

The Global Automated Border Control Industry Report: Airport eGates & Kiosks

Market Analysis and Forecasts 2014 - 2018

Comprehensive Market Data - Critical Insight - Targeted Revenue Forecasts

February 2014 Acuity Market Intelligence





Report Overview

Scope: This report presents data driven insight into the worldwide opportunity for the development and

deployment of Automated Border Control (ABC) eGates and Kiosks at Airports.

OBJECTIVE: To present global and regional market forecasts that provide the basis for short-term, mid-range,

and long-term strategic planning for technology and solution development, market investment,

and phased adoption of Airport ABC eGates and Kiosks.

AUDIENCE: Individuals responsible for strategic planning, business and market development, investments,

and sales related to ABC initiatives including vendors, integrators, investors, consultants, solution

providers, and public and private sector staff responsible for evaluating, developing and

implementing ABC programs.

METHODOLOGY: Data is drawn from significant market and technical developments, tests, pilots and

> deployments, public domain and private data sources, research and reports, surveys, and interviews with vendors, integrators, intermediaries, customers, privacy and civil liberties advocates, and other relevant technology and leading industry experts. Forecasts are derived from modeling market opportunities based on public domain and proprietary primary data and secondary data sources and are flexibly structured to account for known and predictive factors. Primary data determines known model data. Models are then adjusted to reflect current deployments, anticipated projects, existing and planned infrastructure, and market drivers and disruptors. Conservative assumptions for predictive factors such as technology pricing and

anticipated adoption rates are introduced to determine forecasts.

KEY CONCLUSION: By 2018, the market for Airport ABC eGates and Kiosks will exceed \$737 million US annually

> growing at a CAGR of 18.2% between 2014 and 2018. Revenue growth will be on track to reach a sustainable level of \$1 billion US annually by 2020. Europe will dominate the global market in terms of both units sold and revenue through the forecast period reaching nearly 50% annual

market share by 2018.

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About Acuity Market Intelligence

Acuity Market Intelligence is an emerging technology strategy and research consultancy with a proven record of accurately anticipating Biometric and Electronic Identity (eID) market trends. Founded in 2001 to bring strategic market development expertise to the nascent biometrics market, Acuity consistently provides original, thought-provoking, accurate, and reliable biometric and eID industry insight and analysis. Acuity's data-driven approach provides Clients with critical market intelligence that supports the creation and implementation of market development strategies that produce quantifiable results.

Market Development Expertise

Acuity Market Intelligence provides Biometrics and eID data driven market analysis grounded in a thorough understanding of technology concepts and processes. As the electronic identity revolution unfolds, Acuity will continue to help vendors, integrators, investors, policy makers, and commercial executives clarify the context and quantify the data that is required to understand this rapidly evolving eID marketplace.

Acuity's expertise is applied in 5 key areas:

- Market Analysis Identification and evaluation of key technological developments, market trends, industry players, and deployment effectiveness.
- **Opportunity Analysis** Vertical market segmentation and identification, prioritization, and sizing of the most lucrative opportunities for a given product, service, or solution.
- Solutions Analysis Requirements and functional specifications
- **Due Diligence** Evaluation of market players to ensure:
 - o Opportunities have been adequately and accurately assessed.
 - Financial, operational, and strategic plans are in place to create sustainable market viability.
 - o Product and service quality can be demonstrated.
- Strategic Planning Creation of highly leveragable plans to develop, evaluate, and deploy emerging technology-based solutions with the objective of achieving the highest level of customer satisfaction and sustained market dominance.

Customized Services

Clients leverage Acuity's knowledge and expertise through a range of off-the-shelf, semi-custom, and fully custom product and service offerings. These include:

Executive Briefings/Strategy Sessions – Interactive sessions provide targeted insight to Executives. **Consulting** – Custom projects designed to support specific Client objectives.

Segment Tracking – On-going coverage of technologies, players, market drivers and dynamics of a particular industry sector or technology marketplace.

Reports – Periodic and one-off targeted analyses focused on a range of topics including: technology evolution, application development, vertical market adoption, opportunity, and competitive analyses.

Research – Standard and custom research projects designed to address specific knowledge gaps.

Workshops – One-to-two day intensives presenting Acuity's proprietary methodology for applying proven tools and techniques to identify, prioritize, and size market opportunities.

Please contact Acuity Market Intelligence for additional information on services, availability, and fees.

