

## Outlook

Upcoming new services and technologies hold new challenges for end-to-end media quality, as perceived by the user and for Quality of Experience (QoE), which are consequently addressed by STQ. New interests for the future will include:

- Impact of poor transmission quality on intelligibility
- e-Inclusion for people with disabilities and for ageing
- Loudness vs. Loudness Ratings
- Concepts of 'net neutrality' & 'differentiated traffic management' and their potential impact on QoS as perceived by the user
- Synchronization and interworking in packet based networks

The new NGN services in conjunction with the use of Smartphones require new QoS measurement methods, reference data and load profiles in order to guarantee the quality of new services. These encompass web browsing, data transfer, video streaming, video live traffic, video sharing and LTE RCS location services.

## 3 Excellent reasons for joining STQ

- Participate in the creation & improvement of standards for end-to-end media quality.
- Share your knowledge on media quality and make STQ even better.
- Listen to the discussions during regular STQ sessions and special workshops & become part of the excellence.

## About ETSI



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# Speech and multimedia Transmission Quality

## Motivation

End-to-end communication quality as perceived by the user has always been of major concern to ETSI and its Technical Committee STQ (Speech and multimedia Transmission Quality). Recent developments in telecommunications, such as the introduction of VoIP and LTE increasingly promote the introduction of new services, including wideband speech communication and multimedia. Simultaneously, the global telecommunication landscape is undergoing essential changes, such as the migration from traditional public network operators to NGN service providers.

Liberalization and competition, network inter-connection, the impending change to IP technology, real-time multimedia applications and services, have brought major changes over the last years to the way quality for telecommunications is perceived by the user. There is an increasing demand for a framework to test, measure performance, and achieve Media Quality and Quality of Service (QoS) and the related Quality of Experience (QoE) that takes into account these changes.

In a multi-vendor environment appropriate standards are the only means to achieve reasonable end-to-end multimedia quality. In this context STQ represents ETSI's commitment to end-to-end multimedia quality for NGN.

## End-to-end multimedia quality as a promotional factor for the market.

There is a huge demand for wideband and super-wideband speech communication and multimedia in hands-free and video phone applications. Fixed, mobile and nomadic devices designed for such applications rely on non-linear and time variant signal processing in terminals and network elements in order to be capable of providing speech quality that satisfies users' demands. Therefore, it is essential to standardize state-of-the-art requirements and test methodologies.

## The Charter of STQ

Within ETSI, STQ is a center of excellence for end-to-end single media and multimedia transmission performance, QoS parameters for networks and services.

STQ ensures the co-ordination, production and maintenance of standards related to end-to-end quality; it is our objective to enable the timely and economic development of equipment for use with existing and future fixed/mobile network telecommunications service offerings.

The main working areas of STQ are: VoIP, VoLTE and Multimedia over IP; excessive acoustic pressure and relevant measurement methods; wideband, super-wideband and fullband speech, including terminals, modeling and assessment; user-oriented QoS and related QoE, including the needs of persons with disabilities.

STQ has a charter stretching across ALL technology platforms and thus works in close co-operation with all ETSI and 3GPP groups involved in communication aspects; this charter also reaches out to other relevant organizations, such as ITU-T, TIA and IEEE.

## STQ Mobile

The working group STQ Mobile focuses on QoS aspects for popular services in mobile networks (TS 102 250-x) including speech and video quality. Working areas for the mobile QoS assessment include aspects of Push-to-Talk over Cellular, video telephony, mobile broadcast, video quality for mobile and the definition of http reference web pages.

## MAJOR ACHIEVEMENTS

- "Indicators and methodologies for end-user quality characterization of voice and video services" (ES 202 765-x)
- "Adaptation of the ETSI QoS Model to better consider results from field testing" (TR 103 121)
- "User-related QoS" (ES 202 057-x)
- "LTE network related QoS problems in real implementations" (TR 103 122)
- Procedures for the identification and selection of common modes of de-jitter buffers and echo cancellers (TS 102 929)
- "VoIP terminal and GW" (ES 202 737 to ES 202 740, ES 202 718)
- "Mobile terminals" (TS 103 737 to TS 103 740)
- "Test methods and requirements for super-wideband and fullband terminals" (TS 102 924 and TS 102 925)
- "Speech quality for terminal in background noise conditions" (ES 202 396-1, EG 202 396-x, TS 103 106)
- "Inductive coupling of telephone earphones to hearing aids" (ES 200 381-x)
- "Quality Assessment of synthesized speech" (TR 102 948)