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| **Abstract:** | In line with WTSA Resolution 1, this report provides updates about the SG12 lead study group activities. |

In the reporting period, SG12 held one study group meeting attended by 160 participants from 56 countries in Geneva in April 2024 and meetings of its two Regional Groups in March 2024.

The Regional Group on QoS for the Africa Region (SG12RG-AFR) met in Maputo, Mozambique (attended by 45 participants from 21 countries) preceded by a workshop on “[Telecommunication Service Quality](https://itu.int/en/ITU-T/Workshops-and-Seminars/qos/20240304/Pages/default.aspx)”. The Regional Group for the Americas (SG12RG-AMR) held its first meeting in Mexico City (attended by 39 participants from 12 countries).

The executive summary of the April 2024 meeting can be found at <https://www.itu.int/en/ITU-T/studygroups/2022-2024/12/Pages/2404-summary.aspx>.

## Lead study group on quality of service and quality of experience

SG12 approved a new Amendment to Recommendation ITU-T P.10/G.100 “*Vocabulary for performance, quality of service and quality of experience*” consolidating all existing definitions from SG12 Recommendations and introduced a new term:

vehicle hands-free terminal: a telephone set that does not require the use of hands during a communications session taking place in a vehicle.

ITU-T Study Groups are encouraged to use ITU-T P.10/G.100 as the primary reference for all terminology related to performance, quality of service and quality of experience, and to align the definitions of all relevant terms accordingly.

SG12 also approved new Recommendation ITU-T E.813 “*Mapping and visualization strategies for the assessment of connectivity*”, in response to WTSA Resolution 95.

Other key achievements of the meeting included the adoption of the following Recommendations and other publications on:

– **Network performance evaluation:** New Recommendation G.1052 “Testbed framework for mobile application QoS and QoE evaluation” and Amendment 1 to ITU-T G.1051 “Latency measurement and interactivity scoring under real application data traffic patterns”

– **Speech quality assessment:** New Recommendation P.833.2 “Methodology for the derivation of equipment impairment factors from subjective listening only tests for fullband speech codecs” and Revised Recommendation P.863.2 “Extension of ITU-T P.863 for multi-dimensional assessment of degradations in telephony speech signals up to fullband”

The SG12 work programme was also updated with the addition of nine new work items related to QoS terminology (revision of ITU-T E.800 and G.1000), extended reality and metaverse (G.MF-VR, P.XRT and GSTR-MVQ), speech quality (P.Supp GRAS and PSTR.Noise-RTC), network performance and operational aspects (E.Perf\_Req and ESTR.Power-out).

The way forward for work items that had achieved stale status was also reviewed and 3 stale work items were discontinued.

SG12 also provided a new release of the ITU-T Software Tool Library (Recommendation ITU-T G.191), [STL2024](https://github.com/openitu/STL), that incorporates new features and bug fixes.

In its role as lead study group on QoS and QoE, SG12 liaised ITU-internally with:

– All ITU-T Study Groups with input on utilisation of tools to produce Recommendations,

– ITU-T SG2 on operational aspects of telecommunication network service quality,

– ITU-T SG9 on quality metrics and network performance requirements for video services,

– ITU-T SG11 on completed work on testbed framework for QoS/QoE evaluation,

– ITU-T SG15 seeking feedback on quality metrics for microwave and fiber backhauling,

– ITU-T SG16 on completed work on software tools for speech and audio coding,

– ITU-R WP4B seeking guidance on quality indicators for monitoring QoS of broadband services provided via Low-Earth Orbit satellites;

and externally, including with the Broadband Forum, 3GPP, ETSI, IEC and the NGMN Alliance.

ITU-T Study Groups are encouraged to engage with SG12, at an early stage, on any ongoing or future work discussing QoS and QoE aspects.

## Lead study group on driver distraction and voice aspects of car communications

Work progressed on draft new Recommendation ITU-T P.ASR: Performance requirements for automatic speech recognition (ASR) in vehicles and the revision of Recommendations in the ITU-T P.1100 series on hands-free communications in vehicles.

ITU-T Study Groups are encouraged to engage with SG12, at an early stage, on any potential new work items discussing driver distraction and voice aspects of car communications.

## Lead study group on quality assessment of video communications and applications

Work continues to progress on the extension of the ITU-T P.1204.x Recommendations to support new codecs and on items related to quality assessment of video communications and applications; related to adaptive video streaming quality (P.NATS-ph3), cloud gaming (P.BBQCG), videotelephony services (G.CMVTQS).

SG12 continues to provide guidance on quality evaluation of immersive technologies. In the reporting period, new Recommendation P.812 “Principles of subjective test methods for interactive virtual reality applications” was adopted and new work on quality evaluation of extended reality terminals and on QoS/QoE standards for the metaverse was initiated.

ITU-T Study Groups are encouraged to engage with SG12, at an early stage, on any potential new work items discussing quality assessment of video communications and applications, including work on immersive media quality assessment.

SG12’s longstanding successful cooperation with the Video Quality Expert Group (VQEG) continues with significant progress made on the collaborative development of draft new Recommendation P.IXC on immersive media quality.

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