

**Testing and Certification  
of  
Biometric Devices for UID Application**

STQC Directorate

5.8.2010

# Objective

- To facilitate availability of Quality assessed Biometric Devices to enrolment agencies
- To provide confidence that certified devices are functional, reliable, safe, secure and interoperable.

# Assuring Quality of Biometric Devices

(including vendor specific device manager (VDM), Aadhaar Device Manager (DM), UIDAI Biometric APIs)

## Testing for Assurance

- Physical & Dimensional
- Environmental (Durability/Climatic)
- Safety
- EMI/EMC
- Image Quality
- Functional (Enrolment & Verification cycle)
- Performance Testing
- Data Exchange between device & application and Interoperability
- Security
- Ease of use

***Certification is the joint responsibility of UIDAI and STQC***

# About STQC

**S**tandardisation  
**T**esting  
**Q**uality  
**C**ertification



**Standardisation Testing & Quality Certification Directorate**

**An attached office of DIT, MC&IT**

Quality Assurance Agency of Department of IT

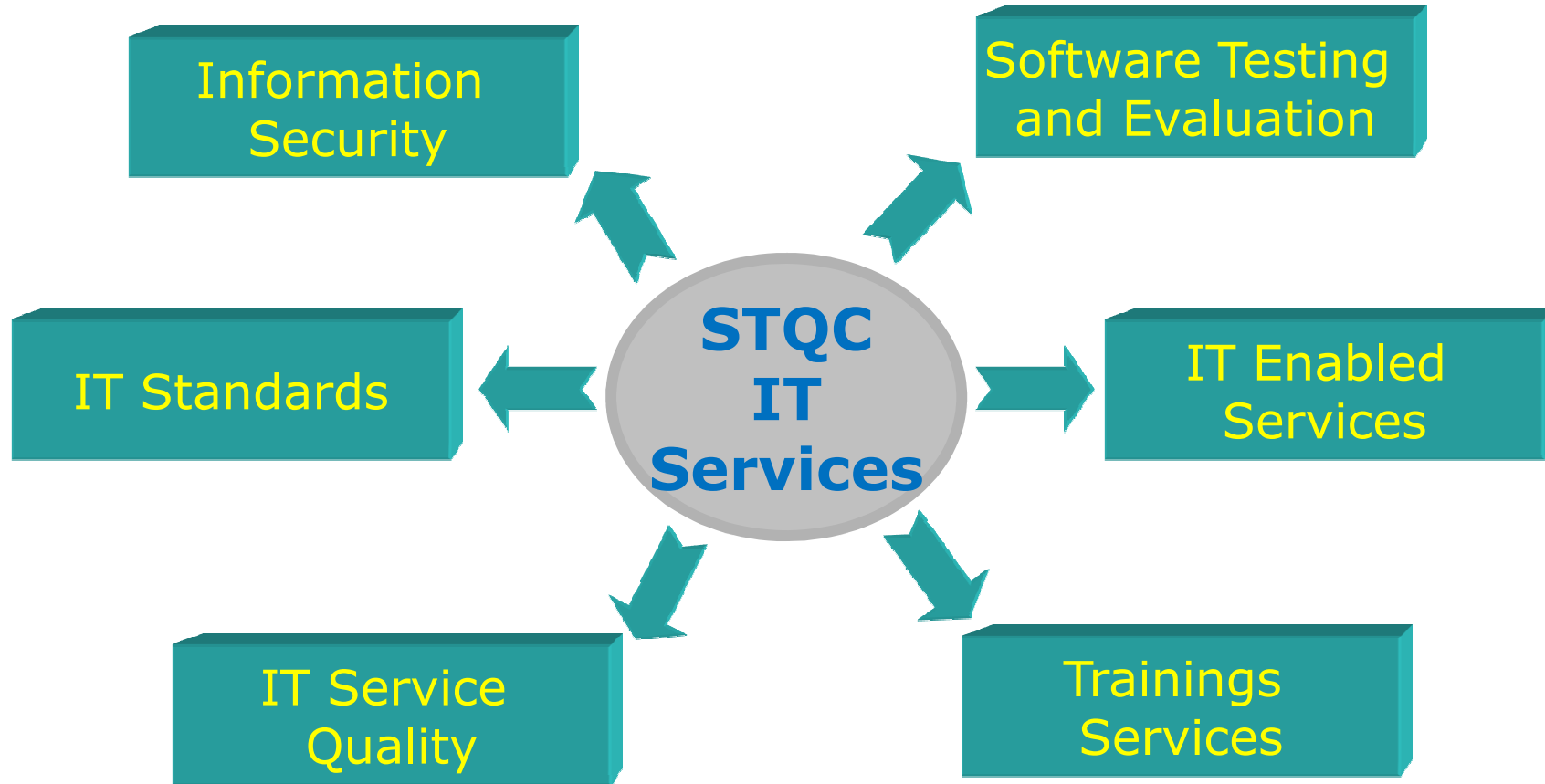
## ***Objective of STQC:***

*"To be a key enabler in making Indian organisations and IT users achieve compliance to International Quality Standards and compete globally"*

