SECURE
DOCUMENTS

Underwear Bombers & Mossad Agents Beware:
ePassports and eVisas Will Change the Game

presented by

ACUITY
MARKET INTELLIGENCE

c. maxine most
acuity market intelligence
cmaxmost@acuity-mi.com

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"ePassports and eVisas will fundamentally change world travel by delivering on the promise to create a secure, consistent, and far more reliable global identification infrastructure"

- The Global ePassport and eVisa Industry Report, May 2010

Acuity Market Intelligence

An emerging technology strategy and research consultancy with a proven record of accurately anticipating identification solutions market trends.

Markets	**Identification Solutions, Biometrics, Authentication**
Services	**Market Research, Analysis & Strategic Planning** **Opportunity Assessment & Analysis** **Technology Adoption & Deployment Evaluations**
Clients	**Vendors, Solution Providers, Integrators, Investors, End Users**

Today's Discussion

- Definitions
- State of the ePassport and eVisa Marketplace
  - What Happened in Dubai?
- ePassport Market Data
  - Market Adoption
  - Revenue Forecasts
- Emergence of Secure Global Borders

Definitions

ePassport: A combined paper and electronic travel document that uses biometrics and contactless smart chip technology to authenticate the identity of travelers.

eVisa: The electronic authorization process for granting temporary access to a country for a specified purpose for a specified period that may or may not rely on biometrics to establish or confirm identity.

State of the ePassport and eVisa Marketplace

- Evolving BUT STILL Highly Fragmented Market
  - ❑ Complex network of policy makers, local and global technology and solution providers, and government agencies with diverse interests, priorities, and objectives
- Deployed solutions progressing in "fits and starts"
  - ❑ Performance and usability advancing at uneven rates by region and country
- Near Future
  - ❑ Increasingly Stable Environment
  - ❑ More Predictable Opportunities & Outcomes
  - ❑ Reliable Global Infrastructure More is NOT There Yet
- What Happened in Dubai?
  - ❑ They were NOT using ePassports
  - ❑ Doubtful ePassport readers were deployed
  - ❑ Even if they had, they would not have had the ability to validate authenticity of document because the infrastructure to exchange PKI certificates in place
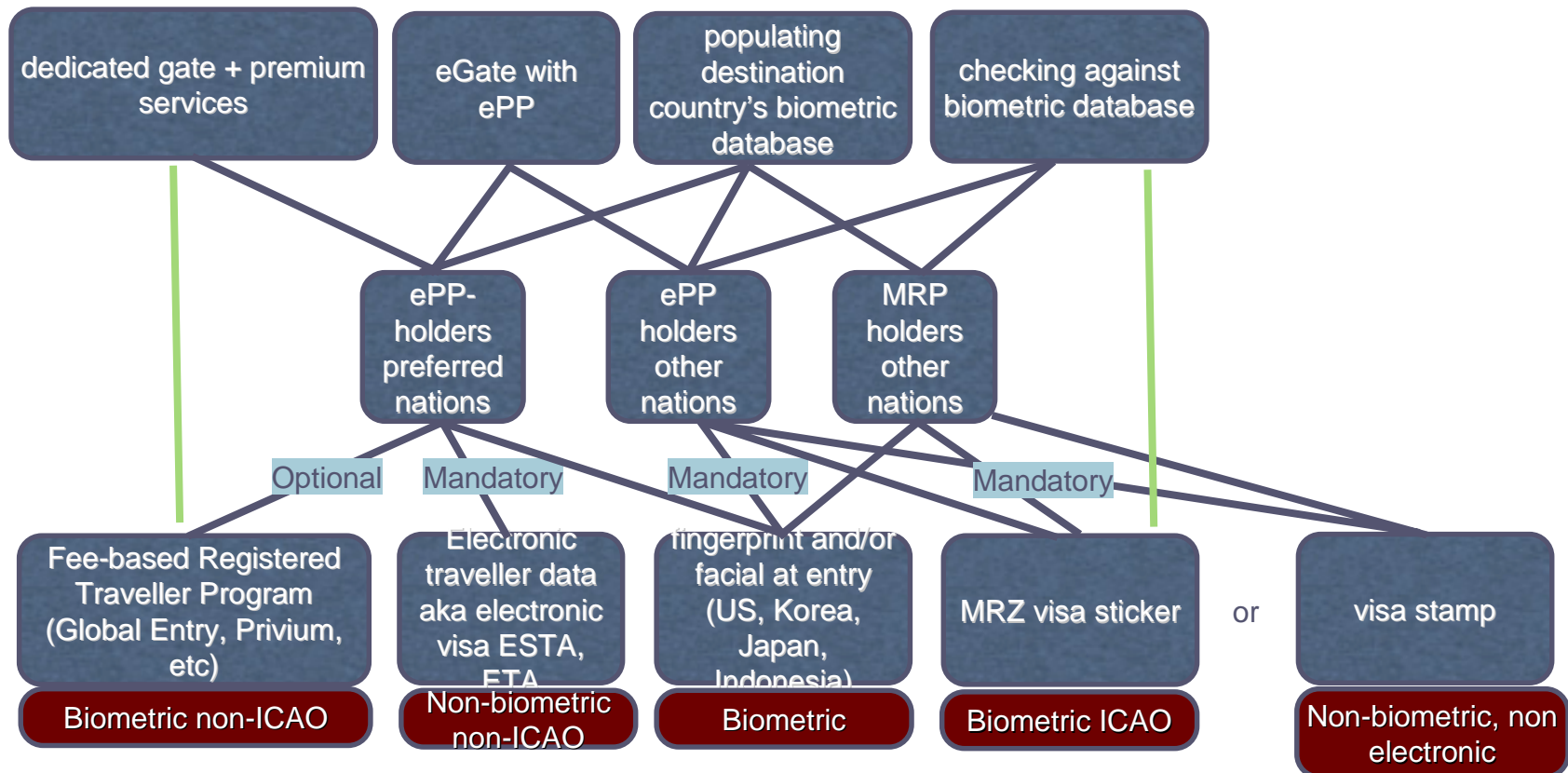
ePassport Marketplace

