



Trusted Identities | Secure Transactions™

The Future is Now
Physical & Digital Passport Validation

Henry Leung – Entrust Datacard

SECURITY THREATS

DOCUMENT ATTACK

MAKE IT!
Counterfeit



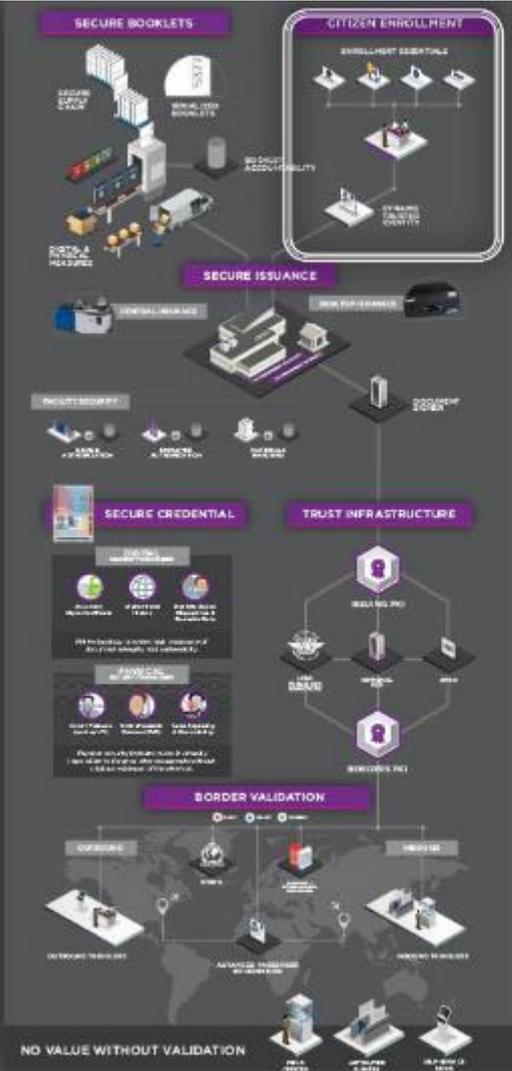
FAKE IT!
Alteration



TAKE IT!
Impostor/lookalike



CITIZEN ENROLMENT

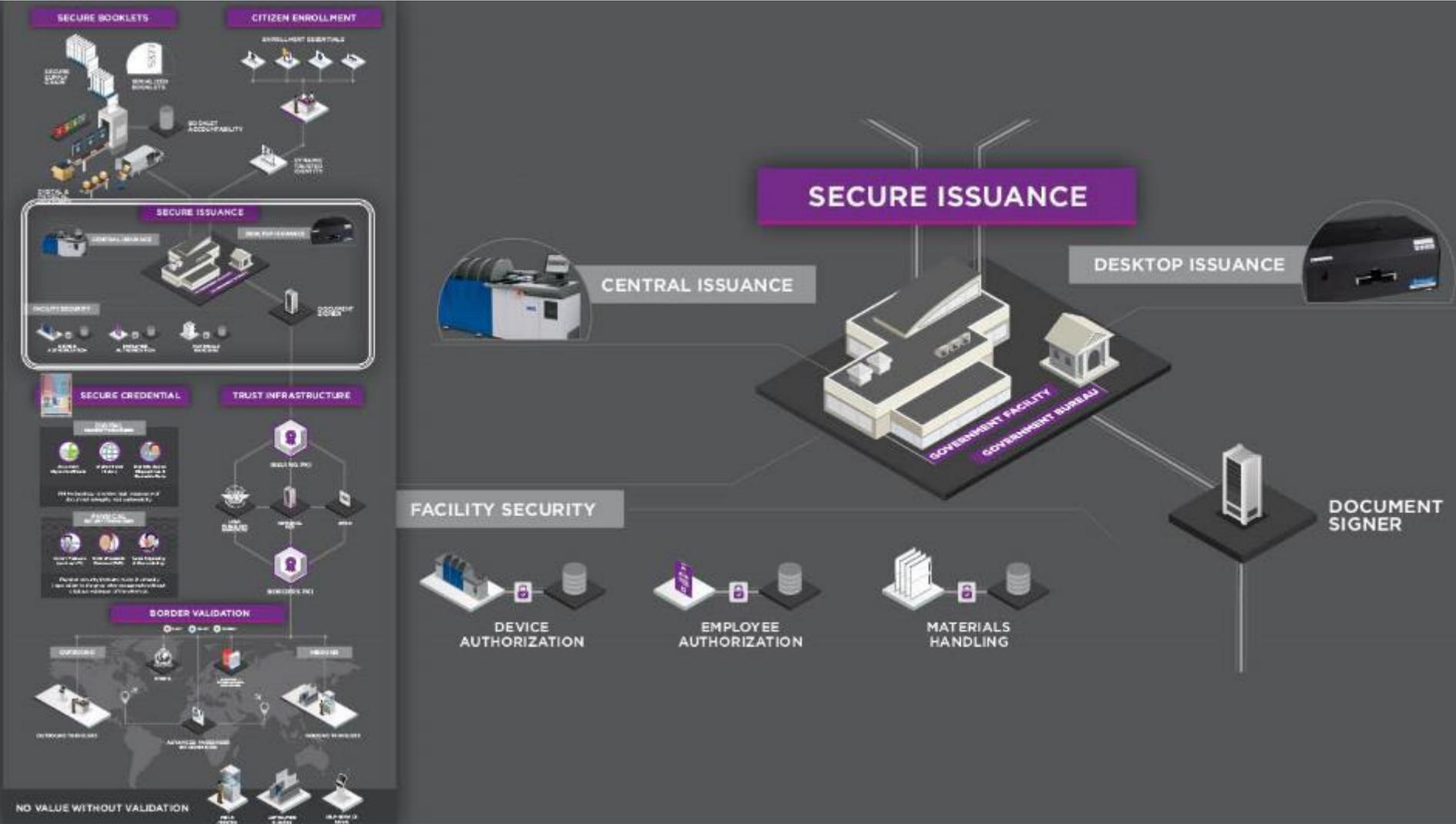