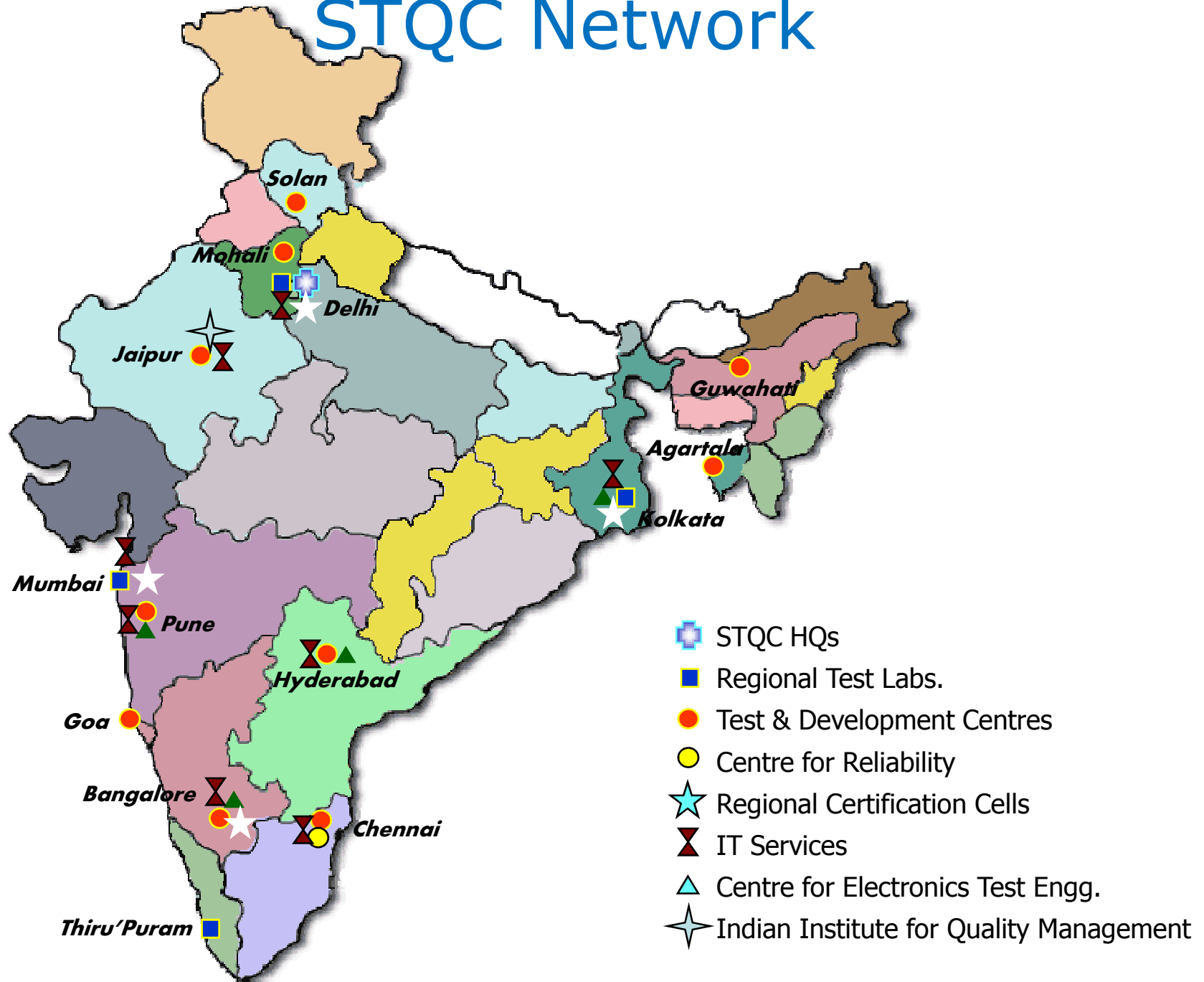
# STQC Activities & Services



# STQC IT Activities & Services



# STQC Network



# Certification – Interested Parties

## Supplier (Services)

- The party that is responsible for providing Biometric Devices and is able to ensure that Quality assessment is exercised.
- The supplier can also be client, vendor, channel partner, authorised agent with an legal entity in India.
- For the purpose of this scheme supplier is the applicant and responsible for placing devices in the market after obtaining the certification.

## Manufacturer (Product)

- Legal Entity anywhere in the world that makes Bio-metric Devices through a process involving raw materials, components (optical, opto-electronics, electronics, embedded software etc.) or assemblies, usually on a large scale with different operations divided among different workers.
- They are also responsible for Quality Assurance of the produced devices including Testing of Devices as per UIDAI requirements.

# Certification Scheme

## Purpose

The key aim of testing & certification is to ensure that the Biometric Device Under Test (DUT) complies with the requirements, standards, and specifications prescribed by the RFP of UIDAI & Biometric Design Standards for UID applications.

The objectives are to verify that:

- The extent to which requirements prescribed in the UID project RFP have been fulfilled.
- The extent to which applicable regulations, standards and specifications set out in the RFP are met;
- The defects/ nonconformities are timely identified & addressed.
- To grant certification and provide assurance to users of biometric devices that the certified product meets UIDAI requirements.

# Scope

- Testing & Certification of Biometric Devices:
  - Camera
  - Fingerprint Scanners
  - Iris Cameras
- Testing and Certification to cover:
  - Biometrics devices used for enrolment are capable of delivering the outputs as specified by the UIDAI.
  - Robustness testing of devices under simulated climatic conditions.
  - Integration testing of the device software with demographic information capture software designed by UIDAI.

