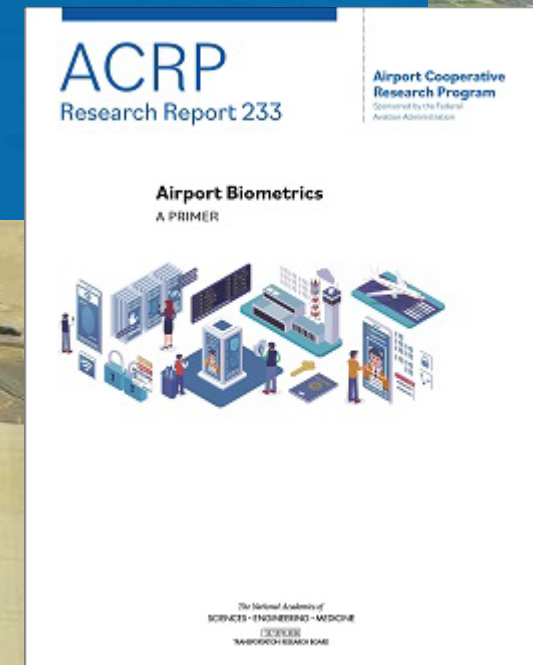


# Implementing Biometric Technologies at Airports

June 30, 2022

Solomon Wong, M.Sc.Pl.  
Ellen McClain, LLM  
Roeland Visser, M.Sc.



# Today's Learning Objectives

- **Examine how biometrics have evolved, how the technology is used today, and potential benefits for airports during pandemic recovery**
- **Outline the legal and privacy considerations related to the collection and use of biometrics**

## 1.0 Continuing Education Units (CEUs) are available to Accredited Airport Executives (A.A.E.)

Report your CEUs:

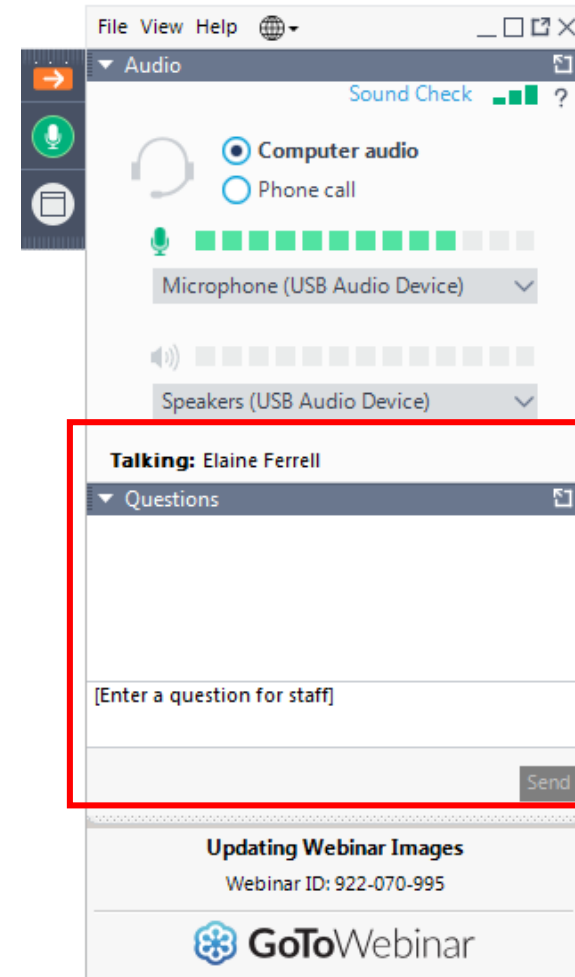
[www.aaae.org/ceu](http://www.aaae.org/ceu)

# Questions and Answers

Please type your questions into your webinar control panel

We will read your questions out loud, and answer as many as time allows

#TRBwebinar



# Frank Barich Barich, Inc.

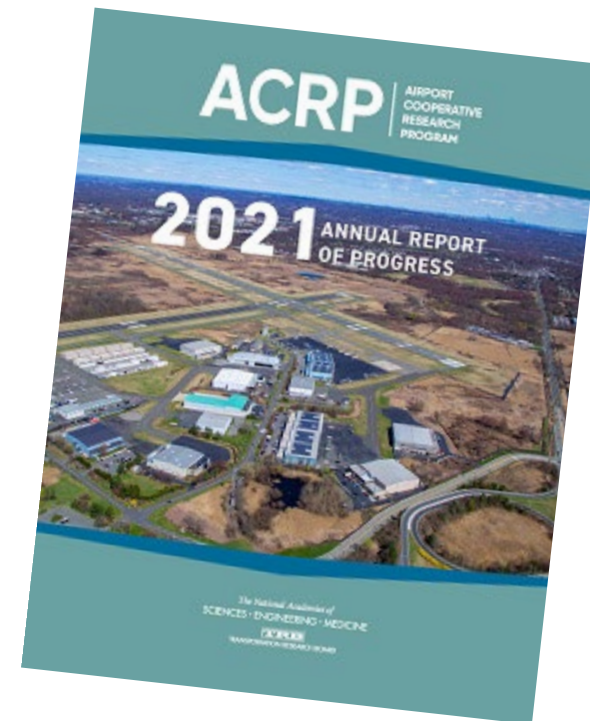
- President, Barich, Inc.
- Chair of ACRP Project 03-55 Panel, Airport Biometrics--A Primer
- 30 years in Aviation Consulting
- A focus on Innovations and Passenger Services
- Leads the Company's Business Development Effort



Moderator

# ACRP is an Industry-Driven Program

- Managed by TRB and sponsored by the Federal Aviation Administration (FAA).
- Seeks out the latest issues facing the airport industry.
- Conducts research to find solutions.
- Publishes and disseminates research results through free publications and webinars.



# ACRP Report 233 Project Panel



- Frank Barich, Barich Inc., Panel Chairman
- Michael Hardin, U.S. DHS
- Dwayne Malcolm, Broward County Aviation Department
- Daver Malik, Phoenix Sky Harbor International Airport
- John Newsome, Consultant
- Johanna Zmud, Texas A&M Transportation Institute
- Barbara Kostuk, Airlines for America Liaison
- Aneil Patel, ACI-NA Liaison
- Theresa Schatz, ACRP Senior Program Officer

# Today's Speakers



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Inter*VISTAS*



# Agenda

- Main trends impacting adoption of biometrics
- Enabling a touchless environment by unique value creation
- What is the legal landscape federally, among states and globally?
- Increasing concerns about privacy, cybersecurity and mis-use of personal data
- Benefits of biometrics at airports
- Biometrics in 2022 and 2023: what to look out for?