CITIZEN ENROLLMENT

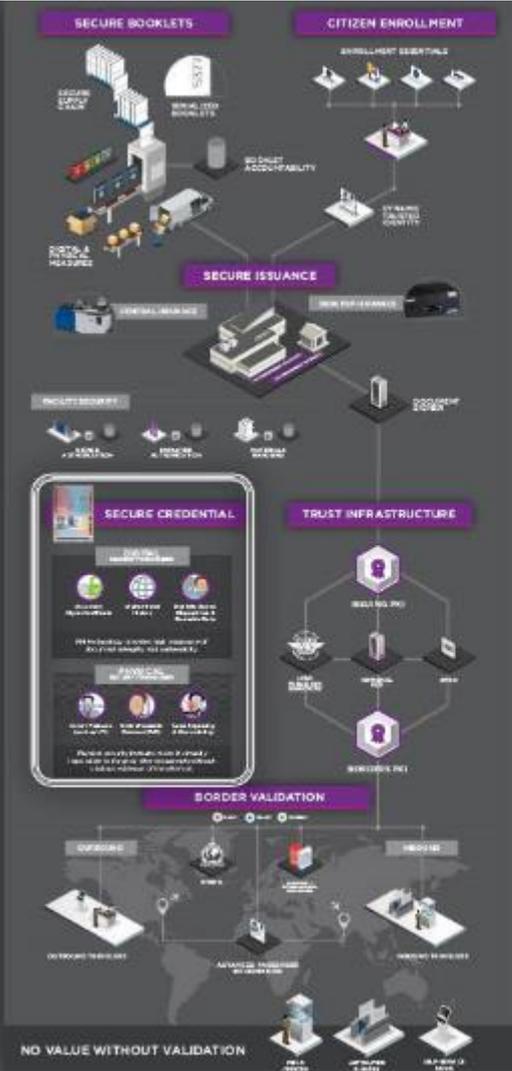
ENROLLMENT ESSENTIALS



SECURE ISSUANCE



SECURE CREDENTIAL



SECURE CREDENTIAL

DIGITAL SECURITY MEASURES



Document Signer Certificate



Digital Travel History



Digitally Signed Biographical & Biometric Data

PKI technology provides high assurance of document integrity and authenticity.

