

Report Proposal

The Seamless Passenger Journey in Smart Airports

Biometrics, Digital Identity and Smart Solutions for
Self-Service, Automation and Traveller Processing to
Improve the Passenger Experience, Increase Efficiency
and Build Revenue Streams for Airports and Airlines

Introduction

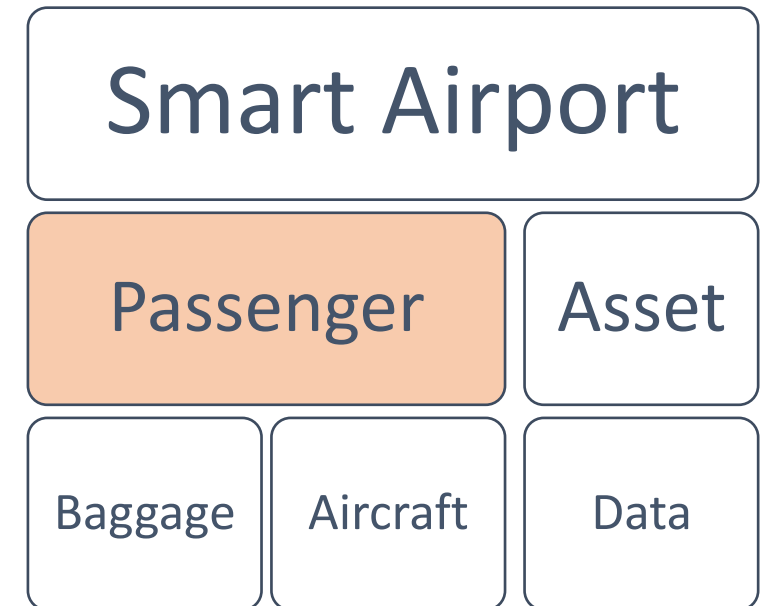
- The last few years have seen continued investment in smart technologies by airports and airlines with an aim to remain competitive, improve the passenger experience and enhance both safety and security. COVID-19 will see much increased adoption of these technologies as airports seek to aid recovery, provide confidence to the public and find new efficiencies.
- At the same time, passengers have heightened expectations due to the rapid development of digital capabilities in wider society, including ecommerce, mobile apps, retail, financial services, health and the smart home.
- With a specific focus on the passenger facing journey (departures, arrivals and connecting journeys), this report will provide insight, guidance and trends exploring if, how, where and when these technologies will be introduced, as well as the driving forces, barriers and external factors associated with their deployment.
- It will also explore both on and off airport activity and look at specific touchpoints and industry trends associated with identify digitisation, the adoption of biometric technologies and how they will enhance passenger processing.
- The report will additionally explore how health screening and status will be incorporated into the seamless passenger journey in the post-COVID-19 environment.
- Based on extensive primary research with the leading providers of smart airport technologies, the report will provide an unparalleled insight into the current and future development of the market and gives interested parties the opportunity to tailor the scope to meet specific requirements prior to commencement.

Objectives + Purpose (1 OF 2)

The report will focus on the passenger journey through the airport. It will be conducted with engagement of airports, airlines and solution/tech vendors to produce a detailed analysis of industry opinion, awareness and understanding, expectations and market readiness.

Key features include:

- An update and insight on the current market status and future direction of key passenger touchpoints and digitisation of identity management
- A clear understanding of the factors influencing the market's development with analysis of the factors that are driving and inhibiting the introduction of self service and biometrics
- Accurate data on the market size (attach rates, devices in use, market value) for each product category and industry/sector
- An assessment and guidance on the likely trends to further enhance the passenger journey in a post-COVID-19 world



Objectives + Purpose (2 OF 2)

- This report will help businesses:
 - Understand market demand and trends for touchpoint and identity management from a device/product perspective and the use cases related to each
 - Prepare by identifying and maximising benefits and opportunities and addressing risks and threats
 - Make strategic business decisions relating to self-service and biometrics component/device manufacturing, market adoption, target markets and business models
 - Communicate with customers and align with partners regarding self-service and biometric deployments to develop better, more attractive propositions



Whilst this report will focus on the passenger journey, further reports associated with smart technologies in baggage, aircraft and asset management are expected at a later date (TBC). A separate report on the impact of data sharing and operational planning is also being considered.

