

# Sybernautix Biometric Product & Solutions



**SYBERNAUTIX<sup>®</sup>**

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**SyberID**

Identity Authentication

## Why we need Biometric System?



Various terrorist attacks happening across the world there is an ever-increasing demand to increase and boost the security in the aviation industry.

There is a serious consideration to significantly expand the use of cutting-edge, advanced information technologies to help make our society more secure.



Biometric authentication, (for example, finger, facial and Iris recognition), radio-frequency tags and documents scanning technologies are ready now to play key roles in enhancing security.

## Biometric Identity Assurance

Reliable and automatic user authentication is becoming a necessity nowadays. **SyberID** is an answer for user authentication and proactive surveillance. A reliable biometric solution not only achieves the purpose of security but also enhances the efficiency within the organization.

One of the most difficult aspects of selecting a biometric solution is identifying which devices and software technologies are most appropriate and cost-effective for each implementation.

Sybernautix offers the industry's truly comprehensive, end-to-end solution for protecting and securing identities. This encompasses hardware, software, services, tools and applications for the identification of individuals through biometrics (finger, face and iris), enrolment and processing of identity data and authentication of secure identity credentials.

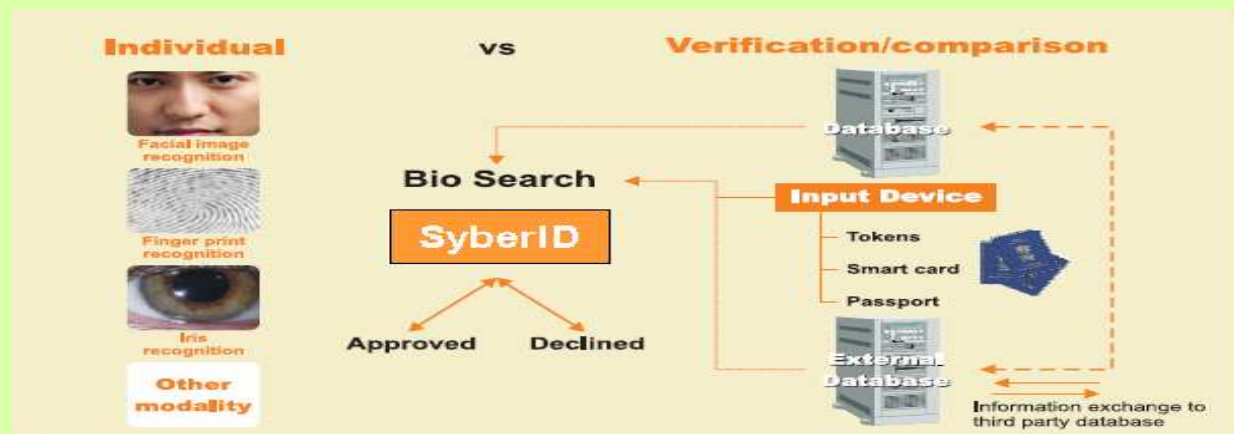


## Multi Biometric Matching Architecture:

**SyberID** is the digital generation solution which takes multi biometric matching to new level of security and sophistication. **SyberID** technology will readily integrate with existing security and other applications.

**SyberID** connects multiple identity types and credentials - such as smart cards, biometrics, RFIDs, tokens, passports and ID Cards - with legacy and custom applications, enabling individuals to assert their identity to multiple systems and applications.

**SyberID** provides a fast flexible and cost-effective way to implement identity –based solutions that meets the customer demand of biometric identification, verification and authorization schemes in a highly scalable and modular deployment.

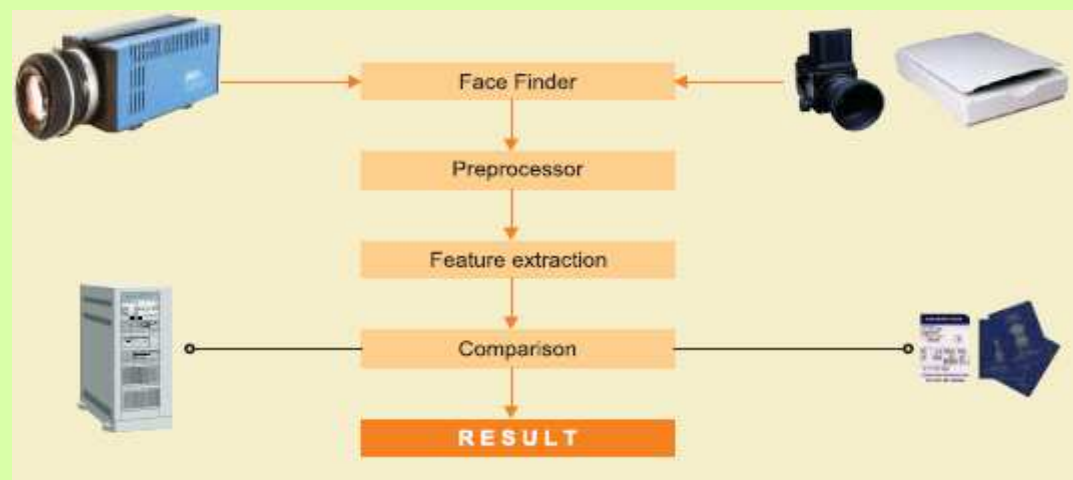


# Facial Recognition

The face is an important aspect of human behaviour, whilst also being a basic instrument of social interaction.

**SyberFaceID** is a "face detection / matching engine" using face-recognition technology for identifying individuals, and can be effectively applied in a variety of systems. It detects face images that are captured with cameras and other devices, and matches them against pre-registered face data.

Biometric facial recognition systems such as **SyberFaceID** will increase in significance because they facilitate touch-free processes without the need for contact or interaction with the person being identified.