- ePassport deployment will reach a sustainable level of maturity over the next few years

  - ❑ ePassports and associated enrolment, verification, and authentication equipment is widely deployed

  - ❑ Given speed of technology innovation, need to engineer ahead of security breaches, and wear and tear on these human interfacing technologies, accelerated replacement cycles will provide on-going market opportunities

- With these documents in place, focus shifts to developing highly secure, truly interoperable international border infrastructure that incorporates fast and reliable ePassport authentication and biometric verification
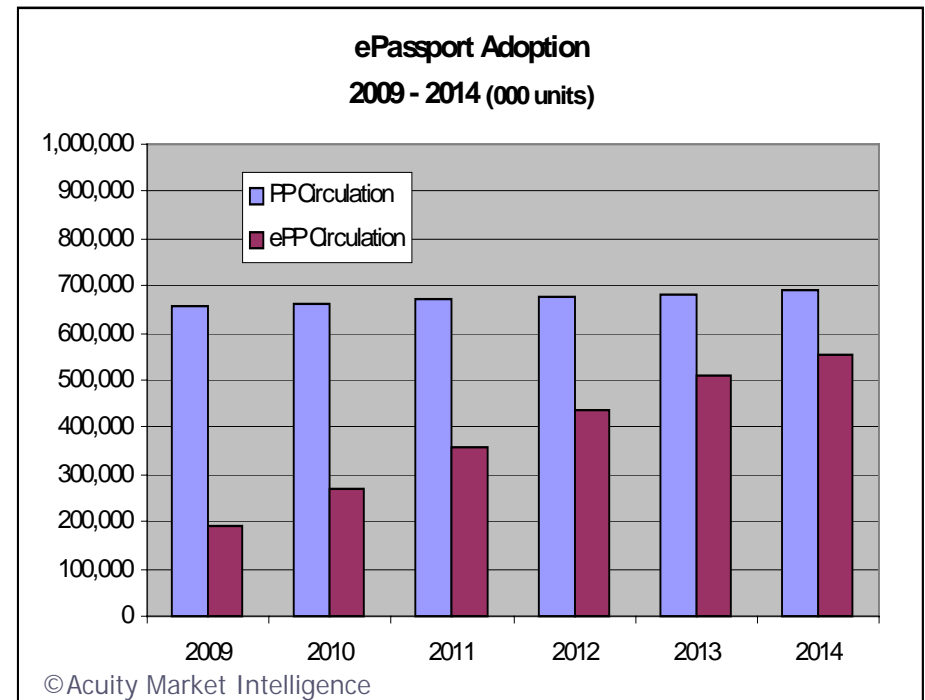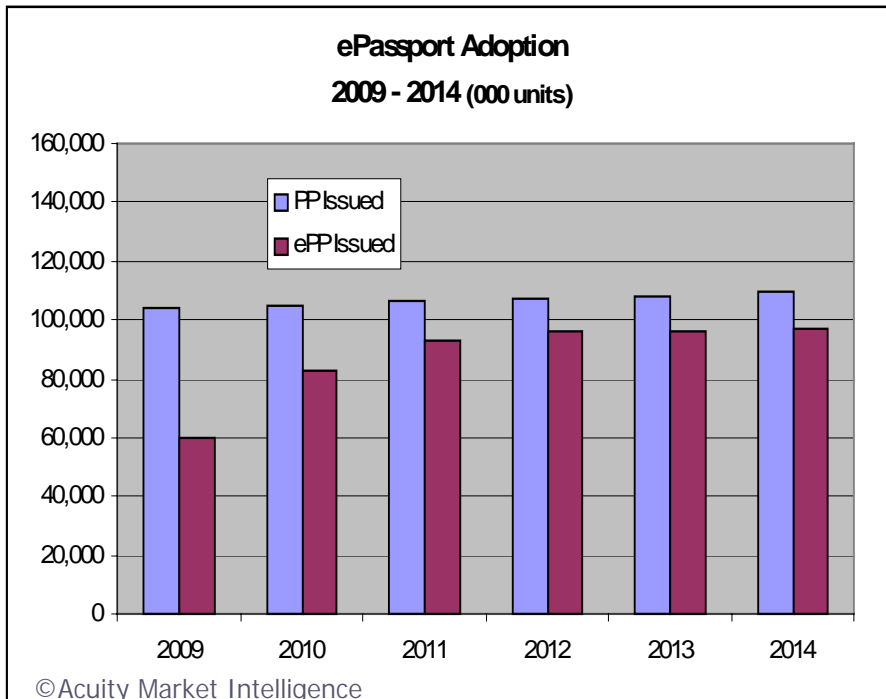
eVisa Marketplace

- eVisa deployment is not as advanced
  - ❑ Trend towards US-VISIT style centralized database and biometric capture for all at the border
    - Japan, Indonesia, South Korea following this model
  - ❑ EU taking a different path with enrolment at embassies
    - Interested in catching fraud e.g. multiple applications under different names
    - UK implementing biometric check at border for visa holders
- Questions about parallel infrastructure with the development of dual biometrics – face and finger – ePassports
  - ❑ Costs and operations
  - ❑ Unified ePassport/eVisa system would require "global" trust with ePassport process
    - Likely to occur on a bilateral basis i.e. registered traveler programs, as standards evolve and security concerns are addressed particularly for less developed nations.

eVisa Marketplace Landscape

dedicated gate + premium services

eGate with ePP

populating destination country's biometric database

checking against biometric database

ePP-holders preferred nations

ePP holders other nations

MRP holders other nations

Optional   Mandatory   Mandatory   Mandatory

Fee-based Registered Traveller Program (Global Entry, Privium, etc)

Electronic traveller data aka electronic visa ESTA, ETA

fingerprint and/or facial at entry (US, Korea, Japan, Indonesia)

