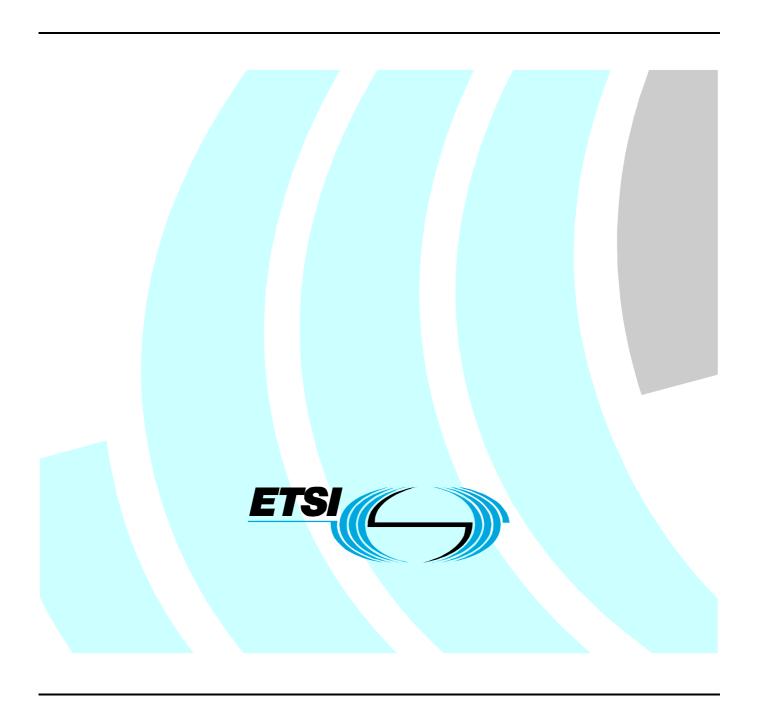# ETSI EG 201 219 V1.3.1 (2006-03)

ETSI Guide

User requirements;
Guidelines on the consideration of user requirements
when managing the standardization process

Reference

REG/USER-00014

Keywords

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Foreword

This ETSI Guide (EG) has been produced by ETSI User Group (USER).

Introduction

A good standard should meet the following objectives:

- Guarantee a full inter-working between different products or services that conform to that standard.

- Guarantee the safety of products and services for users.

- Be simple and worthwhile to implement.

- Be user friendly without conflicting options.

- Allow upward compatibility with products and services conforming to former standards.

These objectives relate to the whole content of a standardization project including the process.

In achieving these objectives three main issues relating to User requirements need consideration:

- How TC experts obtain information from Users on their requirements.

- How users can formulate their inputs in an appropriate way such as to allow them to be properly taken account of by the standard makers.

- How the standardization progress can be monitored from a users point of view.

1   Scope

The present document gives guidance to a Technical committee and any other Technical body on how user requirements are to be taken into account during a standardization process.

It is applicable to all stages of a standardization process but especially to those parts of the process that have a direct impact on satisfying the generic requirements listed in clause 6.

2   References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication and/or edition number or version number) or non-specific.

- For a specific reference, subsequent revisions do not apply.

- For a non-specific reference, the latest version applies.

Referenced documents which are not found to be publicly available in the expected location might be found at http://docbox.etsi.org/Reference.

[1]   ISO 9241-10: "Ergonomic requirements for office work with visual display terminals (VDTs) - Part 10: Dialogue principles".

[2]   ISO 9241-11: "Ergonomic requirements for office work with visual display terminals (VDTs) - Part 11: Guidance on usability".

[3]   ISO 13407: "Human-centred design processes for interactive systems".

[4]   ISO 9241 (all parts): "Ergonomic requirements for office work with visual display terminals (VDTs)".

[5]   ISO/IEC Guide 37: "Instructions for use of products of consumer interest".

[6]   ISO/IEC Guide 71: "Guidelines for standards developers to address the needs of older persons and persons with disabilities".

NOTE: See also CEN/CENELEC Guide 6. It is the European version of ISO Guide 71.

[7]   ISO/IEC Guide 74: "Graphical symbols - Technical guidelines for the consideration of consumers' needs".

[8]   ITU-T Recommendation I.112: "Vocabulary of Terms for ISDNs".

