

## About ETSI

The Human Factors Technical Committee is part of *ETSI* – one of the world’s leading standards development organizations for Information and Communication Technologies (ICT). Founded initially to serve European needs, *ETSI* has grown rapidly to become highly-respected as a producer of technical standards for worldwide use.

*ETSI* membership is composed of manufacturers and network operators – all the “big names” and many smaller companies too – plus service and content providers, national administrations, ministries, regulators, universities, research groups, consultancies and user organizations. A powerful and dynamic mix of skills, resources and ambitions, all working together to bring the very best ICT solutions to the global marketplace. Geographically, our membership of over 700 companies and organizations is drawn from more than 60 countries on 5 continents.

*ETSI* is independent of all other organizations and structures, a key feature for ensuring neutrality and trustworthiness. That brings benefits not only in the acceptance of our standards and other publications, but also in our growing range of ancillary services, such as interoperability testing. And because standardization inevitably draws upon the bright ideas of our members, we have an Intellectual Property Rights (IPR) policy in place that has become the model for many other organizations.

*ETSI*'s standardization activities are open to all interested companies and organizations. Your company can be part of this dynamic organization. For more information about how *you* can be involved, please visit

<http://www.etsi.org/membership>

For details about *ETSI*'s current Human Factors activities, please visit

<http://portal.etsi.org/hf>

If you are interested in joining *ETSI*'s Human Factors standardization work, or should you have any questions regarding it, please do not hesitate to contact:

[hfsupport@etsi.org](mailto:hfsupport@etsi.org)

*ETSI*  
650 Route des Lucioles  
F-06921 Sophia Antipolis Cedex, France  
[info@etsi.org](mailto:info@etsi.org)  
[www.etsi.org](http://www.etsi.org)

# Enhancing the User Experience



**human factors**

[www.etsi.org](http://www.etsi.org)

## What is “Human Factors”?

Human Factors is the application of knowledge about the capacities and limitations of users so that products, systems, services and environments can be made attractive, safe, efficient and easy to use. Human Factors is therefore a key issue in the commercial success of new Information and Communication Technologies (ICT) products and services.

**“I have always wished that my computer would be as easy to use as my telephone.**

**My wish has come true ...**

**I no longer know how to use my telephone!”**

*Bjarne Stroustrup, inventor of C++*

## ETSI's Human Factors work

Within *ETSI*, the Human Factors Technical Committee (TC HF) deals with issues relating to the ease of use and accessibility for all users. *ETSI's* work in Human Factors (HF) is aimed at empowering industry to deliver successful new ICT products and services. In order to provide the necessary guidance to designers and developers, *ETSI* has identified particular user needs related to:

- special domains like in-car use of ICT, public Internet terminals and needs related to eHealth;
- novel emerging user interface technologies;
- individual requirements related to factors such as age, language or disability;
- personalization.

Many HF-related standards and guides that have been produced by *ETSI* are in wide use in industry. These include recent keypad and voice command standards that now ensure that most products can be offered in a consistent way to support the majority of languages currently used in Europe – greatly increasing the potential market opportunities inside and beyond Europe.

The recommendations in these and other standards were derived from a level of detailed study throughout Europe that assures the appropriateness of the recommendations made. The ability to perform such thorough background study puts *ETSI* in a unique position, certainly in comparison to most individual companies. As well as their use within the communications market, *ETSI's* HF-related documents are also used and referenced by a diverse range of other organizations.



In tests, *ETSI* has managed to prove to designers that some of their products can be so difficult to use that even other knowledgeable designers cannot operate them “out of the box”. By following the guidance provided by *ETSI* many fundamental failings can be eliminated or reduced, allowing designers to focus on producing unique and appealing products that are easy to use. Following standards does not inhibit industry’s need to differentiate its products at the level of the user interface.

As well as standards and guides aimed directly at product design, *ETSI* has produced guides that relate to design and testing procedures and some companies have taken these as the design basis of their own processes.

## Avoiding tomorrow’s problems

Much of *ETSI's* ongoing work in the field of Human Factors is aimed at helping industry to pre-empt future problems as the marketplace becomes ever more diverse and fast-moving. One major goal is to identify emerging user interaction technologies, to look for factors that could cause problems for certain users in some situations, and to identify solutions. These considerations should greatly reduce the instances of the costly and reputation-damaging cycle of partial launch failure followed by expensive post-hoc fixes.

Another area in which *ETSI* is active is in ensuring that future European accessibility requirements related to public procurement of ICT products and services are approached in a way that is effective and embraced by industry.