

Staff association of the European Commission

# **NEXT GENERATION TELEWORK** Videoconferencing & Sound Hygiene



**Videoconferencing participants experience frequent online meetings as unpleasant and tiring**. Scientists are warning that videoconferencing may have consequences for human health. Most colleagues perceive this technology as a necessary evil, the price to pay to benefit from telework. This is a misconception. Solutions exist and they are not difficult to implement.

**Videoconferencing** sound is typically aggressive and artificial, but it **can sound natural and harmless**. It is as simple as using the right type of **tabletop microphone**, using **headphones** to avoid feedback, and tweaking the settings in the platform of your choice: Zoom, Webex, or Teams to **disable all sound manipulation** and enhancement.

**TAO** is determined to effectively circumscribe videoconferencing and actively promote good sound hygiene so that it can occupy its rightful place as a safe, efficient, and reliable tool in the teleworking toolbox. To embrace videoconferencing, we must make it sound and feel natural and most importantly use it wisely.

Checklist to enhance videoconference efficiency and safety:

- 1. Office-like environment
- 2. Ethernet connection not wireless
- 3. Closed loop participation with headphones
- 4. DO NOT USE: headsets with boom microphones, built-in computer mike, centre table mikes
- 5. DO USE: tabletop, USB podcasting, cardioid, mono-pattern microphones
- 6. Platform configured to deactivate autogain, noise suppression and voice enhancement
- 7. Zoom is best and Webex better than Teams for voice broadcasting

Urgent review of videoconferencing rules:

- 1. Monday mornings and Friday afternoons videoconference-free time
- 2. Other workdays 9:00-12:30 and 14:00-17:00
- 3. maximum 90 minutes with no breaks
- 4. if more than 90 minutes 20 minutes break after each hour
- 5. 60-minute break for back-to-back videoconferences
- 6. never during lunch periods, except for voluntary training courses
- 7. digital break, at least one day working offline

For further detailed information on platform settings and microphone specs read on:

#### How do I find if my videoconferencing platform is configured to give my listeners the best possible sound?

Check your audio settings: every platform has them. Make sure you check the advanced audio settings as well.

Make sure you are using the client version of your platform: browser-based applications will usually limit your ability to tweak your audio settings.

#### DEACTIVATE noise suppression

DEACTIVATE automatic gain control and manually adjust your input level to around 89-90%

DEACTIVATE any form of voice processing ("voice optimized", "voice profiling" etc.). The less the machine is allowed to process your input, the better.

IGNORE background noise issues. Background noise is only a problem for your listeners when it is also a problem for you in your room.

Do NOT take the floor from a bar, airport lounge or from the middle of the road. That is always a bad idea

regardless of what an AI engine is doing to limit the nuisance. Remember: AI-processing makes your voice intrinsically noisy.

Best platform in terms of your ability to broadcast your real voice: Zoom. Worst option: MS Teams. Webex offers a decent performance.

#### What Microphone should I use?

Use a USB podcasting microphone with only one pickup pattern: cardioid. These microphones can be purchased on any online shop, there are lots of different models. The cheapest start from around 25€, the most expensive will cost around 120€. Even the cheapest models will give you sound that compares with radio quality, and no aggressive processing.

Keep your microphone right in front of you. Keeping it to your right or left will reduce its efficacy. Keep your microphone no more than around 30-40 cm away from your mouth.



Do NOT use: headset with boom mics, the built-in microphone of your laptop, the centre-table microphone you will find in your videoconferencing room. One or two microphone centre-table for several people are a surefire way to broadcast artificial and aggressive voices. Videoconferencing room installations with microphones on the table or on the roof are bound to produce the worst results in terms of sound quality.

Sound quality must not be confused with "speech intelligibility". Good quality sound is always intelligible.

Engineered intelligibility is aggressive for your listeners.



#### **Additional resources:**

https://www.linkedin.com/pulse/does-your-voice-sound-credible-here-why-viewers-switch-andreacaniato/ (includes practical guidance on how to configure platforms)

https://www.youtube.com/watch?v=uhabKMHKUCE (includes a live demonstration of how different mics and configurations affect your voice and provides practical advice)

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