

## REFERENCE 4

### **Consumer Requirements in Relation to Information and Communications Technology Standardization**

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### **ANEC - European Association for the Co-ordination of Consumer Representation in Standardization**

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## **Executive Summary**

### ***Consumer Requirements and Priorities in ICT***

#### **Generic Consumer Requirements**

In the first section of this document ANEC identifies a number of generic consumer requirements applicable to all standardization projects in Information and Communications Technology. This includes issues such as ease of use, functionality of solution, design for all amongst others. Further details can be found in chapter 8. It is proposed that these recommendations could be promoted as a joint CEN/CENELEC/ETSI memorandum to ensure their application across all the standardization work in the ICT sector. This would contribute to the production of a coherent and consistent catalogue of standards even where consumer representatives are not actually present.

## **Specific Consumer Priorities**

The following consumer priorities are identified and further explained later in this report:

<b>Specific ICT Priority Project</b>	<b>Consumer Priority</b>	<b>Key Aspects for Standardization</b>
<b>Electronic Purchasing</b>	Encryption systems Electronic signatures Security	Security of transaction Error tolerance Transparency of costs Privacy
<b>Interlinking technology</b>	Horizontal standards	Interoperability Compatibility
<b>Information kiosks</b>	Categorized list of information Consistent user information	Ease of use Reliability of information
<b>Digital broadcasting</b>	Electronic programming guide Encryption systems	Access control Cost transparency Grading systems Backward compatibility
<b>Set-top units</b>	Single distributable and adaptable standard	Interoperability Expandability Upgradability
<b>Mobile communications</b>	Minimum service level Transparency of geographical coverage area	Cost transparency Interoperability Suppression of call-line identification
<b>Generic Internet issues</b>	Standard for the categorization of sites Access control system	Privacy Rating system

	Minimum service level	
<b>Smart cards</b>	Access to smart card systems Electronic purses	Privacy Clear legal responsibilities
<b>Smart houses</b>	Interoperability Single standardized home bus	Ease of use Guaranteed minimum service in case of system failure
<b>Self-service systems</b>	Standard for uniform design of system Coding of user profiles	Access for all Ease of use Privacy
<b>Public transport informatics</b>	Access to information Billing/ ticketing	Transparency of costs
<b>Research/ test methods</b>	Benchmark standard for testing Tools for life-cycle analysis	Standardized test methods to provide consumer information before purchase
<b>Power consumption</b>	Standard method for testing power consumption	Access to comparative information on energy usage
<b>Information to consumers</b>	Standard on what information is given (time/ type/ means) Standard product profile	Standardized information provision before sale, at point of sale and while using ICT

## Background

The vast opportunities offered by the advent of the Information Society are revolutionizing the daily lives of citizens across the world. It has been acknowledged however at the highest political levels in Europe that not only industry but in particular the consumer should benefit from the information society. The desire to put the citizen first is driving the current political agenda. This has emphasized the urgent need to incorporate consumers, with their requirements and expectations of user friendly ICT products into a rapidly changing ICT standardization process.

In response to this, ANEC, the European Association for the Co-ordination of Consumer Representation in Standardization has decided to become more active in the area of Information and Communications Technology. This document is one part of a project undertaken by a specifically set up ANEC

group of European consumer experts on ICT. The aim of the project is to identify generic consumer requirements, ICT areas of interest to the consumer and to define ways how consumer input can be most efficiently achieved in the European ICT standardization process. Considering the speed of developments in ICT this document will be updated regularly.

This document states consumer requirements and priority projects in ICT standardization.

## Scope

The purpose of this document is to provide the ICT standardization process with consumer requirements that should be incorporated when producing ICT standards and to provide an overview of areas ANEC recommends for standardization.