# Certification Approach

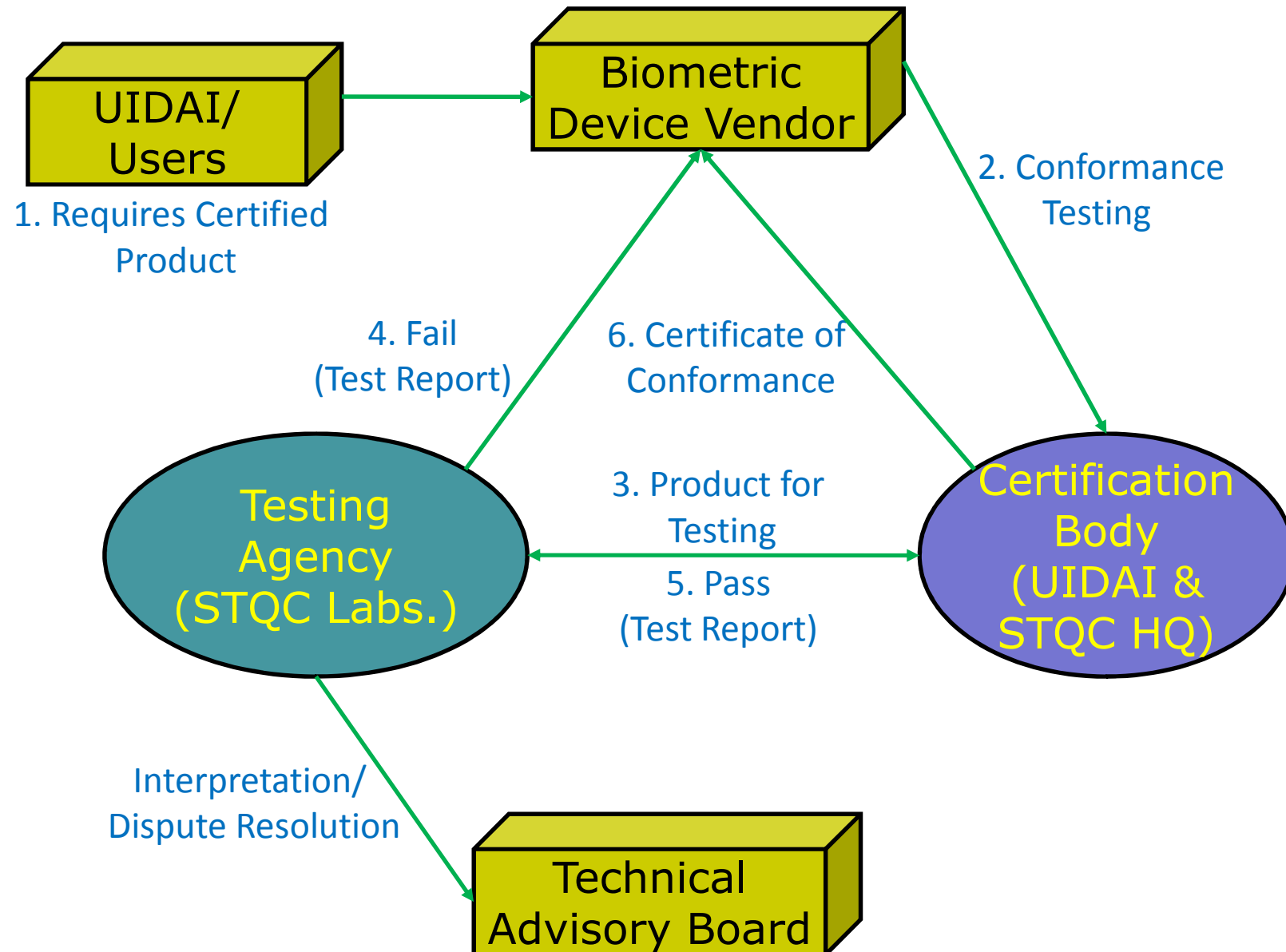
- Independent Testing of the Devices against the UIDAI requirements and
- Demonstration of Controls
  - The **devices are designed**, manufactured and delivered to meet the technical requirements of UIDAI.
  - The devices are **manufactured at a facility** having established Quality Management System (QMS)
  - **Supplier has a system** to provide confidence in the distribution and maintenance of devices.

# Test Approach

Verification of device/ software internals & Configuration settings.

- Output of the biometric devices for compliance to the UIDAI specifications
  - Data Exchange Format
  - File type/ Format/ Size (Storage)
  - Template
- Robustness of the Biometric devices under simulated climatic conditions such as
  - Temperature,
  - Humidity,
  - Dust etc.
- Testing of device with demographic information capture software in an integrated way
  - Correct configuration settings are being used in demographic information capture software/ device API for data capture
  - Correct software API's are used as mandated
  - Functional testing of the demographic information capture software

# Testing & Certification Framework



# Certification process

- **Provisional Certificate**

Certificate issued after successful completion of functional tests and/or verification of documentary evidence demonstrating compliance of Bio-metric Devices with UIDAI requirements.

Provisional certificate is issued once minimum level of confidence is obtained about the Quality of Biometric Device. This has validity of 6 months.

- **Certificate of Approval**

Certificate issued after successful completion of all the tests in a control laboratory environment demonstrating objectively that all the Quality requirements of UIDAI.

Certificate of Approval is issued once adequate level of confidence is obtained about the Quality of Biometric Device. This has validity of 3 years.

