



X Infotech Government

Software solutions
for identity documents



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Group of Companies

WWW.X-INFOTECH.COM

Complete lifecycle of identity documents



PRE-ENROLMENT

an individual applies for an identity document, sets an appointment and pays for the inquiry



ENROLMENT

a state unit branch collects personal data (including biometrics)



DATA PROCESSING

the state organization carries out personal data verification, de-duplication check and ICAO data preparation



PERSONALIZATION

the identity document is linked to the applicant's profile, designed and printed



ISSUANCE

the state organization issues and delivers the identity document to the applicant



POST ISSUANCE

the state organization provides post-issuance services for identity document use, support and renewal

Our Products

Citizen Identity

- Biometric Enrolment
- Identity Management
- AFIS/ABIS
- Biometric Verification

Document Personalization

- ICAO Data Preparation
- Key Management System
- Chip Encoding
- Secure PIN Manager
- Production Management
- Instant Issuing
- Stock Management

Process Management

- Case Management
- Document Lifecycle Management
- Quality Assurance
- Document Verification
- Document Issuance

PKI

- Country Signing Certification Authority (CSCA)
- Document Signer (DS)
- Country Verifying Certification Authority (CVCA)
- Document Verifier (DV)
- Terminal Control Center (TCC)
- Single Point of Contact (SPOC)
- National Public Key Directory (NPKD)

Digital ID platform

- Digital ID
- Digital Onboarding
- Secure Mobile-ID

Solutions Benefits

- Flexible
- Easy to integrate and modify
- Vendor independent
- Possible to extend functionality
- Secure and industry-proven

Our Customers

Governmental organizations responsible for identity management and issuance of

- ePassports and eID cards
- Social cards
- Health cards
- Driver's licenses

Citizen Identity

Enrolment

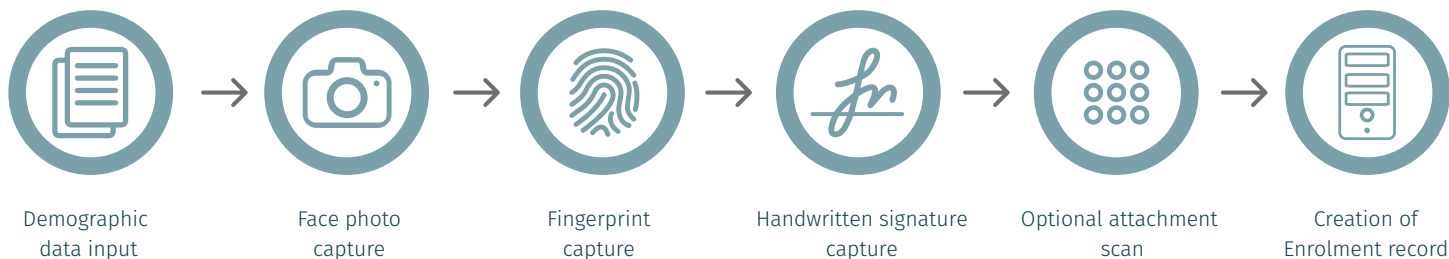
X Infotech Enrolment is a software solution for capturing personal data – both demographic and biometric data (fingerprints, facial image, and handwritten signature). The comprehensive solution supports all aspects of desktop and mobile workstations for enrolment at central and remote locations. Prior to the enrolment stage, the easy-to-use system can be integrated with self-service portals for an electronic identity document application.

The efficiency of a biometric system entirely depends on the quality of biometric data, X Infotech offers an integrated quality control component to capture high-quality biometric data in line with the industry standards and the best practices.

Features

- Scalable enrolment to adjust the type of data captured and ensure compatibility with different AFIS/ABIS.
- Effective process control to lower the risk of human error (automated quality validation).
- Highly secured environment with access control, data encryption and communication via secured communication channels.
- Flexible integration with a central database for customized data synchronization, validation and export.
- Vendor independent platform to give greater flexibility in the selection of hardware.

Standard Enrolment Process



Identity Management

X Infotech Identity Management handles customer identity management based on biometric data. The comprehensive solution consists of a biometric registry, a verification service to perform biometric verification 1:1 or 1:F as well as a capability to integrate with different biometric search engines AFIS/ABIS systems.

The Identity Management solution provides a graphical user interface (GUI) for identity managers who control and resolve identity conflicts (e.g. duplicated records, people with similar biometric data etc.).