## About this document

These consumer requirements have been identified and consolidated from several sources including:

- the ISO/ IEC User/ Consumer Manifesto and ANEC/ Consumers International contributions to this JTC1 initiated document
- Several rounds of contributions from the ANEC Ad Hoc Group of European Consumer Experts on Information and Communications Technology.
- Several rounds of contributions from the ANEC General Assembly and Co-ordination Group (comprising all European consumer organizations and where existing consumer Councils of the national standards bodies)
- the GII meeting on ICT standards in Geneva, January 1996;the Workshop on ICT and Services at the ANEC General Assembly in 1995;
- ANEC PARTICIPATION IN THE WORK OF THE information SOCIETY FORUM
- MONITORING OF THE WORK OF THE EPN STANDARDS BODIES AND THE European INSTITUTIONS BY THE ANEC SECRETARIAT
- ANEC contributions to the ETSI User Group on Mobile Communications;
- the literature;

## Definitions

For the purposes of this document, the following definitions apply:

Consumer: The consumer is a natural person or group of persons using products and/or systems for purposes which are outside his or her trade, business or profession. The consumer is the end user of the products/systems and is usually the one paying for them.

Dialogue: Interaction between a consumer and a system to achieve a particular goal.

System: A configuration of hardware and software, which is designed to perform tasks in a particular environment. The system typically interacts with consumers via some form of dialogue.

Interoperability: The ability of equipment from different manufacturers (or different systems) to communicate together on the same infrastructure (same system).

## Consumer Requirements in Standardization

### ANEC

ANEC, the European Association for the Co-ordination of Consumer Representation in Standardization was set up following an agreement in 1993 between the Consumer Consultative Committee of the European Commission and its EFTA counterpart for the setting up of a single voice for EU and EFTA consumers in European standardization. The Association has on top become an associate member of CEN, fully accepted into the CENELEC family, a full member of ETSI, European member of EOTC and is in liaison with the ICT Standards Board. The objective of ANEC shall be to ensure that consumer interests are represented in the work of the European standardization bodies and any similar bodies who are concerned with standards directly or indirectly affecting consumers.

ANEC's policy framework is laid out in its strategic program.

The general aims, which ANEC pursues at the political level, are the following:

- ensure consumer interests are given their full weight at the political level in the work of the European standards bodies and European institutions
- improve participation at the national level
- Enhance professionalism and effectiveness of consumer observers through training and access to expertise e.g. comparative testing results, product safety research, accident data and consultants.

The aims, which ANEC pursues at the technical level, are the following

- improving consumer safety by
- preventing accidents
- mitigating the effects of accidents
- promoting and maintaining health and hygiene
- enhancing product/service performance
- improving product/service information for consumers
- facilitating consumer choice
- contributing to environmental protection
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## General Consumer Principles

The following "Consumer Principles" elaborate on those fundamental consumer rights previously identified by President J.F. Kennedy, the United Nations and the European Commission. These key consumer tests, which guide ANEC's work and this submission to the ICT Standards Board, are:

### **Access: Can people actually get the goods or services they need or want?**

In the generality of consumer work this is a function of consumers' ability to afford to buy the things they need or want and of their availability to all consumers regardless of location, social and economic considerations. For ANEC, this may lead to considerations of whether the use of national, rather than international or European, standards inhibits access to national markets throughout the community.

### **Choice: Is there any? And can consumers affect the way goods or services are provided through their own decisions?**

Promoting consumer choice is fundamental to consumer policy. In standardization, this supports the principle that a standard should not favor any one particular manufacturer or supplier or be unnecessarily restrictive as to the design of or materials used in a product's manufacture.

### **Safety: Are the goods or services a danger to health or welfare?**

The safety of products used by consumers has always been the first priority of consumer representatives active in standardization. A detailed discussion on the implications of this and the ways it can be pursued is given later in this document.

### **Information: Is it available, and in the right way to help consumers make the best choices for themselves?**

The provision of adequate information, both to assist in consumer choice and to support the safe and effective use of the product/service, is a key consumer concern. Allied to this is a concern regarding the dangers of providing more information than consumers can readily absorb and, hence, reducing the impact of vital messages.

**Equity: Are some or all consumers subject to arbitrary or unfair discrimination?**

ANEC has adopted the specific aim of looking after the interests of various groups of consumers who are felt to be at particular risk.

**Redress: If something goes wrong, is there an effective system for putting it right?**

Ensuring that consumers can be confident in claims of compliance with standards is an important concern. This means that, in their technical committee work, consumer representatives should aim to ensure that tests are repeatable and reproducible. At a policy level it requires influence on systems for product certification.

**Representation: If consumers cannot affect the supply of goods or services through their own decisions, are there ways for their views to be represented?**

By definition, individual consumers cannot materially influence the content of product standards. ANEC and consumer representatives on national delegations are the main conduits for representing their interests and, whatever resource constraints there may be, must participate effectively in key areas of consumer concern.