# Identity Management Accelerated

## Key Pandemic Response & Innovation



U.S. Customs and  
Border Protection

Travel ▾ Trade ▾ Border Security ▾ Newsroom ▾ About CBP ▾ Careers ▾ Employee Resources ▾

Simplified Arrival Expansion at All US Airports

### CBP Completes Simplified Arrival Expansion at All US Airports

Release Date: Thu, 02/09/2022 - 10:00

**WASHINGTON** U.S. Customs and Border Protection (CBP) announced today it has completed the expansion of biometric facial comparison technology at all international airports across the United States to further secure and streamline international travel. This innovation effort is a critical milestone for the biometric Entry/Exit program and complements biometric boarding, which is currently at select departure locations.

- Simplified Arrival is an enhanced international arrival process that uses facial biometrics to automate the manual document checks that are already required for admission into the United States. This process provides travelers with a secure, more touchless travel experience while fulfilling a longstanding Congressional mandate to biometrically record the entry and exit of non-U.S. citizens. In addition, foreign travelers who have traveled to the United States previously may no longer need to provide fingerprints, as their identity will be confirmed through the touchless facial biometric process.

"I am very proud that CBP accomplished this critical milestone to deploy facial biometrics on entry at all U.S. airports and continue to play a significant role in the travel recovery efforts," said Diane A. Sabatino, Deputy Executive Assistant, Commissioner, Office of Field Operations, CBP. "The use of facial biometrics for identity verification brings travelers one step closer to a truly touchless process that is secure and streamlines travel while protecting their privacy and enhancing the customer experience."

CBP and its stakeholder partners have been expanding the use of facial biometrics through public partnerships to further secure and streamline travel well before the COVID-19 pandemic to meet the biometric exit mandate while supporting air travel modernization efforts. Given the need for safe and touchless processes in air travel, CBP expedited the expansion of Simplified Arrival to provide travelers the benefits of secure, touchless technology, which became even more crucial during the pandemic.

The biometric facial comparison process occurs only at a time and place where travelers are already required by law to verify their identity by presenting a travel document. When a traveler arrives at an international airport, he or she will pause for a photo at the primary inspection point. A CBP officer will review and query the travel document, which will retrieve the traveler's passport or visa photo from government loadings and compare it to the new photo. This enhanced process using facial biometrics only takes a few seconds and is more than 99% accurate.

CBP is committed to its privacy obligations and has taken steps to safeguard the privacy of all travelers. CBP has employed strong technical security safeguards and has limited the amount of personally identifiable information used in the facial biometric process, how photos of U.S.



Simplified Arrival is an enhanced international arrival process that uses facial biometrics to automate the manual document checks that are already required for admission into the United States.

# Solutions are Not Just Airports

Consumer Biometrics Reaching Maturity



# Interoperability is Key



# Basic Concepts



# Airport Use Cases

- Reduce steps/queues
- Potential for greater space/staffing capacity
- Supportive of social distancing requirements

- Tailoring customer service to the individual guest
- Great potential for language special services handling

- Identity fraud is a major cost to government/industry
- Biometrics can reduce the potential for loss and reduce risks of fraud



# Airport Use Cases

## Process Facilitation

- Reduce steps/queues
- Potential for greater space/staffing capacity
- Supportive of social distancing requirements

## User-Centric Experience

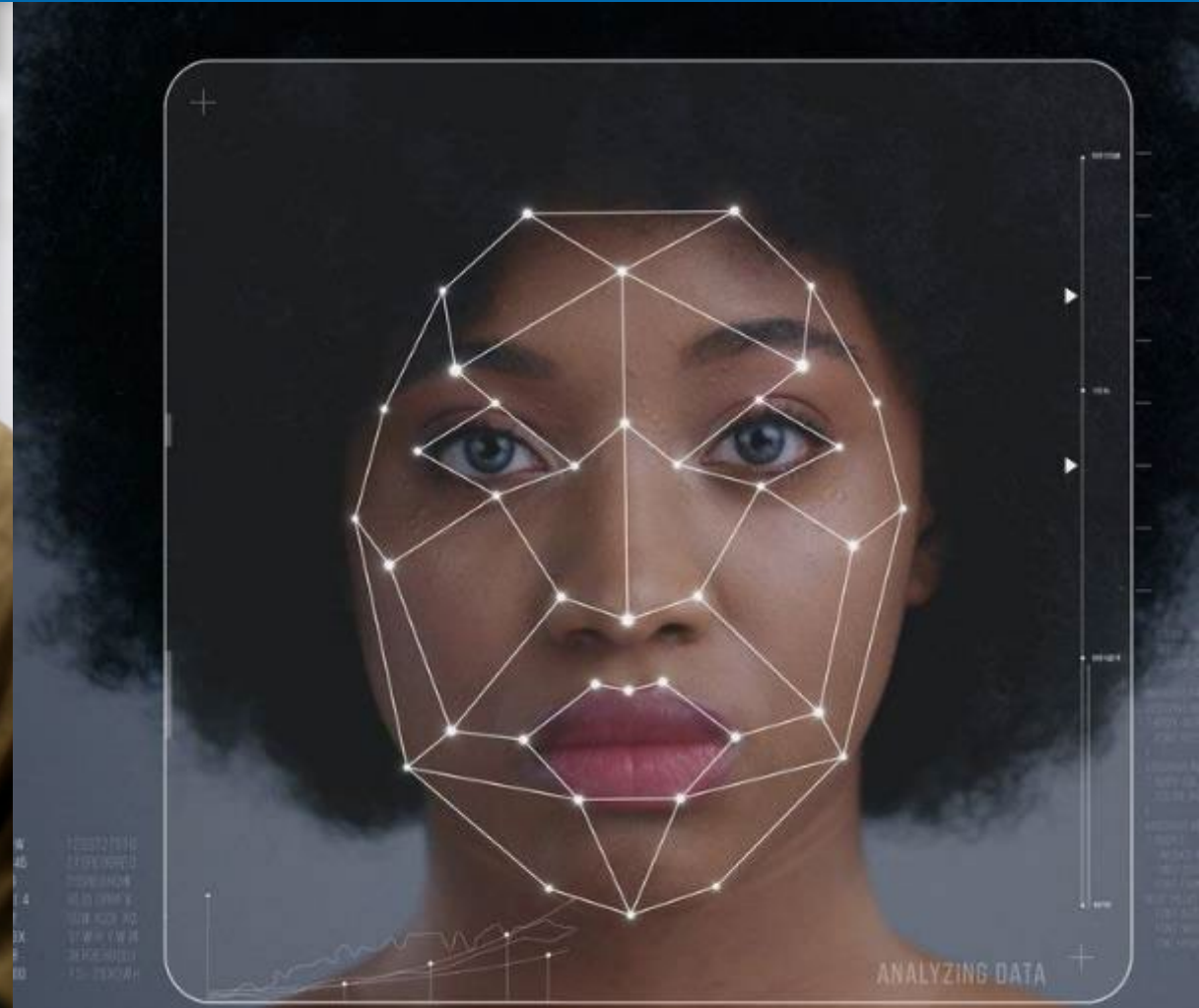
- Tailoring customer service to the individual guest
- Great potential for language special services handling

