Speaker notes

We’ve talked about the forensic principles of audio when reviewing the McKeever case and the following summary of principles by the FBI but it would be good to go into further detail.

# END USERS

1. Investigation purposes
2. Trials

Speaker notes

Investigatory purposes - identification and recovery of information (SWGDE, 2014a).

ex: we recorded a call between two gang members planning to rob a bank. This is a case where the recording may not ever be used as evidence in the trial, as the defendants might just confess to the crime because they know there is a recording.

In any case exhibits and reports will be provided to the end user, commonly a judge or jury within a court system. This work done for a trial is always performed after the fact, not in real time as in its use for investigatory purposes.

# ADMISSABILITY

What makes evidence acceptable to a court?

Speaker notes

Admissibility relates to the acceptance of evidence for a trial. In contrast, inadmissibility is the term for evidence being rejected based on its unreliability or it falling short of the criteria of a specific system

ex: It may be that the expert cannot give evidence due to previous malpractice or lack of expertise, or that the expert is a pioneer in their field, but the evidence is unreliable due to corruption, manipulation, or being of unknown provenance.

There are two parts two admissability, the expert giving their opinion and the evidence itself. The expert giving their opinion must be able to show their qualifications in the field of their expertise. The experts must also show that they are unbiased.

If questions are raised to the authenticity of evidentiary recordings, the burden is on the party raising the question to provide evidence as to their reason for concern.

# AUTHENTIC RECORDING - THE AUDIO ENGINEERING SOCIETY (2012)

*made simultaneously with the acoustic events it purports to have recorded, made in a manner fully and completely consistent with the methods of recording claimed by the party who produced the recording and free from unexplained artifacts, alterations, additions, deletions or edits.*

Speaker notes

If another party can show any variance from this definition, the evidence is not authentic and so not admissable.

Not admissable:

- not an exact bit-for-bit copy of the original recording
- recording with edits, this leads to a ‘framing bias’ where only the material beneficial to one party is submitted

# BEST PRACTICES

- documents published by departments in government, committees in international standards organizations, and scientific working groups (groups of scientists from a specific field).
- Draft examples

Speaker notes

These give forensic scientists a common point of reference when they are looking at evidence to help them negate issues with admissability. The groups that publish these documents are experts in the field. They collaborate on these guidelines for years in some cases. When developing guidelines a draft is provided to the public for comment and feedback before the draft is finalized. This gives people who aren’t directly involved in the development of the draft a chance to have their voices heard.

# SCIENTIFIC WORKING GROUP FOR DIGITAL EVIDENCE (SWGDE) - 1998

- Best Practices for Forensic Audio (SWGDE, 2008)
- Electric Network Frequency Discussion Paper (SWGDE, 2014b);
- Core Competencies for Forensic Audio (SWGDE, 2017);
- Best Practices for Digital Evidence Collection (SWGDE, 2018a);
- Best Practices for Digital Audio Authentication (SWGDE, 2018b);
- Video and Audio Redaction Guidelines (SWGDE, 2018c).

Speaker notes

- first formed by the Federal Crime Laboratory Directors in 1998 to address the growing volume of digital evidence in the form of computers, mobile phones, tablets, and multimedia.
- A special subcommittee was spawned to cover audio forensics
- Their first publication was ‘Best Practices for Forensic Audio’ (SWGDE, 2008)
- intended to provide recommendations and advice on the handling and examination of audio evidence to ensure it is suitable for use within the context of the legal system. It includes information on laboratory setup, evidence handling, examination preparation, delivery of results, and general guidelines for the duplication, repair, and enhancement of audio recordings.

# EUROPEAN NETWORK OF FORENSIC SCIENCE INSTITUTES (ENFSI)

- Guidelines for Best Practice in Forensic Examination of Digital Technology (ENFSI, 2015)

Speaker notes

- Many groups, one for audio forensics
- ENFSI's all-encompassing digital forensics best practice guideline is called 'Guidelines for Best Practice in Forensic Examination of Digital Technology' (ENFSI, 2015) and aims to provide a framework of standards, quality principles, and approaches in compliance with ISO 17025.

# ENFSI EXPERT WORKING GROUP FORENSIC SPEECH AND AUDIO ANALYSIS (FSAAWG)

- Website
- Best Practice Guidelines for ENF Analysis in Forensic Authentication of Digital Evidence (ENFSI, 2009)

Speaker notes

The ‘ENFSI Expert Working Group Forensic Speech and Audio Analysis (FSAAWG)’ is the title of the audio Working Group and is composed of members from 20 countries. Their only publication at the time of writing is ‘Best Practice Guidelines for ENF Analysis in Forensic Authentication of Digital Evidence’ (ENFSI, 2009)

# AUDIO ENGINEERING SOCIETY (AES)

- Working Group on Forensic Audio of the Audio Engineering Society Standards Committee - 1991
  - Managing Recorded Audio Materials Intended for Examination (Audio Engineering Society, 1996)

Speaker notes

- have their own technical committee in the field of audio forensics.
- This report was developed directly from the findings from the Nixon Tapes we talked about earlier