Developing Standards That Reflect Best Forensic Practices Applied World-Wide

As more forensic information is being collected on international databases (fingerprint, DNA, and other biometric databases), the forensic community has recognized the importance of **standardized protocols** to ensure that the data collected is reliable, interpretations are based on comparable technologies and techniques, and findings are accepted by courts of law internationally.
The ISO Technical Committee on Forensic Sciences (TC 272)

- Created in 2012 under the leadership of Standards Australia (SA)
- **Scope**: “Standardization and Guidance in the Field of Forensic Sciences: This includes the development of standards that pertain to laboratory and field-based forensic science techniques and methodology in broad general areas such as collection of physical evidence, the subsequent analysis and interpretation of evidence, and their reporting of results and findings”
- Standards developed by TC 272 are not meant to replace competency-based standards ISO/IEC 17025:2017 or ISO/IEC 17020:2017
- As of 2017, TC 272 had 23 participating and 18 observing country members
ISO - Approved TC 272 Scope of Work

Process Point of View
Forensic process generally consists of up to four stages including:

- Detection and collection of material
- Examination and analysis of material
- Interpretation of the results of examination and analysis
- Reporting of the results and conclusions

Generic Requirements
Requirements that must be satisfied in order to preserve the integrity of the evidence.

This includes the development of four separate standards that align with this forensic process.
About ISO

ISO is a non-government organization and network of the national standards institutes of countries, one member per country, with a Central Secretariat in Geneva, Switzerland, that coordinates the system.

Bring together experts to share knowledge and develop voluntary, consensus-based, market relevant International Standards.
ISO acts as a bridging organization in which a consensus can be reached on standards - International Collaboration Goal

- Engage Stakeholders
- Develop Draft Standard
- Consult interested parties

ISO DOCUMENT
ISO National Standardization Bodies Active in Forensic Science

BSI: British Standards Institution
DIN: German Institute for Standardization
The ANSI Accredited U.S. Technical Advisory Group (TAG) to TC272

Positions are developed by TAG with input from experts and stakeholders.
U.S. Technical Advisory Group

- Accredited by ANSI for participation in ISO Technical Activities

- Develop and transmit, via ANSI, consensus U.S. Positions on activities and ballots of the ISO Technical Committee or Subcommittees (Working Groups)

- Engage interest groups and experts in developing U.S. Positions
ISO Standard Development Process

NP = New Work Item Proposal
WD = Working Draft
CD = Committee Draft
DIS or CDV = Draft International Standard; Committee Draft for Vote (IEC)
FDIS = Final Draft International Standard

Seed Documents

Proposal (NP) → Preparatory (WD) → Committee (CD) → Enquiry (DIS or CDV) → Approval (FDIS) → Publication (FDIS)
Project Stages in ISO Committees and Associated Document References

- Preliminary Stage ↔ Preliminary Work Item (PWI)
- Proposal Stage ↔ New Work Item Proposal (NWIP)
- Preparatory Stage ↔ Working Draft (WD)
- Committee Stage ↔ Committee Draft (CD)
- Enquiry Stage ↔ Draft International Standard (DIS)
- Approval Stage ↔ Final Draft International Standard (FDIS)
- Publication Stage ↔ International Standard (IS)
Seed Documents Provided by Standards Australia

The following Standards were used as the basis for documents drafted by TC 272:

- **AS 5388.1-2012 Forensic Analysis Part 1**: Recognition, recording, recovery, transport and storage of material
- **AS 5388.2-2012 Forensic Analysis Part II**: Analysis and examination of material
- **AS 5388.3-2013 Forensic Analysis Part III**: Interpretation
- **AS 5388.4-2013 Forensic Analysis Part IV**: Reporting
As of March 2019, two standards have been published:

- ISO 21043.1:2018  Forensic Sciences – Terms Definitions and framework
- ISO 21043.2 Forensic Sciences – Recognition, recording, recovering, transport and storage of material

And four standards are in the preparatory stage

- ISO/WD 21043.3 Forensic Sciences – Analysis and examination of material
- ISO/WD 21043.4 Forensic Sciences – Interpretation
- ISO/WD 21043.5 Forensic Sciences – Reporting
- ISO/WD 20964 – Specification for consumables used in the collection, preservation, and processing of material for forensic analysis
ISO/TC 272 Forensic Science

Scope of ISO 21043.2:2018 includes requirements for

- Preservation of the scene
- Assessment and examination of the scene
- Recording
- Collection of items
- Preservation of collected material
- Maintaining security, integrity and chain of custody of collected
- Transport of storage of items
- Other pertinent requirements
Potential Scope/Content of Standards Under Development

- **Potential analysis standard content:**
  - Acceptance of physical material received for examination
  - Item continuity
  - Recording physical material received for examination
  - Presumptive and preliminary tests
  - Order of examination
  - Sampling
  - Analysis and examination of physical material
  - Identification of physical material by instrumental analysis
  - Identification of physical material using comparative examination
  - Linking an effect to a particular item
  - Recording the results of observations, analyses and comparisons
  - Reporting results
Potential Scope/Content of Standards Under Development

- Potential interpretation standard content:
  - Transforming data into information
  - Review of information
  - Interpretation of information
  - Formulating an opinion
  - Review of opinions
  - Reducing bias
  - Error
  - Reporting results
Potential Scope/Content of standards

**Potential reporting standard content:**
- Case file review
- Report format
- Issue and control of reports
- Report contents
- Report review
- Testimony and testimony review
NB: the project track of the Analysis (21043.3), Interpretation (21043.4), and Reporting (21043.5) has been changed from 36 months to a 48-month track in November of 2018
Other ISO Forensic Standards of Interest

- Subcommittee ISO/IEC JTC1 SC 27 **Security Techniques** has developed two standards relevant to digital forensics:

- Subcommittee ISO/IEC JTC1 /SC 40 IT **Service Management and IT Governance** has developed the following standard:

- Subcommittee ISO/IEC JTC1/SC 37 **Biometrics** is developing the following standard:
  - ISO/IEC AWI 22842.1 Information Technology – Biometric performance testing and reporting – Part 1: Methodology and tools for the validation of biometric methods for forensic evaluation and identification application
References


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