Code for the use of new technologies in conference interpretation

Interpreters must be involved from the start in the detailed planning of any meeting where new technologies are to be used.

INTRODUCTION

To be a true vehicle of multilingual communication, a conference interpreter has to carry out several complex tasks simultaneously.

He has to:

- listen to the speaker and observe the non-verbal signals of his message, as well as the reactions he arouses among and between the recipients of that message;
- analyse a live and ephemeral message comprehensively, i.e. both the explicit and implicit message;
- interpret the message in another language, taking due account of the formal and substantive characteristics of a different culture;
- establish eye-contact with his audience, using gestures where appropriate, to make sure that the message has been received.

It is therefore essential to have a direct view of the overall proceedings, of which the message to be interpreted forms a part.

New technologies open up horizons which conference interpreters generally welcome. The information society, for instance, broadens the choice of sources which interpreters can consult so as better to prepare their meetings. Technical or ergonomic improvements in interpreter's consoles or booths also constitute considerable progress.

Other recent developments, however, in particular in teleconferencing, give rise to mixed feelings. Cost-effectiveness and value added or substracted, in terms of the quality of multilingual communication, have to be evaluated correctly, taking due account of the disadvantages (i.e. the combined effect of several phenomena: the message is stripped of its non-verbal content; the other participants' verbal and non-verbal reactions to the speaker and among themselves are not perceived; the screens glitter; there is no way of assessing how the interpreted message has been received; there is a sense of alienation; and there is no daylight).

As instruments of multilingual communication, new technologies should not lead to a reduction in the quality of interpreting or a worsening of interpreters' working conditions.

For all these reasons, the conference interpreters of:

- **AIIC** (International Association of Conference Interpreters),
- the **BDÜ** (Bundesverband der Dolmetscher und Übersetzer),

- the **European Court of Justice**,
- the **WCO** (World Customs Organisation),
- the **European Parliament**,
- the **JICS** (Joint Interpreting and Conference Service), covering the European Commission, the Council of Ministers, the Economic and Social Committee, the Committee of the Regions, the European Investment Bank and the specialised agencies of the European Union),

have adopted the following *C O D E*

1. At any multilingual conference at which new technologies are part of a video/tele-conference using cabled or non-cabled networks, the Internet etc., interpreters must be consulted in advance about the feasibility of the project. They must also be involved from the start in the detailed planning of the meeting. In any event, and at the very least, the working conditions must comply with standards ISO 2603, ISO4043 and CEI 60914.

2. For interpreters, one of the fundamental rules in standard ISO 2603 is a direct view of the room. If they follow a debate on a screen, however good the picture and sound, they are deprived of the general non-verbal context which enables them to carry out their task. This is what justifies their critical attitude towards video-conferencing; there are also arguments relating to health and quality. For an exception to be made, the following conditions need to be fulfilled:

- *All the other principles of the aforementioned standards must be strictly observed, in particular as regards the quality of the sound (faithful transmission of the 125 - 12500 Hz waveband), which would rule out any video-conferencing based on the H320 standards which restrict the frequency to 7500Hz, whether by ISDN, LAN, the Internet, etc.*
  Except in cases where the equipment guarantees at least the full frequency range of 125 Hz to 12'500 Hz.
- *The interpreters must have high-definition picture, synchronised with the sound, of a quality which makes it possible to distinguish clearly the facial expressions and gestures of the speakers and participants.*
- *In view of the specific constraints of video-conferencing (the loss of non-verbal information, eye fatigue caused by the screens, the absence of daylight, the extra concentration and stress, etc.), the interpreters should not have to work more than two hours a day.*

Moreover, the temptation to divert certain technologies from their primary purpose e.g. by putting interpreters in front of monitors or screens to interpret at a distance a meeting attended by participants assembled in one place (i.e. tele-interpreting), **is unacceptable**.

3. In any version of a **multimedia meeting,** interpreters must have access to the same information as the delegates, which implies that when new conference rooms are built or modernised, interpreters' booths need to be properly connected..

Technical annex: applicable definitions and standards (references and brief description)

Technical annex

DEFINITIONS

- **Tele-conference**: any form of communication between two or several participants in two or several different places and relying on the transmission of one or several audio signals between those places.
- **Video-conference**: a tele-conference comprising one or several video signals which convey

the images of some or all the participants.
- **Multilingual video-conference**: a video-conference in two or several languages with interpretation (consecutive or simultaneous).
- **Tele-interpreting**: interpretation of a multilingual video-conference by interpreters who have a direct view of neither the speaker nor their audience.