Audience

This report is designed for those looking to understand the trends in smart airports related to facilitation of the passenger journey including the products currently deployed and the future opportunities. It is targeted primarily at airlines, airport operators, technology vendors, solution suppliers, systems integrators, government organisations and industry bodies/regulators.

Benefits to these stakeholders include:

- Offering a blueprint for technology adoption to enable a seamless journey
- Informing strategy and the development of new operating models
- Outlining a pathway for an improved passenger experience
- Providing a product roadmap and understanding what stakeholders are looking for
- Understanding where standards and new/amended regulations are required

Companies of Interest

The following is a list of companies identified as being relevant and of interest in relation to this report. NB: this is a representative list of smart airport stakeholders and is intended to provide guidance as to the companies we wish to speak with as part of the research process. This list is not definitive or exclusive and other companies will be included within the research for this report.

Airports

UK	Europe	Middle East	Asia Pacific	Oceania	Africa	North America + Caribbean	Latin America
Heathrow Birmingham Edinburgh	Munich Amsterdam Schiphol Palma de Mallorca	Doha Dubai	Singapore Hong Kong Bangalore Tokyo Haneda	Auckland Brisbane	Nairobi Mauritius	Vancouver Cincinnati Aruba JFK Atlanta Detroit	Rio de Janeiro

Airlines

Low-Cost	Full Service	Alliance
Air Asia Easyjet JetBlue South West	Delta British Airways Lufthansa Emirates Cathay Pacific	IAG Star Alliance

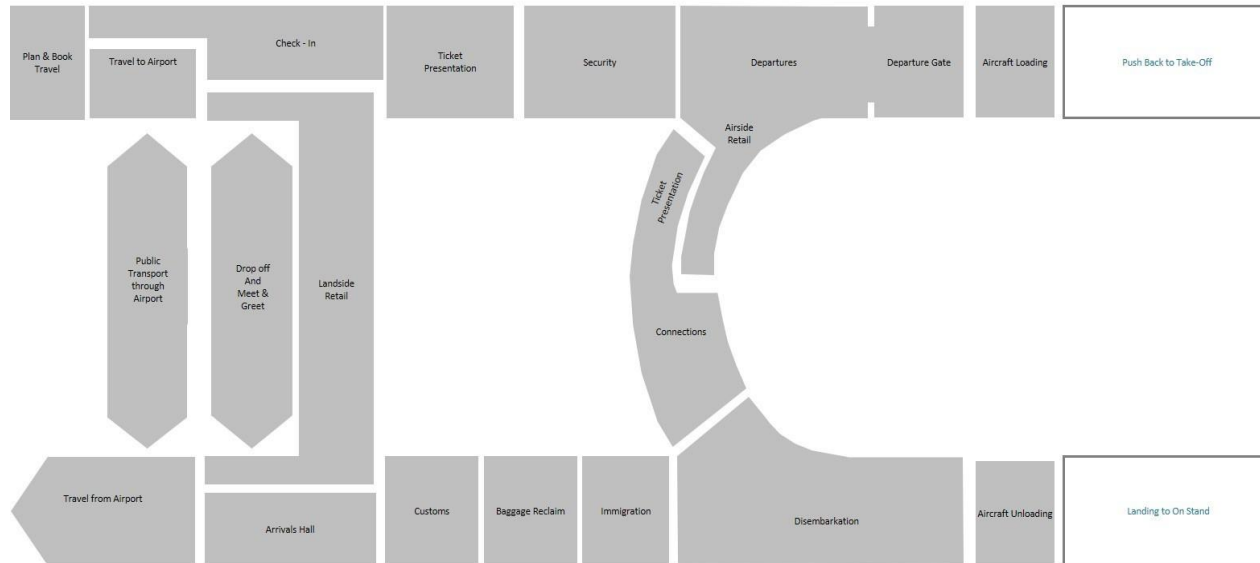
Vendors

Thales IDEMIA Giesecke & Devrient / Veridos NEC	Leidos Amadeus T-Systems Linkware Pointr Samsung	Vision-Box Collins SITA Panasonic Ericsson HPE	SmartSky DXC Honeywell IER IAR Elenium	Tascent iProov Acuant Daon Unisys secuNet
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Scope: Content + Structure

(1 OF 3)

The report will focus on the passenger journey at the airport (departures, arrivals and connection flows) and will provide a glimpse of how this journey could change in future. It will explore both on and off airport activities associated with the facilitation of the passenger journey