## Fraud/Risk Management

- Identity fraud is a major cost to government/industry
- Biometrics can reduce the potential for loss and reduce risks of fraud



# Enabling a touchless environment by unique value creation





# Touchless, Expedited and Seamless Journeys



# Unique biometric qualities, stored safely



```
YYzt9ViP 6rcQkDpG aMK5z00n nSCJB61Q s2F19iIR wQ9HPRDV l0Ld8CA5 MkL5qGfz  
BYoQZpU7 nNzdJ97o 6BsE10EE 3E48s2yP biRhNyj4 cLYYjdh6 08GFxeMb aGE9Fkom  
e62Vcrh9 CqZZtJ5Y DQUt5T90 aLRRJQ5V Il8nWkR3 6qckBE26 kq4cWmrY PQKh07PY  
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```

# Legal Landscape

- Legal Considerations
- Constitutional, Federal, and State Law
- Trends
- Pitfalls and Penalties
- Global Initiatives
- Best Practices

# State Laws

## 19 states

regulate the collection and use of facial recognition data

## 50 states

require entities to notify residents of a data breach

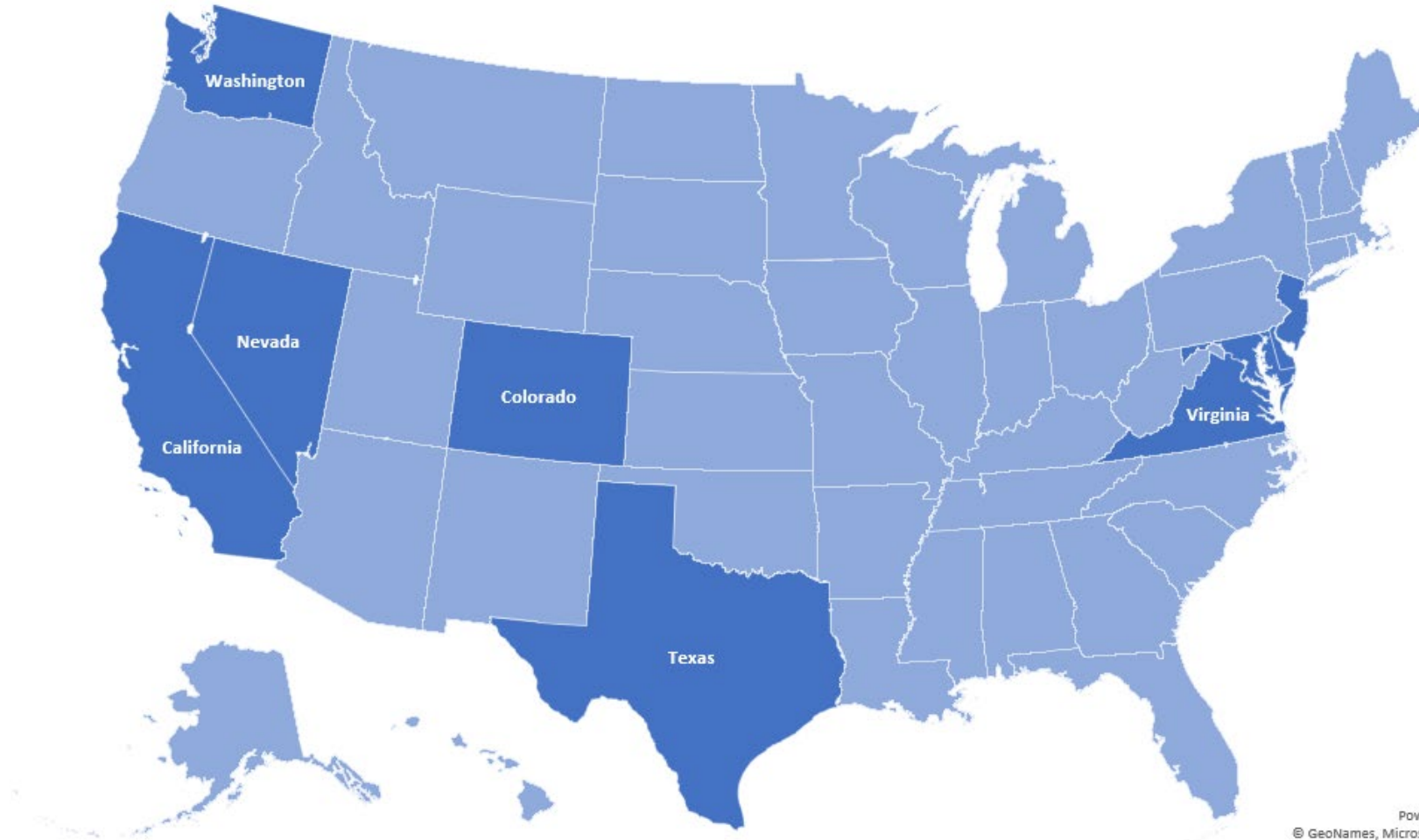
## 35 states

require destruction or inaccessibility of personal information no longer of use or after a specified period of time

## Handful

prohibit state and local agencies from collecting, using and retaining biometric data

# States Regulating Commercial Use of Biometric Data



Powered by Bing  