[9]   ITU-T Recommendation I.510: "Definitions and general principles for ISDN interworking".

[10]   ITU-T Recommendation G.1000: "Communications Quality of Service: A Framework and Definitions".

[11]   ITU-T Recommendation G.1010: "End-user Multimedia QoS Categories".

[12]   ITU-T Guide for ITU-T Study Groups: "Considering end-user needs in developing recommendations".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the following terms and definitions apply:

business user: user using telecommunication product/services for his/her trade business or profession involved with commercial or public service organizations

consumer: person or group of persons using electronic telecommunication products/services for purposes outside his/her trade, business or profession

NOTE: Such persons are often referred to as Residential Subscribers.

dialogue: interaction between a user and a system to achieve a particular goal

EXAMPLE: Communication with another end user.

end user: business user or consumer usually without any technical knowledge of telecommunications but using terminals to utilize telecommunications services

interconnection: physical and logical linking of telecommunication networks allowing users of one organization to communicate with users of another organization or to access services provided by another organization

interface: common boundary between two associated systems

NOTE: See ITU-T Recommendation I.112 [8], definition 408.

interoperability: capability to ensure the whole set of operations activated when an end-user asks for a service across a mixed environment of different equipment, networks, services including usage services, from different manufacturers and/or providers

NOTE: Interoperability addresses the different levels: equipment interoperability (terminal, server), protocol interoperability (interconnection), service interoperability (interworking).

interworking: interactions between networks, between systems or between parts thereof, with the aim of providing a functional entity capable of supporting end–to-end communication

NOTE: See ITU-T Recommendation I.510 [9].

IT&T manager: person responsible in a company for information technology and telecommunication activities

NOTE: This can include persons titled Telecommunications manager.

SME user: Small and Medium Enterprises

NOTE: These can be both business and/or consumer users as the use of a telecommunication service will be part business and part consumer orientated which is common in smaller companies/organizations.

service, telecommunication service: telecommunication function that is offered to a customer in order to satisfy a telecommunication requirement

NOTE: Bearer service and teleservice are types of telecommunication service. Other types of telecommunication service may be identified in the future.

system: configuration of hardware and software which is designed to perform tasks in a particular environment

NOTE: The system interacts typically with users via some form of dialogue.

user: individuals, including consumers, or organizations using or requesting telecommunications services available on public or private networks

> NOTE 1: The user may or may not be the person who has subscribed to the provision of the service. Without any specific addition this word is used to identify the telecommunication user community in general, e.g. end-users and IT&T managers who use products and services possibly conforming to standards.

> NOTE 2: Taking into account the current developing automation, a machine has to be considered as a disembodied "user".

3.2   Abbreviations

For the purposes of the present document, the following abbreviations apply:

EP	ETSI Project
EPP	ETSI Partnership Project
HF	Human Factors
HLRG	High Level Review Group
ICT	Information and Communications Technologies
IT&T	Information Technology and Telecommunications
ITU	International Telecommunication Union
PRD	Projects Requirements Definition
QoS	Quality of Service
SME	Small and Medium Enterprises
TB	ETSI Technical Body
EXAMPLE:	TC, WG, EP or EPP, etc.
TC	Technical Committee
VHE	Virtual Home Environment
WG	Working Group

4   Why User Representation in ETSI Standardization process is crucial

As highlighted in the ITU-T Guide for ITU-T Study Groups [12]: "Without the input of end-users, standards may require costly revisions, and products might fall out of favour in a competitive marketplace...". "The earlier consultation with key end-user representatives begins, the better the outcomes for government, industry, the community and the standards-makers."

Therefore, means should be found to overcome the difficulties users are currently facing to express their functional requirements and make them understood by the standard makers.

"User" is a word often found in the standardization process but that can have various possible meanings: it can be understood as the "user of a standard" or "user of product/service possibly conforming to one or several standards". The present document is focussed on the second category of users, even if some of the actions described in clause 7 may be useful for the first category.

4.1   User - defined subdivisions

The second category of users referred to above may be further subdivided based upon different requirements and concerns as follows:

- Business users taking into account that they can be in or outside of their office in the course of their work. Outside of their office can also include "working at home". These users may have only a limited knowledge of services and in many cases none at all.

- IT&T managers with responsibility for providing telecommunication products and services usually for middle sized concerns and corporates. These users will have considerable knowledge of technology, equipments and services.