Touchpoints

- Check-In
- Bag-Drop
- Security
- Departure Hall + Airside Retail
- Boarding Gates
- Connections
- Immigration + Customs
- Border Control
- Baggage Reclaim
- Travel to / from Airport

Technologies / Solutions

- Self-Service (Kiosks, eGates, Baggage Handling)
- Biometrics + Identity Management
- Digital Screens + Wayfinding
- Common-Use Payment
- Location-Based Services
- AI
- Sensors
- Mobile
- Flow Management / Queue Measurement
- Passenger Communication
- Visa / Document Checking
- Health Status

Scope: Content + Structure

(2 OF 3)

Recognising the continuous investment and advancement in smart airport technologies, the report will use the following time horizons. These also reflect the likely pathway to recovery in the aviation market, which has been severely impacted by COVID-19.

Now (Up to 2 Years)	Near (2-5 Years)	Next (5 Years Plus)
Minimise Impact and Recover	Build Back Better	Plan For Growth

- The report will explore external influences and emerging trends which may disrupt/challenge the passenger journey in the future. Furthermore, it will look at the issues and challenges airports face in the deployment of these technologies.
- Whilst the aviation sector is a global ecosystem, the report will seek to provide a breakdown by region. We will seek to outline the benefits of smart technology deployments for each airport ecosystem stakeholder namely: airport, airlines, governments, and passengers.

Scope: Content + Structure

(3 OF 3)

The report is expected to be in the region of 80-100 pages in length, providing a thorough and detailed yet concise review and analysis of the market, the outlook and timeline for future adoption.

The format of the report is expected to be:

- Introduction, Scope & Methodology: background and explanation of the report's purpose and coverage
- State of the Union: market summary, industry trends and progress to date, significant news and developments relating to stakeholders, products/services and end markets, highlighting key trends
- Technology at key touchpoints: analysis and review, summary of product background and development, comparison of capabilities and use cases.
- Outlook: detailing assumptions and future trends with discussion of how these will shape the development of the market, including any alternative scenarios/outcomes dependent upon key factors/assumptions
- Ecosystem: review of the competitive environment, analysis of the leading stakeholders and any potential disruptors/new entrants

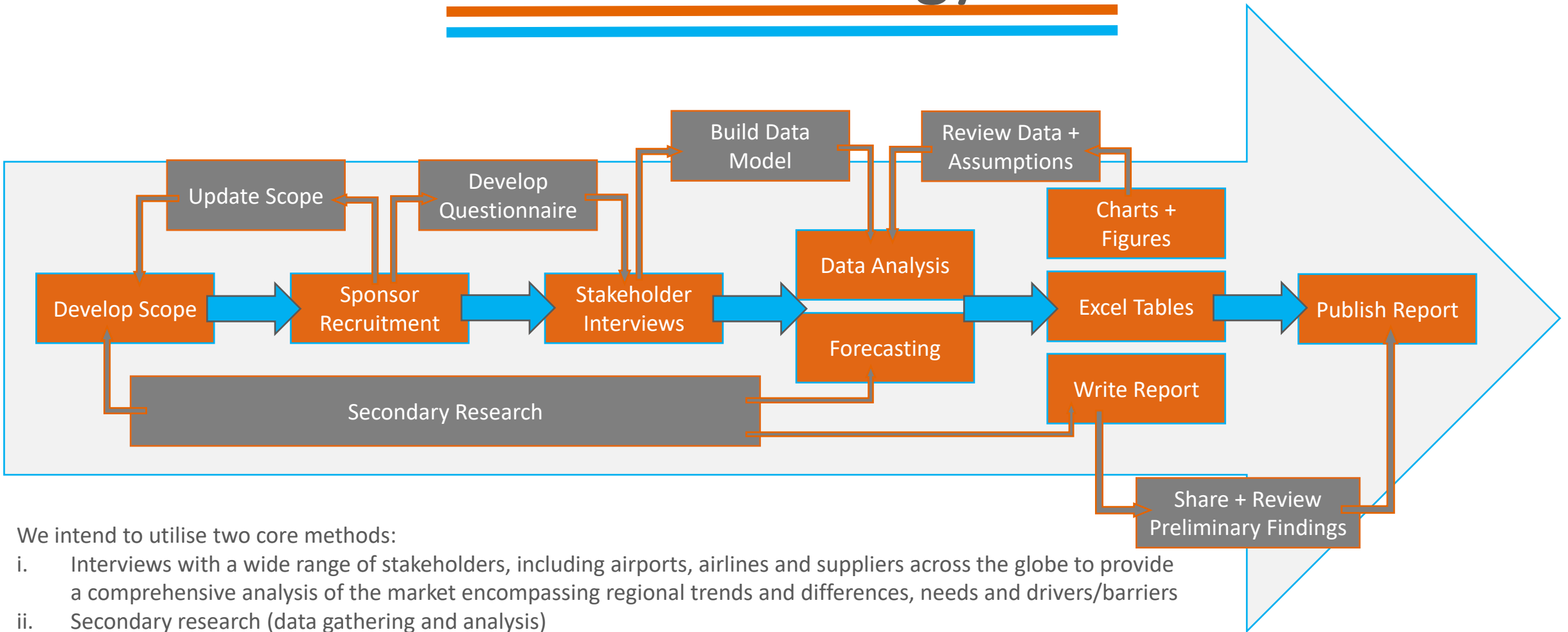
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Methodology



