

# PKI SOLUTION

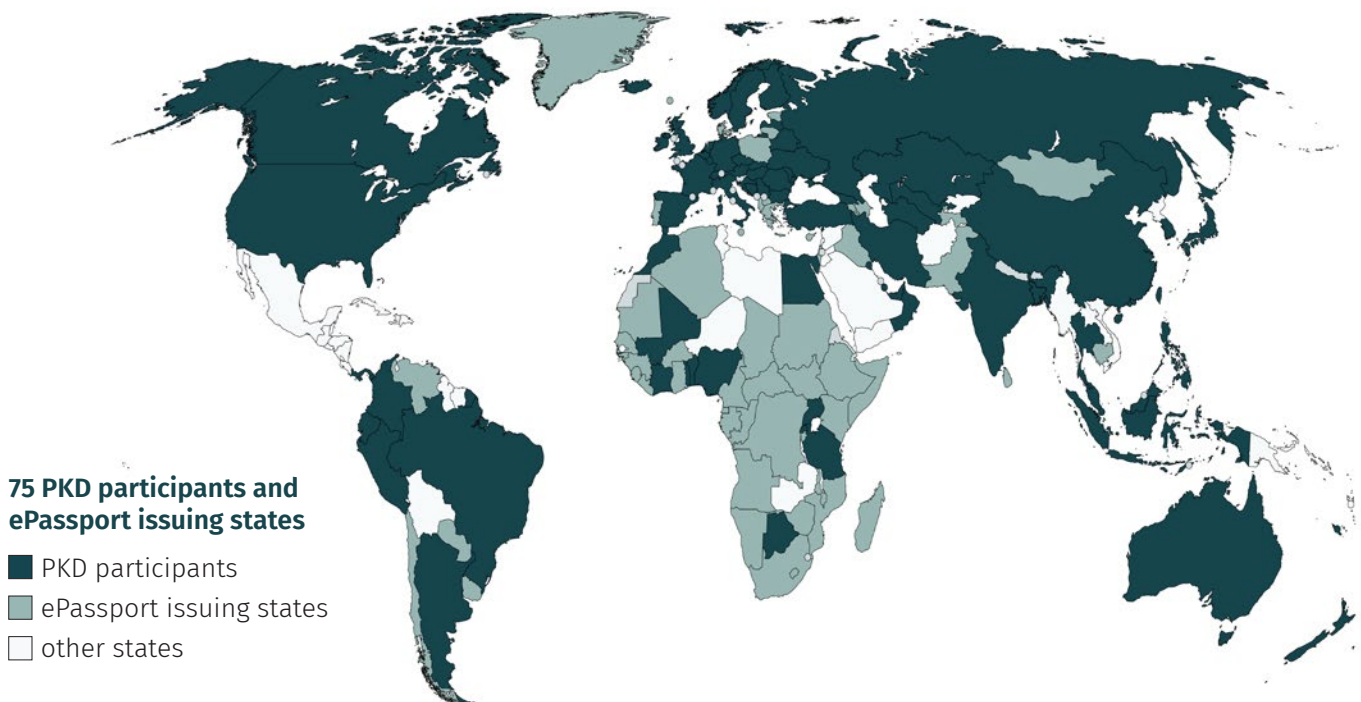
ICAO COMPLIANT  
TRUST-BUILDING  
COMPLETE

## INTERNATIONAL ICAO PUBLIC KEY DIRECTORY (PKD)

A global platform for countries to store and exchange the information on ePassports in order to verify chip-based data of travelers

Ensures global exchange of information reliably in a timely and open-ended indefinite manner by exchange of national trust certificates

### ICAO PKD participants and ePassport issuing states



# ICAO PUBLIC KEY INFRASTRUCTURE (PKI)

Is a set of policies and procedures needed to create, manage, distribute, use, store, and revoke digital certificates and to manage public-key encryption.

In order to comply with ICAO requirements and to enhance document validation quality and border security, **each forward-thinking nation must join ICAO PKD and to deploy compliant PKI infrastructure.**

National ePassport non authenticable under ICAO standard has little advantage over conventional paper passport when it comes to border crossing.



## STAGES OF PKI INFRASTRUCTURE



**Document production**



**Identity and Document verification**



**Inter-country certificate management**

## DOCUMENT PRODUCTION



### **LEGACY: Basic Access Control (BAC)**

Enables the chip system to verify that the travel document is opened for inspection

Permits authorized entities to access and to read non sensitive general data from the document



### **FUTURE: Extended Access Control (EAC)**

Recommended by ICAO as the most advanced standard in secure travel documents

Ensures stronger than BAC personal data protection

Allows to sign/verify biometric data - fingerprints and iris scans

Allows advanced chip and terminal authentication

## DOCUMENT AND IDENTITY VERIFICATION

ICAO PKI is about global exchange of certificates and certificate revocation lists. These certificates and certificate revocation lists are used to verify the electronic signature of data contained in the RFID chip of ePassports and other eDocuments.