Features

- Flexible and configurable interface for identity management.
- Integrated data storage for various biometric modalities (e.g. face, fingerprint, iris etc.).
- Additional level of security against illegal access to sensitive data.
- Unlimited expansion possibilities to address evolving client.
- Vendor independent platform to give greater flexibility and deploy different biometric search engines in a single solution.

Citizen Identity

AFIS / ABIS

X Infotech AFIS/ABIS is a biometric authentication solution which provides fast and precise identity checks on large scale biometric databases.

The ready-to-use software solution provides effective means for identity verification and de-duplication control. It can process, search, store and retrieve biometric templates and records in real time.

X Infotech ABIS is an extension of the Identity Management solution.

Features

- Supports multiple biometric modalities - fingerprints, face image, iris.
- High accuracy of matching algorithms ensured in a number of international projects.
- Scalable architecture to increase matching speed (up to 100 000 000 fingerprints per second on server).

Biometric Verification

X Infotech Biometric Verification is a software platform that validates the identity of a client based on biometrics such as fingerprints, face recognition and dynamic signatures. Access rights to electronic identity documents are manually granted by an operator or processed through an application.

The vendor-independent solution permits clients to deploy any technology or product for operator workplaces, mobile workstations or mobile devices.

X Infotech Biometric Verification is integrated with the Identity Management solution that serves as a centralised biometric data storage facility and processes all verification requests.

Features

- Flexible deployment to support verification of multiple biometric modalities.
- Scalable solution to adjust necessary data fields (personal data - ID number, document number etc.).
- Face liveness detection feature to ensure that the user is a real person.
- Additional level of security against illegal access to sensitive data.
- Compliance with legal requirements, industry practices and recommendations.

Deployment Scenarios



Mobile App
for Android OS



Stand-alone application
for Windows OS



WCF Service
for external
applications

Document Personalization

ICAO Data Preparation

X Infotech ICAO Data Preparation performs data preparation for all types of electronic identity documents.

Prior to document personalization, the ICAO Data Preparation receives applications and profile data, keys and certificates from multiple sources. Thereafter, data is checked and prepared according to a defined setup.

Batch Processing

Data input and encoding separated by steps
User case: high-end personalization machines and multiple personalization bureaus

Single Step

Data preparation and chip encoding in a single step
User case: various personalization machines (desktop, mid-range and high-volume)

Key Management System

X Infotech Key Management System provides all the necessary functionality for secure generation, handling and transportation of chip personalization keys and certificates. The system manages highly sensitive objectives, in compliance with strict security standards.

All cryptographic calculations are performed by dedicated crypto-processors built in a certified HSM appliance.

Chip Encoding

X Infotech Chip Encoding receives input data from the Data Preparation solution and virtually carries out chip encoding according to an electronic identity document's profile and following the dedicated scripts.

The solution is based on an open architecture, supporting any chip and personalization equipment. X Infotech Chip Encoding enables chip personalization to be performed simultaneously on multiple small or large-volume personalization machines.

Features

- Fully automated data preparation solution to enable fast and easy electronic identity document production.
- Flexible functionality to adapt and configure the solution according to customer-specific requirements.
- Compatibility with third parties to permit seamless integration with an existing environment and personalization system.
- User friendly interface to provide effective management of multiple electronic identity documents or personalization profiles.



Features

- Secure system to support centralized and highly secure management of cryptographic keys.
- Intuitive user interface to permit easy configuration, management and auditing.
- Deployment of Hardware Security Modules (HSMs) to protect sensitive objects and minimize any information loss or breach.
- Open standard architecture to enable and facilitate vendor interoperability.

Features

- Flexible infrastructure for easy system integration and configuration.
- Compatibility with third party vendors to support integration with an existing document production platform.
- Extensive facilities to encode contact and contactless chips for any type of electronic identity documents.
- Deployment of transparent inline quality control.

Document Personalization

Secure Pin Manager

X Infotech Secure PIN Manager is an all-in-one solution for PIN generation, secure printing of PIN envelopes and PIN Tabs as well as different modes for PIN distribution. The flexible infrastructure permits PIN distribution and synchronization between multiple systems. The PIN management solution implements strict access control and secured communication channels for data transmission.

Features

- Secure system to provide multiple PIN and PUK value generation.
- Flexible choice for PIN printing: remote or on-site facility.
- PIN block generation and encryption, supporting the best known PIN block formats.
- Compatibility with third party vendors to support different data preparation solutions.



Remote printing

secret codes are generated in the head office, transferred to a remote branch/processing centre for PIN envelope printing.