We intend to utilise two core methods:

- i. Interviews with a wide range of stakeholders, including airports, airlines and suppliers across the globe to provide a comprehensive analysis of the market encompassing regional trends and differences, needs and drivers/barriers
- ii. Secondary research (data gathering and analysis)

We also plan to share preliminary findings with early purchasers and selected industry contacts to ensure accuracy and viability of conclusions and data.

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Key Questions

- What are airports' and airlines' priorities in response to recovering from the COVID-19 disruption?
- How will new technologies be introduced to improve the passenger journey?
- Which smart airport applications/touchpoints will see new technologies introduced and when?
- Will these multiple technologies be employed as standalone solutions or as part of an integrated smart airport platform?
- What will be the balance of technology versus the human touch and how will it impact the passenger experience?
- How will smart technologies support/impact accessibility and inclusivity needs in the airport?
- How will smart technologies support recovery associated with the decline caused by COVID-19?
- How will smart airport solutions provide an opportunity for airlines, airports and their partners to improve the passenger experience?
- What are the driving forces affecting adoption of new technologies and what is their motivation?
- Which companies are leading the delivery of smart airport solutions? What is airport operators' understanding of the supplier environment?
- How will companies need to adjust to survive and thrive in the evolving airport ecosystem?
- Which application(s) will evolve and/or be replaced in the next 2, 5 and 10 years?

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Data Points + Forecasts

(1 OF 5)

- Number of airports by type (domestic, international, hub) and passenger volume
- Number of installations and touchpoints by application (installed base)
- Adoption of smart airport solutions by application / touchpoint (market penetration)
- Annual value of technology sales by solution type
- Technologies by application / touchpoint (annual shipments / installations)
- Location / deployment in the passenger journey
- Regional breakdown
- ASPs and revenues in USD \$
- Data will provided from 2020-2025 with guidance on longer-term trends to 2030