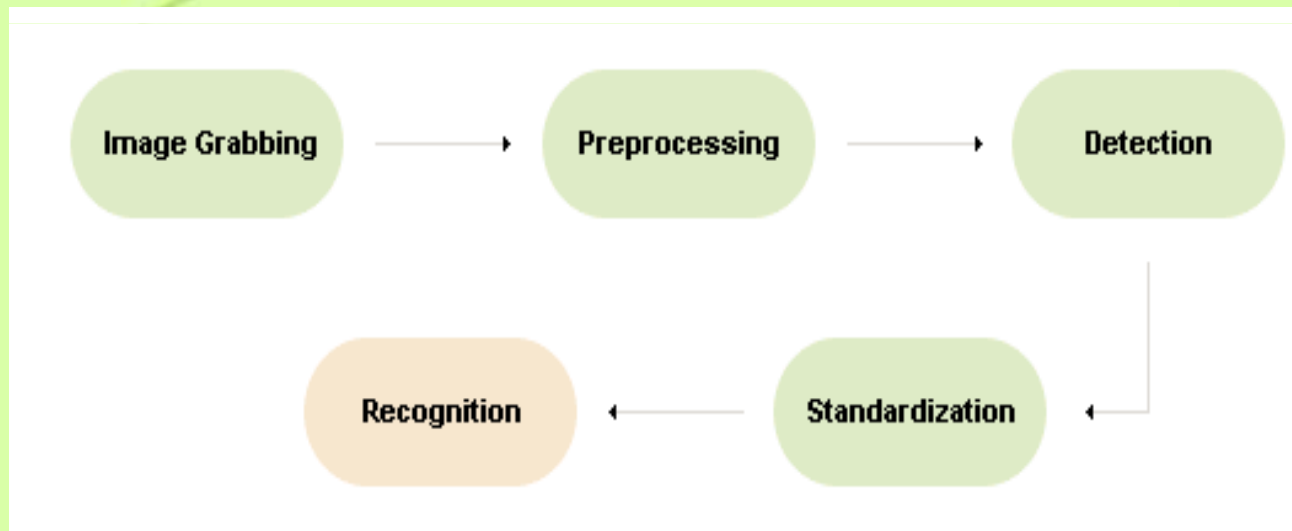
## Face Recognition System Composition

- ❑ **SyberFaceID** is a multi matching facial recognition system which works using a combination of eye zone extraction and facial recognition techniques, providing users with a short processing time and high detection rate.
- ❑ **SyberFaceID** supports various graphics and video formats - as well as live camera feeds - with the images being capable of being compared in either a 1:n search/match or a 1:1 match.
- ❑ Face geometry reconstructed in sub-millimeters (real ground-based measurement capturing x-y-z axes)
- ❑ Facial feature extraction based on underlying cranial structure (unique & unchanging over time)
- ❑ Real-time face analysis, feature extraction & matching –identification in under 1/10 second
- ❑ Identification and authentication based on individual facial features regardless of vantage point and facial changes (glasses, beard, expression)

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SYBERNAUTIX



# Finger Recognition

**SyberDigiID** solutions are state-of-the-art fingerprint biometric technologies for verification and identification of individuals.

**SyberDigiID** Fingerprint Identification technology is a computerized solution that captures, compares, matches, identifies, verifies and stores digitized fingerprint images, with advanced one-to-many matching algorithm.

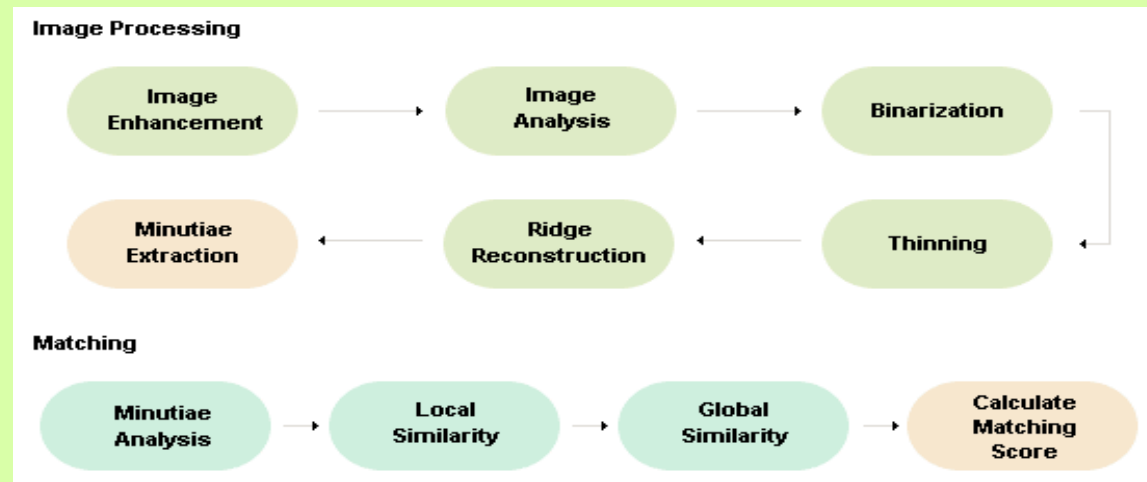
For enterprises that need to positively identify employees, members or customers, biometric finger recognition systems such as **SyberDigiID** is a turnkey hardware and software solution that provides quick and reliable positive identification.



# Fingerprint Recognition Algorithm

To verify the identity of a user by automatically extracting minutiae from his or her fingerprint image, a fingerprint recognition algorithm is required.

**SyberDigiID** fingerprint recognition algorithm is composed of two main technologies: *image processing* technology that captures the characteristics of the corresponding fingerprint by having the image under- going several stages, and *matching algorithm* technology that authenticates the identity by comparing feature data comprised of minutiae with templates in a database.