MRZ visa sticker   or   **visa stamp**

Biometric non-ICAO

Non-biometric non-ICAO

Biometric

Biometric ICAO

Non-biometric, non electronic

Global Market Adoption

ePassport Adoption
2009 - 2014 (000 units)

Legend: PP Issued, ePP Issued

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ePassport Adoption
2009 - 2014 (000 units)

Legend: PP Circulation, ePP Circulation

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ePP Adoption	2009	2010	2011	2012	2013	2014
PP Issued (000)	103,955	104,995	106,044	107,105	108,176	109,258
ePP Issued (000)	60,132	83,028	92,936	96,375	96,385	96,825
% ePP of PP Issued	57.84%	79.08%	87.64%	89.98%	89.10%	88.62%
PP Circulation (000)	656,692	663,259	669,892	676,591	683,357	690,190
ePP Circulation (000)	188,974	268,837	355,850	436,413	510,045	556,030
% ePP of PP Circulation	28.78%	40.53%	53.12%	64.50%	74.64%	80.56%

Global Market Adoption

Live Capture Adoption 2009 - 2014
(Number of Countries)

☐ Total Countries issuing ePassports
■ Total Countries w / live capture

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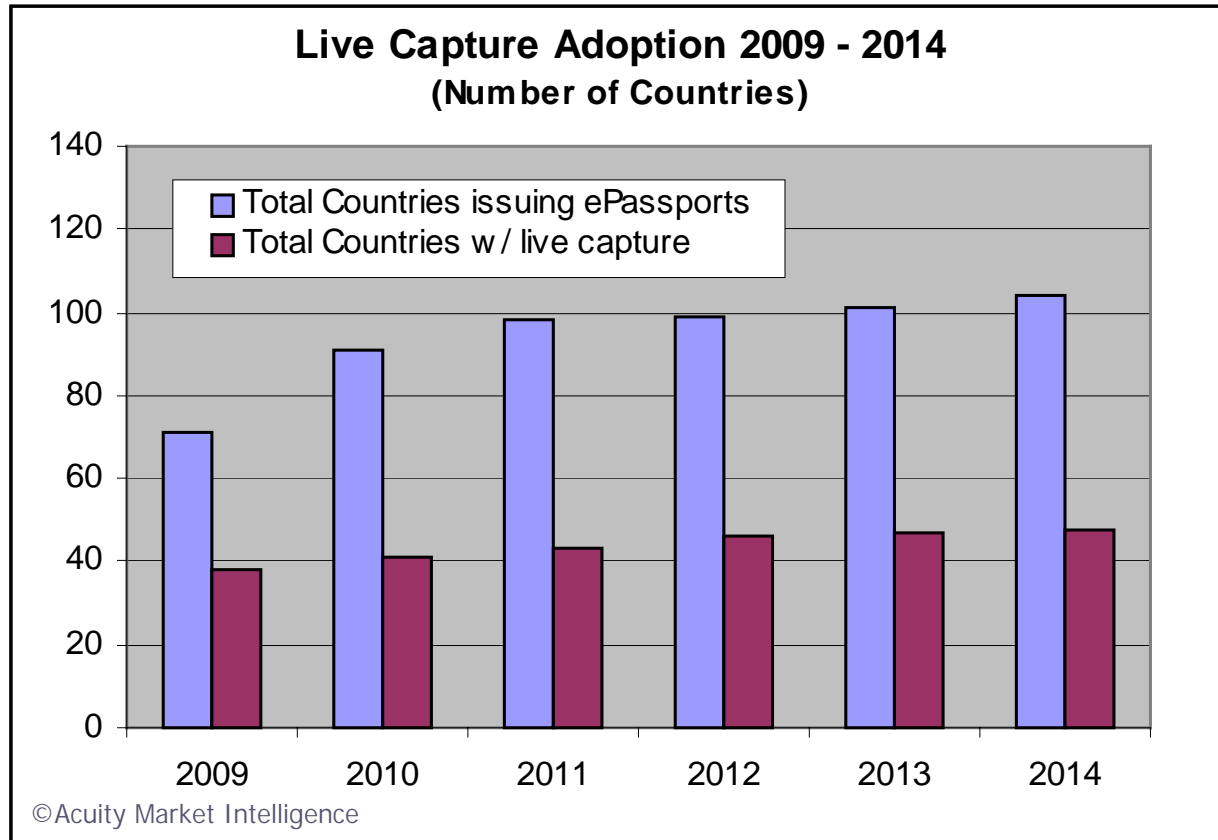
Live Capture Adoption	2009	2010	2011	2012	2013	2014
Total Countries issuing ePassports	71	91	98	99	101	104
Total Countries w/ live capture	38	41	43	46	47	48
countries w/ ePPs w/live capture	53.52%	45.05%	43.88%	46.46%	46.53%	46.15%

