Evidence of Identity: The first element of the ICAO Traveller identification Programme (TRIP) Strategy

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The challenge of ID Management

- It is commonly understood that identity fraud facilitates a range of crimes that cause public harm, damage national reputation and have significant financial repercussions

- The risks and impacts of getting things wrong in the Travel Document and Border space means that **identity establishment and verification demand attention**

The identity problem

"A **false** passport in the hands of a terrorist is as dangerous as a bomb".
9/11 Commission Report

- As security and integrity of physical travel documents has improved, **weaknesses in their issuance processes** are increasingly being targeted

- Falsely obtained genuine passports are much harder to identify

To complicate matters further …

- Air travel and border crossings are **increasing**, straining existing resources

Fundamentals of Verification

- When people are presenting to claim and use an identity (passport and visa issuance, and at the border), we are generally verifying three key aspects:

What they "have"

Documents Tokens Credentials

What they "know"

Verifiable information associated with the identity claimed ?
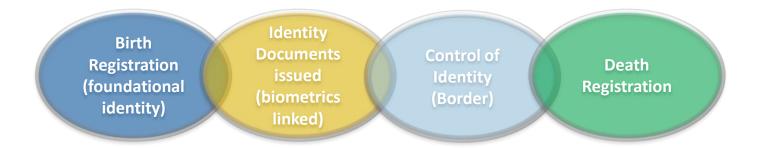
Who they "are"

Biometrics

Identity Chain

- The "identity chain" underpinning identity verification fundamentals is traditionally **linear and uniformly understood**

Birth Registration (foundational identity)

Identity Documents issued (biometrics linked)

Control of Identity (Border)

Death Registration

- Relies on a belief that, with enough effort, each link can be made secure enough to ultimately provide **"proof" of identity beginning to end**

In Reality …

- Every link in the traditional identity chain has weaknesses, and **these weaknesses are propagated through the chain**

- Identity is **diverse, dynamic and complex** and is subject to error and fraud

- Identity documents linked to biometrics may not provide enough assurance of the claim to a genuine identity

- There is **no "silver bullet"** and **no "one-size-fits-all"**

Evidence of Identity

- EOI growing internationally as an area of focus, with national and international standards and frameworks emerging
  - comprehensive, risk-based approach to establishing and verifying an identity claim:
  - acknowledges complexity of modern identity management, and the challenges of different contexts
- ICAO Traveller Identification Programme (TRIP) – **properly and uniquely identify individuals** in the travel document issuance process or as they move across borders

The EOI approach

- Identity and identity-related information is broad, covering public and private sector, and **differs between cultures, countries and geographical regions**

- Identity is understood as an **eco-system**

- Can be applied to a **service, category of service, or a particular group or type of claimants** – depending on specific nature of identity risk

The EOI approach (2)

- Verifying identity is about **probabilities** – balancing risk with facilitation **(YES this includes biometrics)**

- Focussed on understanding and using information to gain a **level of confidence rather than proof – NO ABSOLUTES**

- Considers **continuity and longevity** of information

- **Structured** and methodical approach that works within the country's own context

EOI Authentication Principles

Principle 1 - Identity Exists

Objective A - The identity exists (i.e. is not fictitious)

Objective B - The identity is living

Principle 2 - Applicant links to Identity

Objective C - The presenting person links to the identity

Objective D - The identity is UNIQUE to your system (i.e. only has one claimant)

Principle 3 - Applicant uses Identity

Objective E - To provide confidence of the presenter's use of the identity in the community

Building EOI Confidence: Key

- Establishing **UNIQUENESS** of an identity in your system is key – without using biometrics (one to many match), this is becoming increasingly challenging

- Confidence that an identity is operating in community is becoming more important to issuing and border authorities ('social footprint')

- The case for **harnessing and utilising information beyond the traditional chain** is becoming more and more compelling

- Transactional and behavioural data that is "identity-related" should be used to increase identity confidence, particularly in relation to the applicant's link to the claimed identity
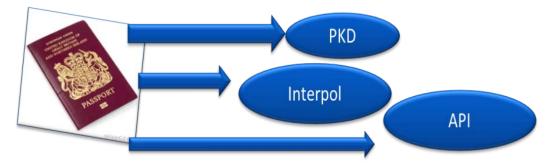
Building EOI Confidence: Data

- Less confidence in foundational information (e.g. civil registration) may result in need to increase EOI confidence in other areas
  - Electoral role (voter registration)
  - School, church and hospital records
  - Driver and firearms license

- Longevity and **Continuity** of footprint is key (ideally time stamped)
  - Data aligns with/corroborates previous interactions
  - **Date first registered** (i.e. Driver License)
  - Time spent at same address or with **same phone number**
  - Utility bills / **financial records** / credit checks
  - Airline loyalty programmes and social media
  - IP addresses and email