## **Generic consumer requirements for ICT Standardization**

When designing, selecting, commissioning, modifying and standardizing ICT systems, certain generic consumer requirements need to be taken into account.

### **Proposal**

It is recommended that these generic consumer requirements should be addressed in a joint CEN/CENELEC/ETSI memorandum to ensure their application across all the standardization work in the ICT sector. Industry and consumers alike demand consistency in the standardization process and this initiative could contribute enormously to the production of a coherent and consistent catalogue of standards even where consumer representatives are not actually present.

The specific requirements identified by ANEC are the following

- Ease of use
- Design for all
- Functionality of solution
- Multi-cultural and multi-linguistic aspects
- Terminology

- Comprehensible standards
- Interoperability and compatibility
- Consistent user interface
- Adaptability
- Provision of system status information
- Error tolerance and system stability
- Ease the consumer's need to remember system operation
- Explorability
- Privacy and security of information
- Cost transparency
- Quality of service, system reliability and durability
- Reliability of information
- Health and safety issues
- Environmental issues
- Rating and grading systems

Note 1. It should be noted that it is important to see all the requirements in relation to each other as they are interlinked. Resolving just one or two of the issues will not ensure that consumer interests are satisfactorily taken account of.

Note 2. Requirements are not presented in any hierarchical order of importance. This is because the relevance and thereby importance of each and every requirement is situation dependant. In some situations some of the requirements may not be applicable.

## **Ease of use**

ICT must be easy to use for all intended user groups stated in the scope of the standard (see above). Following ergonomics software principles for user interface design should help achieve ease of use.

ICT standards should address ergonomical aspects of ICT hardware, software, services and support. Existing standards should be applied.

Note: Ease of use can be measured in terms of performance (e.g. the time taken by users to complete a predetermined task, and/or number of errors, and/or satisfaction with a service: see EN 29241 -11 Guidance of usability). Goals for ease of use (known as usability statements) should be developed.

## **Design for all**

ICT standards should support the principle of "Design for all. This is a process of creating products, systems, services which are accessible and usable by people with the widest possible range of abilities operating within the widest possible range of situations.

There may however be occasions where a system is not intended for all users. In these instances, the standard should state which users and tasks the system is not designed for and why these groups' requirements are not taken into account.

## **Functionality of solution**

With regard to functionality of solution, one has to ensure that the standard addresses the problems actually faced by consumers and will actually help solve those problems. There should be advice on which user groups and tasks the system should be used for, and in which operating environments. This advice should be in the scope of the standard. The advice should be open for review.

## **Multicultural and multi-linguistic aspects**

Multicultural and multi-linguistic aspects need to be considered when developing global ICT standards.

## **Terminology**

As part of a consumer centered design, the terminology used in user interfaces, (this includes brochures, user instructions and information presented by the system) should meet the basic generic consumer requirements.

## **Comprehensible standards**

Standards must be unambiguous and easy to understand, i.e. written in plain language so that non-technical people can comprehend them and contribute to the standardization process.

## **Inter-operability and compatibility**

Different services must be interoperable so that, in practice, any service can be accessed on any appropriate network on any relevant device, thus avoiding the acquisition of access to several different networks and terminals for similar services (i.e. portability is achieved). Compatibility within a system should be ensured for example new versions of systems should be compatible with previous versions of the same system and components for systems originating from different manufacturers should also be compatible. Different systems should be compatible, so as to allow their joint operation.

## **Consistent user interface**

The systems must have a consistent user interface. It is especially important that the method of processing storing and accessing the systems is consistent for the user.

Note. A consistent user interface can be achieved by different means e.g.:

- All components of the user interface are uniform.
- The user interface adapts to the user, so that the user always meets a personalized uniform interface. This principle is the subject of the TIDE project 1040 "SATURN", where the feasibility of using a smart card to trigger a personalized user interface is being evaluated and promoted for standardization.

## **Adaptability**

The system should be adaptable to meet a user's specific requirements and abilities. For example, provide output in a format and at a pace that meets the individuals' needs.

Note 1: This is a way of achieving consistency for the user: see above

Note 2: This principle could be applied to prevent unintended users gaining access to a system.