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# GDPR Requirements

- 01** Explicit consent (or another exception applies)
- 02** Notification of a breach
- 03** Right to access data
- 04** Right to withdraw consent at any time
- 05** Right of portability, i.e., to update data and use
- 06** Use of privacy by design
- 07** Certain companies must have Data Protection Officers

# Trends

- Proliferation of state laws
- Congressional legislation on biometric data and protection of privacy
- Judicial decisions related to heightened or pervasive technology
- Global consensus on privacy

# Best Practices

- Include privacy and security protections
- Limit the scope of collection
- Clearly communicate policies
- Provide reasonable accommodation required by law such as for religious reasons or Americans with Disabilities Act
- Identify and address union issues
- Meet with those raising privacy concerns



# Cyber and Privacy Breaches

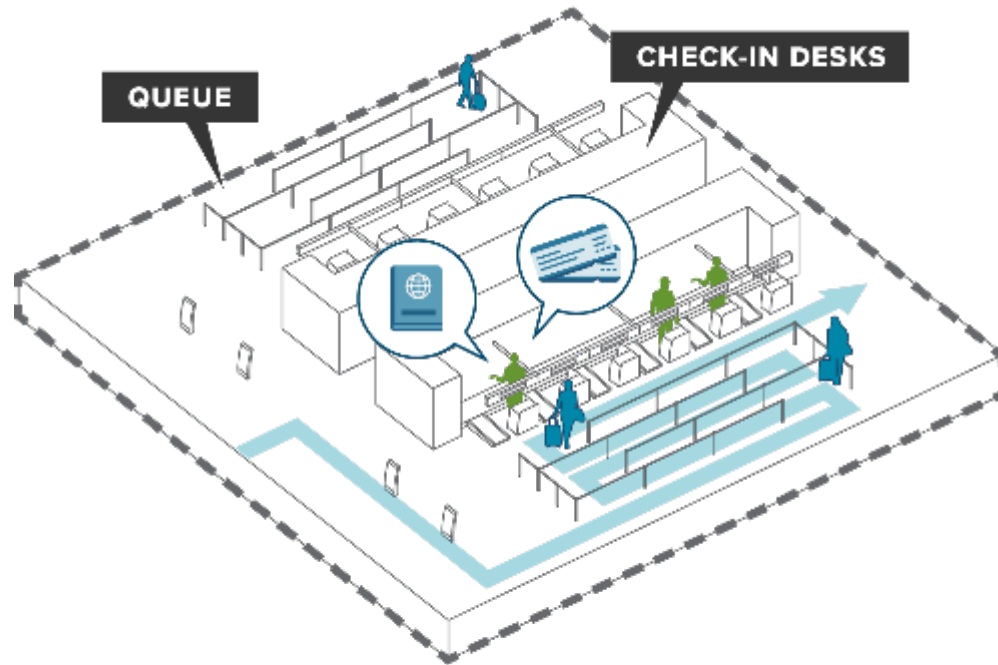
Mass Surveillance Cannot be Confused with Typical Airport Use Cases



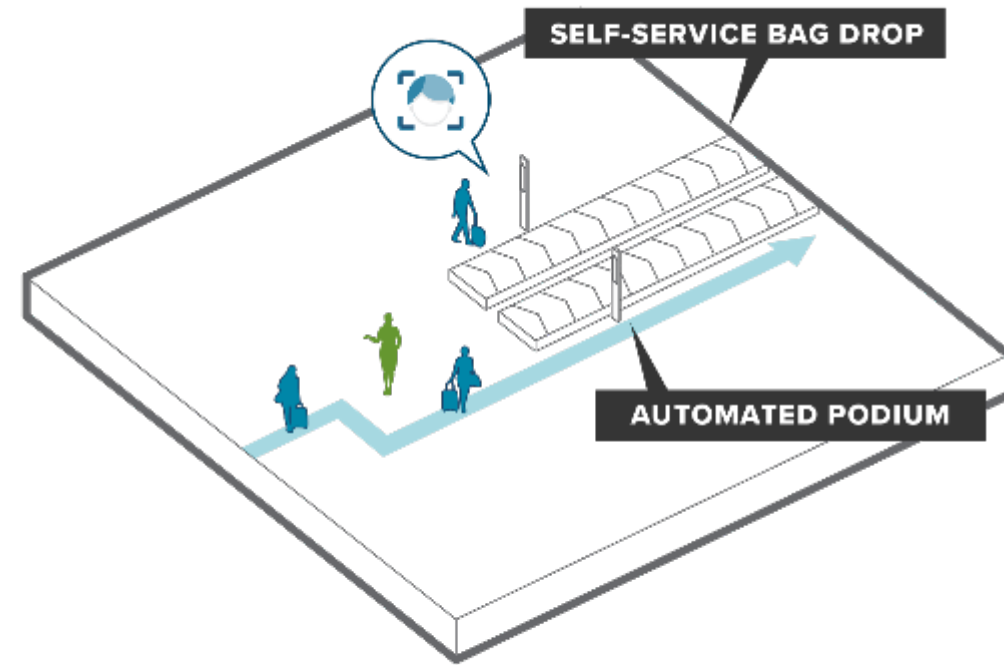
# Benefits of Biometrics at Airports

- Touchless identity verification
- Safety and security:
- Seamless passenger journey
