in 1996;
- Work in CEN/TC 293 Technical aids for disabled persons regarding communication aids
- A set of requirements presented to the ICT Standards Board by ANEC in 1997 are the basis of TIDE Access project;
- Four action areas specific to telematics for disabled persons under the Fourth Framework Programme.

In addition, the TIDE projects have a potential implication for standardization. Details of these actions are given in Annex A.

## **4. DESCRIPTION OF THE MANDATED WORK**

The work is to be carried out in two phases.

**Phase I:** CEN/CENELEC/ETSI are requested to determine, in close co-operation with organisations representing elderly and disabled organisations and relevant consumers' organisations, requirements for standardization to ensure accessibility for disabled and elderly people within the information society. The requirements shall respect the two approaches: “design for all” and “assistive technology”.

The requirements shall be drawn up from the perspective of the European dimension in terms of markets and technologies, and shall be based on an examination of:

- world-wide, European and national Member States' situation with regard to standardization and accessibility;
- the impact of this situation on the European market;

- the prospects outside Europe.

An analysis and assessment shall be made of requirements of European guidelines on ICT accessibility, taking into account other relevant activities including the MART “Telecoms for Older People in the Information Society” study, the US ATBCB accessibility guidelines and the standardization activities of the ACCESS project. An analysis and assessment shall also be made of the pre-standardization and standardization requirements of EU-funded RTD programmes aimed at disabled and elderly people, including in particular the TIDE programme and the Telematics Applications Programme.

The work shall be performed in close co-operation with relevant EU RTD programmes. Close links shall be established with the current ICTSB study of consumer requirements for standardization in the ICT field as well as with CEN/TC293 . Subsequently, CEN/CENELEC/ETSI shall develop a (preliminary) common work programme in line with the results of the initial assessments

A preliminary programme shall list work items to be standardised together with the type of deliverable in each case. Lead responsibility, priority, and timetable should be indicated. In principle, ENs shall be a final objective, although other instruments (ENVs, or relevant specifications (CWAs, CENELEC ESs, ETSI ESs or TSs, from the standards bodies) may be initial deliverables.

A public hearing, including representatives from industry, consumer groups and public authorities, shall be performed to consolidate the work programme and to ensure broad acceptance for it..

The preliminary programme shall be presented to the Commission, who will inform the Member States through the SOGITS and the 83/189 Committee.

## **Phase II: Elaboration and adoption of European Standards**

Following completion of the first phase, the European standards bodies shall develop European standards on the basis of the programme of work defined in the first phase. The “open workshop” structure shall be employed to carry out pre-standardisation work<sup>1</sup>..

### **4.4 International collaboration**

In carrying out all three phases, appropriate co-ordination and liaison with relevant activities shall be established at international and regional level to achieve the necessary level of coherence and interoperability. Full account shall be of existing national and international activities in this area. This shall include at least the International Organisation for Standardization (ISO) and in particular with ISO/TC 173 technical aids and systems for disabled and handicapped persons., the World Wide Web Consortium (W3C), the international and European activities of the Web Accessibility Initiative (WAI), and the Nordic Initiative on Standards for Disabled and Elderly People. Liaison shall be established with the TIDE ACCESS project to take into account their work with

ISO TC159/SC4/WG6. In addition, liaison should be established with other areas of ICT such as COST 219 bis.

#### **4.5 Follow-up**

Elaboration and implementation of the work programme will be subject to follow-up by the national authorities through SOGITS and the 83/189 Committee. Progress reports shall be presented by the three European standards bodies to these committees, at intervals to be set in consultation with the Commission.

If necessary, the Commission will organise, during the process, public meetings with interested parties, to verify whether the activities carried out in the programme will meet the needs of the market and policy objectives.

#### **4.6 Evaluation**

Five years after the commencement of the work, an evaluation report shall be presented by the European standards bodies to the Commission on the results achieved in terms of the impact of the work on mainstream ICT and DE sector markets.

The terms of reference of the report shall be agreed between the three European standards bodies and the Commission services.

### **5. EXECUTION OF THE MANDATE**

**5.1** CEN/CENELEC/ETSI shall present to the Commission, within three months of the date of acceptance of this mandate, a report setting out the arrangements they have made for execution of this mandate.

**5.2** Within nine months of acceptance of this mandate CEN/CENELEC/ETSI shall jointly present to the Commission the studies and reports and mutually agreed work programme in accordance with Phase I.

**5.3** CEN/ CENELEC/ETSI will present to the Commission the standards listed in the programme in accordance with the schedule described therein.