- Consumers previously known as residential subscribers. These users may also be considered to constitute the "General Public". They will probably have no technical knowledge of telecommunications but in most cases are concerned to achieve "value for money" for a subscription to a service.

- SME users who can be regarded as part business and part consumers as they operate within small and medium sized enterprises where it can be difficult to separate business and consumer usage of a product or service. Often, but not always, these users have no technical knowledge of telecommunications.

- Service and network providers who use standards as a driver for economic design and cost effective implementation of products and services to gain competitive advantage. As such they will have expert knowledge on technologies.

4.2 User Group role in defining user requirements

The diversity of users highlights the need for a careful investigation of user requirements. Some types of product and service will be of universal interest to all categories of users e.g. voice and the internet but others may interest only certain categories of business user e.g. Virtual Private Networks. Also the business needs of individual companies and organizations may differ significantly with respect to company size and commercial sector. These multiple aspects will require the point of view of the various categories of users to be investigated. To carry out such a task requires an understanding of the technical issues followed by a translation of these into a language that users of all categories can understand enabling them in turn to see what is on offer and the relevant advantages and drawbacks of solutions to requirements. Only after such a debate can user requirements be obtained from the different categories of user.

Direct involvement of user categories is therefore desirable but it is not sufficient to rely simply on ETSI members as a user category and the views of individual users themselves and user associations are necessary. For these reasons, the User Group should be consulted for assistance in determining user requirements.

ETSI is strongly focussed on all user issues and through the User Group is developing methods to encourage participation in standardization work by groups and associations representing the different categories of users. As an example ETSI User Group organizes events in various countries to explain to users what benefits they can expect from conformance of systems to formal standards and to obtain feedback from users on their requirements.

5 Different types of Standard

The standardization process has to deal with a wide range of standards related to telecommunications. In general users are only interested in standards related to a limited number of issues - terminals, interfaces and services to include functionality, end-to-end performance and Quality of Service.

5.1 Terminals

Users of all categories expect to get the widest possible set of services with a single terminal. In addition the terminals, and any additional devices needed to obtain service, should be fully interoperable and interchangeable with backward compatibility provided. Standards for such devices should also provide for a degree of future proofing against foreseen developments in service provision.

5.2 Interfaces

In current types of telecommunication networks, various types of interfaces are needed for interconnection and interoperability purposes. In general users are not interested in these interfaces with the exception of those directly affecting the connection of their own systems and terminals e.g. man-machine interfaces, user to user interfaces and private to public network interfaces.

The human-machine interface plays a key role in accessing products and services. It is therefore of the utmost importance that basic user requirements as set out in clause 6 are considered when designing and standardizing such interfaces. Particular attention needs to be given to such aspects as ease of use, functionality, consistency of user interface, and adaptability.

NOTE: In the area of interfaces user interest and particularly that of consumers is related to those interfaces between pieces of equipment and/or service provision for purchasing purposes enabling comparison between different providers, compatibility and for exchange of devices and providers.

5.3 Services

The standardization of services will depend upon agreement between all involved parties. Different categories of users may differ on the need for standardization but as a minimum, users require consistency between the various service providers and the service offered.

Particular issues for standardization are:

- Interoperability and functionality between networks and providers.

- Safety. A product/service should be safe to use and present no health hazard.

- QoS. What level/s of service are offered and with what guarantees and how they are measured.

- Accessibility covering physical interfaces and geographical coverage.

- Security and Privacy.

6 Definition of requirements for ETSI Projects or Work Items

According to the ETSI Technical Working Procedures, the first step when establishing a new ETSI Project (EP) or ETSI Partnership Project (EPP) is to provide a Project Requirements Definition (PRD) for the GA approval. The PRD and, more generally the definition of the scope of a proposed standard, is a key step for enabling users to give their requirements.

Before drafting a PRD or the scope of a standard related to an issue identified in clause 5, structured human factors methods should be used to analyse user requirements (e.g. task analysis, task decomposition, scenarios, simulation prototyping, questionnaires and discussion groups, etc.) These should be based upon the generic user requirements listed below and take into account the intended user groups.