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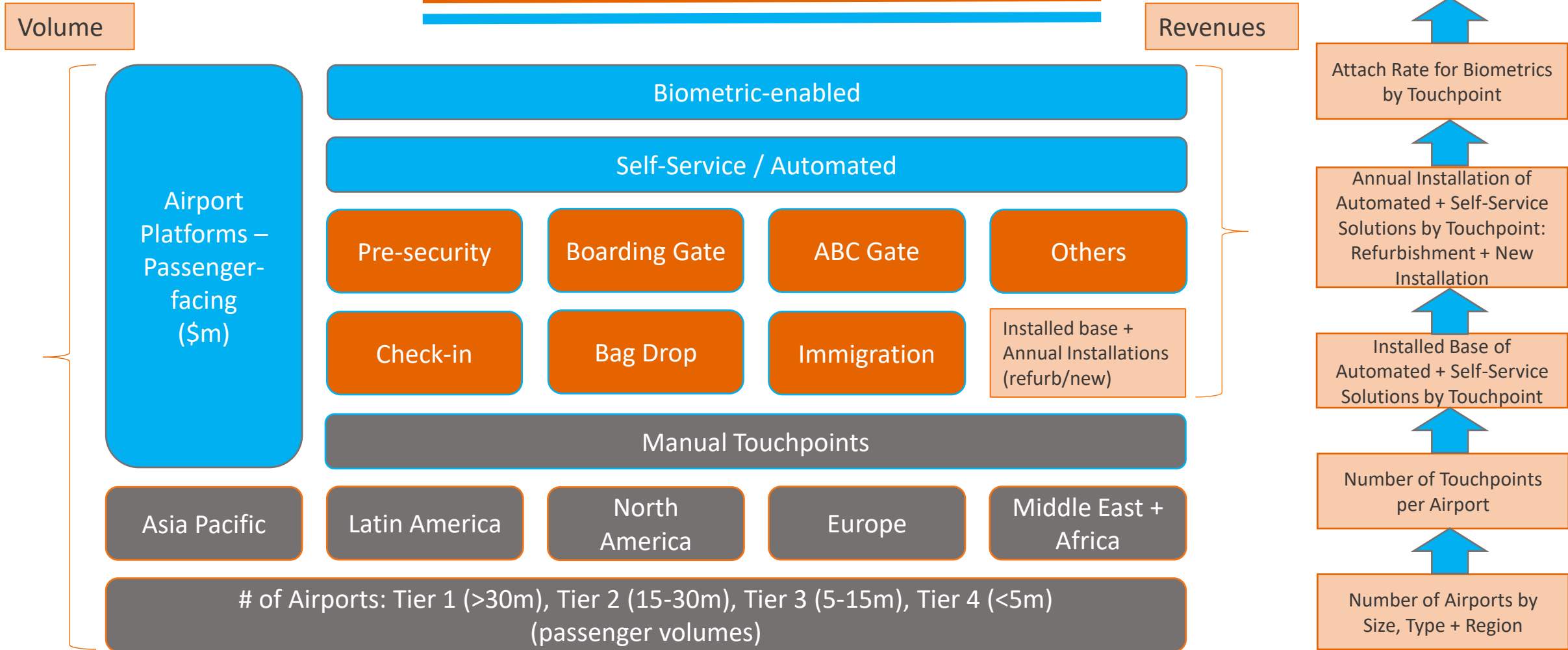


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Data Points + Forecasts

(2 OF 5)



Data Points + Forecasts

(3 OF 5)

Sample Tables to Demonstrate Report Output

	2020	2021	2022	2023	2024	2025 CAGR (20-	2030 CAGR (20-
Number of Airports (000's)							
Tier 1 (>30m)							
Tier 2 (15-30m)							
Tier 3 (5-15m)							
Tier 4 (<5m)							
Number of Touchpoints (Installed Base - 000's)							
Desks/Kiosks							
Check-In							
Bag-Drop							
Combined Bag-Drop + Check-In							
Immigration							
Total Desks/Kiosks							
Stations/Gates							
Pre-Security							
Boarding							
Border Control							
Others							
(e.g. Retail, Lounge, Anti-Return, Security)							
Total Stations/Gates							
Number of Smart Touchpoints (Installed Base - 000's)							
Desks/Kiosks							
Check-In							
Bag-Drop							
Combined Bag-Drop + Check-In							
Immigration							
Total Installed Self-Service Kiosks							
Stations/Gates							
Pre-Security							
Boarding							
Border Control							
Others (e.g. Retail, Lounge, Anti-Return, Security)							
Total Installed eGates							

Number of airports for each region (and major country), categorised into four tiers by passenger volume

Assumptions on the number of manual and automated touchpoints to show the installed base by type, factoring in flight and passenger volumes, and type of airport

Penetration rate for self-service and automated touchpoints to show the installed base of smart passenger-facing touchpoints, aided by long-term tracking of market development and contract announcements over the past five years

Data Points + Forecasts

(4 OF 5)

Sample Tables to Demonstrate Report Output

	2020	2021	2022	2023	2024	2025 CAGR (20-25)	2030 CAGR (20-30)
Number of Smart Touchpoints (Annual Installations - 000's) Refurbishment/Upgrades + New Installations							
Self-Service Kiosks							
Check-In							
Bag-Drop							
Combined Bag-Drop + Check-In							
Immigration							
Total Annual Self-Service Kiosk Installations							
eGates							
Pre-Security							
Boarding							
Border Control							
Others (e.g. Retail, Lounge, Anti-Return, Security)							
Total Annual eGate Installations							
Number of Biometric-Enabled Touchpoints (Attach Rate - 000's) Refurbishment/Upgrades + New Installations							
Self-Service Kiosks							
Check-In							
Bag-Drop							
Combined Bag-Drop + Check-In							
Immigration							
Total Annual Biometric Installations - Self-Service Kiosks							
eGates							
Pre-Security							
Boarding							
Border Control							
Others (e.g. Retail, Lounge, Anti-Return, Security)							
Total Annual Biometric Installations - eGates							