## INTER-COUNTRY CERTIFICATE MANAGEMENT

Each country individually communicates to ICAO PKD: downloads, stores, manages, updates and exports PKD certificate lists in its own manner, considered the most secure.

## THREE COMPONENTS

are beneficial for proper certificate management and document verification

### NATIONAL PUBLIC KEY DIRECTORY (NPKD)

To store and manage ICAO PKD certificate lists in individual country manner

To serve individual security needs and demands of each particular country

To prove authenticity of chip-stored data of travel document

### SINGLE POINT OF CONTACT (SPOC)

To create trustworthy exchange of document signing and verifying certificates between countries

To manage access of different authorized entities willing to get or receive certificates for verification of authenticity

To ensure leveled security in access to sensitive data stored on document chip

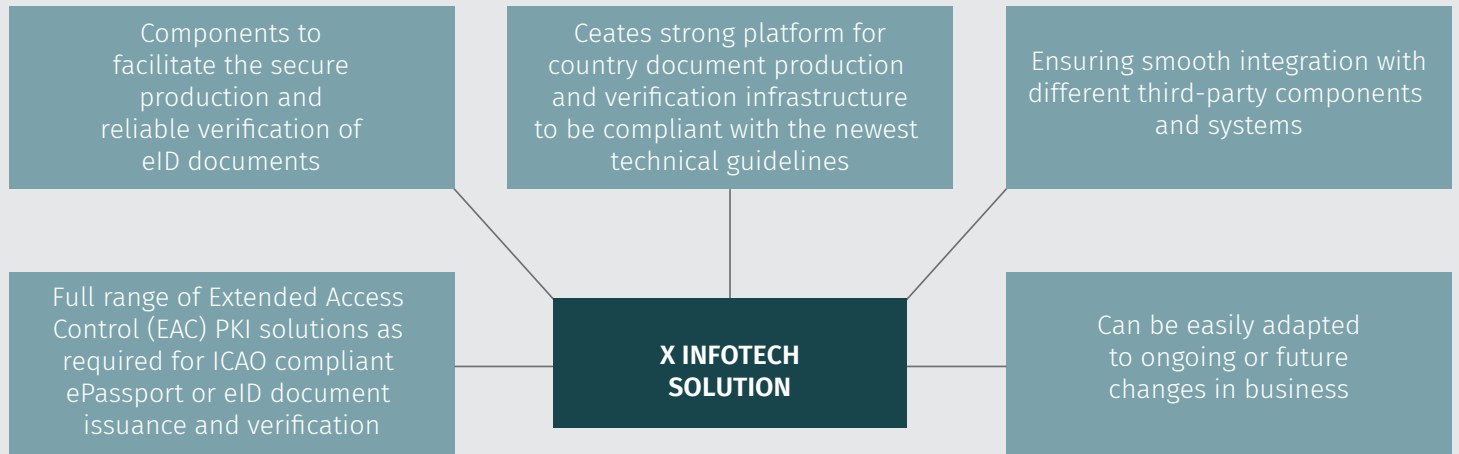
### TERMINAL CONTROL CENTRE (TCC)

To execute successfully Extended Access Control protocol at border crossing points

To access sensitive data on chip for biometric authentication

To comply with ICAO and BSI standard guidelines for terminal authentication at the borders

# X INFOTECH COMPLETE PKI SOLUTION



## COMPONENTS OF COMPLETE X INFOTECH PKI SOLUTIONS

X Infotech **Country Signing Certification Authority (CSCA)** establishes a national PKI trust point in the context of electronic documents.

X Infotech **Document Signer (DS)** is a PKI solution component that digitally signs data on electronic documents.

