

# Shaping the end user's Tel-eEurope

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## Abstract

This paper will reflect upon the most recent development in the European telecommunication industry from the end user perspective, performed under the European Telecommunication Standards Institute's (ETSI) Technical Committee Human Factors (TC HF), under the European Commission's eEurope Initiatives. The paper will also report on recent results and on work from ongoing and planned activities in ETSI TC HF.

**Key words:** Accessibility, design for all

## 1 Background and introduction

Personal communication has developed at a frenzied pace, mostly over the past decade. This is especially true for mobile telephony and communication over the Internet, as mobile telecommunication devices and services are becoming the largest consumer product segment in the world. Telecommunications, converging with information processing and intersecting with mobility and the Internet, is leading to the development of new, interactive applications and services, offering global access that should be offered to all citizens.

In 2000, the European Commission (EC) launched a new initiative – eEurope Action Plan 2002 *An Information Society For All*. This was intended to accelerate positive change in the European Union (EU). eEurope aims to secure equal access to digital systems and services for all of Europe's citizens, to promote computer literacy and, crucially, to create a partnership environment between the users and providers of Information and Communication (ICT) solutions, based on trust and enterprise. Its ultimate objective is to bring everyone in Europe – every citizen, every school and every company – on-line as quickly as possible.

Based in Sophia Antipolis, France, the *European Telecommunications Standards Institute* (ETSI) is performing a critical role in the development of the new Information Society. ETSI is officially responsible for standardisation in telecommunications, broadcasting and certain aspects of information technology within Europe. With its sister European Standardization Organisations (ESOs), the *European Committee for Standardization* (CEN) and the *European Committee for Electrotechnical Standardization* (CENELEC), ETSI produces Standards and Guides for the European market. ETSI operates through the voluntary consensus of its members, taking full account of the views of all interested parties.

## 2 Deliverables of ETSI TC HF

Recognizing this, the EC has asked the ESOs to undertake essential standardisation work to achieve the goals of eEurope. As a result, Europe has seen a concerted effort over the last three years in support of 'Action Lines' crucial to the Information Society. One of these, which is central to the eEurope strategy, is e-Accessibility.

ETSI has considerable expertise in this area, based within ETSI Technical Committee Human Factors (TC HF), responsible for ease of use and accessibility of telecommunication equipment and services for all users, including the requirements of groups such as children, elderly people and disabled people. It contributes to work on user interfaces, specifically for mobile communications, multimedia, text telephones and user identification. By adopting the Design for All approach and ensuring that Assistive Technologies are considered as part of the design process, it will be possible to improve access to the Information Society for people who might otherwise be excluded from its benefits.

When the eEurope initiative was launched, TC HF's experience and international reputation in the field of Human Factors was quickly recognized, and TC HF has emerged as a key player in the development of standards to ensure e-Accessibility. The EC has provided funding to set up thirteen teams of experts, known as Specialist Task Forces (STFs), to work under TC HF auspices. Each STF bring together experts from different ETSI Member organizations to work for limited periods to accelerate urgent work. The following will be mentioned:

- **STF 180** has produced an ETSI Guide on the basic concepts of a Universal Communications Identification (UCI) system (EG 202 067). This proposes that every individual is given a personal identification identifier that can be used irrespective of changes in communications systems.
- **STF 181** has produced an ETSI Technical Report (TR 102 068) giving guidance as to how Assistive Technology devices such as special displays, special keypads and text-entry devices can be interfaced with ICT systems via wired or wireless transmission technologies to aid older and disabled people to be able to utilise mainstream ICT technology such as mobile phones, PDAs, lap-tops, etc.
- **STF 182** has created an ETSI Standard (ES 202 076) on the generic spoken command vocabulary for basic telephone services and ICT devices. This opens up the possibility for disabled people to access electronic devices and services using speech. Products based on this standard are expected to be on the market very soon.
- **STF 183** has produced an ETSI Guide (EG 202 048) giving advice on the use of alternatives to visual icons, symbols and pictograms in multimodal interfaces to serve the needs of disabled and elderly people.
- **STF 184** has produced an ETSI Guide (EG 202 116) with 'Design for All' guidelines for ICT products and services aimed at the working design engineer. It sets out the characteristics of users and their disabilities and describes the human-centred design process.