Note 3: This principle could be applied in the case of custom upgrading of systems.

## **Provision of system status information**

The status of the system (e.g. waiting for input, checking, fetching, etc.) should be always available for the consumer. Different mechanisms should be employed to give complete feedback to the consumer e.g. audio/visual for error messages data input required. All messages should be positive and not place blame on the consumer.

## **Error tolerance and system stability**

The system should anticipate errors of operation and be forgiving. Informative error messages should lead the consumer forward. The system should be robust and should remain stable if consumers try services, which cannot be delivered or make choices that are redundant.

## **Minimize consumer's need to remember system operation**

Systems should display dialogue elements to the consumer and allow them to choose from items generated by the system or to edit them. Menus are a

typical technology to achieve this goal.

## **Explorability**

The system should allow consumer to discover its functions.

## **Privacy and security of information**

The system should ensure privacy of the individual. It should not be possible for unauthorized people to follow a user's activities on an electronic network. Electronic footprints are to be avoided. Standards should help provide methods for checking this, especially in open and decentralized networks (Internet). Inevitable footprint data must be deleted after an appropriate time. The system should not allow disclosure of information about the consumer to unauthorized people and should indicate clearly to whom information is given.

Security of information, sent, stored or received or deleted, must be ensured. The level of security should be clearly stated to the consumer.

## **Cost transparency**

The system must be transparent regarding all costs involved. Cost information should be presented in a standardized way. This includes both initial costs involved for the user and costs in terms of subscribing to and operating the system, especially when interworking on networks, or when using on-line help or other fundamental services (e.g. directory enquiries, short message service on a mobile phone). Disconnecting from a service must be free of charge or the charge must be stated in a standardized way at point of purchase.

## **Quality of service, system reliability and durability**

There should be a standardized way to determine and present quality of service, and systems reliability and durability. This should include the development of standardized performance indicators. This information should be displayed at the point of sale. Batteries are an example of products that consumers need such information at point of sale (durability and reliability).

## **Reliability of information**

The system should indicate reliability of information (possibly by quoting sources) provided on the system. (e.g. Balance of account is xxx ECU at 1000 hours on ddmmy. Note: bank clearing system has been out of action last two days).

## Health and safety issues

When developing ICT standards any health & safety issues should be assessed. Existing standards should be applied.

## Environmental issues

ICT standards should indicate that environmental issues, such as power consumption have been addressed. A clean life-cycle from manufacturing to disposal should be the goal of all ICT systems/products. Possible environmental risks that may arise in the product/system life cycle should be identified and indicated to the consumer.

A standardized way of assessing and indicating environmentally friendly ICT products, services and systems should be developed.

## Rating and grading systems

ICT standards should allow the application of rating and grading systems.

## Further work

In order to fulfil the above consumer requirements, standards for calculating and presenting ICT systems in terms of ease of use, cost, durability, system reliability and information reliability (source and content) will need to be developed.

Active consumer participation **MUST** be ensured throughout all phases of the standardization process in order to ensure "consumer friendly" systems. This includes the programming of standardization work, priority setting and participating in the technical work.

## Consumer priorities in relation to ICT standardization

### Definitions

For the purposes of this section, the following definitions applies:

**Consumer:** The consumer is a natural person or group of persons using products and/or systems and/or services for purposes which are outside his or her trade, business or profession. The consumer is the end user of the products/ systems/services paying or not paying for them. Consumers are not homogeneous and have a wide variety of needs and abilities.

**Explorability:** systems should enable the consumers to "discover" the content of a system intuitively.

**Robustness:** systems should remain stable if consumers try services which cannot be delivered or make choices that are redundant.

**Redundancy:** the same (important) information should (if possible) be offered/presented by different media (text, Audio, video).

## General ANEC Priorities for ICT standardization

The design of user-friendly information systems is important for consumers. This includes aspects of how the different technologies are set up and what specific area is being dealt with - because a software solution can not be more user or consumer friendly than the applications it is supposed to support (this applies to both consumer and professional applications).

Ergonomic software design became necessary because of the ever-increasing development in the ICT area. Computers have become an everyday working tool and a new industry has been created in hard- and software development. The increasing use of information technology and the huge range of different products available (from word-processing to multimedia software) has made the design and regulation of this area a prime objective. Therefore it is important to find general requirements.