ePassport Global Forecast

ePassport Market Growth
2009 - 2014 (US Millions)

CAGR 31%
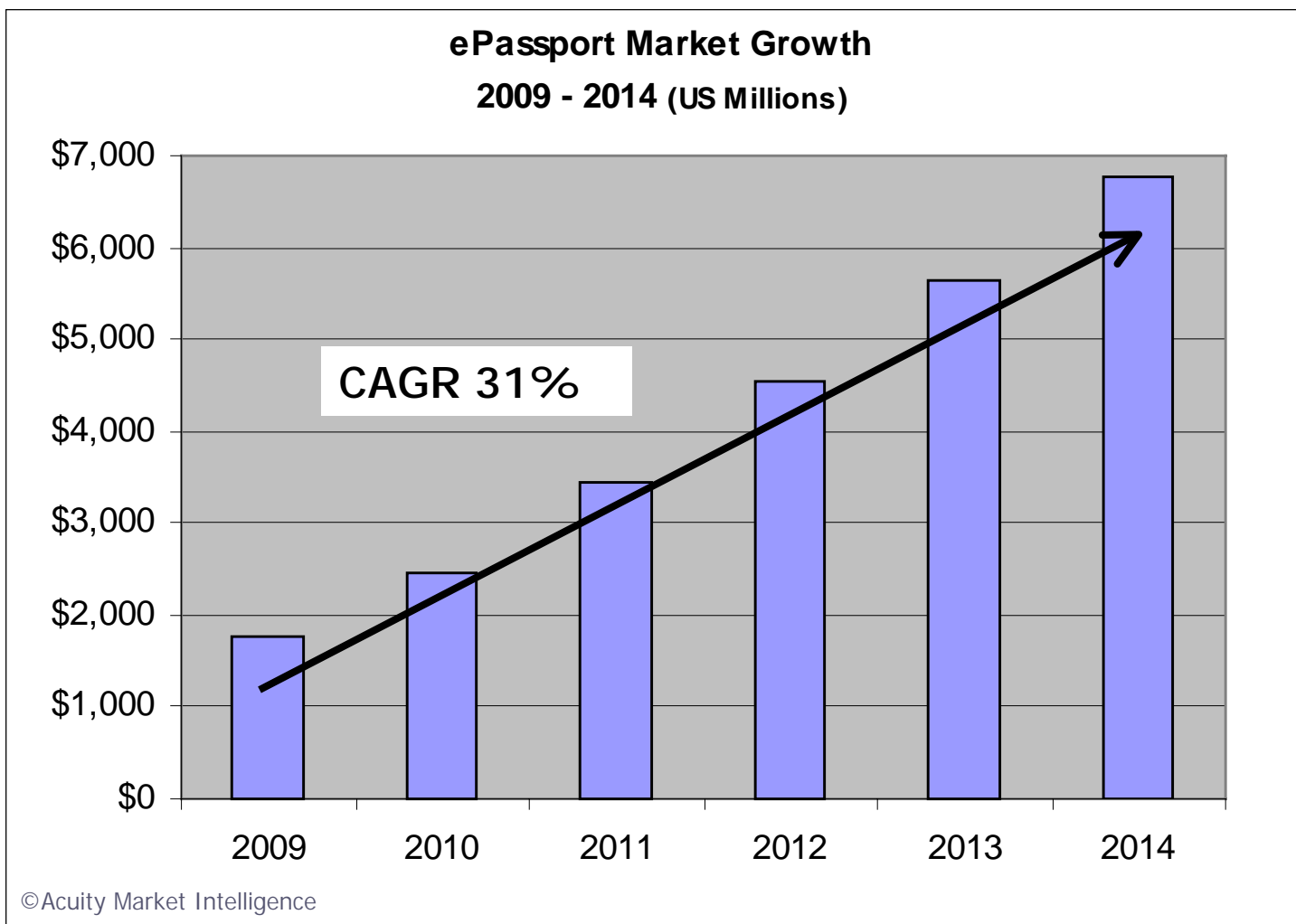
ePassport Regional Market Share