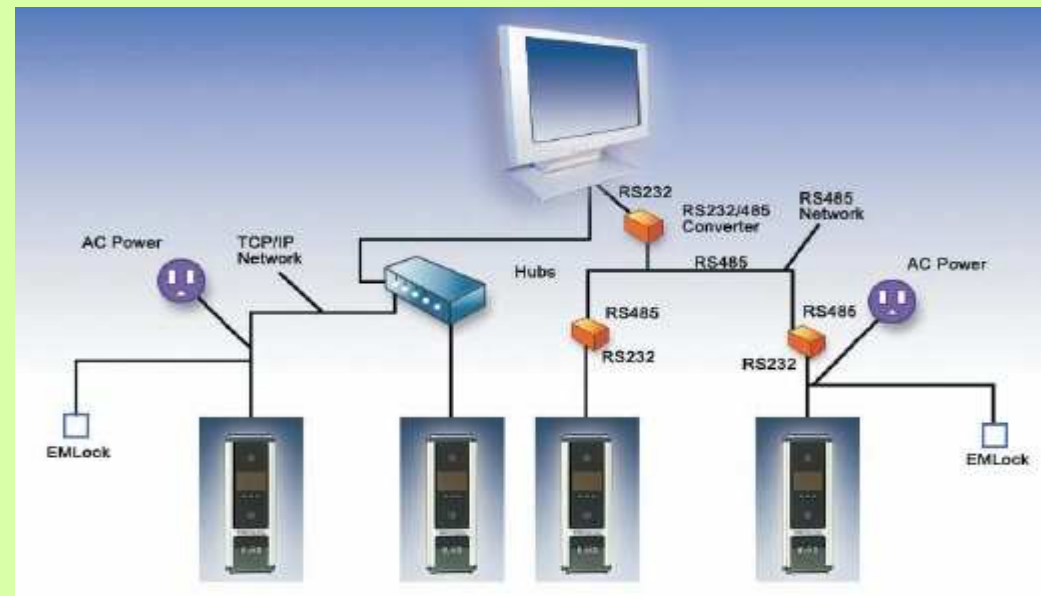
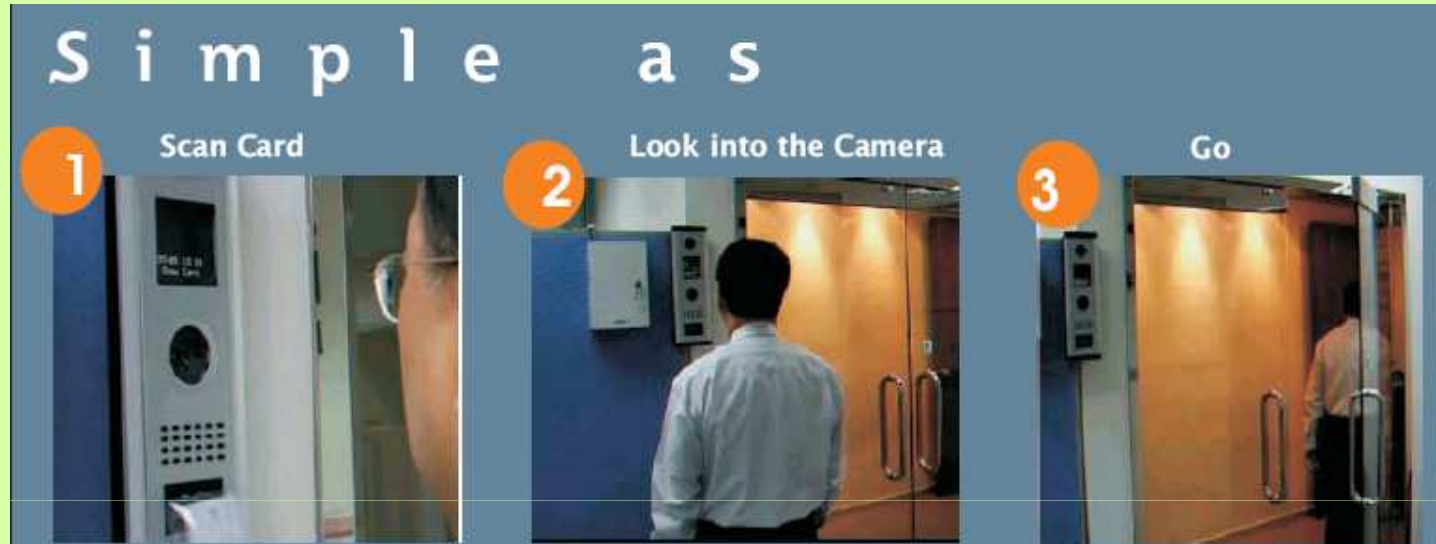


## **SyberFaceID-Sentry : Facial Access System**

End-to-end Face recognition solution: High security with high user convenience

- One-to-many matching algorithm: database matching between live images and database images
- Protect the premises on tracking the movement of all entrants with real time surveillance and time log
- Contactless avoiding any human interruption
- Automatic entry / exit date and time recording
- Easy tracking of the physical movement of staff and visitors
- Management reporting & Statistics
- Ability to integrate - Visitor Management, Time & Attendance, Video surveillance and Security Guard Management
- Seamless integration with back-end application
- Recognition time of less than a second

# System Configuration



# Technical Specifications

## Device Operation

- Embedded device; minimal device management required
- User friendly web interface for administration
- XML based API for remote control
- Biometric Performance: for typical indoor environments:
  - o False Rejection Rate: 2%
  - o False Acceptance Rate: 1%