### Key aspects for standardization

Ecological aspects: Developments must be sustainable in an ecological sense. Scientific and objective methods help to assess environmentally friendly products under regard of the whole lifetime -circle. This information should be indicated in a standardized way.

Ethical aspects: Scientific and objective methods should help to assess ethical sound products (e.g. no child labor, no support of ideologies based on discrimination or violence). This information should be indicated in a standardized way.

Design for all: Any publicly accessed terminal/ ticket machine should have a default selection, i.e. if a consumer does not understand what options are offered a "safe" result can be reached by using the default options.

## ANEC Priorities for ICT standardization work

ANEC priorities for ICT standardization are as follows:

- Electronic Purchasing
- Interlinking Technology
- Information Kiosks
- Digital Broadcasting
- Set-top units

- Mobile Communications
- Generic Internet Issues
- Smart Cards
- Smart Houses
- Self Service Systems
- Public Transport Telematics
- Research/test methods for ICT
- Power consumption
- Information to consumers

Note:

The numbered list above does not indicate any order of preference.

Many of the project areas overlap

The ANEC group of consumer experts on information and communications technology is currently (summer 1997) working on this section.

## **SPECIFIC ICT PROJECTS**

### **ELECTRONIC PURCHASING**

Ordering and payment of commodities by means of mass market ICT products and services (such as PC and WWW).

#### **Why it is important for consumers**

Electronic purchasing may be the only way certain products or services will be offered for sale in the future. It may be the best access for people living in remote areas or for disabled consumers. The market forces for the introduction of electronic trade and purchasing systems is very strong and a number of incompatible payment systems on Internet have already emerged. Electronic purchasing will have legal, ethical and technical implications for the consumer.

#### **Consumer Priorities**

Encryption systems

Electronic Signatures

Security

#### **Key aspects for standardization**

Main consumer issues for standardization are security of transaction, error tolerance, transparency of costs incurred and privacy.

## **Interlinking technology**

The Interlinking of telephones, TVs, set top units and home computers.

### **Why it is important for consumers**

The consumer must be able to access services by use (in principle) of component parts from any manufacturer. A consumer should not have to buy for example different TV sets or set top units to access different services/broadcasts. Standard services should be available without the need for upgrading or changing existing systems for example: it should be possible to listen to stereo broadcasting with a simple mono radio with no loss of information.

### **Consumer Priorities**

Horizontal standards

### **Key aspects for standardization**

In particular with view to the merging areas of information technology, communications and broadcasting it needs to be ensured that interlinking technology is in place and different systems are compatible so that the consumer does not have to by different devices. Interlinking technology also has to be interoperable.

## **Information kiosks**

The provision of public information via information kiosks (currently PC's) currently in a public environment.

### **Why it is important for consumers**

As the name implies, public information (which can be of considerable importance - e.g. information about voting, taxes, legislation) must be available to all members of the public and on equal terms. There must be no barriers (technical or economic) that hinder members of the public gaining access to the information; otherwise a two-tier society will be created.

### **Consumer Priorities**

Categorized list of information must be provided

Consistent user information

### **Key aspects for standardization**

A key aspect for the standardization of information kiosks is ease of use. The information provided needs to be reliable.

## DIGITAL BROADCASTING

Digital broadcast is the broadcast of digital audio, video (including TV) and data signals transmitted either by air (terrestrial broadcast), satellite or cable (from a single source to multiple receivers).

### **Why it is important for consumers**

The consumer must be able to access services by use (in principle) of component parts from any manufacturer. A consumer should not have to buy for example different TV sets to access different services/ broadcasts (MPEG/ASTRA). It must be possible to connect video systems (recorders/ cameras) to different television sets/set top units especially in the digital domain. Standard services should be available without the need for upgrading or changing existing systems. Privacy should be ensured.

### **Consumer Priorities**

Electronic programming guide

Encryption systems

### **Key aspects for standardization**

Access control against unintended users (minors, children; with regards to both costs, time of day and themes e.g. sex, crime, advertisements). Cost transparency, grading systems, backward compatibility (the consumer should not be obliged to buy new technology).

## Set-Top Units

Set-top units (STUs) are required in order to de-scramble signals in digital cable and satellite television. Set-top units can store information and may in future be connected to in-house digital networks (smart houses).