- Faster processing due to automatization of processes

# Check-in and bag-drop

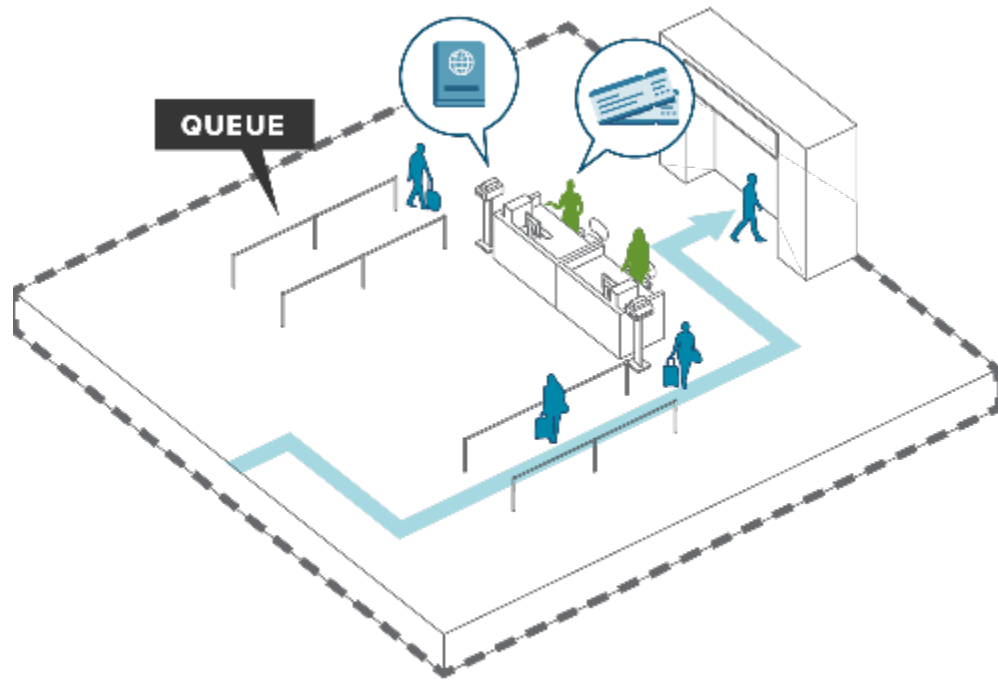


Old Way

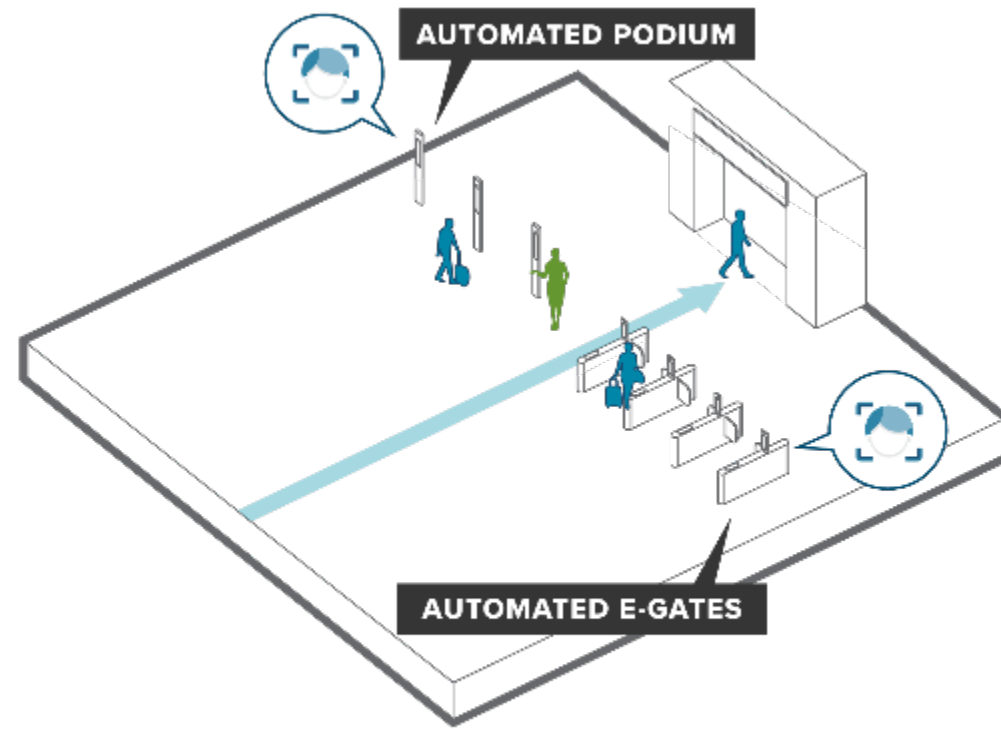


New Way

# Boarding gates

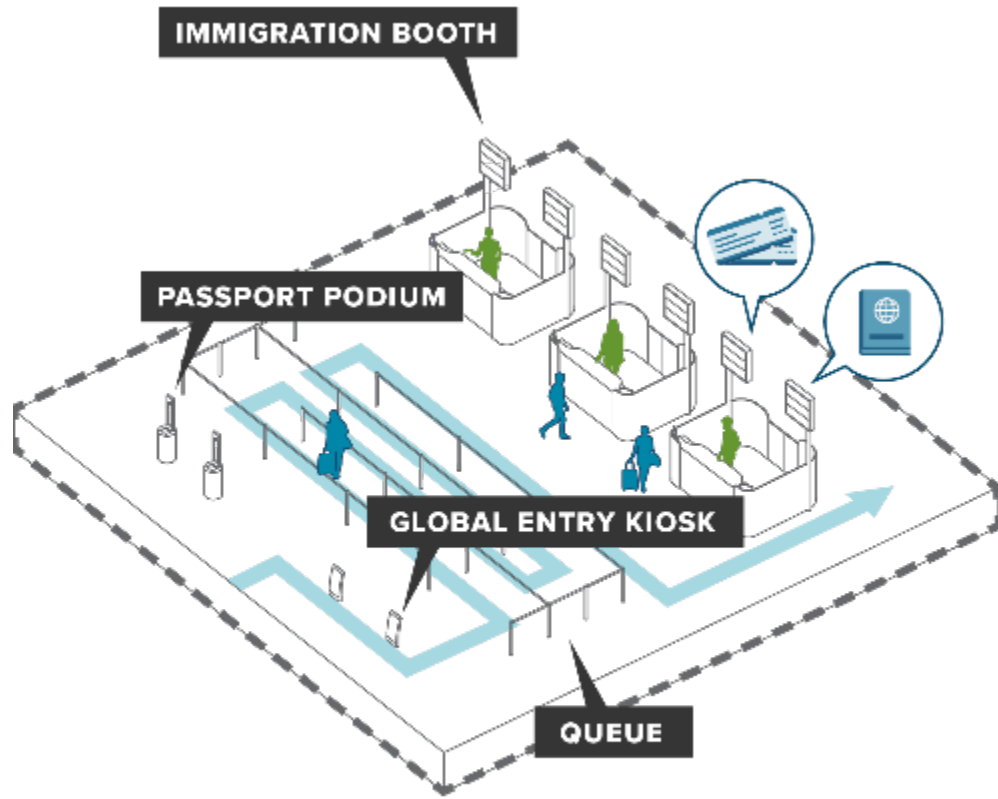


Old Way

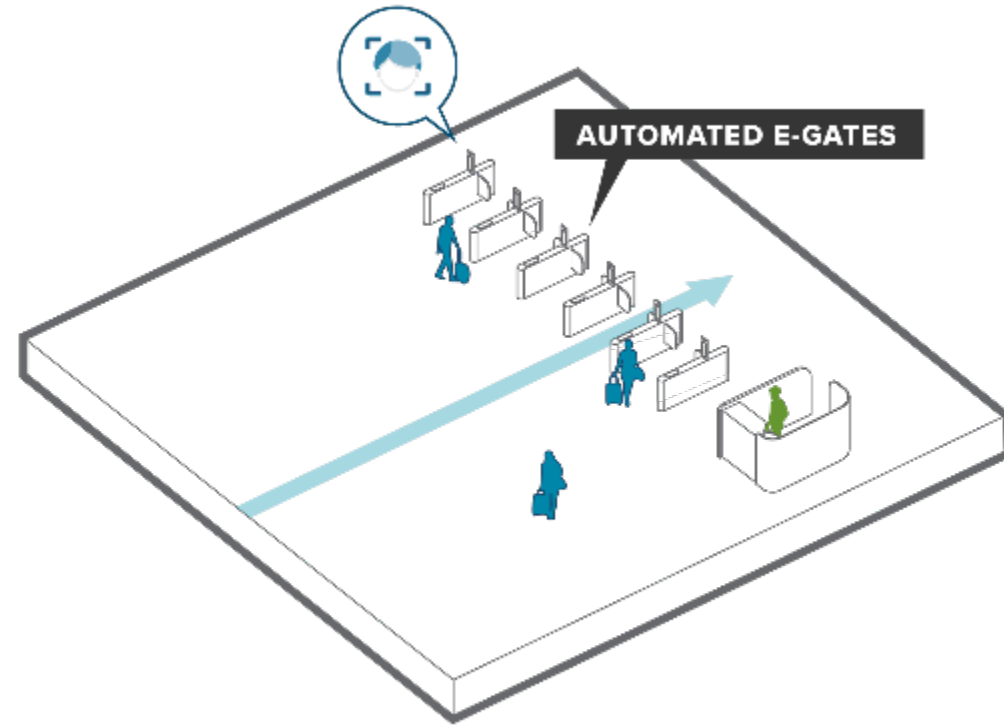


New Way

# Border processes

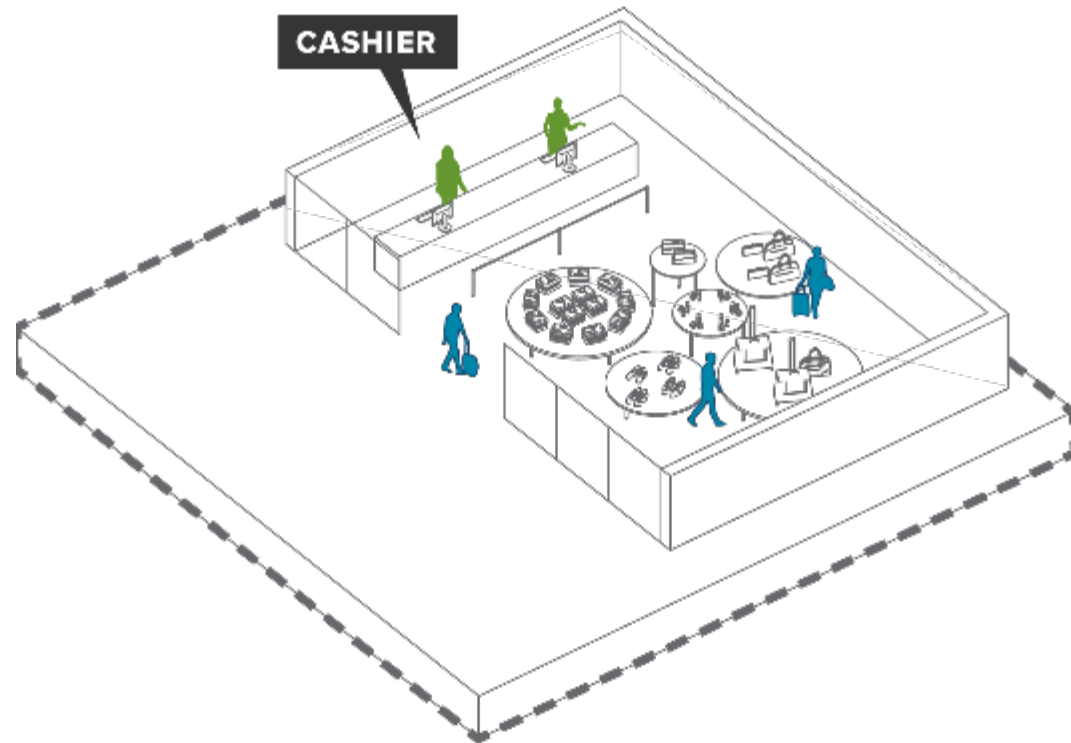


Old Way

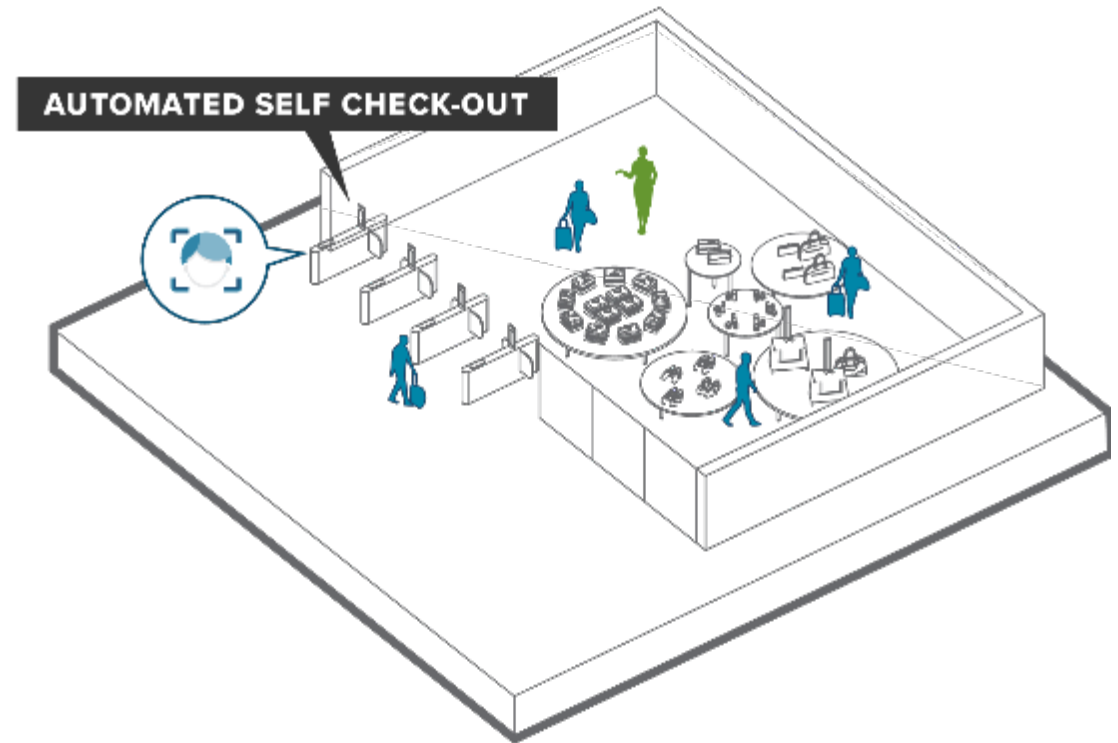


New Way

# Grab-and-go retail, lounge access, F&B...



Old Way



New Way

# Biometrics in 2022 and 2023: what to look out for?



# Biometrics in 2022 and 2023: what to look out for?





# Biometrics in 2022 and 2023: what to look out for?

## Leveraging Smartphones

As adoption rates of smartphones grows to 90% and beyond, there is a critical mass of two-way communication that can be supported with on-device

5



## Integrated and multi-stakeholder biometrics

The age of single-purpose biometrics is giving way to a more complicated, but powerful, model for multi-use biometrics. Enrolment processes are minimized, with maximum potential participation.

1

## KEY BIOMETRICS TRENDS

Based on extensive interviews with deployments

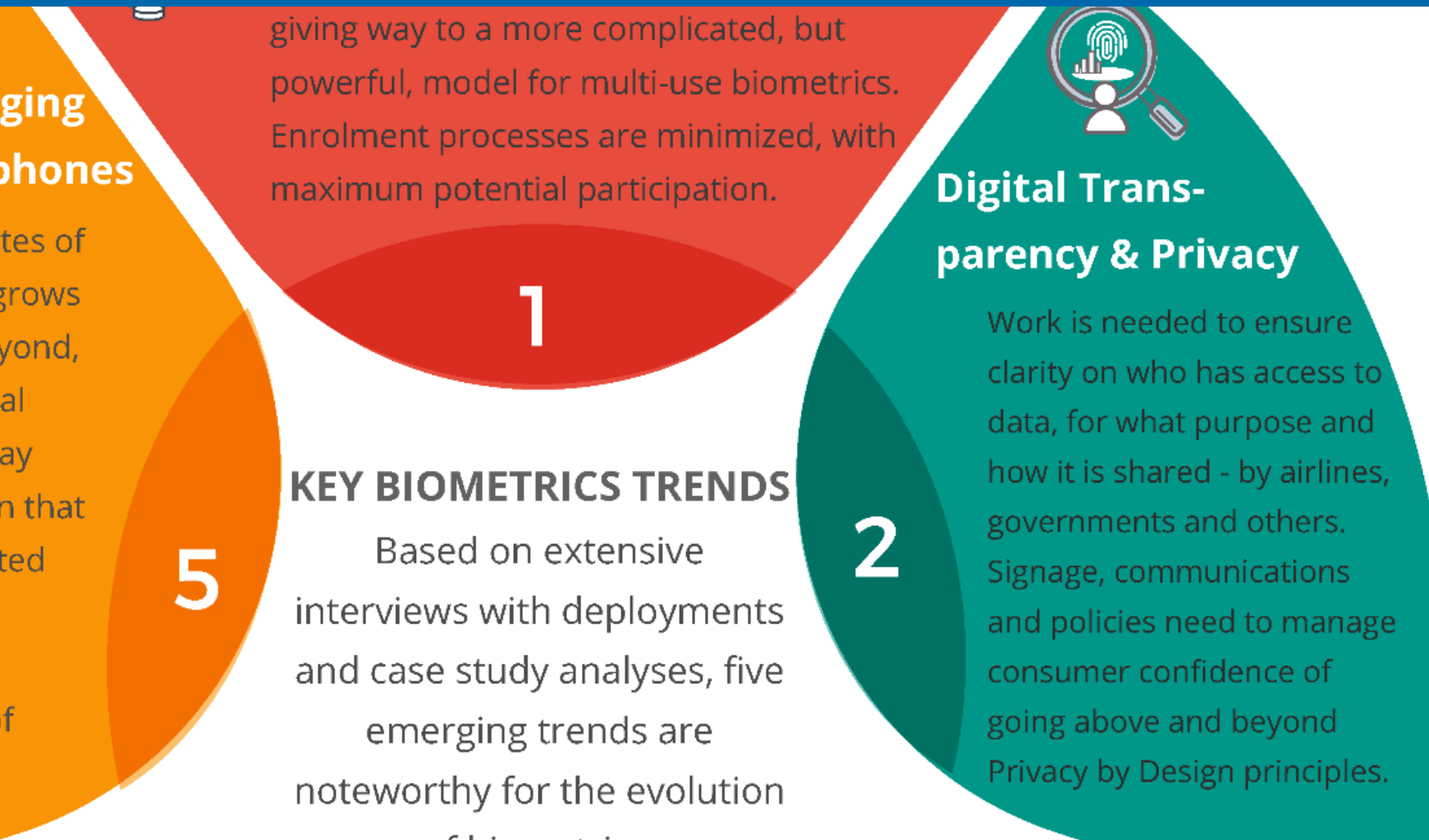