## Wall Mount Unit

- Dimension: 400mm x 135mm x 55mm
- Display: 3.5" TFT 262K colour LCD
- Camera Sensor type: 1/4" CCD
- Camera Resolution: 320\*240 pixel
- Power: through Controller Unit
- Valid range of Applicants' Height: 1.45m to 1.95m
- Bottom line to ground 1.3m

## Device Capacity

- 500 user / enroller
- 99 user groups / profiles
- 17,000 transaction records
- Mifare Card reader
- Verification time: Typically less than 1 second
- Maximum verification time: 6 seconds (time out)

## Controller Unit

- Power:
  - o Input 100-120VAC 2.8A / 200-240VAC 1.6A
  - o Output+5V 12A+12V 5A
- Interfaces:
  - o Network Interface: Ethernet (100BaseT)
  - o Optional USB
  - o Optional RS458
- Siren out (optional)
- Door contact in (optional)

## **SyberDigilD-Sentry : Fingerprint Access System**

- Physical Access Control and Time Attendance
- Verification mode (1:1 match – PIN based) and Identification mode (1:N search on the database of enrolled users)
- Users can be enrolled locally or from a remote computer
- User verification takes about 0.8 seconds
- Fingerprint templates can be stored on the cards (in encrypted form)
- User groups / department management
- Time based Access Profiles on user groups
- Transaction logging and access through Web browser
- Master / chain to synchronize multiple devices
- Secured encryption with state-of-the-art algorithms and dynamic keys (128 bits)

# Technical Specifications



## Fingerprint sensor

- Optical, high resolution (569 dpi)
- Wide acquisition area (25x13.2 mm<sup>2</sup>)

## Microprocessor & Memory

- RISC 32-bit, 200 MHz, ARM9
- 32 MB RAM

## Keyboard & Display

- Ergonomic keyboard (14 buttons)
- Large back-lighted display (20x4)

## Storage

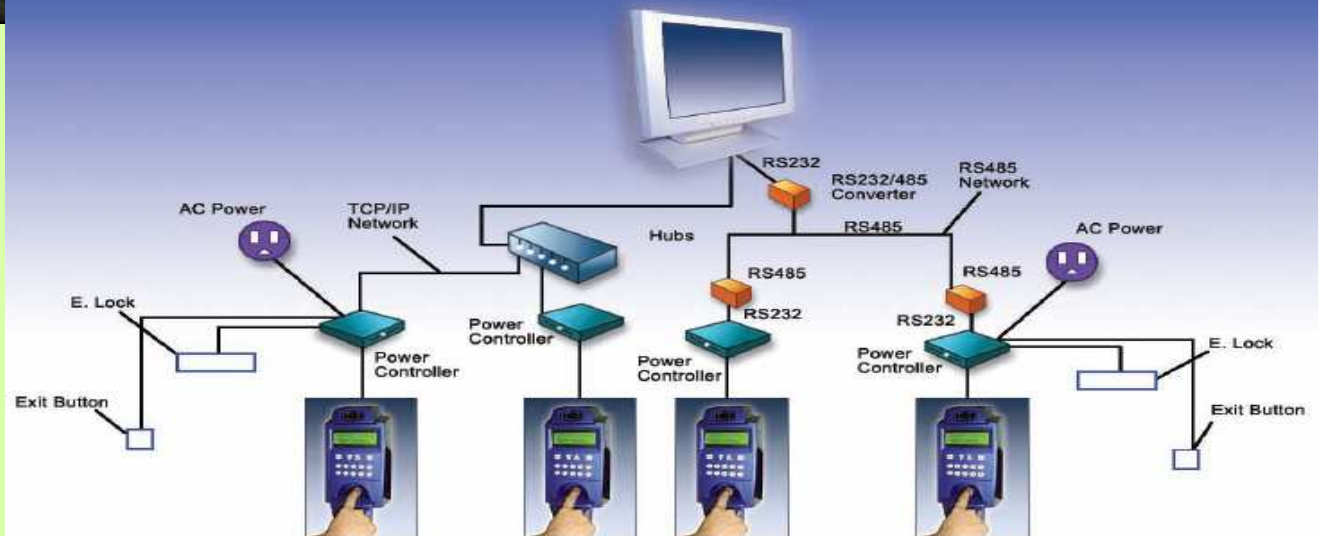
- Min 8 MB Flash (1500 users)
- Max 48 MB Flash (10000 users)

## Networking

- RS 485 / RS 232
- Ethernet (TCP/IP)

## Options

- Relays board, Digital camera
- Microphone, Speaker
- Smart Card/Proximity reader