ePassport Market Share by Region 2009

Asia
24%

Caribbean
0.67%

Africa
2.7%

South
America
0.65%

Pacific
3.6%

North
America
17%

Middle East
0.65%

Europe
49%

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ePassport Market Share by Region 2014

Africa
7%

Asia
48%

South
America
8%

Pacific
6%

North
America
10%

Middle East
1.7%
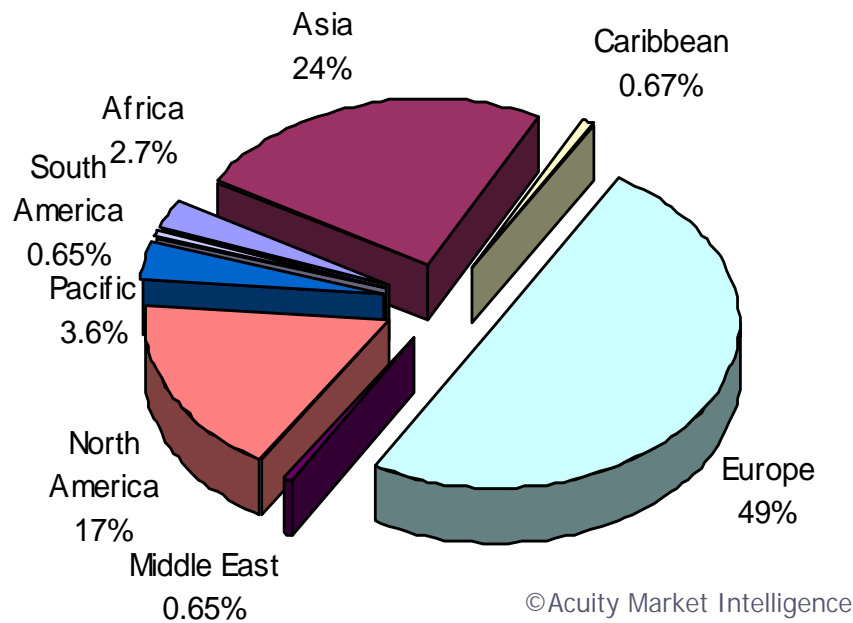
Caribbean