Local PIN printing

secret codes are generated on a local HSM for immediate printing.

Production Management

X Infotech Production Management enables governments to manage the complete production process of electronic identity documents.

The modular system offers advanced monitoring and workflow management features, supporting the entire production lifecycle - data retrieval, data preparation, quality control, stock management and distribution management. The open and module architecture permits clients to extend and configure production flow according to their specific project needs and requirements from third party systems and hardware vendors.

Features

- Complete production management of electronic identity documents - from data import to stock management and reporting.
- Production monitoring in order to control the distribution of requests to personalization machines.
- Superior quality control for validating graphical (images, barcodes, MRZ, etc.) and electrical personalization (in line with ICAO specifications).
- Support for mag-stripe, contact and contactless chips, third-party equipment and systems.

Stock Management

X Infotech Stock Management provides complete tracking of blank, printed and damaged Passports, Driver Licenses, ID cards and other travel documents. The software solution is integrated with the Production Management and Instant Issuing solutions, providing numerous event registration facilities.

The system keeps a complete history of each movement between stock locations. The easy to use client interface provides the functionality to import or manually input products, customize the system, and manage customers and stock locations in compliance with strict regulations.

Features

- Flexible configuration for stock, workflow and products via graphical user interface, without programming.
- Document production tracking in real time by product type, customer, serial number, stock location, date or any custom product attribute.
- Complete stock tracking down to actual location and status of an individual document.
- Complete document movement audit log.

Instant Issuing

X Infotech Instant Issuing is a comprehensive solution that permits government to offer on-site issuance of electronic identity documents.

The Instant Issuing solution consists of several X Infotech components, including data preparation, document personalization, cryptographic processing and chip encoding. The user-friendly interface permits operators to design and produce fully operable electronic identity documents within a few minutes, delivering maximum convenience and benefits for citizens.

Features

- Support for contact or contactless chips, various document/card types and applications.
- Flexible architecture for easy integration within an existing infrastructure and third party hardware.
- High level of security - centralized management of cryptographic keys.
- Advanced Monitoring to generate reports at every step of the personalization process.

Process Management

Case Management

X Infotech Case Management is a centralized solution for data and application management. The functionality of the software solution includes data collection, validation, and verification in different systems as well as data delivery to a personalization centre for electronic identity document production and issuance.

The Case Management solution stores a person's application with personal details, biometric enrolment records, electronic identity document status and other attachments received during the application process. The operator can search, view and report on applications and issued electronic identity documents via web.

Features

- Flexibility to support unlimited number of enrolment record types.
- Customizable application workflow and Web interface for demographic data collection.
- On-line and off-line mode for the delivery of application and enrolment data.
- Automated data verification and validation with third party systems (Blacklists, AFIS, Personalization system, National Register, etc.).

Document Lifecycle Management

X Infotech Document Lifecycle Management handles the entire lifecycle of e-ID documents, starting from data preparation and application personalization to post-issuance activities - issuing, re-issuing, blocking and unblocking PINs and final revocation of electronic identity documents.

The open and modular architecture gives clients unlimited flexibility to support present and future requirements – new extensions and integration with third-party solutions.

Features

- Complete document lifecycle management from the application stage to post-issuance activities.
- Multiple security mechanisms to control access rights, including 4-eye principle.
- Ability to interact via multiple communications channels.

Process Management

Quality Assurance

X Infotech Quality Assurance is a quality control module for validating electronic identity documents. X Infotech solution ensures a visual scan of a document/smart card as well as reads data on the chip.

The vendor independent solution permits integration into third party production management platforms and various document readers.

Features

- Fast validation and data checks for produced smart cards and e-ID documents.
- Flexible integration with the Production Management System and Public Key Infrastructure (DVCA, CSCA etc.).
- Hardware independent solution to support easy integration with various document readers.
- International standard-compliant module to establish an easy interface with external systems.

E-document Verification

X Infotech eDocument Verification is a mobile application for reading and verifying embedded RFID chip data on driver's licenses, passports, eID and other ICAO 9303 compliant identity documents.

This portable solution permits police, immigration officers and civil servants to conduct document checks at any time and place. It verifies data authenticity and the identity of a document holder, comparing the photo and fingerprints.

Features

- Improved verification of ICAO 9303 compliant documents: ePassports, eID, Driver licenses.
- Support for various data access control methods (BAC, SAC, EAC).
- Reading of an MRZ zone for Machine Readable Travel Documents.