## **SyberID-Smart : Identity Management**

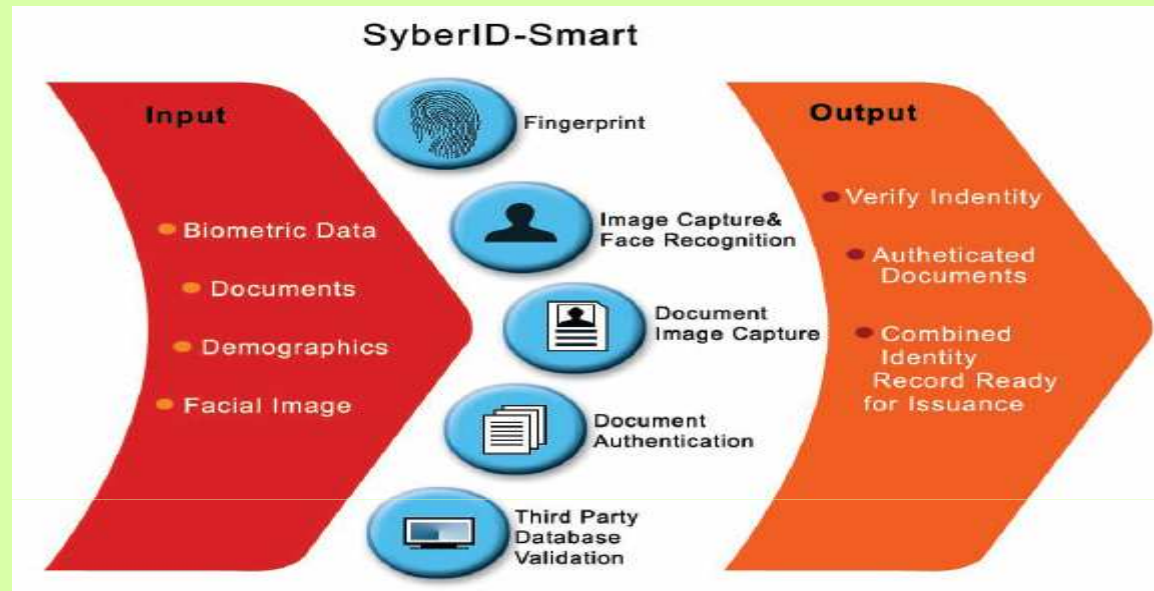
Sybernautix solutions provides an end-to-end solution for civil identity credentials, including proofing of an applicant's claimed identity, enrollment of data including biometrics, issuance of secure ID cards, and monitoring of the usage of these credentials to uncover cases of suspected identity theft and fraud.

Sybernautix's identity management platform such as SyberID-Smart enables Governments to deliver improved public safety through highly secure, tamper-resistant, and counterfeit-resistant ID documents utilizing biometrics. Our ability to work with a variety of card types and printers means customized solutions for you.

### **Critical Requirements for Next Generation Identity Documents**

- Accurate Identification** – guaranteed, reliable, non-reputable
- Unbreakable Security** – ‘end-to-end’ scheme security and encryption
- Flexibility and Adaptability** – a single, reusable investment
- Quality of Service** – always available, anytime, anywhere
- Minimum Costs** – with maximum benefits
- Applications** : Drivers' Licenses, National ID Cards, Passport, Visas, Government Benefit Cards, Health Cards and Civil Id's

# Technical Specifications



## Smart card processor chip:

- ✓ RSA & DES encryption
- ✓ Private key and public key
- ✓ Challenge response
- ✓ Additional database matching

## Biometrics:

- ✓ Encrypted biometric data (fingerprint, face)
- ✓ Live biometric identification and verification

## Secure printing:

- ✓ Micro printing
- ✓ UV printing
- ✓ Hologram

## Database support: Oracle and SQL

- ✓ Security encryption: DES/3DES can be used between host / reader and reader / transponder

**SyberID**

Identity Authentication

## SyberID-SignOn : Safe Sign-on Solution

Sybernautix offers a highly secure biometric access control system designed to protect confidential data and the information assets of an organization or government department. The solution is found in part through the SyberDigilD-Scan fingerprint reader which allows for a strong biometric enrolment and authentication process.

In addition to heightening the security of the system, Sybernautix's solution also greatly simplifies the process for any user of the solution. Every user is issued a forgery-proof, encrypted smart card with electronic authorization certificates protected by biometrics. Instead of a conventional PIN, the smart card contains the user's fingerprint, which he uses to authenticate himself to the system. Only then does Safe Sign-On biometric system release the certificate on the smart card – giving your employee access to the corporate network, IT applications, etc.