Concerning the work in TCs, the GA45 approved the recommendation 7 of the HLRG (High Level Review Group) to "develop mechanisms to encourage User Members to contribute effectively". For the implementation of this recommendation a form has been developed to be used when proposing new Work Items for adoption into the ETSI Work Programme. This template includes a review of users' interests and impact on end-users. Therefore, TBs are encouraged to use the form given in annex A to check how far users should be involved in the definition of requirements for a new standard.

NOTE: TC HF usually has a specific role to play in determining the technical specifications to meet user requirements in this area. TC Safety should be consulted on all health and safety matters.

A list of generic user requirements follows.

6.1 Accessibility/Design for All

ICT standards should support the principle of "Design for All" in line with ISO/IEC Guide 71 [6] and ISO/IEC Publication March 2003 (see bibliography). This is a process for creation of products, and services which are accessible and usable by people with the differing ranges of abilities operating within the widest possible range of situations. CEN/CENELEC Guide 6 is the European version of ISO Guide 71.

"Design for All" means designing mainstream products and services so as many people as possible can use them whatever their age and ability. This does not imply designing for everyone but rather designing for as many people as possible. There are usually a minority of people with severe impairments and special needs who will need adaptations or specialist products. Developers of standards for mainstream products and services are not expected to address this high level of needs but the existence of such groups should be recognized and standardization of interfaces to allow the use of add-on devices would help to accommodate such needs.

6.2 Adaptability

The system should be easily adaptable to meet user specific requirements. Provision of devices for control of access and content of electronic media should be considered. Examples of this include:

- Provision of an output in a format and at a rate that meets an individual user needs (e.g speech to text for users with a hearing impairment).

- Prevention of unintended and unauthorized users gaining access to a system /service, inclusion of parental control, etc.

- Custom upgrading/customization facilities (e.g. customization of font sizes on displays for users with a visual impairment).

    NOTE: This is a method for achieving consistency for a user; see clause 6.5. the development of concepts such as "Virtual Home Environment" is expected to help to fulfill this requirement.

6.3 Child safety issues

Children defined as "persons under 18 years" are becoming an increasingly significant subset of the consumer category utilizing advanced computing and communication services. There is the need to ensure that telecommunication products and services are safe for all users, children included. Moreover, there is the need to ensure a minimum quality of products and services used by children and that consumers can distinguish between products/services complying with minimum safety and quality standards and those that do not.

6.4 Comprehensible standards

It is crucial that users understand what the advantage are, in general, of buying products and services conforming to formal standards and more specifically for a given product or service what the relevant standards ensure. Since most standards contain technical statements that the common users are unable to understand, they should include, as an annex, a notice explaining the benefits they are providing to the users, as it is recommended for ITU-T Recommendations.

6.5 Consistency of user interface

Systems should have consistent user interface. It is especially important that the methods of processing, storing and accessing systems are consistent for a user.

    NOTE: A consistent user interface can be achieved by different methods.
        Three examples are the following:
            - 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.
            - Development of concepts such as "Virtual Home Environment".

6.6 Cost transparency

Where standards are involved in presentation of cost information as for example at point of sale, these standards should provide for transparency regarding all costs involved and presented in a standardized way to clearly separate initial costs i.e. purchase of equipment and secondary costs i.e. subscription, setting up and operation and disconnection.

NOTE: Cost transparency is of particular importance for services when interworking on networks or when using on-line services such as directory services and short message services.

6.7   Ease of use

All telecommunication products and services should be easy to use for all intended user categories stated in the scope of a standard applicable to such products and services. Ergonomic aspects of hardware, software, services and support as given in ISO 9241-10 [1], ISO 13407 [3] and ISO 9241 (all parts) [4] should always be taken into account and any existing standards applied.

Display of dialogue elements for intended users to facilitate choice or editing of items generated by a system or service should be incorporated where considered necessary.

Goals for ease of use (usability statements) should be developed based upon ISO 9241-11 Guidance of Usability [2]. These could be based upon measurements in terms of performance (time taken by users to complete a predetermined task, error numbers and service satisfaction etc).

6.8   Environmental issues

Standards should provide evidence that environmental issues such as power consumption have been addressed with the objective of achieving a clean life-cycle from initial design to final disposal of a system/product. Any potential environmental risks need analysis so as to exclude or minimize such risks with a result indicated to potential users.