# Requirement for provisional certificate

1. Supply of Biometric Devices (3-Numbers) with UIDAI compliant APIs for testing purpose
2. Biometric Device specifications (UIDAI requirements), Compliance Test Report
3. Certificate for ISO 9001:2008 Certification for Bio-metric Device Development & manufacturing facility (Manufacturer)
4. Certificate for ISO 9001:2008 Certification for Bio-metric Device supplier organisation (supplier)
5. Certificate of incorporation in India (Supplier)
6. FBI Certificate for image quality (for fingerprints scanner)
7. Safety certificate (UL/ANSI RP/IEC60825-1/RoHS)
8. WHQL (Windows Hardware Quality Lab Certificate) for device driver
9. FCC Class A and environmental testing compliance certificate
10. Calibration compliance certificate of bio-metric device
11. Manufacturer authorisation to supplier

# Requirement of certificate of approval

## Biometric Device Testing

The Biometric devices will be subjected to the following test as UIDAI requirements and specifications.

### Hardware

- Physical and Dimensional
- Environmental (Durability/Climatic-Temperature humidity, shock, vibration, dust etc.)
- Safety
- EMI/EMC

### Optics

- Image Quality (Geometric Image Accuracy, MTF, SNR, Gray Scale Range, Gray Scale Linearity, Output Gray Level Uniformity)