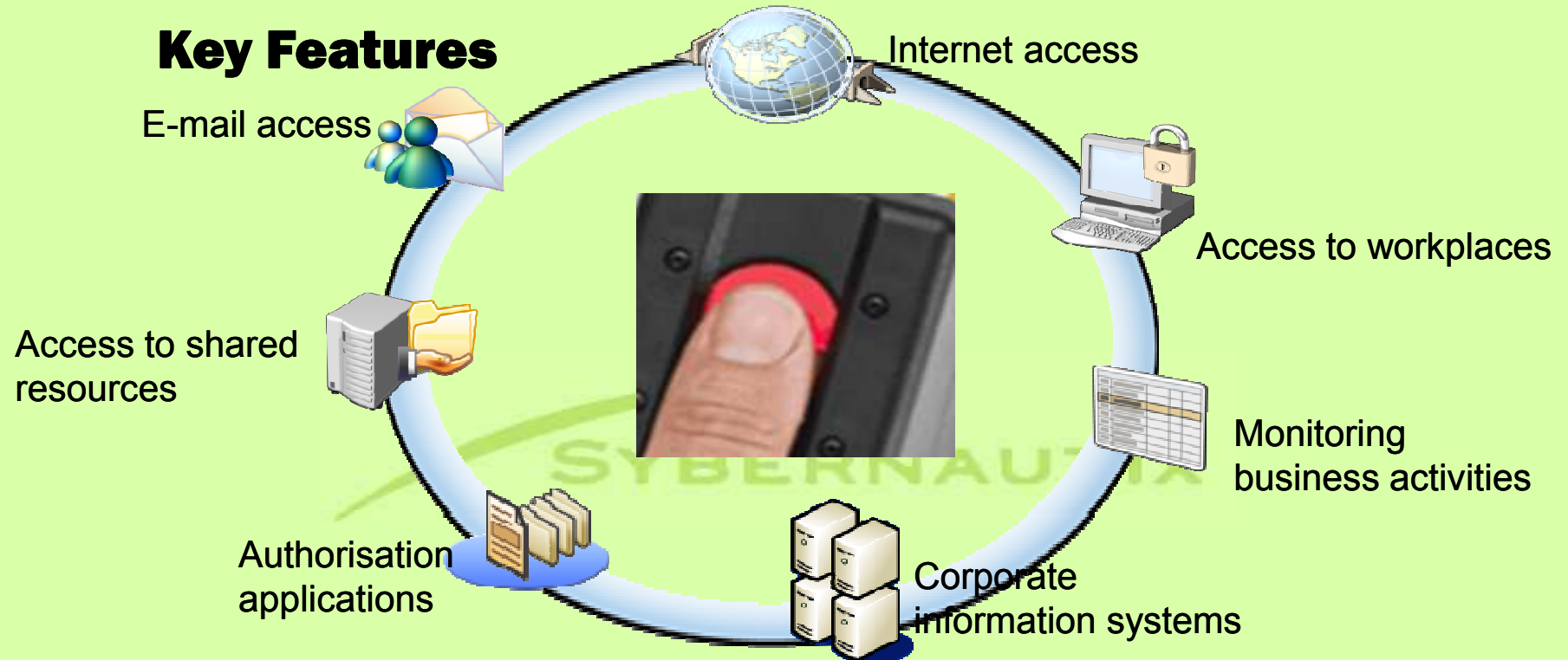


SyberID-SignOn is a Biometric Single Sign-On Solution allowing people to access every application in a very secure and user-friendly way, with fingerprints instead of passwords.

The solution suits all types of applications:

- Healthcare
- Government
- Network Enterprise Security
- Financial (Banking, Insurance)

## Key Features

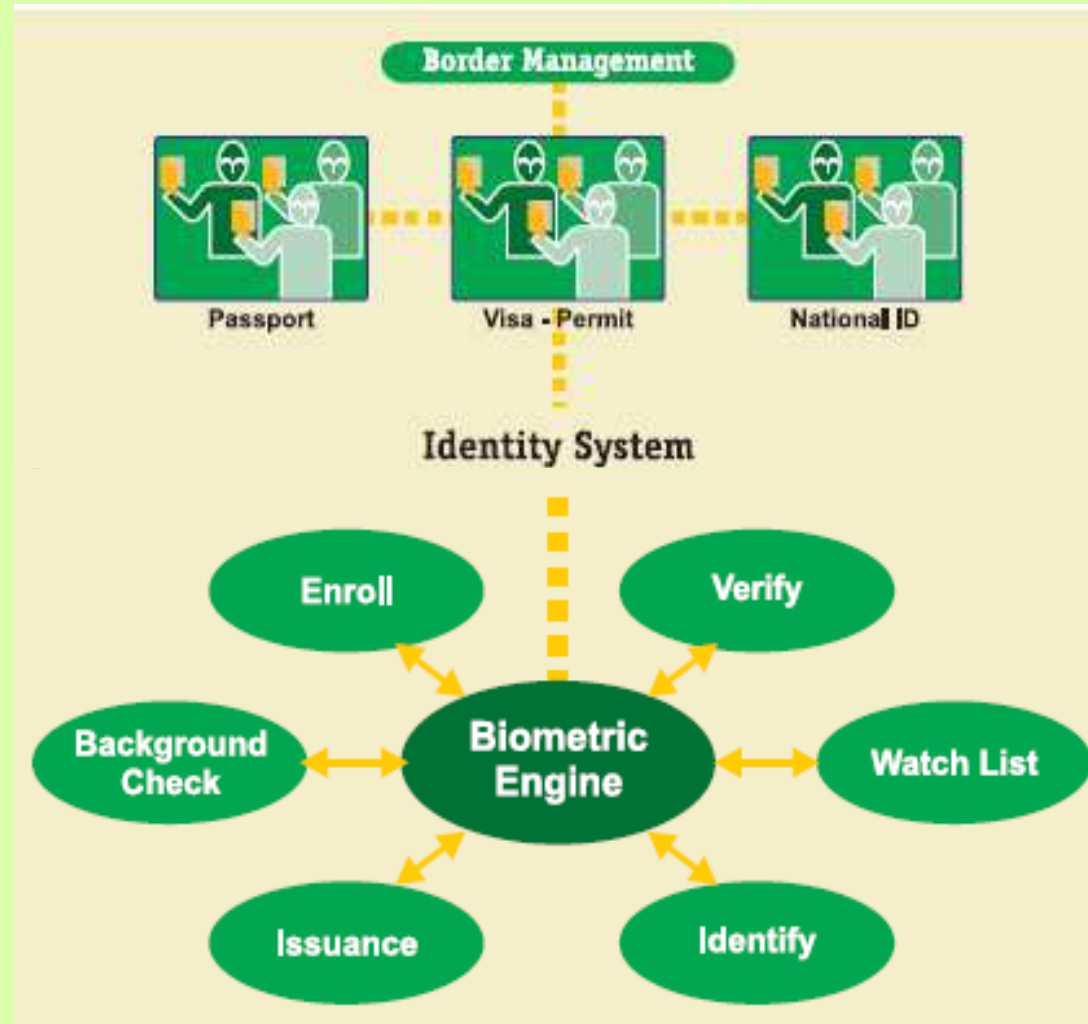


- ❑ User Friendliness: The password or PIN is replaced by the fingerprint
- ❑ Increased Security: Impossible to recreate a fingerprint from its recorded reference
- ❑ Rapid User Authentication: Less than a second
- ❑ Fast Implementation: Seamless and easy installation and enrollment
- ❑ Quick ROI: Lowers password management related costs considerably!
- ❑ Tracability: A list of all the access, authentications and attempts for authentication can be obtained
- ❑ Supported Platforms: Windows XP / 2000, Web & Windows 2003 Server
- ❑ Verification Time: Less than 1 second
- ❑ False Acceptance Rate (FAR): 1/100 000 (0.001%)
- ❑ Processing: Server Based / Client Based
- ❑ Fingerprint Storage: On Server / Match on Card
- ❑ Optical Resolution: 569 DPI
- ❑ Encryption: 128 bit