### **Why it is important for consumers**

The consumer is faced with different, mainly proprietary decoding systems to access cable and satellite television and broadcasting as well as multimedia services using conventional television sets. Different systems exist both on national and on the European level. The consumer must be able to access services by use of set-top units/ decoders from any manufacturer. A consumer should not have to buy different set-top units to access different services/ broadcasts

### **Consumer Priorities**

A single distributable and adaptable STU standard should be drafted

### **Key aspects for standardization**

Interoperability of different systems, expandability and upgradability (the consumer should not be forced to buy a new STU with progressing technology or new services), distribution of signals.

## **Mobile Communications**

Mobile communications provide access to telecommunications services at any terminal in different locations and whilst in motion. It also provides the capability of identifying and locating a particular terminal and or associated user. It builds upon interworking between public and private networks.

### **Why it is important for consumers**

Mobile communications offer personal mobility, defined as: "Being able to access telecommunication services at any terminal on the basis of a personal telecommunications identifier, and the capability of the network to provide those services according to the users service profile".

Mobile communications also allows communications in emergencies (could be lifesaving). Mobile systems have distinct advantages (costs and technical) in countries with difficult geographical topology (e.g. Norway, Italy) allowing the connection of people in otherwise remote regions. Mobile communications are much cheaper to maintain than the traditional landlines. These cost savings should be passed on to the consumer.

Adverse aspects with mobile communications include use of mobile phones whilst driving, the nuisance of mobile phones ringing in public places, the effects of the electromagnetic fields when held next to the brain, obtaining mobile phone numbers from different operators, effect on technical equipment including: hearing aids, ATMs, medical equipment and allegedly train signaling equipment.

### **Consumer Priorities**

Minimum service level

Transparency of geographical coverage area

### **Key aspects for standardization**

The actual cost should be transparent to the consumer, different systems should be interoperable, for reasons of privacy it should be possible to suppress call-line identification, key aspects for minimum service should be developed.

## **Generic Internet Issues**

Internet is an undefined, unregulated and uncontrolled network that allows worldwide communication between different people.

### **Why it is important for consumers**

Since it is anticipated that Internet can be one of the main media for home and public information purposes, it is essential that all consumers can have easy access to the system and the information required. Research (see "3 I" project below) indicates that today's Internet and e-mail systems are too complicated for consumers, especially elderly consumers (a growing user group). Home shopping, one of the many services offered by Internet usually includes transfer of money and data. This raises legal issues, including warranty. The use of Internet is taking off - it is therefore important for consumer representation in this area before it becomes firmly established.

### **Consumer Priorities**

Standard for the categorization of Internet sites

Access control system

Minimum service level

### **Key aspects for standardization**

A key issue for the consumer is privacy (electronic footprints should be not possible = trackability). Standardized rating system for information provided via Internet should be developed.

## **Smart Cards**

### **Why it is important for consumers**

Card based systems have started to permeate key facets of the information society: they are the key to bank services (at ATMs or via telephone), are the key to telephoning (phone cards, GSM), transport (tickets) and identity cards (electronic passports/machine readable visas), health (patient cards/ health care professional cards) TV cards, Road tolls, electronic purses, IEP, access control, social security cards, etc. In order to avoid a two-tier society of those that are card literate and those that are not, it is important that any barriers to use (economic or technical) exist.

### **Consumer Priorities**

Access to smart card systems

Electronic purses

### **Key aspects for standardization**

A major consumer issue is privacy (personal information should not be disclosed to third parties, electronic footprints). The legal responsibilities (service provider/ intermediary/ consumer) must be clear.

## **Smart Houses**

### **Why it is important for consumers**

Could be an integral part of all houses in future. Those "owning" the

infrastructure will dictate the preconditions. Consumers are a major stakeholder in smart houses, and yet they are underrepresented (with a few exceptions). A key consideration is the possibility of depending upon a single provider for all facilities (what happens if it goes bankrupt/ abuses monopolistic position?). If the technology is difficult for consumers to operate, some consumers will be disadvantaged, i.e. will not be able to enjoy the potential benefits (alarms, etc) offered by the system. Ironically the groups (elderly) that might gain the most benefit from such systems might be the very ones that cannot operate them.