0.2%

Europe
19%

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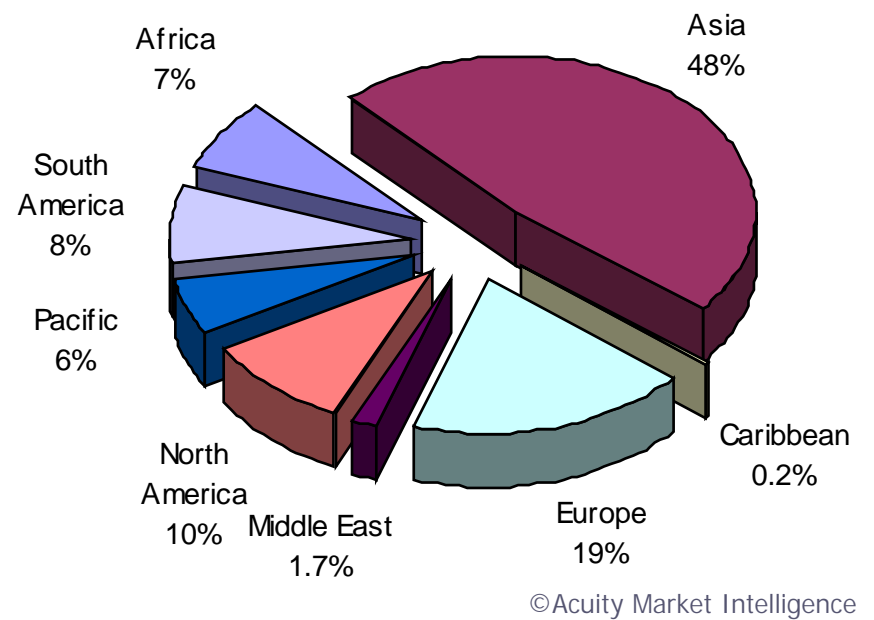
ePassport Regional Forecast

ePassport Revenue by Region 2004 - 2009
(US Millions)

Legend: Africa, Asia, Caribbean, Europe, Middle East, North America, Pacific, South America
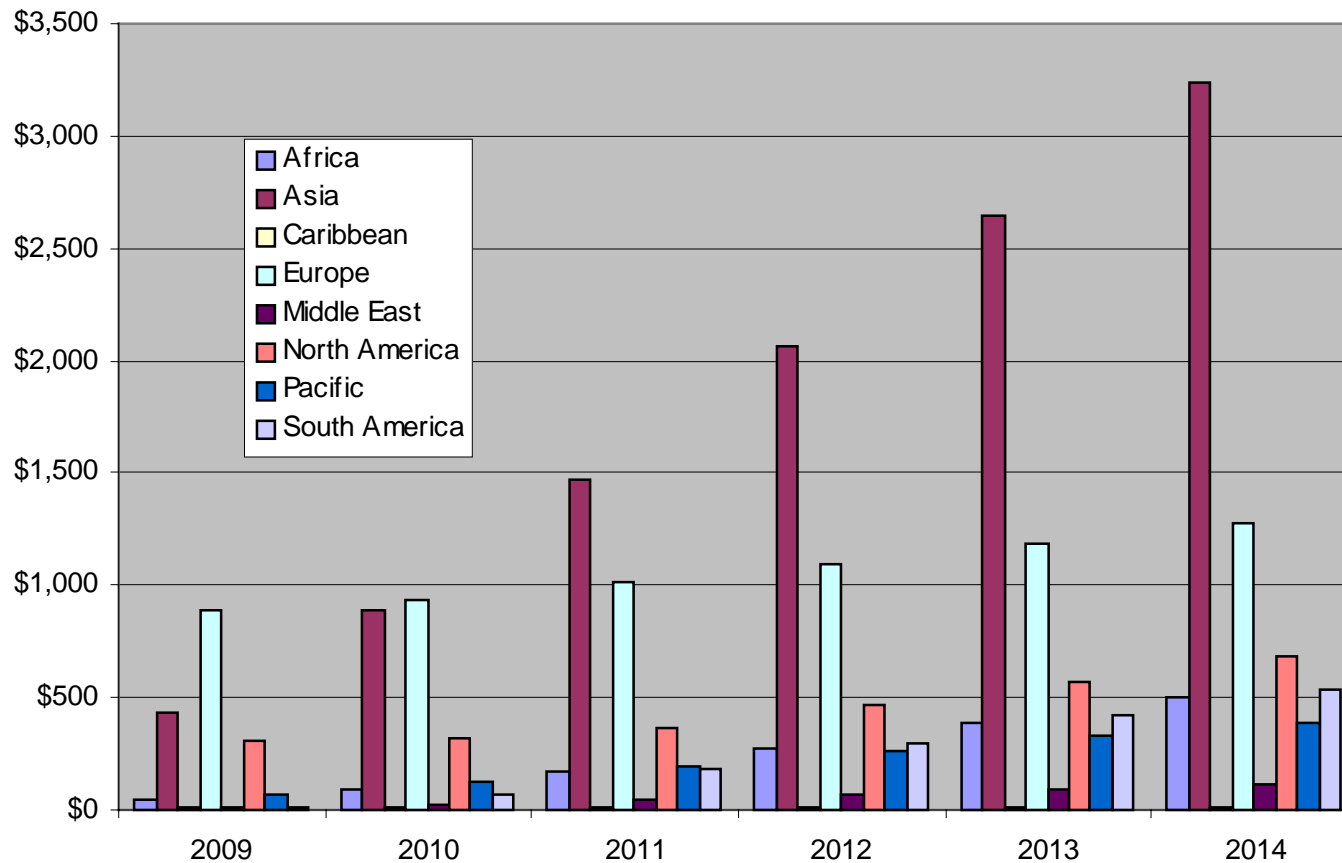
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Regional CAGRs