## **Border Control & Airport Management**

- Easy tracking of the staff and travellers: automatically detects and captures the facial images without any human interruption
- User-friendly and intuitive identity check process
- Easy integration into existing border control infrastructure (gates, check-in, immigration, clearing systems etc.)
- Supports multiple identity credentials such as passports, visas, smartcards, RFIDs, identity cards etc. and multiple biometrics (face, finger, iris)
- Optimize the usage of watch list and VIP list: one-to-many matching algorithm: database matching between live images and database images
- Supports encryption of data for privacy reasons
- Streamline operation procedures and minimize manual operations
- Integrates seamlessly with multiple applications and systems supported at border entry and exit points

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## SyberID-Alert : Video Surveillance System

There is a fast growing demand from government, law enforcement, and industry customers for biometric solutions to identify persons from video cameras.

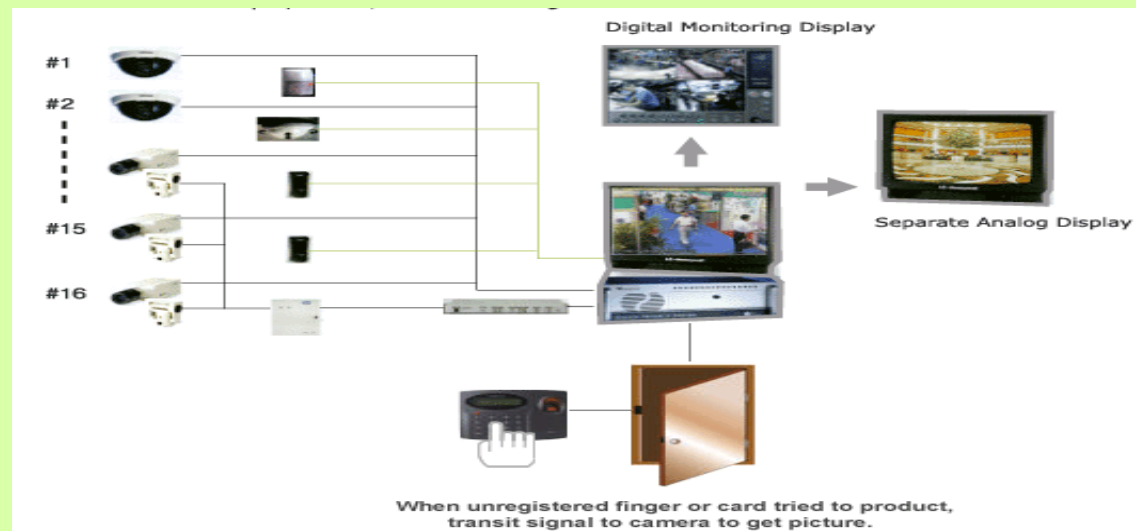
**SyberID-Alert** automatically scans incoming video streams, detects multiple faces and checks if the found faces match a watch list of persons; in case of a match, operators are notified - all in real time. The operators can now focus on the identified person instead of observing a large number of video screens simultaneously.

It is a highly secured and reliable video monitoring system, which is suitable for the high traffic circulation because the entire process takes few seconds without any human interruption by flexibly integrated into for easy identification.