A standardized way of risk analysis should be used and if not available the methodology used in the standard identified with results made available to potential users.

6.9   Error tolerance and system stability

Taking into account the functionality of a system/service the standard should address potential problems likely to be faced by targeted user categories and allow for solutions designed to provide help. The scope of the standard should clearly indicate for what user categories the system/service is targeted.

The system should tolerate error in operation by users and be forgiving by the provision of informative error messages designed to lead users forward.

The system should remain stable in circumstances where users attempt access to services which cannot be delivered or make choices that are redundant.

6.10   Explorability

The system should allow for provision of facilities to allow users to discover its functions.

6.11   Health and safety issues

All health and safety issue should be taken into account and included within the risk assessment studies. Any relevant existing standards should be referenced and included.

NOTE: ETSI TC Safety should be consulted on all health and safety issues.

6.12   Multi-cultural and multi-lingual aspects

Development of any telecommunication standard should take account of global use and hence consider multicultural and multilinguistic aspects of in-service use. Where relevant the use of UNICODE should be considered.

6.13   Provision of system/service information

The standard should allow for provision of system and/or service information documentation to include:

- Functionality provided by system/service.

- Compliance/non-compliance with ITU/ETSI standards.

- Targeted user categories.

- System status information (e.g. waiting for input, checking, fetching, error with details, service unavailable etc). Allowance should be made for different levels of status information dependent on user category. In all cases messages are to be positive and not place blame on a user.

- Operation and use of the system.

- First time user set up procedures. Manual override facilities may be allowed.

- Maintenance and Trouble Shooting routines.

- Error and Fault reporting procedures and centres.

6.14   Privacy and security of information

The system or service should ensure privacy of individual users. It should not be possible for unauthorized people to follow a user's activities on an electronic network or system. Electronic footprints are to be avoided but any unavoidable footprints produced due to system operation should be deleted after an appropriate time. Standards should provide methods for checking these requirements especially in open and decentralized networks such as the internet with appropriate risk analysis and any risk identified to a user.

The system should not allow disclosure of any information about a user to unauthorized people without the informed permission of the user and should indicate clearly to whom and when information is given.

Security of information, sent, stored, received or deleted should be ensured. The level/s of security applied and available should be clearly stated to the user.

6.15   Quality of service (QoS), system reliability and durability

There should be a standardized way to determine and measure and present quality of service, system reliability and durability based upon a set of standardized performance indicators as in ITU-T Recommendations G.1000 [10] and G.1010 [11]. Presentation of such information should allow for inclusion at point of sale.

NOTE: Batteries for use in mobile devices are an example of products on which a user need such information at a point of sale e.g. durability, reliability and life.

6.16   Rating and grading systems

Telecommunication standards should allow for the application of rating and grading systems as a tool for the provision of information on quality and other factors to aid users.

6.17   Reliability of information

Where information is provided by a product or service then standards should consider how reliability is to be achieved.

EXAMPLE: the system should indicate the reliability of information (possibly by quoting sources) provided on the system e.g. balance of account is xxx Euros at 10:00 on ddmmyy. (This example assumes that a bank-clearing system has been out of action for x days.)

6.18 Terminology

The terminology used in standards should conform to existing ITU and ETSI standards. Where new and additional terminology is required this should conform to ISO/IEC Guide 37 [5].

6.19 Use of graphical symbols

Taking into account the increasing complexity of telecommunication products and their international use, there is a growing need for globally standardized graphical symbols and pictograms that are well defined in an unambiguous manner in the provision of information on the operation and functionality of products and services to all types of user.

Technical guidelines and further information on the use will be found in ISO/IEC Guide 74 [7].

7 Improving the user involvement in the standardization process

As explained in clause 4, it is crucial to have users involved in the standardization process in general and more specifically in the User Group activity in order to have the needed resources to draft and manage the deliverables.

If the standards development organizations want to increase effectively the users' involvement in their standardization process, they should have in mind what are the obstacles to this user involvement, how to overcome them and what could make the most motivated users happy to take part in the standardization process.

For less motivated users, a process should be defined to capture their requirements without having them directly participating in this process.

7.1 Obstacles to the users' involvement

The main obstacles to users' involvement in the standardization process stem from the following:

- Neither technical knowledge nor thorough understanding of the standardization jargon.