#### **Consumer Priorities**

Interoperability

One standardized home bus

#### **Key aspects for standardization**

Given that there is ONE standardized home bus the main consumer issue is ease of use (system must be easily upgradable, maintenance friendly).

In case of failure of the electronic system a minimum of services must be available (heating, water, light)

## **Self Service Systems**

A public or private service where the consumer operates an ICT based device, which delivers a product or service without involvement of other people. Self-service systems are usually to be found in a public environment. Self-service systems can be free, coin, note, token or card - operated.

See also: Smart cards, Information kiosks, Electronic purchasing.

#### **Why it is important for consumers**

Key societal functions, such as telecommunications, public transport, public administration, banks, post offices are increasingly introducing self service systems in an effort to reduce personnel costs. The consumers are expected to operate a technical system themselves, i.e. without the assistance of another human. Failure to operate the system correctly can result in no service or product being delivered. This could have considerable consequences. It is therefore vital that all persons in all environments can operate self-service systems.

#### **Consumer Priorities**

Standard for uniform design of system

Coding of user profiles on cards

#### **Key aspects for standardization**

Self-service systems should be easily accessible and accessible for all. Privacy should be ensured if user profiles are given on cards.

## **Public transport informatics**

The coupling of information technology and communications in road transport is already helping to make travel easier, more comfortable, more efficient and safer. This wide area includes real-time traffic and travel information, in-vehicle guidance systems, traffic/transit/parking information collection and distribution, traffic management systems and co-ordination, human interfaces and ergonomics and vehicle/highway automation.

### **Why it is important for consumers**

Standardized traffic information systems could allow the consumer to travel anywhere in Europe and receive transmissions containing information on congestion and incidents.

### **Consumer Priorities**

Access to information

Billing/ ticketing

Transparency of costs

### **Key aspects for standardization**

Public transport informatics systems must provide for transparent costs.

## **Research/ test methods**

### **Why it is important for consumers**

From the consumer's point of view, quality specifications for the design of software are necessary in order to compare and evaluate products. Both the great diversity of nearly similar products (e.g. software) and the great number of application software make it very difficult for the consumer to find the individually suitable program. In addition, commercially available products have a confusing number of functions requiring detailed studying of the technical specifications and user manuals and sometimes even detailed instruction courses.

For these reasons it would be useful to test the usability of products with different types of users during the design stage of a system and upon its completion.

### **Consumer Priorities**

A benchmark standard for testing

Suitable tools for life-cycle analysis

### **Key aspects for standardization**

Test methods should be standardized to provide data to consumers for easy comparison before purchase. E.g. energy consumption cost in standard mode, necessary equipment/knowledge, restrictions, safety, instructions.

## **Power Consumption**

All devices using power supplies or batteries, specially that ones that run all the time in operation or stand-by mode: television sets, VCRs, receivers, amplifiers, computers, monitors, telephone and fax machines, terminals etc.

### **Why it is important for consumers**

Power consumption is an important environmental issue both due to production and disposal of used energy and energy sources. Power consumption is also affecting the consumer in terms of costs.

### **Consumer Priorities**

Standard method for testing power consumption

### **Key aspects for standardization**

ICT devices should aim to use as little energy as possible. The level of power consumption should be indicated. Access to comparative information on energy usage must be ensured.

## **Information to consumers**

This topic covers the provision of relevant information to the consumer about all types of ICT products, services and systems before the sale (e.g. contracts), at the point of sale (costs) and whilst using products, systems and services (user support).

### **Why it is important for consumers**

A prerequisite for consumers to make appropriate decisions regarding the purchase and use of ICT products, systems and services is having the right information at the right time and right place.

For example, at point of sale the consumer needs to compare and contrast different alternatives and fully understand the implications of purchasing "packages" (e.g. free modem with 2 years Internet subscription - the price of which can alter...). The consumer also needs to understand and analyze his/her needs in relation to technological solutions. Purchasing inappropriate ICT solutions may have considerable consequences both long and short term.

### **Consumer Priorities**

Standard on what information should be given (at what time, type of information, means of information), one standard product profile

**Key aspects for standardization**

Standardization of information presentation before sale, at point of sale and whilst using ICT. All types of information presentations must be easy to comprehend and relevant to the users tasks.