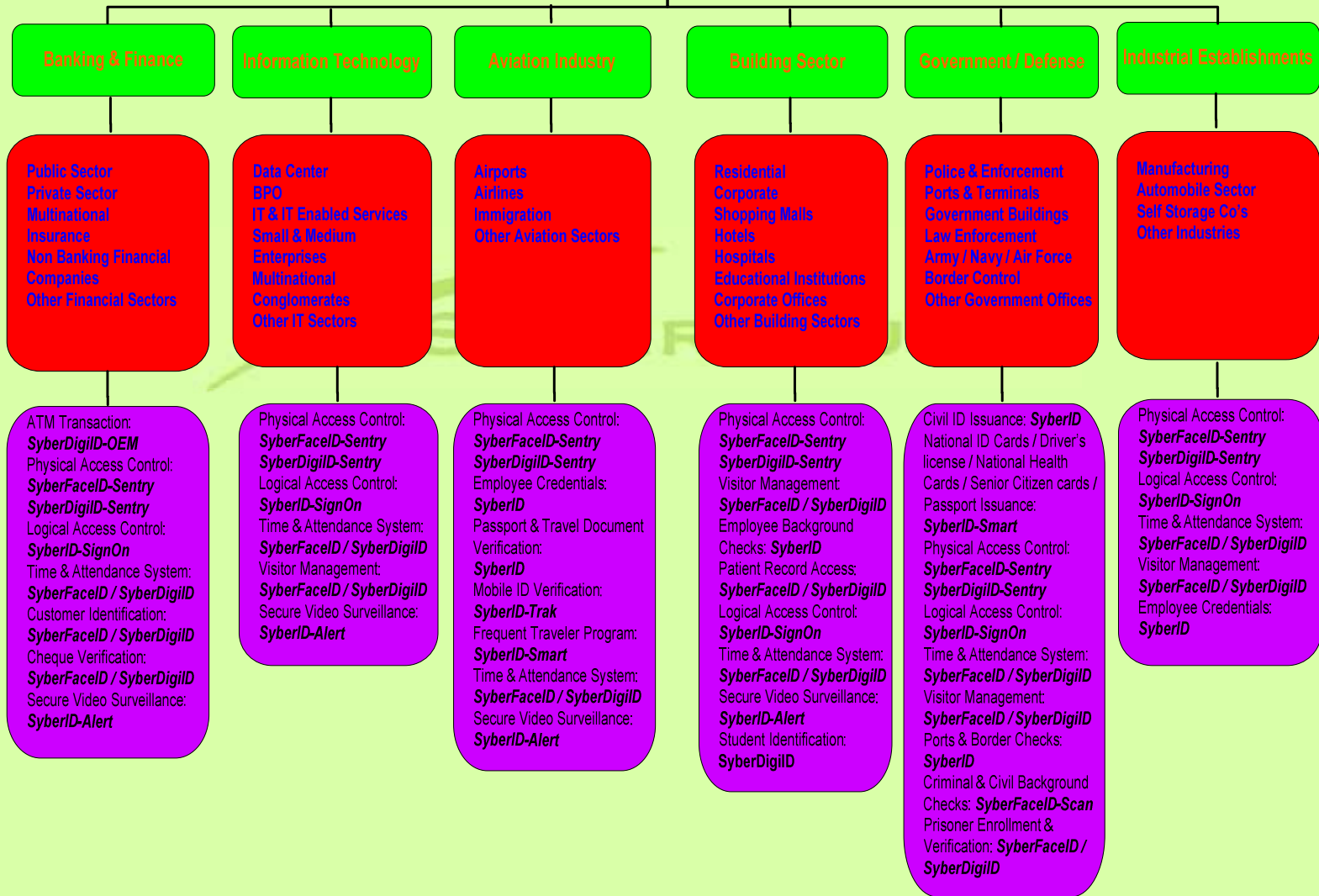


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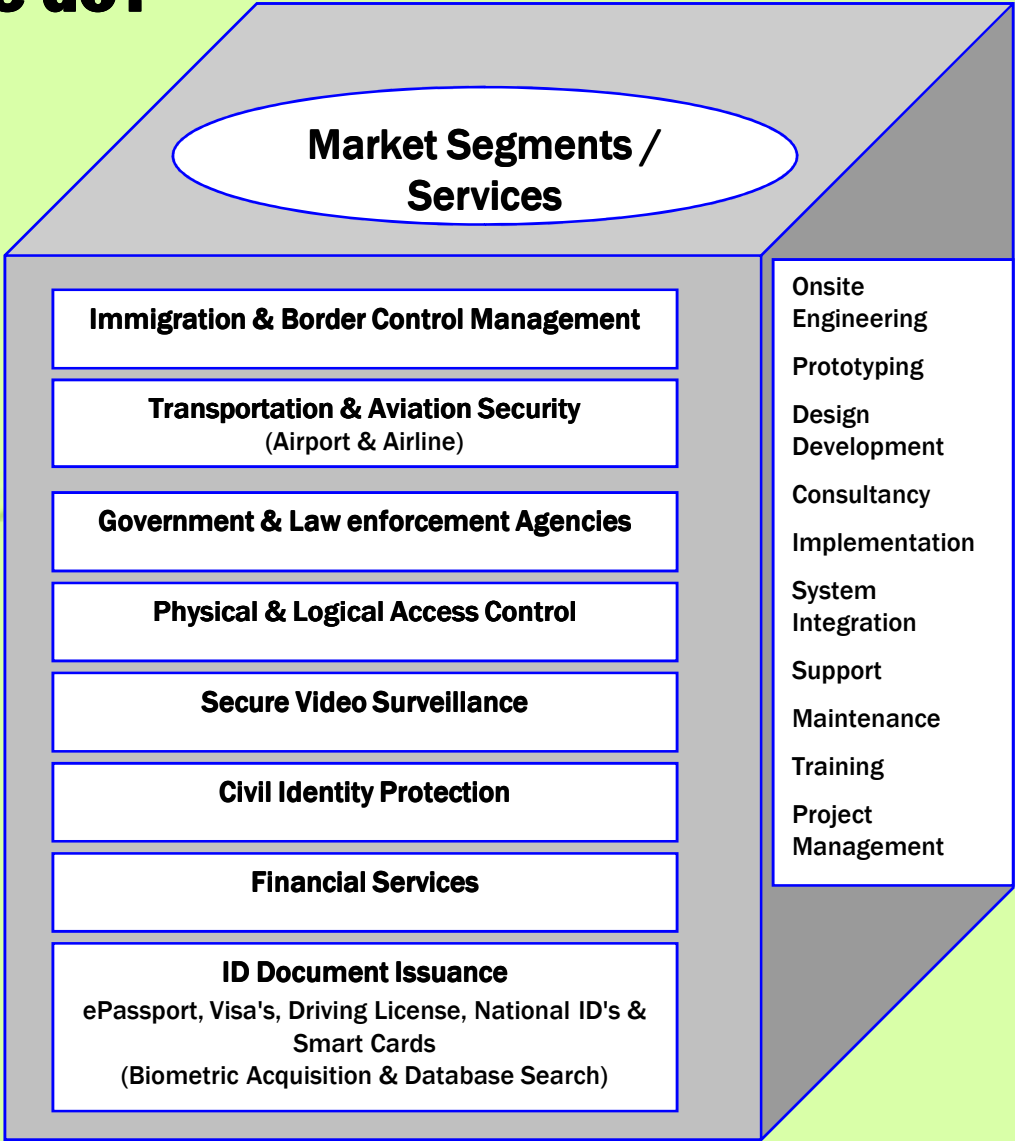
- ❑ Real time multiple video stream analysis and Reconcile the evidence with the facts
- ❑ One-to-many matching algorithm: database matching between live images, video images and database images
- ❑ Real time face comparison against watch list and alarm notification & recording
- ❑ Enrollment from still image, still image camera and live video stream
- ❑ High scalability in terms of watch list size, number of video streams, and number of visible faces



# Sybernautix Biometric Solutions



# What we do?



.... Make sure you are on the safe side !



For further information on our services, please contact us:

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**SyberID**  
Identity Authentication

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