PHYSICAL SECURITY MEASURES



Covert Features (such as UV)



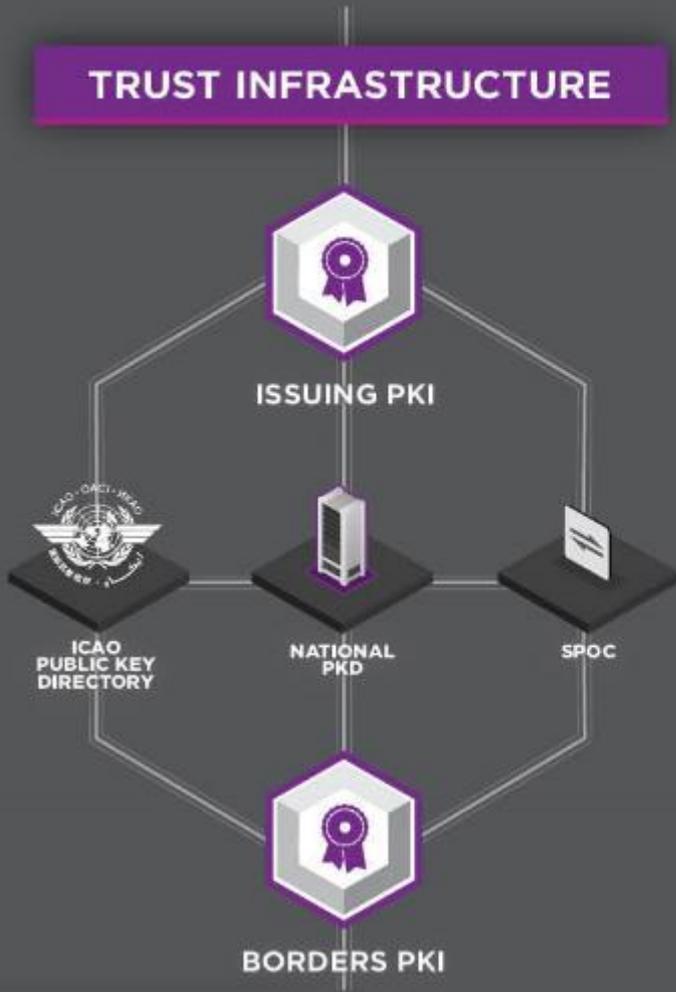
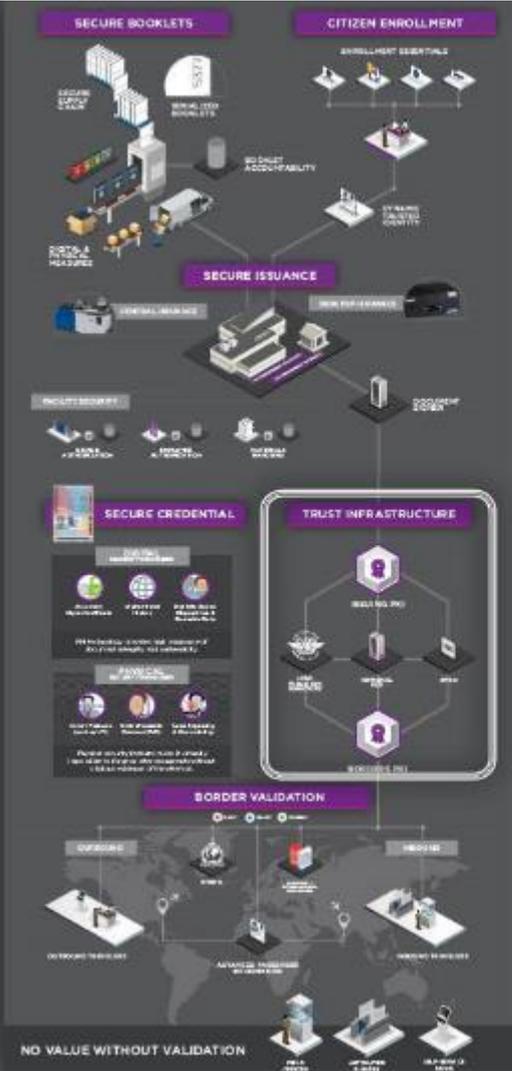
Optical Variable Devices (OVD)