- **STF 199** has produced an ETSI Guide (EG 203 072) on the use of Universal Communication Identification (UCI) in Next Generation Networks (NGN). The Guide gives the various technical solutions for applying UCI to future networks.
- **STF 200** has produced an ETSI Guide (EG 202 249) on the usability aspects of UCI based systems. The further development of the UCI system will be continued by the recently created ETSI TC TISPAN (an amalgamation of TIPHON and SPAN).
- **STF 201** has examined access to ICT by young people (under 12) and published an ETSI Technical Report (TR 102 133) – the first time an STF has been set up to look into children's requirements. The accessibility requirements to participate in ICT by young children have not been clearly identified or catered for, since until now there has been no account of the developmental maturation of their physical, cognitive or social abilities that can readily be applied to product design. Not taking the specific needs of children into properly account may result in inability to access services, service abuse, online vulnerability to exploitation and harm.
- **STF 202** has created an ETSI Standard (ES 202 130) on allocation and ordering of the characters of the different European alphabets on the 12-key telephone keypad. This addresses the cultural diversity in Europe where special letters are used in the different languages. To be able to write in one's mother tongue should be a basic human right.
- **STF 203** has produced an ETSI Technical Report (TR 102 202) on the Human Factors aspects of work in Call Centres. This Report addresses some of the problems in Call Centres where business is conducted via telephone while using a display screen. Disabled or elderly people are often employed in Call Centres and the Report gives guidance on the design of the tasks to be undertaken and for the working environment.
- **STF 204** has produced an ETSI Guide (EG 202 191) on the design of multimodal interaction, communication and navigation at the user interface of ICT systems and terminals. This should aid disabled users, as well as all other users under adverse conditions, to interact with ICT systems and devices.
- **STF 230** is currently looking into the use of UCI systems to assist young, elderly and disabled people and has already produced its first Technical Report (TR 103 073), an ETSI Guide giving more detailed guidelines will be published in 2004.
- **STF 231** is currently working on the harmonization of basic Man-Machine Interaction (MMI) of user interfaces in mobile phones and services (Draft ETSI DEG 202 132). The creation of basic interaction elements will make it easier for users to switch from one make of terminal devices or services to another, to improve overall usability of the entire interactive mobile environment and to encourage the uptake of new technologies and services.

In September 2003, ETSI TC HF received funding for another four STFs over the new EC/EFTA eEurope Action Plan 2005 programme. These STFs will start work in January 2004 and finish in June 2005. The new STFs have not yet been allocated their final STF numbers and are designated by provisional codes:

- **STF OJ** to produce an ETSI Technical Report on *Tele-care in Intelligent Homes; Issues and recommendations*
- **STF OK** to produce an ETSI Guide on *User Profile Management*
- **STF OM** to produce an ETSI Guide on *Access to ICT by young people; Guidelines for standards developers*
- **STF OO** to produce an ETSI Guide on *Duplex Universal Speech and Text (DUST) communication.*

ETSI has taken up the challenge and has already committed itself to taking serious account of these recommendations in its future work. Erkki Liikanen, the European Commissioner responsible for Enterprise and Information Society, delivered the final address of the CEN/CENELEC/ETSI Conference on Accessibility for All in Nice in March 2003. He said:

*'We should aim for all citizens to be able to use electronic communications, whether they have less digital skills, are living in remote regions, have less income, or have special physical or mental needs. Everyone should share the benefits of the Information Society in terms of access to services and of greater choice, lower prices and higher quality.'*

## References

All references are available free of charge at [www.etsi.org](http://www.etsi.org).

**ES** = ETSI Standard, **EG** = ETSI Guide, **TR** Technical Report, **SR** = Special Report

**ETSI ES 202 076** *Human Factors (HF); User Interfaces; Generic spoken command vocabulary for ICT devices and services*

**ETSI ES 202 130** *Human Factors (HF); User interfaces; Character repertoires, ordering rules and assignment to the 12-key telephone keypad*

**ETSI EG 202 048** *Human Factors (HF); Guidelines on the multimodality of icons, symbols and pictograms*

**ETSI EG 202 067** *Universal Communications Identifier (UCI); System framework*

**ETSI EG 202 072** *Universal Communications Identifier (UCI); Placing UCI in context; Review and analysis of existing identification schemes*

**ETSI EG 202 116** *Human Factors (HF); Guidelines for ICT products and services; 'Design for All'*

**ETSI EG 202 191** *Human Factors (HF); Multimodal interaction, communication and navigation*

**ETSI EG 202 249** *Universal Communications Identifier (UCI); Guidelines on the usability of UCI based systems*

**ETSI EG 203 072** *Universal Communications Identifier (UCI); Results of a detailed study into the technical areas for identification harmonization; Recommendations on the UCI in NGN*

**ETSI TR 102 068** *Human Factors (HF); Requirements for Assistive Technology devices in ICT*

**ETSI TR 102 077** *Universal Communications Identifier (UCI); Maintaining the usability of UCI based systems*

**ETSI TR 102 125** *Human Factors (HF); Potential harmonized UI elements for mobile terminals and services*

**ETSI TR 102 133** *Human Factors (HF); Access to ICT by young people; Issues and recommendations*

**ETSI TR 102 202** *Human Factors (HF); Human Factors of work in Call Centres*

**ETSI TR 102 274** *Human Factors (HF); Guidelines on real-time person-to-person communication services*

**ETSI TR 103 073** *Universal Communications Identifier (UCI); Improving communication for disabled, young and elderly people*

**ETSI SR 001 996** *Human Factors (HF); An annotated bibliography of documents dealing with Human Factors and disability*

**Draft ETSI DEG 202 132** *Human Factors (HF); Generic user interface elements for mobile terminals and services*