Deployment Scenario – NFC enabled devices

- Smartphones
- Tablets

Integration with External Systems

- System for driver violation records
- Terminal control centre
- Border control system

Document Issuance

X Infotech Document Issuance is a software solution for biometric verification against the data stored on an e-ID document. This solution supports any document reader or biometric capture device, enabling flexible integration with the core business system for data retrieval and document activation.

X Infotech Document Issuance guarantees easy integration with X Infotech or third party Public Key Infrastructure (PKI) for document verification and access control (BAC, EAC, and SAC).

Features

- Easy integration with PKI infrastructure (CVCA, Document verifier) and an existing business system.
- Compliance with ICAO document access control standards (BAC, SAC, EAC).
- Vendor independent solution for deploying different document readers and biometric capture devices.

PKI

Country Signing Certification Authority (CSCA)

X Infotech CSCA is a PKI solution that issues public key certificates for one or more Document Signers and optionally for other entities such as Master List Signers. The CSCA stores private keys in a HSM cryptographic device and operates in an offline environment highly protected from any outside or unauthorized access.

Features

- CSCA certificates and key profiles are compliant to ICAO 9303 specification.
- Key Pair generation and protection by HSM cryptographic devices.
- Graphical User Interface for configuration, management and auditing.
- Supports multiple CSCA dedicated to different document types.
- Flexible User Access Control policies (m-of-n).



Document Signer (DS)

X Infotech DS is a PKI solution that digitally signs data on electronic documents. A digital signature ensures integrity and authenticity of a document. In turn, it is validated using a CSCA certificate during Passive Authentication to confirm that the chip data is authentic to the issuing state.

Features

- DS certificates and key profiles are in full compliance with ICAO 9303 specification.
- Key Pair generation and protection by HSM cryptographic devices.
- Graphical User Interface for configuration, management and auditing.
- Integration with Personalisation Solution to simplify infrastructure and reduce cost.

Country Verifying Certification Authority (CVCA)

X Infotech CVCA is a national PKI trust point that authorizes domestic and foreign Document Verifiers (DVs) to access sensitive data from electronic documents like fingerprints or iris biometrics to which access is protected via Extended Access Control (EAC).

The CVCA stores private keys in a HSM cryptographic device and operates in an offline environment highly protected from any outside or unauthorized access.

Features

- CVCA certificates and key profiles are in full compliance with BSI TR03110 technical guidelines.
- Key Pair generation and protection by HSM cryptographic devices.
- Graphical User Interface for configuration, management and auditing.
- Flexible User Access Control policies (m-of-n).

PKI

Document Verifier (DV)

X Infotech DV is a PKI solution that determines which Inspection System (IS) will get authorization to read sensitive data like fingerprints or iris biometrics from electronic documents with EAC protection.

Document Verifier requests and obtains Document Verifier certificates from the CVCA of each country whose electronic documents it is authorized to access.

DV issues IS certificates in response to certificate requests from IS. These certificates authorize an IS to access protected sensitive data on electronic document chips.

Terminal Control Center (TCC)

X Infotech TCC solution automates verification of National and Foreign Machine Readable Travel Documents (MRTD) both by manual and fully automated Border Control Inspection Systems. TCC provides a Document Terminal Authentication (TA) service that allows Inspection Systems to access sensitive personal data (fingerprints, iris) on the document's chip and to use advanced mechanisms of biometric authentication. The mechanism is based on the integration with a DV system that issues card verifiable certificates which are valid only for a short time period, typically between 1 day and 1 month.

The TCC solution also provides a Document Passive Authentication service to verify the authenticity of a document by comparing the Document Signer certificate to certificates received from the ICAO PKD or National PKD.

Single Point of Contact (SPOC)

X Infotech SPOC manages exchange of Country Verifying Certification Authority (CVCA) certificates between various countries in order to grant access to sensitive biometric data on ICAO compliant EAC Documents at border control points. EAC PKI architecture is currently the most advanced standard in secure travel documents.

SPOC implements international standards, protocol and certificate management for EAC ePassports in order to exchange DV and CVCA certificates between countries. The solution is compliant with ICAO and BSI standards and guidelines, allowing ease operation and integration with third party systems.

National Public Key Directory (nPKD)

X Infotech nPKD is a PKI solution component that manages electronic document PKI certificates on a national level.

The comprehensive solution acts as a central broker to manage exchange of Document PKI certificates and certificate revocation lists on a country level. It creates a centralized database of document certificates received from multiple sources such as CSCA, ICAO PKD and Foreign nPKD systems.