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Preface

February 2014

In July 2010, in *The Global ePassport and eVisa Industry Report*, Acuity projected that as ePassports became mainstream and significant penetration was achieved, the next logical step in overall market development was the proliferation of Automated Border Control (ABC) eGates. And, that 2014 would be the year that ABC eGates would begin to gain significant traction in the global marketplace. It seems fitting then that as 2014 begins, Acuity introduces the latest of its global industry reports *The Global Automated Border Control Industry Report; Airport eGates and Kiosks*.

While the market for ABC eGates and Kiosks represents a significant component of overall border automation arena, it is important that to recognize that the overall number of units deployed is not overwhelming. Acuity projects the Total Addressable Market (TAM) for all ABC eGates and Kiosks – Airport, Land Border and Sea Ports - to be less than 75,000 units worldwide with the vast majority of these – more than 85% - deployed at Airports over the forecast period. Roughly 8200 of these are ABC eGates that replace Customs agents at passport control.

In spite of the relatively limited market size – i.e. tens of thousands of units as opposed to hundreds of thousands or millions of units – the market for ABC eGates and Kiosks represents a far broader opportunity than solely the deployment of up to 75,000 units. ABC eGates and Kiosks represent the roll out of customer facing "touch points" to what promises to be a far more complex and highly interoperable 21st century Border Management IT infrastructure designed to both facilitate global travel and provide enhanced sovereign security capabilities. And, over time these IT systems will in turn be incorporated into an even more comprehensive network that integrate both Passenger and Immigration Processing; a network that will fundamentally reshape the global travel experience.



This report, therefore, provides a window into the future by focusing on Airports - the defining ABC eGates and Kiosks market opportunity. For in much the same way that ePassports provided the enabling platform for the initial development of ABC eGates over the past five years, so too will ABC eGates and Kiosks pave the way as the enabling platform for fully integrated Border Control, Immigration, and Passenger Processing over the next five.

Cheers,

C. Maxine Most



Introduction

The Global Automated Border Control Report: Airport eGates and Kiosks is a data driven analysis of the state of the market. The report relies extensively on primary sourced data (which for the purposes of this report is defined as quantitative data obtained from sources directly tabulating or producing this data), and on secondary sourced data from trusted sources. The report leverages model-derived forecasts to present a comprehensive view of the market. Data acquired, modeled, and forecast includes existing and planned eGate and Kiosk deployments, International Passenger Traffic for air, land and sea borders, contract costs and anticipated technology price performance drops, and conservative projections of adoption rates based on economic and regional factors.

Definitions

The Analysis includes only Automated Systems related to Airport Border Control e.g. Passports and Immigration. Gates and Kiosks use for security facilitation such as automated boarding pass reading at security and at airport departure gates are not included. For the purposes of this analysis, the following definitions apply:

SOLUTION TYPES	Definitions
ABC eGates	Automated Border Control Gates including any kiosks delivered as part of the configuration deployed at Arrivals and Departure
ABC KIOSKS	Automated Border Control Kiosks e.g. US Global Entry or US/Canadian NEXUS programs
APC KIOSKS Automated Passport Control Kiosks - currently w/o biometrics but biometric	
AIC KIOSKS	Automated Immigration Control Kiosks for DEPARTURE. Used to collect biometrics potentially at check-in, bag drop, or security and designed to integrate with DEPARTURE eGates and AIB eGates
AIB eGates	Automated Immigration Boarding Gates for DEPARTURE designed to integrate with DEPARTURE AIC kiosks and ABC eGates
ABBREVIATIONS	Definitions
TAM	Total Addressable Market – Total number of potential units for a given type of eGate or kiosk
IAIP	Intelligent ABC Immigration Processing – Overall integrated process for automating immigration in port environments

Figure 1-1: Report Definitions Table



Methodology

A combination of primary sourced data and model based projected data was used to develop the forecasts and analysis included in this report. Primary data acquired directly through government agencies and well-credentialed non-governmental agencies was presumed valid. Data acquired through sources with less qualified credentials or with strong motivation for particular outcomes was validated through additional sources and/or model based alternatives. All data was minimally based from independent sources to ensure acquisition of the best available date.

