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Executive summary: Sound quality study of Interactio, Webex, Ms-Teams, Zoom and Pexip performed by Acoustic laboratory of KU Leuven

The quality of sound is pivotal for multilingualism, as it allows interpreters to provide quality service to meeting participants. In 2021, DG SCIC commissioned the Acoustic Laboratory of the Department of Physics and Astronomy of the KU Leuven to perform an assessment on the audio quality of the five most common web-conference tools used by the European Commission and the European Council.

The request to KU Leuven was to assess the sound quality in the web-conference softwares, without considering any external elements like remote speakers' microphones, internet connection and acoustic environment, which in a virtual/hybrid meeting may strongly influence the input sound quality. In June-July 2021, they carried out a measurement-based assessment of the audio transfer quality of different web conference systems.

The assessment focussed on the transfer of audio signals between a speaker and an interpreter, based on the requirements of the International Standard ISO 20109:2016 'Simultaneous interpreting – Equipment – Requirements'.

The assessment also evaluated the audio transfer quality from 'in room microphones' to remote participants via the room microphone system and via a conference call provider.

The tested quality criteria of the ISO 20109:2016 were: Harmonic distortion/linearity of the system transfer function, Latency, Speech transmission index (STI), Cross correlation quality and System spectrum.

The results of the assessment show that, among the five tested web-conference tools, four of them, more precisely, Interactio, Pexip, Webex and Zoom, are compliant with the ISO 20109:2016 standard, with Interactio at the top of the list for audio quality. According to the assessment, the only web-conference tool that currently does not reach compliance is Ms-Teams, with a frequency cut at 8 000 Hz, while according to the ISO 20109:2016 standard it should reach 15 000 Hz.

Over the last years the internet cabled connection quality has improved considerably and it should always be preferred to a Wi-Fi, thus what we currently consider the weakest link in the chain are the microphones/headsets used.

Most unified communication microphones/headsets do not seem to be compliant with the ISO 20109:2016 standard, while most USB microphones used for recording music or podcasts do comply with the ISO 20109:2016 standard.

Conclusion:

The choice of Interactio as the best option for meetings with interpretation out of the five assessed can be confirmed.

The challenge for the Commission and all international institutions organising virtual and hybrid meetings will now be to convince internal and external speakers in those meetings to use the correct settings of the web conference tools and proper microphones.

Be reminded that the results of this assessment reflect the situation as it was in spring 2021, the various providers of web-conference softwares might have, in the meantime, adapted and improved their products (ex. Teams has from 2022 introduced the option of activating the music mode).

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