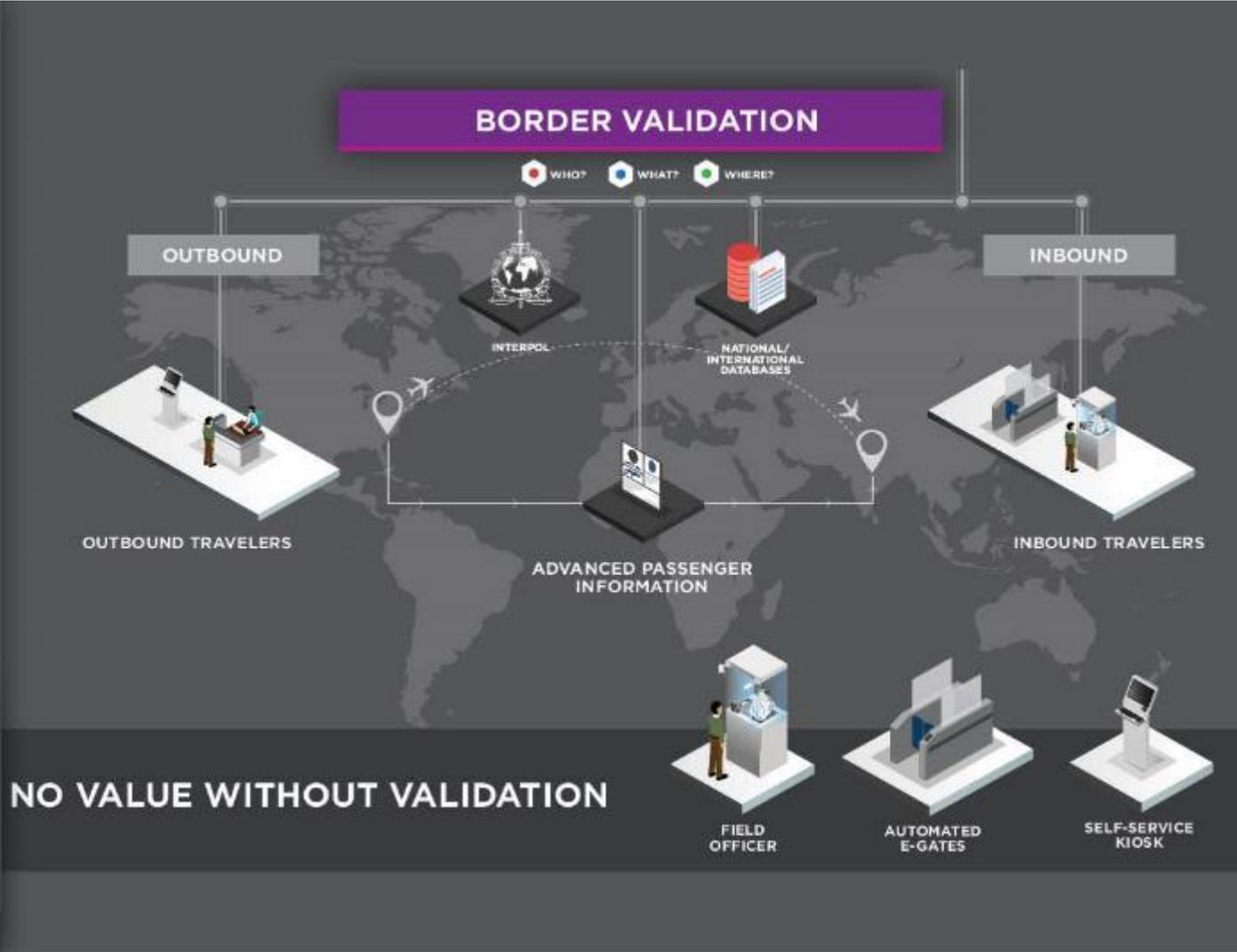
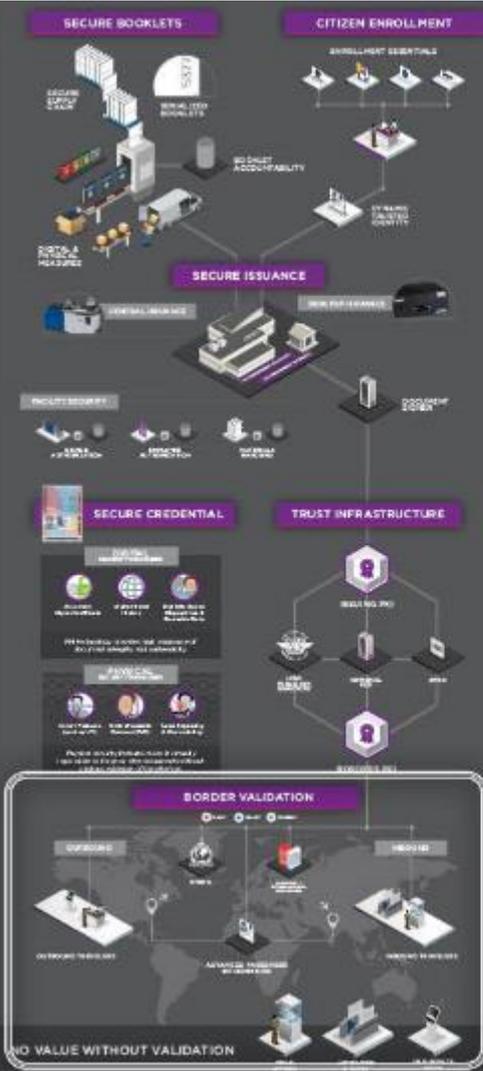
Laser Engraving & Microprinting