Africa	59.69%
Asia	49.69%
Caribbean	1.00%
Europe	7.39%
Middle East	57.24%
North America	17.22%
Pacific	44.07%
South America	116.06%

Emergence of Secure Global Borders

- ePassport as a data carrier provides a new level of border security and travel facilitation
  - ❑ Coming decade will be characterized by
    - Bringing other data carriers such as eVisas in line
    - Developing, testing, and integrating automated border control solutions
    - Implementing novel operational models to include less-developed regions of the world.

- Strong trend towards the development of international standards and the emergence of global best practices
  - ❑ From enrolment and credentialing to issuance and verification
  - ❑ Standardization will smooth out rough spots in market evolution
  - ❑ Create more stable market environment with more predictable and consistent opportunities.
  - ❑ Also produce reliable globally integrated solutions that are far more difficult to "game" by novices or experts

Emergence of Secure Global Borders

- By the end of 2012, global ePassport adoption will reach more than 60% of total circulation.
  - ❑ For many countries, ePassport holders will represent the majority of travelers crossing their borders.
  - ❑ EPassport use will reach a critical tipping point. It will simply no longer make economic or operational sense <u>not</u> to leverage the capabilities of these documents.
- By 2014, the deployment of a secure global border-crossing infrastructure that leverages the proliferation of ePassports will begin in earnest.
  - ❑ Emphasis on automated self-service verification of documents and identity, and global data exchange
  - ❑ This border transformation will both be driven by and drive ePassport market evolution.
  - ❑ Global uptake of ICAO's Public Key Directory is a necessary prerequisite
- Traditional border control processes will be replaced by automated solutions on a global scale driving significant market growth and associated revenue.

Key Take Always

- ePassports and eVisas represent a significant sustainable marketplace providing a platform for genuine 21st century border control advancement

  - ❑ The documents, processes, and operations that constitute this platform will continually be refined, improved, and updated to anticipate and thwart emerging security threats
  - ❑ Approaching a Tipping Point where critical mass of ePassport holders that will drive automated borer control on a global scale

- This new Global Travel and Border Infrastructure built on this secure document platform will

  - ❑ Deliver on the promise of GENUINELY SECURE international borders
  - ❑ Create another large sustainable Identification Solutions market opportunity

- **Link between security and passenger facilitation transforms the infrastructure investment into an operational advantage**

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c. maxine most, principal
640 w linden st, louisville, CO 80027
+1 303.449.1897
cmaxmost@acuity-mi.com

The Global ePassport and eVisa Industry Report

Opportunity Analysis and Market Forecasts 2010 to 2015
Critical Market Data. Comprehensive Insight. Targeted Revenue Forecasts

This unprecedented, comprehensive report offers 250+ pages of lucid, unbiased perspective and _previously unpublished critical data and statistics_ on the ePassport and eVisa marketplace

For more Information: www.acuity-mi.com
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