APPLICABLE STANDARDS:
References and brief description

1. ISO standards as regards simultaneous interpreting equipment

ISO / DIS 2603 (revision of standard ISO 2603) for permanent simultaneous interpretation booths and standard ISO / DIS 4043 (revision of ISO 4043) for mobile booths.

These standards describe all the practical conditions with which conference rooms (interpreting booths and equipment) have to comply. They stipulate in particular that the interpreter has to have a direct view of the room as well as of any screen used for projections. As regards the quality of the sound in the interpreters' headsets, it is explicitly stated that the waveband between 125 and 12500 Hz has to be accurately reproduced.

2. Standards aplicable to digitalization and compression of audio and video signals

Digitalisation is carried out by sampling an (analogue) audio or video signal. For a telephone conversation to be digitised, for instance, the audio signal is sampled 8000 times a second and each sample is encoded on 8 bits, which gives a rate of 64000 bits a second or 64 Kbps. The frequency is however limited to 3-4 Khz. By way of comparison, the audio signal from a CD player is usually is sampled 44100 times a second, equivalent to a frequency of 0 -20 Khz,; it is encoded on 16 bits, thus generating a bit rate of approximately 711 Kbps before compression.

Standard ITU-R 601 ("Studio-Quality TV") applies to digital transmission of TV pictures. The three components of the video signal: R (red), B (blue) and G (green) are first converted into a luminance signal Y = R + B +G and two signals for colour difference R-Y and B-Y. For each image or frame comprising 486 lines in the NTSC system and 576 in PAL / SECAM, 720 samples are taken for luminance, but only half that number (360) for colour differences, each sample being encoded on 8 bits. The resulting bit rate is approximately 165 Mbps (1 Mbp = 1000 Kbps) before compression.

Before being transmitted by digital connections, the audio and video signals have to be digitised and then compressed so as to reduce the high rate of data to be carried. This compression is achieved by means of a CODEC (encoder - decoder).

Digital systems are characterised by a difference in transmission time (including the time needed for encoding/decoding) depending on whether the signal is audio or video. The result is a fluctuating time-lag between the sound and picture, which has effects on the synchronisation.

3. ISO-MPEG standards

MPEG (Moving Picture Experts' Group) is the name given to a family of international standards used to codify audio-visual data in a compressed digitised format. The MPEG family is made up of standards MPEG-1, MPEG-2 and MPEG-4, identified respectively as ISO / IEC-11172, ISO / IEC-13818 and ISO / IEC-14496.

Standard MPEG-2 (IS0-13818) is what is generally used for digital transmission of TV pictures. Transmission of such pictures according to standard ITU-R 601 would require 4 or even 25 to 34

Mbps for HDTV pictures (1920x1080 pixels and 60 frames / second).

Standards MPEG-Audio Layer 1, 2 or 3, in order of increasing complexity and performance, apply to the audio part.

4. Standards 320x of the International Telecommunications Union

A family of standards applicable to the video-conferences, as regards audio and video transmission by ordinary telephone line (H324), ISDN / ATM (H320-H321-H310) or local networks (H322).

H.320 is based on a video compression algorithm, H.261, with two types of resolution:

CIF (Common Interchange Format):

- luminance: 352 samples per line, 288 lines per frame
- colours: 176 samples per line, 144 lines per frame

QCIF (Quarter Common Interchange Format)

- luminance: 176 samples per line, 144 lines per frame
- colours: 88 samples per line, 72 lines per frame

Standards H.320 make it possible to obtain a maximum bit rate of 30 frames a second.

The H.320 family covers three audio standards applicable to codecs:

- **G.711,** with a bit rate of 64 Kbps, offers an audio quality of 3-Khz, telephone level;
- **G.722**, with a higher quality algorithm, reaches 7.5-kHz at a bit rate of 64 Kbps;
- **G.728** provides an audio quality, not far from telephone level (3.4 Khz), at only 16 Kbps.

H.310 and H.321 adapt the H.320 family to new transport protocols such as ATM and ISDN broadband. H.310, for example, uses the video compression algorithm ISO MPEG-2, which would provide a high definition picture.

ITU has drawn up the T.120 series of recommendations, defining the standards applying to H.32x video-conferences as regards document exchanges.