## Digital Transparency & Privacy

Work is needed to ensure clarity on who has access to data, for what purpose and how it is shared - by airlines, governments and others. Signage, communications and policies need to manage

2

# Biometrics in 2022 and 2023: what to look out for?



# Biometrics in 2022 and 2023: what to look out for?

tials.

noteworthy for the evolution  
of biometrics.



4

## Setting Global Standards

ally in an age of COVID-19 recovery, there is the need for common, inter-operable standards to be supported worldwide. Rooted on work for the ICAO Digital Travel Credential and existing initiatives like IATA One ID.

3

## Identity Verification Solutions

(not Mass Surveillance)

Biometrics at airports can be confused easily with mass surveillance tools and police law enforcement activities. Biometrics at airports must be repositioned as *verifying* identity.



# Biometrics in 2022 and 2023: what to look out for?



credentials.



4

## Emerging Global Standards

Especially in an age of COVID-19 recovery, there is the need for common, inter-operable standards to be supported worldwide. Rooted on work for the ICAO Digital Travel Credential and existing initiatives like IATA One ID.

noteworthy for the evolution of biometrics.

3

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Biometrics at airports can be confused easily with mass surveillance tools and police law enforcement activities. Biometrics at airports must be repositioned as *verifying* identity.



# Biometrics in 2022 and 2023: what to look out for?

## Leveraging Smartphones

As adoption rates of smartphones grows to 90% and beyond, there is a critical mass of two-way communication that can be supported with on-device biometrics, or transmission of digital travel credentials.



5

giving way to a more complicated, but powerful, model for multi-use biometrics. Enrolment processes are minimized, with maximum potential participation.

1

## KEY BIOMETRICS TRENDS

Based on extensive interviews with deployments and case study analyses, five emerging trends are noteworthy for the evolution of biometrics

## Digital parent

Work  
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# Biometrics in 2022 and 2023: what to look out for?



# Focus: Return on Investment



Time Savings

Low



High

Staffing Savings (to airlines)

Low



High

Stakeholder Involvement

High



Low

Space Savings

Low



High

Fixed

Fixed



Mobile

# Focus: Return on Investment



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High