- Little time to spend on a long consensus building or technical solutions finding.

- Difficulty in understanding the pros and cons of the technical choices for standards from the users' viewpoints.

7.2 Incentive for users to take part in the standardization process

In taking part in the costly and time consuming activity of the standardization process, users expect to have the opportunity to:

- gain a better understanding of the benefits of choosing solutions conforming to formal and open standards;

- contribute to building solutions best fitted to their needs;

- share experiences with other users;

- improve their professional knowledge.

7.3   Means to improve the direct user involvement in the standardization process

In order to take into account the limited technical knowledge of the users, TBs should hold specific sessions focusing on functional user requirements. This will make users rid of discussing the details of the technical solutions and will keep short the users' time spent.

STF should be set-up for the identification of the users' requirements in order to limit the resources spent on such an activity by the users' company or association.

A technical expert dedicated to linking TBs and the User Group, such as the one mentioned in clause 8, would help to make the discussions with the TBs easier for users to understand and therefore more attractive to them.

7.4   Other means to capture the users' requirements

All the surveys carried out to assess the interest users have in standards have shown that most of them think it is a strategic issue but few of them are prepared to participate directly in the standardization process. Therefore particular means should be found to capture their requirements. The most efficient means for that has been found to be holding workshops in their countries to discuss proposals prepared by the User Group. In addition, presentations by specialists on hot topics linked to the subject of the workshop would help to reach a large audience. ETSI members should be encouraged to give such presentations.

8   Improving the co-operation between standard makers and users

In achieving successful co-operation between standard makers and users, it should be remembered that for the users, standards are:

- A route to achieve "value for money" products and services.

- A means for long-life product/service provision. This would allow for future proofing and forward and backward compatibility.

- A tool to ensure interoperability and compatibility between services or products from different providers. This allows users to take full advantage of competitive market situations.

- A tool to ensure safety of products/services and that they will not present a health risk.

- A means to ensure that all categories of users (both business and consumer related) will have their specific requirements properly addressed in the design of products and services.

Within ETSI the participation of user representatives and organizations in the standardization work has not been as large as needed to ensure the pertinence of the user requirements on which standards are based. In recognition of an increasing focus in user issues, ETSI has set up the User Group committee charged with the consolidation of functional user requirements across all categories of users and to develop co-operative links between users and TBs. This aspect is seen as of particular importance for consumers and SMEs as the larger business users usually have more resources available to make their views and requirements known directly to a TB.

Such facilities are not available to most SMEs and not at all to consumers except through user organizations that pay special attention to the requirements of SME and Consumer categories. Although these organizations are encouraged to be represented in the User Group this should not prevent Technical Bodies from having direct contacts with the user community.

In addition to the User Group, there are also two other TBs with direct contact with user groups:

- TC Safety with a primary responsibility for co-ordination of the ETSI position on telecommunication safety issues.

- TC Human Factors (HF) with a primary responsibility to ensure human factor aspects are fully taken into account in telecommunication standards.

Further information relating to user participation will be found in ISO/IEC Publication March 2003 (bee bibliography) and the ITU-T "Guide For ITU-T Study Groups" [12].

Every TB should appoint a representative or, by default the Vice-chairman of the TB to liaise with the User Group and its representative.

Since users have in general a very limited technical knowledge and in particular little understanding of the consequences of technical choices on features and performance of solutions, technical experts able to understand the users' views would be extremely useful to the understanding between users and standard makers. Their work would be to:

- Analyse every TB work programme (new WIs), in order to:
    - make users aware of TB's working issues;
    - make the relevant TBs aware of the users' requirements;
    - monitor how these requirements are processed by these TBs.

- Prepare contributions to TBs on users' requirements, in co-ordination with the User Group.

- Prepare presentations to the User Group on what is at stake with the technical solutions in preparation (Tutorials). Such presentations could also be given in the user organization events across Europe.

- Prepare an annual report to ETSI, EC and INTUG.

Such an activity should be funded by ETSI or EC.

