



Briefing for ACI's Passenger Safety and Security Conference

Biometrics

October 16, 2018

M2P Consulting

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To set the stage for our panel...

Our Mission Today

**We
will...**

- • • take a look into the basics of biometrics
- • • understand the trending use cases
- • • explore what's happening locally and globally
- • • highlight some learnings and outlooks

Just to be sure...

Biometrics 101

Biometrics

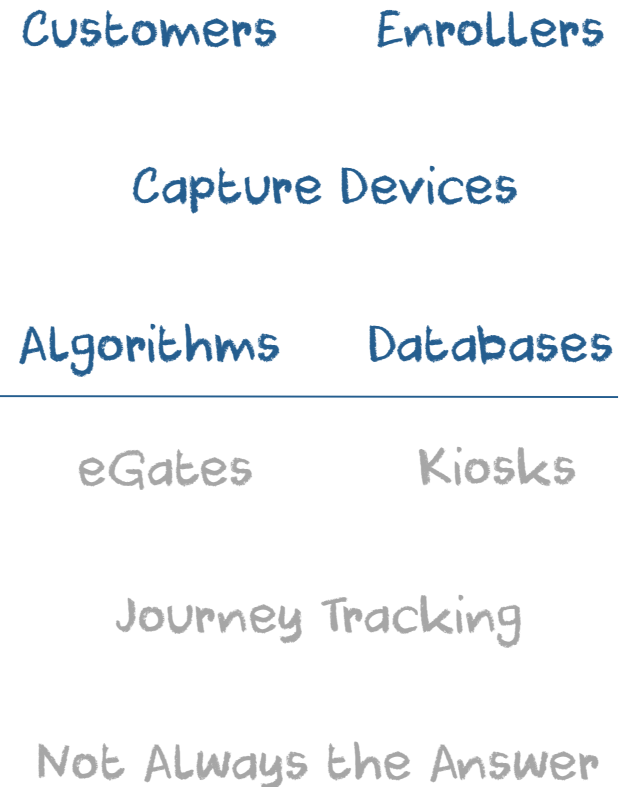
are physical traits unique to each person with fingerprint, iris, and facial most commonly used.

Identification

is the process of attempting to establish who someone is without them providing indication (1-n matching).

Verification

is the process of confirming if someone is who they claim to be (1-1 matching).



Biometrics have been around for decades, but only recently have they become trending for airport use.

Modality Strengths and Weaknesses

FINGERPRINT



IRIS



FACIAL



STRENGTHS

- most mature and established modality
- unique for each user
- high accuracy and flexibility
- relatively easy to capture
- pattern doesn't change

- unique for each user
- high speed and accuracy
- pattern doesn't change
- easy detection of fakes

- most accepted modality
- non-intrusive
- can identify / verify from distance
- improved error rates as of recent

WEAKNESSES

- intrusive as it requires physical contact
- can be unreadable per dry skin, dirtiness, wear
- hygiene issues due to touching same device

- less convenient as user must remain still and at certain distance
- generally the most costly modality
- reliability challenged for users with certain cultural characteristics

- accuracy affected by glasses, facial hair, ageing, different expressions
- lighting conditions can affect resolution and quality of image

Three use cases are commanding the most attention.

Use Cases



Security
Surveillance



Employee
Access Control



Passenger
Handling

Multiple concepts are being pursued by airports for biometrics enabled passenger handling.

Global Trends for Biometric Passenger Handling



Aruba

- **Concept:** leverages facial biometrics from ePassports
- **Strengths:** workforce savings through automating ID checks, shared infrastructure
- **Weaknesses:** non-ePassport holders ineligible
- **Players:** AUA, Schiphol, KLM, Royal Marchese, Vision-Box

Singapore

- **Concept:** leverages facial biometrics from passports and finger from immigration
- **Strengths:** workforce savings reported through eliminating manual ID checks
- **Weaknesses:** border control still uses finger biometric as MOI not yet integrated
- **Players:** Changi, T4 airlines, Singapore Gov't, Morpho

Heathrow

- **Concept:** leverages facial biometrics captured pre-security for dom. passengers
- **Strengths:** shorter MCTs, border control workforce savings through less pax
- **Weaknesses:** not scalable to other use cases
- **Players:** Heathrow, BA, Border Force, Menzies, Atkins, Aurora

Amsterdam

- **Concept:** leverages facial biometrics from ePassports and MOI (new pax journey)
- **Strengths:** workforce savings through automating ID checks and increased capacity utilization
- **Weaknesses:** not scalable to domestic passengers
- **Players:** AUA, Schiphol, KLM, Royal Marchese, Vision-Box

Munich

- **Concept:** planned to leverage facial biometrics
- **Strengths:** not conclusive yet given MOI is not integrated
- **Weaknesses:** additional step for enrollment; border control still relies on manual ID check as MOI not involved
- **Players:** FMG, LH

Dubai

- **Concept:** planned to leverage facial biometrics
- **Strengths:** workforce savings expected through eliminating manual ID checks
- **Weaknesses:** additional step for enrollment; border control still uses iris and finger biometric
- **Players:** EK, MOI, Dubai Police, Emaratech

Local biometric efforts have been initiated and driven by CBP.

Local Trends for Biometric Passenger Handling



U.S. Customs and Border Protection

- biographic APIS used for tracking exits
- CBP must now verify exits w/ biometrics per U.S. Congress
- facial biometrics matched to data from U.S. entry
- 'Public Private Partnership' strategy pursued



jetBlue



- airlines and airports running CBP requested pilots
- initial commitments by some albeit w/ weak business cases
- increasing pressure on TSA who hold the keys to the business case castle



Transportation Security Administration

- first biometric enabled TDC pilot in October '17 at JFK
- second biometric enabled TDC pilot in September '18 at LAX
- roadmap just released for navigating TSA's data, policy, and operational challenges

Hype has eclipsed current reality, but the gap is closing fast.

Learnings and Outlook for Biometric Passenger Handling

Face is here to stay



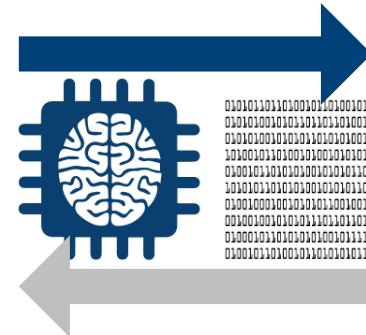
Full token-less still challenging



Gov't not ready for self-enroll



AI replacing classic algorithms



Panel Time



JEFFERY OBOY
M2P Consulting
Partner

oboy@m2p.net



BEN HERBIG
American Airlines
Corporate Security Technology
Senior Analyst
ben.herbig@aa.com



ADAM STEFFL
Denver International Airport
Operations
Director of Airport Security
adam.steffl@flydenver.com



MELISSA CONLEY
TSA
Requirements & Capabilities
Executive Advisor
melissa.conley@tsa.dhs.gov



JAMES LOUDERMILK
IDEMIA National Security
Innovation and Customer Solutions
Senior Director
james.loudermilk@idemia-nss.com