

M1/07-0363

InterNational Committee for Information Technology Standards  
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**M1/07-0363**

**Date: June 7, 2007**

**Project Proposal**

*ANSI Technical Report - Information technology - Biometric Performance Testing and Reporting - Part 8: Interpreting Biometric Performance Test Results using Statistical Analyses*

This draft project proposal is submitted by the following M1 members:  
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## **Project Proposal**

### **1. Source of the Proposed Project**

#### **1.1. Title**

ANSI Technical Report - Information technology - Biometric Performance Testing and Reporting - Part 8: Interpreting Biometric Performance Test Results using Statistical Analyses

#### **1.2. Date Submitted**

June 8, 2007

#### **1.3. Proposer**

INCITS M1

### **2. Process Description for the Proposed Project**

#### **2.1. Project Type**

DT – This project proposal describes a proposed ANSI Technical Report (TR).

#### **2.2. Type of Document**

The project is expected to result in an ANSI Technical Report developed by INCITS M1.

#### **2.3. Definitions of Concepts and Special Terms**

#### **2.4. Expected Relationship with Approved Reference Models, Architectures, etc.**

This technical report will sit within (and leverage) a standards suite comprising biometric testing and evaluation standards.

#### **2.5. Recommended INCITS Development Technical Committee**

INCITS Technical Committee M1 – Biometrics  
INCITS M1.5 Task Group

#### **2.6. Anticipated Frequency and Duration of Meetings**

Meetings will be held as necessary and will coincide with relevant INCITS M1.5 meetings. It is anticipated that there will be approximately 4 meetings per year.

#### **2.7. Target Date for Initial Public Review**

It is estimated that the draft document would be ready for submission to the INCITS Executive Board in December 2008.

#### **2.8. Estimated Useful Life of Technical Report**

This technical report will have a useful life exceeding 5 years.

### **3. Business Case for Developing the Proposed Technical Report**

### **3.1. Description**

The technical report will develop a clear and thorough understanding of the variety and suitability of statistical analysis techniques that can be used to make decisions based on biometric testing results. The technical report will include analysis techniques using various statistical methods, and descriptions of the differences between the various techniques. The report will specifically address each of the fundamental testing metrics individually, and will consider the influences or impacts of the test design, quantity of data and the complexity of the methodology. The advantages and disadvantages of various techniques will be provided in a form that is useful and understandable to professionals who are not specialists in statistics, and who need to understand biometric testing results relative to quantitative performance requirements. Currently, there are a few selected statistical techniques defined in ISO/IEC 19795-1 (Annex B). This domestic technical report will expand upon the materials in 19795-1 and will be inclusive of the testing metrics as defined in the INCITS 409.x series of testing and reporting standards.

### **3.2. Existing Practice and the Need for a Technical Report**

Existing testing standards generally describe the test planning, design and reporting requirements. The final product is commonly an error trade-off curve (ROC or DET) and tables of values for failure to acquire or enroll errors and measured times related to specific biometric functions. What is missing is the next step which is making decisions based on that reported data compared against specific required levels of performance. This can apply either to grading schemes (as in Part 5) or to qualification or certification criteria. The information in 19795-1 stops short of being what is needed for use by decision makers because it has:

- Incomplete set of metrics
- Limited number of techniques
- Little discussion of applicability or suitability to decision making

### **3.3. Implementation Impacts of the Proposed Technical Report**

#### **3.3.1. Development Costs**

Technical editor(s) labor is expected to total about 3 months of a staff-year.

#### **3.3.2. Impact on Existing or Potential Markets**

This document will enable biometric product evaluators and decision makers to proceed with a higher level of confidence toward product selection for deploying biometrics.

#### **3.3.3. Costs and Methods for Conformity Assessment**

N/A

#### **3.3.4. Return on Investment**

There is no known data on which to make an estimate.

### **3.4. Legal Considerations**

#### **3.4.1. Patent Assertions**

There are no known patents relevant to this standard.

### **3.4.2. Dissemination of the Technical Report**

Drafts of this Technical Report will be distributed electronically.

## **4. Related Standards Activities**

### **4.1. Existing Standards**

INCITS 409 Biometric Performance Testing and Reporting – Part 1: Principles and Framework;

INCITS 409 Biometric Performance Testing and Reporting – Part 2: Technology Testing and Reporting;

INCITS 409 Biometric Performance Testing and Reporting – Part 3: Scenario Testing and Reporting;

INCITS 409 Biometric Performance Testing and Reporting – Part 4: Operational Testing Methodologies

ISO/IEC 19795-1: 2006, Biometric performance testing and reporting — part 1: principles and framework

### **4.2. Related Standards Activity**

INCITS 1602D Biometric Performance Testing and Reporting  
• Part 5: Framework for Testing and Evaluation of Biometric System for Access Control

ISO/IEC WD 19795-5, Biometric performance testing and reporting — part 5: Biometric Device Performance Evaluation for Access Control

### **4.3. Recommendations for Close Liaison**

None

## **5. Units of Measurement used in the Technical Report**

Indicate units of measurement used in the Technical Report:

- International Systems of Units (SI)
- Inch/Pound
- Both
- Other
- Not Measurement Sensitive