### APIs and Software Application

- Functional
- Performance
- Interoperability
- Security

and re-checking documentary evidence of provisional certification

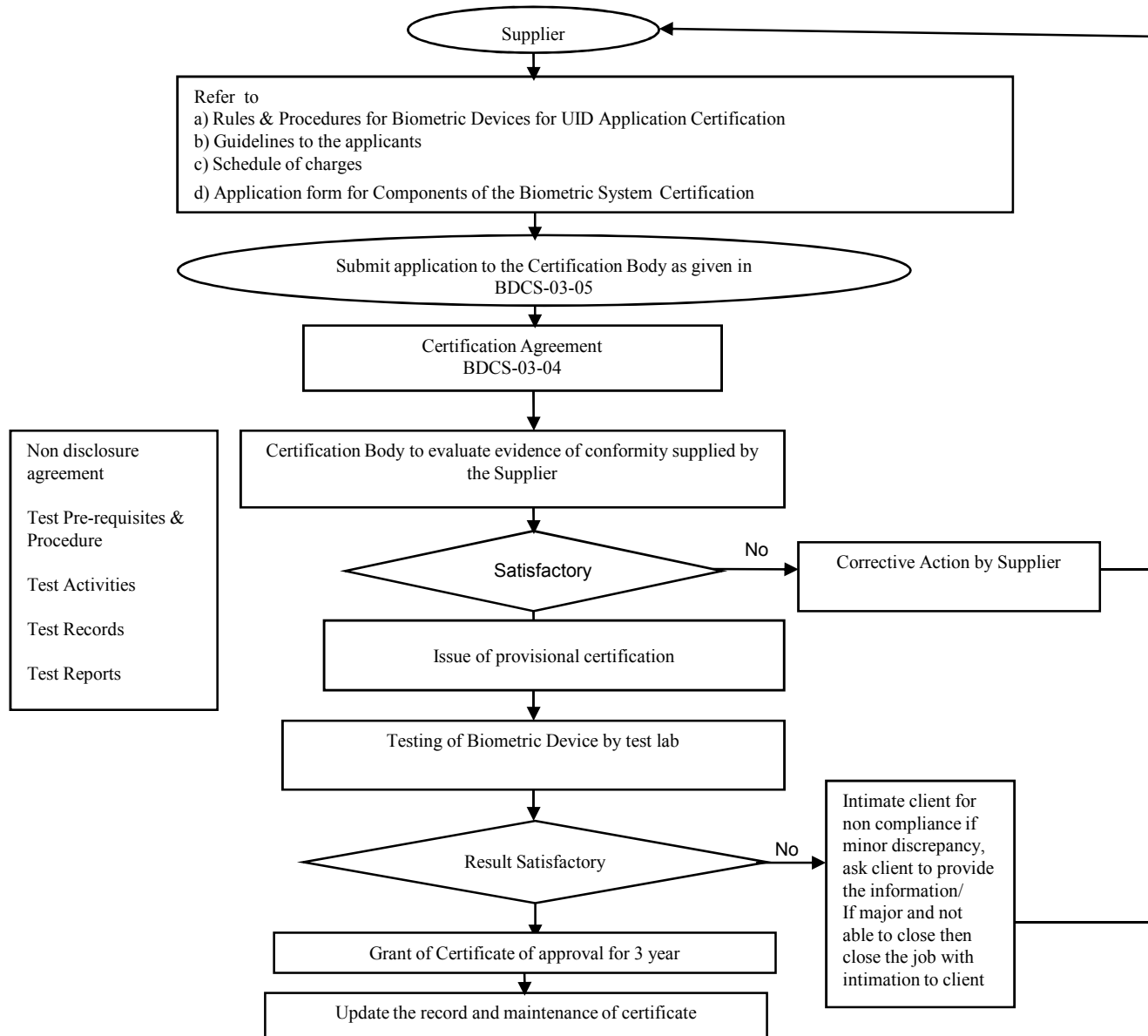
# Scheme Document

## List of Document:

| Sl. No. | Doc. Ref. No.     | Control Document Name                                 |
|---------|-------------------|---|
| 1.      | <i>BDCS-03-01</i> | Rules & Procedures for Biometric Device Certification |
| 2.      | <i>BDCS-03-02</i> | Guidelines to the Biometric Device Vendors            |
| 3.      | <i>BDCS-03-03</i> | Schedule of Charges                                   |
| 4.      | <i>BDCS-03-04</i> | Certification Agreement                               |
| 5.      | <i>BDCS-03-05</i> | Application form for Biometric Device Certification   |
| 6.      | BDCS-03-06        | Provisional Certificate                               |
| 7.      | BDCS-03-07        | Certificate of Approval                               |
| 8.      | BDCS-03-08        | UIDAI Biometric Device Specifications                 |

Available at [www.stqc.nic.in](http://www.stqc.nic.in)

# Certification Process





**BIOMETRIC DEVICE CERTIFICATION FOR UID APPLICATIONS**  
(A Joint Scheme of STQC AND UIDAI)

**PROVISIONAL CERTIFICATE**

Approval Number:

It is hereby certified that the following Biometric Device  
model no.....,  
manufactured by.....,  
manufactured at .....,  
and supplied by.....,  
fulfills the requirements of Biometric Device(s) certification scheme.

This Certificate is valid upto:

Date of Issue:

Authorized Signatory  
(STQC)  
Department of Information Technology  
Ministry of Communications & IT  
Electronics Niketan, 6 CGO Complex, Lodhi Road  