**5.4** Acceptance by CEN/CENELEC/ETSI of the work programme noted in 5.2 above starts as appropriate the standstill period in accordance with Article 6 of Directive 83/189/EEC as amended.

## ANNEX I

M3S (TP128), FOCUS (TP1092) - The development and then the establishment of the M3S bus architecture as a common standard for rehabilitation technology. The system aspects of the standardization of M3S is with ISO/TC173/SC1/WG7 “Serial interface for electric wheelchair controllers” working group. The increasing adoption of this standard is illustrated by the following EU supported projects incorporating M3S : LAMP (TP1249), MOVAID (TP1270), IMMEDIATE (SPRINT), CARENET (INNOVATION).

HARMONY (TP1226) / CAPS (TP136/218) - Horizontal action for the promotion of the use of structured documents within the publishing community to increase both quality and quantity of accessible documents. They are proposing a standard interchange format for accessible documents based on SGML.

ACCESS (TP1001) - Unified development platform for user interfaces for disabled people. They have developed software that permits the automatic generation of user interfaces for different target users and are working to incorporate the results in ISO standards through ISO TC159/SC4/WG6.

MOBIC (TP1148) - Travel aid to enable blind, partially sighted and elderly people to travel independently in unfamiliar environments. They have proposed together with the TACIS, ASMONC and OPEN projects a format for interchange disabled user personalised data to digital maps.

AUDETTEL (TP169/212) - The provision of an extra TV speech channel conveying picture information for people with visual impairment. They proposed a standard for using teletext and will proceed with digital TV standards.

HOME BRAIN (DE3209) - Home automation using design for all approach with a focus on interoperability. They are proposing the development of a standard chip for this purpose.

COMSPEC (DE 1169) Modular software for augmentative communication aids and access systems. They have developed a common modular software platform which makes it feasible to produce, adapt, maintain, upgrade, and support new products to meet the diversities of elderly and disabled persons.

MORE (DE3006) - GSM mobile rescue telephone with built-in global positioning system. The standard telephone will be used by various operating companies.

MATHS (TP1033) - Development of a software/hardware platform to enable blind and visually impaired individuals to input, manipulate and output mathematical expressions using a combination of auditory and Braille techniques. The project follows international standards for Braille description.

SATURN (TP1040) - Increasing the access to public terminals for disabled and elderly people through the use of smart-card technology. This work will form the basis of a standard for the coding of smartcard data.

WAI (DE4105) - Support action working closely with W3C to ensure the accessibility of the world wide web to all citizens of the global information society.

NATASHA (DE4302) - Support action towards the standardization of fitting procedures for hearing aids involving the European Federation of Audiological Societies.

MART (TP1113) - Study into how of developments in the European telecommunications environment may affect the take-up of rehabilitation technology applications. They are making recommendations to projects proposing standards in the field.

INCLUDE (SU1109) - Programme level support action to assist and advise Telematics RTD projects on DE accessibility.

Line A of the TIDE pilot phase horizontal action HEART (TP309) involved a major study relating to standardization of rehabilitation technology. The final report made recommendations including accessibility, users influence, user requirements, research and standardization, and increasing efficiency. The report listed key areas for future standardization work that have significant impact for disabled and elderly people.

The DGIII/ETSI sponsored European Policy Workshop on ICT Standardization and Disability in Europe (Amsterdam, 1996) made recommendations relating to market awareness, improvements of standardization processes and the need for legislation. In general, these recommendations were subsequently endorsed by the ICT Standards Board. The problems of adequate representation and expertise within the European Standardization bodies were highlighted. A major concern was that it is extremely difficult for disabled and elderly user organisations to be involved in the standardization process due to economic factors. There was a call made to the CEC to provide the required funding for this participation.

The outcomes of the TIDE ACCESS project have been submitted to ISO for incorporation into international standards.

In line with these recommendations, the European Association for the co-ordination of consumer representation in standardization (ANEC) is to establish a horizontal working group addressing disabled and elderly issues.

ANEC presented to the April 1997 ICTSB meeting a set of generic requirements for consumer standardization which were subsequently accepted. This included "design for all".

Within the 4th Framework Programme, of the four support action areas specific to telematics for disabled people, area H.3 addressed standardization directly with two sub-areas H3.1 "Facilitating the Standardization Process" and H3.2 "Including Elderly and Disabled People in the Standardization Process".

Many of the projects of TIDE and the Disabled and Elderly Sector of the Telematics Application Programme have results that are having or have potential for an impact on standards.