Physical security features make it virtually impossible to forge or alter documents without obvious evidence of the attempt.

TRUST INFRASTRUCTURE



BORDER VALIDATION



SECURITY AT TIME OF PERSONALIZATION



MACHINE PERSO FINGERPRINT (MPF)



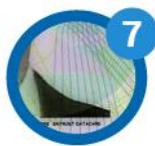
DATACARD® PERSOCURVE



LASER ENGRAVING



DATACARD® LASERTACT™ LASER ENGRAVED MICROPRINT



LASER ENGRAVING



OCR-B FONT



SMART CHIP PASSPORT PERSONALIZATION



DATACARD® FORENSIC PERSOCURVE™



MULTIPLE LASER IMAGE (MLI)



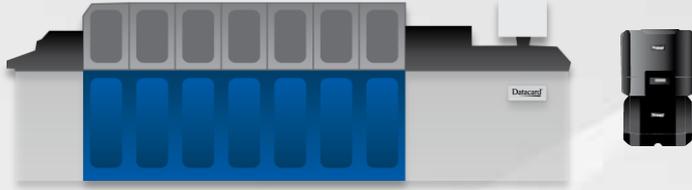
TACTILE LASER ENGRAVING



DATACARD® LASERSHADOW™

MACHINE PERSONALIZATION FINGERPRINT

How does it work?



Printer contains a MPF signing identity (certificate and key) stored in a secure element



During document personalization, the MPF algorithm creates a signed data structure based on the machine fingerprint and citizen biographical data (e.g. MRZ)



The MPF security feature is printed onto the document the form of a barcode — and optionally encode onto chip

BINDING PHYSICAL AND DIGITAL TECHNOLOGIES

Physical Security



Substrate

- Paper
- PVC
- Polycarbonate
- Smartcard



Personalization

- Inkjet
- Dye Sublimation
- Retransfer
- Laser



Security Features

- Laminates
- Hologram
- STOP
- Laser

Binding Physical and Digital Security

Machine Perso Fingerprint

Combines a unique machine fingerprint with variable user data into a digitally signed object that can be printed on the document

When validated provides proof of origin, integrity and authenticity

Digital Security

- HSM
- USB
- Mobile
- Smartcard



Form Factor

- X509
- ICAO BAC/EAC
- ISO7816
- PIV



Certificate

- Encryption
- Hash
- Keys
- PKI



Digital Signature

Document Validation

Document Issuance Validation

eValidation



Trusted Identities | Secure Transactions™

Thank you

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