

Project Proposal – Face Recognition Format for Data Interchange  
3<sup>rd</sup> Revision of Document M1/02-0041

1. Source of the Proposed Project

1.1. Title

“Face Recognition Format for Data Interchange”

1.2. Date Submitted

TBD

1.3. Proposer

INCITS Technical Committee M1

2. Process Description for the Proposed Project

2.1. Project Type

D - this is a standard development project.

2.2. Type of Document

The project is expected to result in an ANSI/INCITS standard.

2.3. Definitions of Concepts and Special Terms

None

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

None

2.5. Recommended INCITS Development Technical Committee

INCITS Technical Committee M1

2.6. Anticipated Frequency and Duration of Meetings

It is anticipated that this project would require one-day meetings approximately quarterly.

2.7. Target Data for Initial Public Review

It is estimated that the draft document would be ready for submission to INCITS for Milestone 4 processing in July 2003.

2.8. Estimated Useful Life of Standard

There is no known limitation on the useful life of this proposed standard.

### 3. Business Case for Developing the Proposed Standard

#### 3.1. Description

The proposed standard will define a data format for representing a face recognition record. The standard will contain a specific definition of attributes, a data record format for storing and transmitting the face image and attributes and a sample record and may include conformance criteria.

#### 3.2. Existing Practice and the Need for a Standard

Currently, there is no format for exchange of face data. Converting from one vendor to another requires the re-registration of facial landmarks in the facial image. This face finding step is computationally intensive and the match performance of the systems is sensitive to the accuracy of this step.

Interoperability between vendors requires a standard definition of facial landmarks, such as eye positions, that would be used with facial image data to generate vendor specific data structures used for optimized searching. In addition, image storage requirements could be reduced by standardizing on the cropping around the face and the scale of the face image.

By establishing a standard definition of a face image and its landmarks, we will:

- allow interoperability among vendors based on a small data record;
- facilitate placement of face information on ID and smart cards;
- encourage adoption of biometrics in applications where interoperability is vital.

#### 3.3. Implementation Impacts of the Proposed Standard

##### 3.3.1. Development Costs

Since relevant work has already been performed within INCITS B10, it is expected that the costs related to further development would be low. Technical editor labor is expected to be less than one man-month, and to be performed by one of the sponsored participants.

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

Existing markets for face recognition technology should experience added impetus from the benefits of interoperability. New markets (such as interstate driver license verification and passport verification) will open as a result of this standard.

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

Conformity assessment has not yet been defined. It is possible that the standard will define some testing concepts, and allow vendors and customers to jointly define testing to their own requirements.

### 3.3.4. Return on Investment

There is no 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 Standard

Drafts of this standard will be distributed electronically. There may be distribution constraints as this document reaches different stages of development and processing within INCITS and ISO/IEC JTC1. There are no known IPR issues.

## 4. Related Standards Activities

### 4.1. Existing Standards

- NISTIR 6529-2001, Common Biometric Exchange File Format
- ANSI/INCITS 358-2002 – Information Technology – BioAPI Specification
- ANSI/NIST-ITL 1-2000, Standard Data Format for the Interchange of Fingerprint, Facial, & Scar Mark & Tattoo (SMT Information)
- ISO/IEC 10918 – Information Technology – Digital compression and coding of continuous-tone still images (JPEG) – parts 1-4
- ISO/IEC 15444 – Information Technology – JPEG 2000 image coding system – parts 1-10

### 4.2. Related Standards Activity

This proposed standard is expected to be compatible with the augmented version of CBEFF (Common Biometric Exchange File Format) being developed by the NIST/Biometric Consortium Biometric Interoperability and Performance Assurance Working Group.

### 4.3. Recommendations for Close Liaison

INCITS Technical Committee B10  
INCITS Technical Committee L3 (JPEG and JPEG2000)  
ICAO (International Civil Aviation Organization)  
TSA (Transportation Security Administration)