Data and Data Acquisition

Primary data used to complete the analysis and develop forecasts for this report includes:

- Existing and planned eGate and Kiosk deployments,
- EGate and Kiosk published contracts and pricing,
- Annual Airport International Passenger Traffic,
- Annual International Tourist Arrivals and Departures,
- Airport Infrastructure including Check-in Counters and Departure Gates, and
- Projected growth in International Passenger volumes.

Only Airports currently exceeding 500,000 Annual Internal Passengers were included in the report.

Primary data was obtained directly from government agencies such as Ministries of Interior, Homeland Security, Border Control, and Immigration. Additional data was sourced from non-governmental agencies tasked with providing domestic and global insight into global travel and tourism statistics, economic development, and government expenditures. Source materials include online data and databases, published statistics, policy papers, budgets, program analyses, public statements, press releases, and direct consultation.



Finally, data was obtained through publicly available information from, statements by, and direct consultation with civil servants, consultants, vendors, integrators, analysts, and other third parties directly involved or with direct knowledge of specific relevant programs and deployments. In some cases, these third parties provided confirmation of the accuracy of data obtained from sources deemed to require validation.

Model Development

Models were developed to project adoption locations where initial data was unavailable. The modeled projections use known deployment and contract data as a basis for determining unknown values. Regional data and similar country/regional profiles were used where primary data is available are used as reference points.

These projections are adjusted to account for regional indicators and variations such as political and social stability, levels of development, financial performance and stability, as well as other country or region specific indicators or influencers. Models are also adjusted to account for existing market conditions, current deployments, anticipated projects, and existing and planned infrastructure. Conservative assumptions for predictive factors such as technology pricing and anticipated adoption rates are introduced to determine forecasts.

Market Analysis

Analysis is drawn from significant market and technical developments, tests, pilots and deployments, public domain and private data sources, research and reports, surveys, and interviews with vendors, integrators, intermediaries, customers, privacy and civil liberties advocates, and other relevant technology and leading industry experts. Critical data and key implications drawn from the primary data and forecasts are filtered through this knowledge base.



Forecasts

Adoption and revenue forecasts are presented globally, by solution (eGate or Kiosks), and region. The forecasts have been developed through a rigorous process relying on the best available and or projected data. As with all market forecasts, the most significant indicator is the scale of the projections not the precise numbers. Furthermore, where assumptions were required to calculate forecasts, the underlying principal was to rely on conservative rather than aggressive estimates. In this way, the report offers a conservative market forecast baseline indicating the scale of opportunity expected over the next five years.

Adoption estimates are relative to the Total Addressable Markets (TAM) for each ABC eGate and Kiosks solution. For the purposes of this analysis, a per passenger normalized value was determined based on existing ABC Solution deployments, awarded contracts, regional service norms, and deployment levels of similar self service solutions. TAM values are than projected based on current and anticipated international passenger traffic volumes at the airports included in the analysis.

Because of the complex nature of the ABC eGates and Kiosks market and the associated complexity involved in modeling data and forecasting revenues, *it is critical that the methodology, assumptions, and model notes in the Appendix be reviewed to gain relevant insight form the data*. Additional information is provided throughout the report in specific sections to reinforce the underlying assumptions where deemed necessary.



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19. Appendix A: Forecast Methodology and Assumptions

Report content is based on a proprietary approach using customized forecast methods and tools applied to primary and projected data.

Methodology

A combination of primary sourced data and model based projected data was used to develop the forecasts and analysis included in this report. Primary data acquired directly through government agencies and well-credentialed non-governmental agencies was presumed valid.

Data acquired through sources with less qualified credentials or with strong motivation for particular outcomes was validated through additional sources and/or model based alternatives.

Primary data used to complete the analysis and develop forecasts for this report includes:

- Existing and planned eGate and Kiosk deployments,
- EGate and Kiosk published contracts and pricing,
- Annual Airport International Passenger Traffic,
- Annual International Tourist Arrivals and Departures,
- Airport Infrastructure including Check-in Counters and Departure Gates, and
- Projected growth in International Passenger volumes.

Only Airports currently exceeding 500,000 Annual Internal Passengers were included in the report.

Primary data was obtained directly from government agencies such as Ministries of Interior, Homeland Security, Border Control, and Immigration. Additional data was sourced from non-governmental agencies tasked with providing domestic and global insight into global travel and tourism statistics, economic development, and government expenditures. Source materials include online data and databases, published statistics, policy papers, budgets, program analyses, public statements, press releases, and direct consultation.