— Fixed

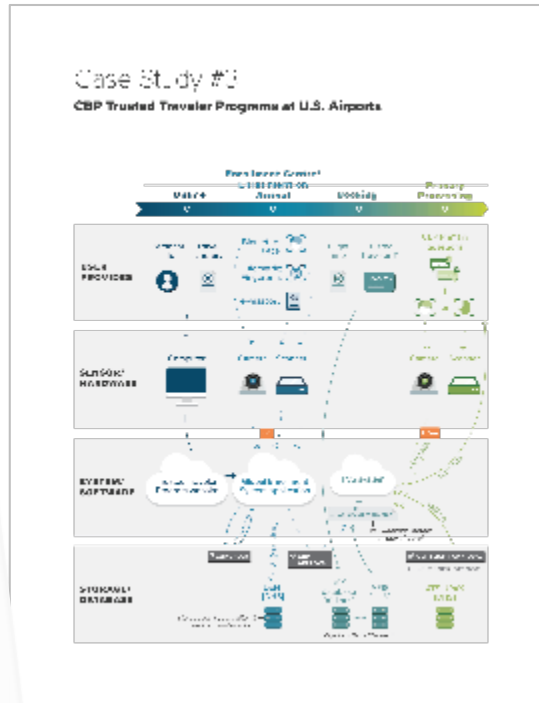
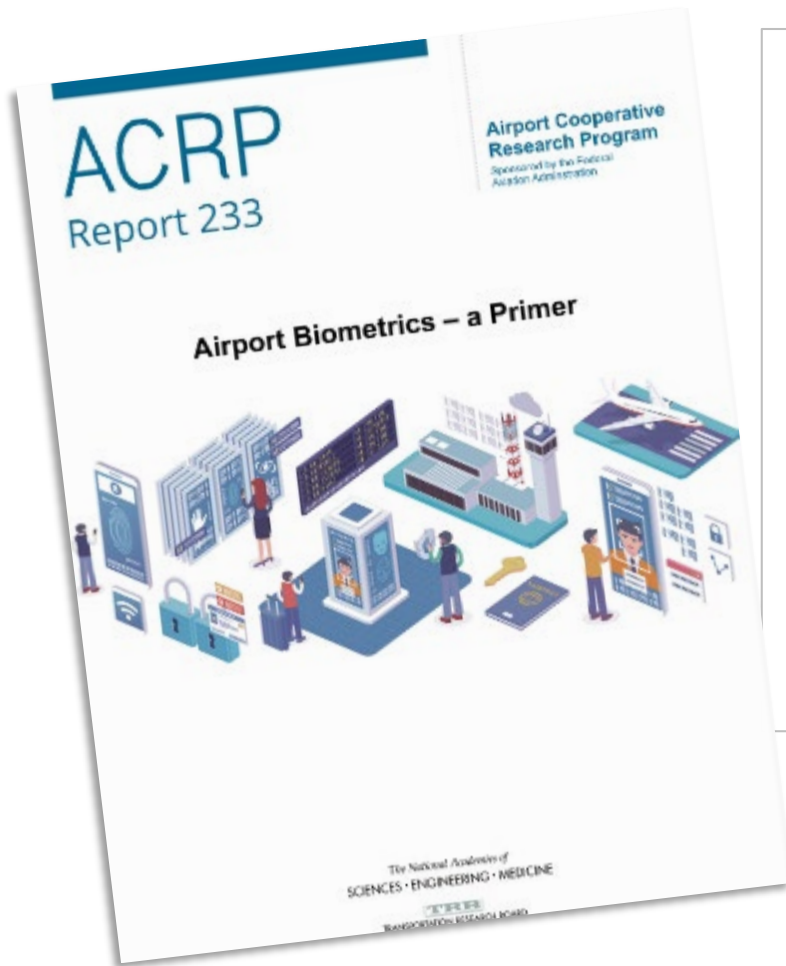
Fixed



Mobile



# FOR ADDITIONAL INFORMATION



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## Other Events for You:

**ACRP Webinar**

**July 26, 2022**

**Strings Attached—Permissible Uses of  
Airport Property and Revenue**

**September 19-21, 2022**

**Conference on Scenario Planning in Transportation**

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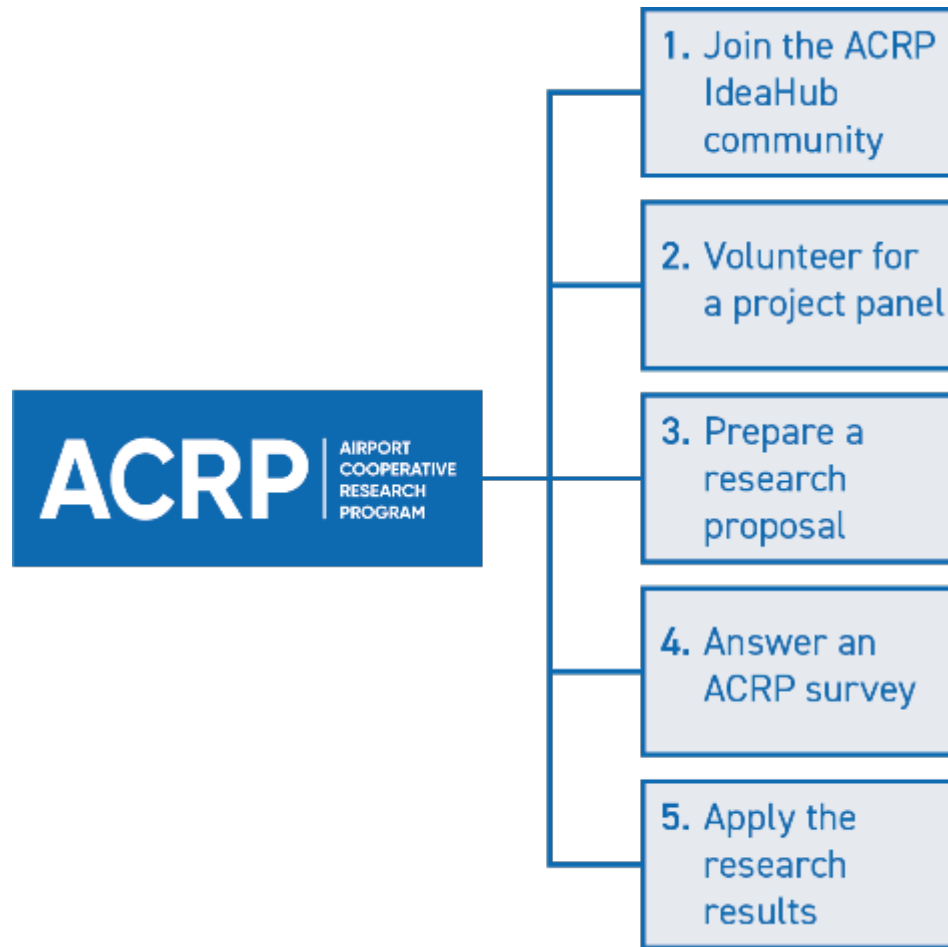
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# Other ACRP Research on Today's Topic

Research Report 30: [\*Reference Guide on Understanding Common Use at Airports\*](#)

Research Report 136: [\*Implementing Integrated Self-Service at Airports\*](#)

Research Report 157: [\*Improving the Airport Customer Experience\*](#)

Research Report 231: [\*Evaluating the Traveler's Perspective to Improve the Airport Customer Experience\*](#)

Research Report 235: [\*Guidebook on Conducting Airport User Surveys and Other Customer Research\*](#)

Legal Research Digest 42: [\*Legal Implications of Data Collection at Airports\*](#)

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