Building EOI Confidence: Validation

- All physical documents are vulnerable to counterfeit, and making physical documents truly secure involves validation against authoritative databases
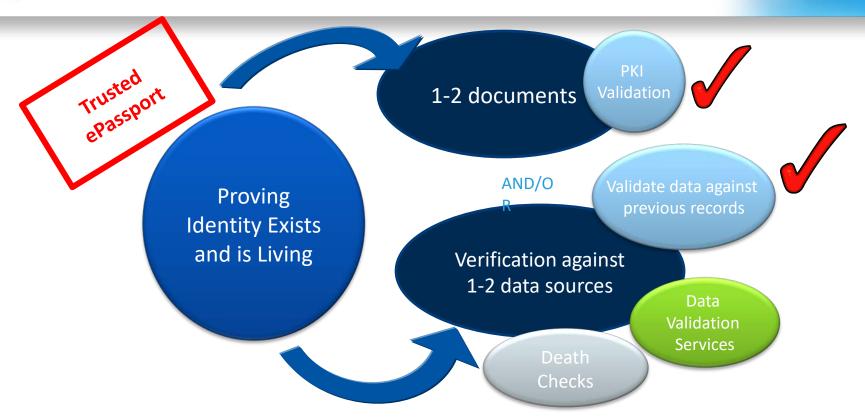

- Yes/No validation of foundational records is secure, effective and privacy protective when looking to prove an 'identity exists,' and that the applicant's 'social footprint' gives confidence that they link to the identity
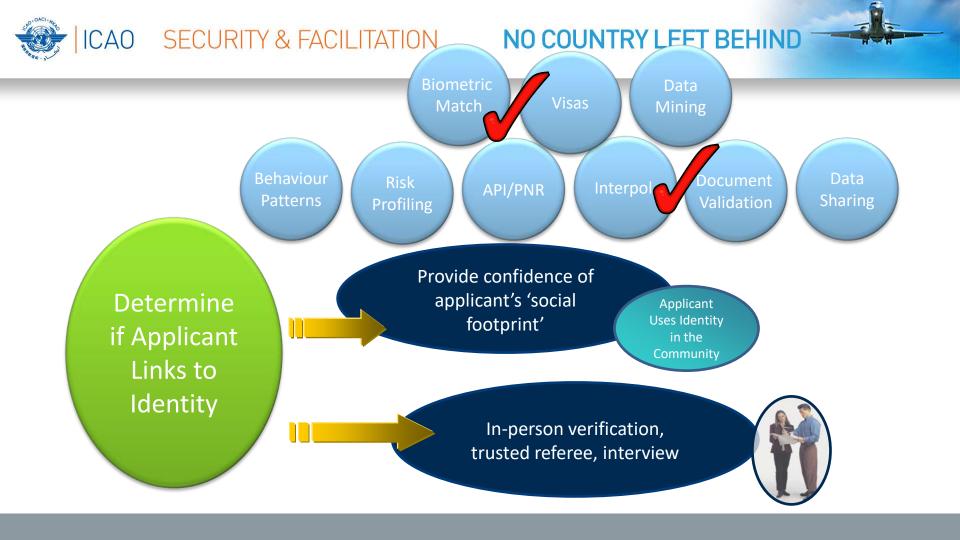
Trusted ePassport

Proving Identity Exists and is Living

1-2 documents

PKI Validation

AND/OR

Validate data against previous records

Verification against 1-2 data sources

Data Validation Services

Death Checks

Biometric Match

Visas

Data Mining

Behaviour Patterns

Risk Profiling

API/PNR

Interpol

Document Validation

Data Sharing

Determine if Applicant Links to Identity

Provide confidence of applicant's 'social footprint'

Applicant Uses Identity in the Community

In-person verification, trusted referee, interview

Behaviour Patterns

Continuity

Data Mining

Applicant is the Sole Claimant: the identity is **UNIQUE** to the system

Check against agency records (use data and/or biometric matching to ensure only one identity exists)

- First-time interaction **MUST** be robust so that **subsequent contact can leverage** off initial EOI
- A well-understood EOI approach will enable **more effective targeting of resources** (people and system design)

EOI Information Stocktake

- Follow EOI principles to systematically document and understand your **'identity ecosystem'** and key risks

- **Analyse** ALL potential document, record or information sources available and its value in an EOI process (a matrix is helpful)

- Understand the security of "foundational" records, data and the issuance process that sits behind them

- Identify gaps and look to other areas of EOI to increase confidence

4/10

8/10

3/10

Context is important

- There are different risks and mitigations depending on the context

Passport Issuance Example 1

- Information from village chiefs/elders, educators and employees
- Staff knowledge of local accents, dialects and physical features etc.
- Evidence from other government sources like social services

Passport Issuance Example 2

- Electronic access to source data from national civil registries
- Centralised database of applications
- Biometrics of every applicant for 1:1/1:M matching
- Large group of trusted witnesses/referee

Summary

- Identity verification is **not absolute** – it is dynamic, based on context, **probabilities and levels of confidence**

- Broad EOI concepts are applicable to **any** organization with an identity component

- **UNIQUENESS** to your system, and **continuity** of information are keys to "one person one identity"

- Passport and Border authorities need to develop a framework – approach EOI in a **systematic** way

Identity Exists and is Living

Applicant Links to Identity and is Unique to system

Applicant Uses Identity in the Community

EOI Guidance Material

- New Zealand **EOI Standard** (available at www.dia.govt.nz)

- Australia Gold Standard **Enrolment Framework** (available at www.ag.govt.nz)

- ICAO Implementation and Capacity Building Working Group (ICBWG) **Guidance on Evidence of Identity**

  - *Towards Better Practice in National Identification Management*

  - *Guide for Evidence of Identity (Under Development and expected Mid 2017)*

Evidence of Identity Standard

Thank you