New Delhi-110003

Authorized Signatory  
(UIDAI)  
Unique Identification Authority of India  
3<sup>rd</sup> Floor, Tower-II, Jeevan Bharti Building,  
New Connaught Circus,  
New Delhi-110001



**BIOMETRIC DEVICE CERTIFICATION FOR UID APPLICATIONS**  
(A Joint Scheme of STQC AND UIDAI)

**CERTIFICATE OF APPROVAL**

Approval Number:

It is hereby certified that the following Biometric Device  
model no.....,  
manufactured by.....,  
and manufactured at .....,  
and supplied by.....,

fulfills the requirements of Biometric Device(s) certification scheme.

This Certificate is valid upto:

Date of Issue:

Authorized Signatory  
(STQC)

Department of Information Technology  
Ministry of Communications & IT  
Electronics Niketan, 6 CGO Complex, Lodhi Road  
New Delhi-110003

Authorized Signatory  
(UIDAI)

Unique Identification Authority of India  
3<sup>rd</sup> Floor, Tower-II, Jeevan Bharti Building,  
New Connaught Circus,  
New Delhi-110001

# Test & Certification Charges

- **Application fee Rs. 25,000/-**
- **Testing fee Rs. 6,00,000/-**
- **Evaluation & Certification fee Rs. 1,00,000/-**
- **Additional Certificate Charges Rs.10,000/-** for each additional copy of certificate
- **Surveillance fee Rs. 50,000/-**
- **Annual Charges Rs. 25,000/-**
  - *Note:*
    1. *In case of technical changes to the Biometric Devices/ software /UID Applications, product will be re-tested, evaluated and certified and Supplier has to pay complete charges as described above.*
    2. *After initial testing and subsequent corrective action, only one round of testing will be done and Supplier has to pay complete charges as described above.*

# Contact us

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*Thank You*