Annual installations of smart touchpoints by type – both for refurbishments/upgrades and full replacement/new installations – taking into account equipment lifecycle, airport ownership, investment, commercial, funding and airline partner strategies

Attach rate for biometric solutions based upon vendor research, government regulatory policy, airport and airline requirements to demonstrate market development, progressing from standalone automation to combined automation with biometrics by touchpoint

Data Points + Forecasts

(5 OF 5)

Sample Tables to Demonstrate Report Output

	2020	2021	2022	2023	2024	2025 CAGR (20-25)	2030 CAGR (20-30)
Smart Touchpoints (Annual Revenues - \$m)							
Refurbishment/Upgrades + New Installations							
Self-Service Kiosks							
Check-In							
Bag-Drop							
Combined Bag-Drop + Check-In							
Immigration							
Total Annual Self-Service Kiosk Revenues							
eGates							
Pre-Security							
Boarding							
Border Control							
Others (e.g. Retail, Lounge, Anti-Return, Security)							
Total Annual eGate Revenues							
Passenger Facing Airport Platform/System Revenues (\$m)							
Total Smart Airport - Passenger Journey Market Value (\$m)							

Assumed ASPs will be presented by touchpoint (taking into account the relevant commercial, financial, ownership, strategy and social factors) to drive out the annual revenues by type of touchpoint and solution

Vendor feedback on the provision of related passenger-facing airport platforms/systems, taking into account the business models (and previously mentioned financial factors/trends), CAPEX vs. OPEX, SaaS and potential new partnerships between vendors and airports/airlines

Schedule + Cost + Options

- Initial scoping and discussion: June-July 2020
- Primary and secondary Research: August-September 2020
- Publish Preliminary Data: October 2020
- Publish Report: November 2020

- Pre-Publication Price (20% discount): £4,000 / €4,600 / \$5,200
- Post-Publication Price: £5,000 / €5,750 / \$6,500

- Please contact P.A.ID Strategies or Valour Consultancy to purchase the report
- Contacts:
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 - Craig Foster, craig.foster@valourconsultancy.com, +44 7751 672 390

Summary + Benefits

- This report will provide the most detailed analysis of solutions to enhance the passenger journey in smart airports
- All market data and forecasts will be provided in Excel for clients to make use of themselves
- Analyst access and engagement with a presentation of the findings – with Q&A – are included as part of the report purchase to give clients the opportunity to gain direct insight into the analyst's research findings and conclusions
- Concise update on the market, latest trends, future roadmap and market direction with assumptions clearly explained
- Understand market demand and the commercial forces shaping and impacting the outlook
- Identify opportunities and adapt to new market conditions
- Have a clear blueprint on how to implement a smart passenger experience and understand the efficiencies and ROI



About Us



P.A.ID Strategies

Payments - Authentication - Identity

- P.A.ID Strategies provides you with the information and intelligence to understand your environment & help you make better business decisions. We aim to work with our clients as partners, assisting with their market intelligence, strategy and business planning.
- Our focus is on Payments, Authentication, Identity (P.A.ID) and the Security and Connectivity of people, devices, objects and transactions in an increasingly digitised and connected world.
- Analyst, consulting + marketing experience with leading vendors across digital identity, biometrics, smart cards, government ID credentials / eID, mobile, M2M + IoT, embedded security, platforms, services.
- We address innovation and disruptive technologies, strategies, companies by relating the application of technology to business processes, commercial situations, customer proposition and demand.



- Valour Consultancy is an award-winning provider of market intelligence services. Headquartered in Grantham, UK and with additional offices in London and in Melbourne, Australia, the company has grown rapidly since its founding in 2012.
- Valour is renowned for its comprehensive and high-quality research and consultancy services and many of the world's best known companies rely on its expert insight and analysis.
- Coverage areas span commercial and business aviation, airports, maritime, the Internet of Things, consumer electronics and more.
- The company continues to operate in accordance with the three core values it was founded on – Honesty, Trust and Time. Doing so has enabled Valour Consultancy to deliver detailed and meaningful insight and establish long-lasting relationships in the process.

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