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

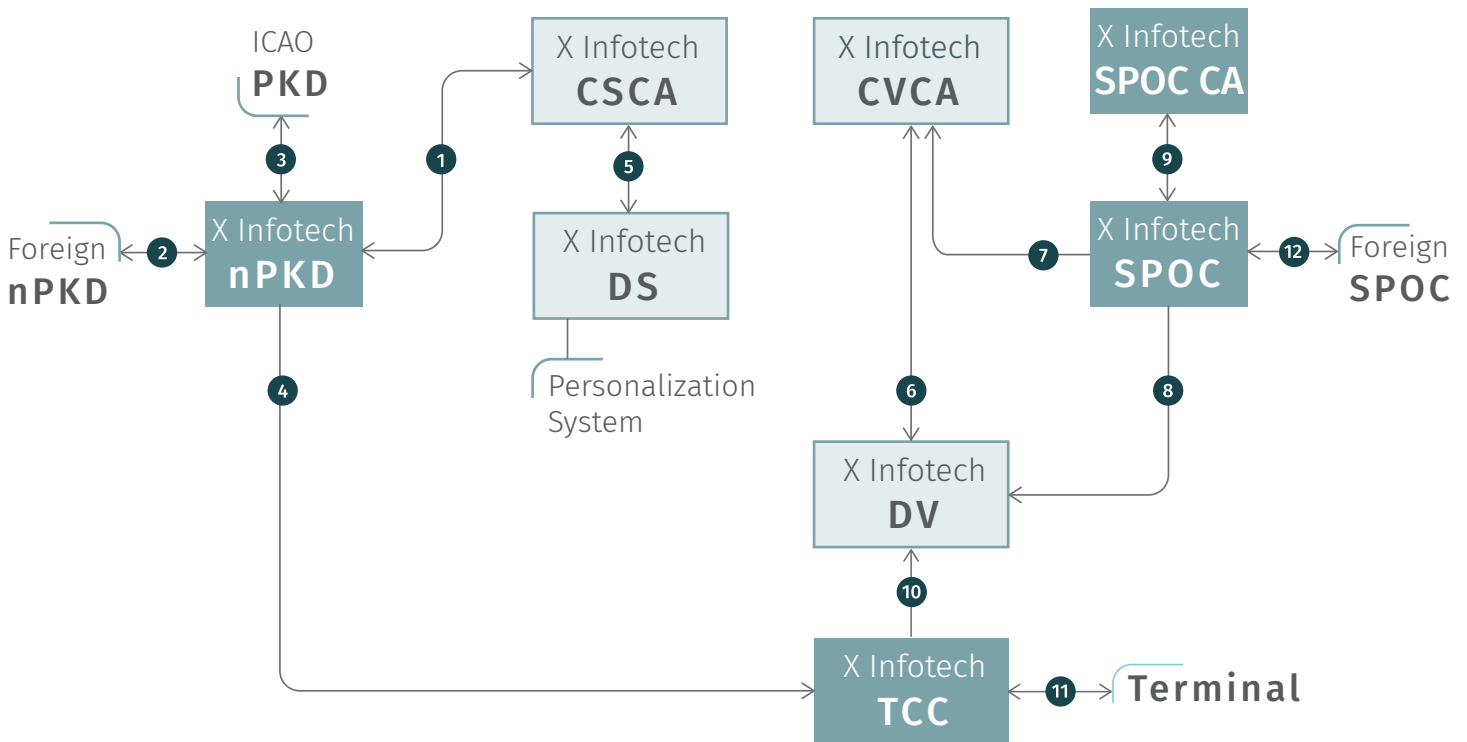
X Infotech **Document Verifier (DV)** is the PKI solution component that determines which InspectionSystem (IS) will get authorization to read sensitive data like fingerprints or iris biometrics from the electronic documents with Extended Access Control (EAC) protection.

X Infotech **Terminal Control Centre (TCC)** solution automates the verification of National and Foreign Machine Readable Travel Documents (MRTD) both by manual and fully automated Border Control Inspection Systems.

X Infotech **Single Point of Contact (SPOC)** SPOC implements international standards, protocol and certificate management for EAC ePassports in order to exchange Document Verifying (DV) in order to exchange Document Verifying (DV) and Country Signing Certification Authority (CVCA) certificates between countries.

X Infotech **National Public Key Directory (nPKD)** is a PKI solution component that manages electronic document PKI certificates on national level.

# X INFOTECH PKI SOLUTION WORKFLOW



## STRONG ADVANTAGES OF X INFOTECH

- We provide turnkey solutions - complete fully integrated infrastructure
- Our solutions are vendor-independent and integrable with any equipment
- Full-cycle X Infotech implementation of complete turn-key solution is beneficial for project budget and quality
- High level of expertise: skilled and professional engineers and implementors
- Our customers enjoy flexibility of amending infrastructure and equipment
- We are fast reactive and open for collaboration, discussion and idea sharing
- We always deliver on time

**MOVE TO THE NEXT LEVEL OF TRUST  
WITH ICAO PKI X INFOTECH SOLUTION!**