Finally, data was obtained through publicly available information from, statements by, and direct consultation with civil servants, consultants, vendors, integrators, analysts, and other



third parties directly involved or with direct knowledge of specific relevant programs and deployments. In some cases, these third parties provided confirmation of the accuracy of data obtained from sources deemed to require validation.

Analysis is drawn from significant market and technical developments, tests, pilots and deployments, public domain and private data sources, research and reports, surveys, and interviews with vendors, integrators, intermediaries, customers, privacy and civil liberties advocates, and other relevant technology and leading industry experts. Critical data and key implications drawn from the primary data and forecasts are filtered through this knowledge base.

Models were developed to project adoption locations where initial data was unavailable. The modeled projections use known deployment and contract data as a basis for determining unknown values. Regional data and similar country/regional profiles were used where primary data is available are used as reference points.

These projections are adjusted to account for regional indicators and variations such as political and social stability, levels of development, financial performance and stability, as well as other country or region specific indicators or influencers. Models are also adjusted to account for existing market conditions, current deployments, anticipated projects, and existing and planned infrastructure. Conservative assumptions for predictive factors such as technology pricing and anticipated adoption rates are introduced to determine forecasts.

Adoption and revenue forecasts are presented globally, by solution (eGate or Kiosks), and region. The forecasts have been developed through a rigorous process relying on the best available and or projected data. As with all market forecasts, the most significant indicator is the scale of the projections not the precise numbers. Furthermore, where assumptions were required to calculate forecasts, the underlying principal was to rely on conservative rather than aggressive estimates. In this way, *the report offers a conservative market forecast baseline indicating the scale of opportunity expected over the next five years*.



Assumptions and Notes

The following assumptions were used in the acquisition, filtering, integration, and calculation of data and the development of associated adoption, and revenue forecasts:

- All revenue forecasts are in United States Millions All currency conversions were based on current values from the XE Universal Currency Converter (www.xe.com).
- eGates and Kiosks program costs vary widely depending on the existing infrastructure,
 volume, geographic region, chip capacity, and complexity of applications. Therefore,
 significant variation in program costs on a per country basis exists.

Modeling Notes:

- Only Airports with annual International Passengers exceeding 500,000 are included in the report.
- Where conflicting primary or projected data were identified, conservative estimates were used.



20. Appendix B: Author Biography

C. Maxine Most
Principal, Acuity Market Intelligence



Acuity Founder and Principal, C. Maxine Most ("max"), has 25 years experience in international emerging technology market development. Throughout her career, Ms. Most has provided strategic expertise in emerging markets such as biometrics, electronic identity (eID), e-commerce, interactive services, and 2D and 3D visualization and image processing. She has worked with start-ups, established technology market leaders, Global 1000's and a range of organizations in between.

Ms. Most founded Acuity Market Intelligence in 2001 to bring strategic market development expertise to the then nascent biometrics market. Since that time, Acuity has earned a reputation for consistently providing original, provocative, accurate, and reliable thought leadership and industry analysis that Clients rely on to achieve business success.

Ms. Most authored Acuity's The Future of Biometrics, The Global ePassport and eVisa Industry Report, and The Global *National eID* Industry Report. She regularly contributes to industry publications and presents at industry events on biometrics and eID trends, visions, and the data that support them.

Previously, she managed the Computer Aided Molecular Design market for Silicon Graphics Computer Systems, directed Pacific Rim operations for a hospitality-based interactive services company and founded and operated a Silicon Valley-based retail company. She has also designed and delivered sales and technical training courses worldwide and began her career as a software engineer specializing in 3D graphics applications. Ms. Most is a graduate of the University of California, San Diego with a multi-disciplinary degree in Mathematics, Computer Science, Economics and Visual Arts.







The Global Automated Border Control Industry Report: Airport eGates & Kiosks

Published February 2014

Market Analysis and Forecasts 2014 to 2018

Comprehensive Market Data. Critical Insight. Targeted Revenue Forecasts

The Global Automated Border Control Industry Report: Airports eGates and Kiosks delivers data driven analysis and insight into the worldwide opportunity for the development and deployment of Automated Border Control (ABC) eGates and Kiosks at Airports. This unprecedented, comprehensive report offers unbiased critical perspective and previously unpublished data and statistics on the Airport ABC eGate and Kiosk marketplace. Preview the report at www.acuity-mi.com/ABCair_Report.php

The Global ePassport and eVisa Industry Report			
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