WORLD TELECOMMUNICATION
STANDARDIZATION ASSEMBLY

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Overview of ITU-T Study Group 12 during the Study Period 2022-2024

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ITU-T SG12: Key Areas of Work during 2022-2024

Lead study group on:

➢ Quality of service (QoS) and quality of experience (QoE)

➢ Driver distraction and voice aspects of car communications

➢ Quality assessment of video communications and applications

ITU-T SG12: Key ITU-T Recommendations

- **ITU-T E.800-series:** Concepts, models and objectives related to the quality of telecommunication services

- **ITU-T G.100-series:** Transmission planning and the E-model

- **ITU-T G.1000-series:** Generic and user-related aspects of multimedia quality and performance assessment

- **ITU-T P-series:** Objective and subjective quality evaluation methodologies, models and tools for terminals and multimedia

- **ITU-T Y.1500-series:** QoS and performance of packet-based networks

ITU-T SG12: Main Achievements

250 contributions, **22** new Recommendations, **23** Amendments/Revisions to existing Recommendations, **4** new Supplements, **3** Implementer's Guides and **5** new Technical Reports.
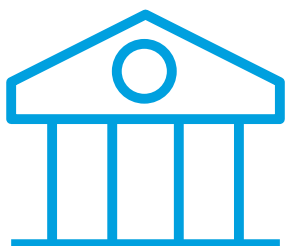
In topics, such as:

- Quality assessment of telemeetings and applications with virtual and extended reality (enabling technologies for the Metaverse)

- Connectivity analysis in the context of meaningful connectivity and QoE

- Performance aspects of next generation networks

- Quality assessment of video and speech including in-vehicle communication

- Software tools for speech and audio coding

1 New Regional Group for the Americas

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ITU-T SG12: Future Topics in 2025-2028

- Definitions, guides and frameworks on QoS/**QoE**

- **Quality assessment models, tools and methodologies** for multimedia services and applications (incl. immersive media)

- **Performance and quality assessment of speech communication systems** incl. in-vehicle communications and systems using AI-based speech processing techniques

- Conferencing and **telemeeting** quality assessment

- **Operational aspects and end-to-end performance** of telecommunication service quality

- QoS/QoE of **Digital Financial Services** (DFS)

Collaboration

VQEG

Recommendation ITU-T P.1204 was developed in collaboration with the Video Quality Experts Group (VQEG) to describe model algorithms for monitoring the video quality for streaming for resolutions up to 4K which have become popular.

Collaboration continues into the new Study Period on draft new Recommendation P.IXC on immersive media quality.

3GPP (SA4)

Study Group 12 maintains a library of software tools (STL) for speech and audio coding standardization (ITU-T G.191). The STL is developed in the style of an open-source project.

Extensive collaboration with 3GPP SA4 on the STL for the development and testing of speech and audio coding algorithms.

QSDG

The Quality of Service Development Group held a series of workshops across three regions to "spread the word":

- **Locations:** Maputo (Mozambique), Mexico City (Mexico), Banjul (The Gambia), Amman (Jordan)

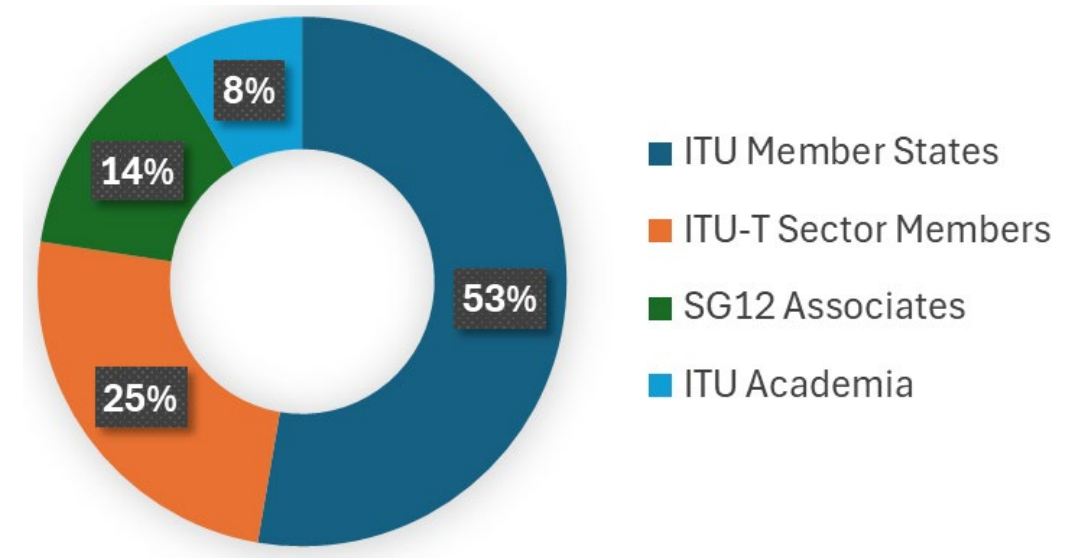- **Reach:** 144 participants from 40 countries (on average)

IRG-AVQA

The Intersector Rapporteur Group Audiovisual Quality Assessment (IRG-AVQA) continues to provide a collaborative platform for ITU-R SG6 and SG12 experts to discuss topics of joint interest in video and audiovisual quality assessment.

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ITU-T SG12: Key outputs of 2022-2024 Study Period

- **Connectivity mapping:** ITU-T E.813 "Mapping and visualization strategies for the assessment of connectivity"

- **Network performance evaluation:** ITU-T G.1051 "Latency measurement and interactivity scoring under real application data traffic patterns"; ITU-T Y.1567 "Latency under load metrics and methods of measurement"

- **Speech quality assessment:** ITU-T P.1140 "Speech communication requirements for emergency calls originating from vehicles"; ITU-T P.836 "Simulating conversations for the prediction of speech quality"

- **Quality testing techniques/approaches:** ITU-T P.1402 "Guidance for the development of machine-learning-based solutions for QoS/QoE prediction and network performance management in telecommunication scenarios"

- **Multimedia and video quality assessment:** ITU-T P.1204 series "Video quality assessment of streaming services over reliable transport for resolutions up to 4K"; GSTR-5GQoE "QoE requirements for real-time multimedia services over 5G networks"

- **Quality assessment with immersive components:** ITU-T P.812 "Principles of subjective test methods for interactive VR applications"; ITU-T P.1320 "QoE assessment of XR meetings"

- **Software tools:** ITU-T G.191 "Software tools for speech and audio coding standardization"

- **Terminology:** GSTR-RQ "Roadmap for QoS and QoE in the SG12 context"

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ITU-T SG12: Highlights

❖ Delegates from **81 countries** participated in Study Group 12 meetings in the study period.

❖ On average, the meetings attracted **173 participants** from **54 countries**

❖ After a period of more than 20 years meeting exclusively at ITU headquarters, Study Group 12 held a meeting outside of Geneva: in Mexico City in September 2023.

- ITU Member States — 53%
- ITU-T Sector Members — 25%
- SG12 Associates — 14%
- ITU Academia — 8%

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Thank you