8.1   Defining user requirements

The identification of the user requirements is a preliminary step crucial to the drafting of any standard with an impact on the end-user interface. Every standard maker should realize that this is a difficult and long process to be performed with due care to achieve a good standard. The requirements of every user category expected to use such a standard should be considered. User requirements can be defined by use of the following processes:

- direct participation of users in a Technical committee at all stages of the standardization process through a technical expert representing a user or user organization;

- representation on the Technical committee by a liaison expert nominated from the User Group briefed on user requirements for some particular standard programmes, providing available resources exist;

- collaboration between the User Group and user requirements sub-committees which exist in certain TBs;

- setting-up of an ad-hoc group dedicated to identify a specific user requirement issue.

In all cases it is important to ensure that ALL the relevant user requirements in relation to the proposed standards have been considered.

When a user requirement subcommittee exist, the chairman of such subcommittee should be encouraged to collaborate closely with the User Group.

8.2   Formulation of users' requirements

This process can be covered within the TC either using representation proposed in clause 8.1 or by request to the User Group for the preparation of a user requirements document based upon input from its membership.

Modelling for the formulation should take into account clause 6 and could be based upon methodologies set out in ITU documents. Where necessary national workshops should be organized by the User Group to take account of different user requirements in individual countries.

The template for new ETSI work items should usefully contain a clause of user/consumers requirements so that it would be easier for users/consumers to spot the standard that could concern them.

Users may not fully understand the functional purposes and associated highly technical issues of a standard. In such cases the addition of a short notice explaining in non-technical language the purpose of the standard may be found to be of assistance. Such a document should aim to clarify:

- what the product/service is intended to do;

- the target users;

- the benefits the standard is providing to the users, as it is recommended for ITU-T Recommendations.

9 Making users better aware of ETSI standards

Similarly to the event given by ETSI in several European places for operators, manufacturers and service providers audience, ETSI should organize from time to time a conference to make users aware of its standards of interest to them.

This conference should aim to explain in non-technical language the purpose of the new standards and what are the benefits to the users of using solutions conforming to them.

Such conferences would be a good opportunity to hold a workshop to capture the users' requirements on some specific issues.

Annex A (informative):
Checklist for involving end-users in the development of standards

This table derived from ITU-T "Guide For ITU-T Study Groups" [12] and tailored to the ETSI context is for TB to check how far users should be involved in the definition of requirements for a new standard.

QUESTION	YES	NO	COMMENTS
1. Scope - Does the standard have direct relevance to equipment that end-users (both technically proficient and otherwise) will be using?			
2. Functionality - Does the standard have implications for compatibility and interoperability with other technology, or network integrity that will directly affect end-users?			
3. Usability - Does the standard have implications for usability (e.g. complex operation) or accessibility (e.g. use by people with disabilities or with limitations such as remoteness)?			
4. Safety - Does the standard have implications for safety, health effects, ergonomics or access to emergency services?			
5. Privacy - Does the standard have implications for the privacy and the protection of end-users' personal details?			
6. Impact assessment - Could end-user representatives assist with monitoring whether the standard is fit for the purposes of end-users (including those with specific needs), safety and environmentally responsible?			
7. Inclusiveness - Where end-user involvement is relevant or necessary, will representatives from the relevant groups and communities (e.g. disability support, aged groups, remote communities) be consulted and be part of the process in the development of the standard?			
8. Effectively communicate intended outcomes - Is there benefit in developing a communications plan by which end-users are kept informed and involved in your TB activities?			
9. Accessibility - Will information be available in a range of formats to assist access to standards development by all interested stakeholders (e.g. working by electronic means, providing documents in a range of languages and large print fonts)?			
10. Clarity of understanding -Will end-user representatives be given a clear understanding of the standardization process, their role in it, and how they can contribute their ideas?			
11. Promotion of standards work - Could the TB benefit from end-user representatives promoting the TB's work and its standard(s) to consumer-based organizations?			
NOTE: The more of these ticked "yes" is an indication on need to involve end-users in the process.			

Annex B (informative):
Bibliography

ANEC2003/ICT/008: "Consumer Requirements in Standardisation relating to the Information Society".

ISO/IEC Publication March 2003: "The consumer and standards Guidance and principles for consumer participation in standards development".

ETSI EG 201 212: "Electrical safety; Classification of interfaces for equipment to be connected to telecommunication networks".

ETSI EN 300 429: "Digital Video Broadcasting (DVB); Framing structure, channel coding and modulation for cable systems".

History

Document history		
V1.2.1	September 1998	Publication
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