Features

- DV certificates and key profiles are in compliance with BSI-EAC and BSI TR-03139.
- Operates in compliance with BSI TR-03129 protocols.
- Key Pair generation and protection by HSM cryptographic devices.
- Graphical User Interface for configuration, management and auditing.

Features

- Automatic and manual Integration with the PKI DV Systems for issuance of IS certificates.
- Automatic and manual Integration with N-PKD Systems for obtaining Document Certificates.
- IS Key Management in HSM.
- Compliance with international standards BSI TR-03129 and ICAO 9303.
- Supports EAC PKI certificates and certificate requests in compliance to BSI TR-03110 v2.1.
- Supports CSCA/CSCA Link/DS/MLS certificates/CRLs in compliance to ICAO 9303 7th and earlier.

Features

- Online and manual Integration with the PKI DV Systems for management of DV certificates.
- Integration with the PKI CVCA Systems for signing DV certificates.
- Online communication with Foreign SPOC Systems to exchange the data.
- Interface to foreign SPOC system is protected by SPOC CA certificate.
- Compliance with international standards BSI TR-03129, ICAO 9303 and CSN 36 9791:2009.

Features

- Centralized storage of the CSCA, CSCA link certificates, DS, MLS, CRLs and Master Lists.
- Management and validation of stored data.
- Multiple Master List profiles.
- Key pair generation and protection by HSM cryptographic devices.
- Graphical User Interface with role based access control for system configuration, management and auditing.
- Compliance with standards BSI TR-03129 and ICAO 9303 7th for MLS.
- Interfaces to distribute the PKI data for PA in compliance to BSI TR-03129.

Digital ID platform

Digital ID

Digital ID is the solution that derives credentials from physical ID documents (passport, ID card) in a mobile device. Digital ID is an extension to physical documents, a Virtual ID linked to a mobile device.

Digital onboarding

Digital onboarding is a convenient and effective way to enrol new customer. With the right onboarding process the bank can increase operational efficiency and reduce costs, mitigate risks and ensure compliance, enhance customer engagement and communications.

Along with Digital Onboarding Solution, X Infotech offers Video Customer Identification Product perfectly aimed to optimize daily services and to reduce in-line waiting time for customers.

Secure Mobile-ID

X Infotech Secure Mobile-ID is a PKI-based solution for digital authentication and digital signing via Secure Mobile-ID app installed on smartphone or tablet device.

Features

- Additional income from existing eIDs and Biometric database
- Revenue from service providing to business
- Administrative cost reduction
- Immediate control over emergency situations
- Targeted assistance to citizens
- Crime prevention and combatting
- Enhanced digital security
- National competitiveness at international market
- Service time reduction
- 24/7 real - time access to e-services and financial tools
- Instant remote access for business and citizens

Features

- Better customer engagement.
- Secure digital process of enrolment.
- Applicability of captured data for future daily digital customer authentication.
- Improved customer experience.
- Faster access to banking services.
- Possibility to switch between in-branch and online onboarding.
- Reduce paper usage and document loss.
- Reduced cost-to-serve.
- Minimization of fraud and human error.
- Improved operational effectiveness and efficiency.
- Reduced failed client acquisition.
- Data application for Strong Customer Authentication in daily digital operations.

Features

- Unique user experience - real-time instant access to digital services, easy-take for customers.
- High level of security - PKI and cryptographic schemes are used.
- Strong KYC tool - enhancing security of real-time payment and transaction platforms.
- Solution can be used for provisioning qualified trust service and creation of qualified electronic signatures and solution meets the requirements set for qualified electronic signature creation device.
- Single solution for multi-purpose authentication - banking, payments, online shopping, eGovernment.
- No special-purpose hardware is needed.
- Multiple device support.

Selected Government eID projects



Algeria



Cambodia



Cambodia



ECOWAS



European Union
(European Commission)



Estonia



France



Ghana



Hungary



Ireland



Ireland



Ireland



Kenya, Somalia,
South Sudan



Kenya



Latvia



Latvia



Liechtenstein



Lithuania



Luxembourg



Malta



Moldova



Moldova



Peru



Rwanda



South Sudan



Switzerland



Tunisia



Uruguay



Uruguay

Social card projects



Egypt



Kenya



Kenya
(Equity Bank)



Kenya
(Equity Bank)



Kenya
(Equity Bank)



Latvia



Latvia

