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Health Care's IDENTITY Crisis

**Secure patient ID is key
to curbing medical identity theft
and protecting electronic records**

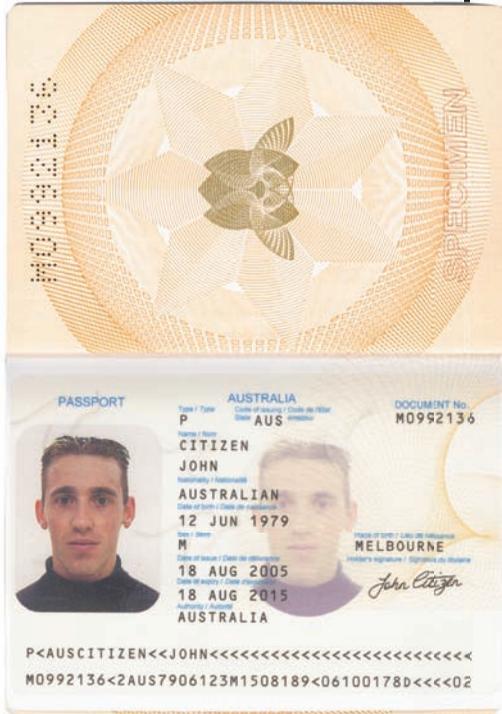- **Biometric social security cards**
- **White House pushes online ID**
- **Next generation e-passports**

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# Quantifying the e-passport marketplace

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By the end of 2010, e-passport adoption will climb to 91 countries with another 11 countries planning to convert their passports e-passport by the end of 2014.

Ten years ago, the e-passport was a concept circulating among forward thinking individuals and small groups of associated industry, government and non-government agencies. In the wake of the terrorist attacks on the World Trade Center in 2001 and the subsequent transit attacks in Madrid in 2004 and London in 2005, the e-passport idea rapidly transformed into a foundation for global security. Today, e-passports have not only become mainstream but have also created a multi-billion dollar industry poised to fundamentally change the global travel and border control infrastructure.

E-passport Market Growth

CAGR 35.51%
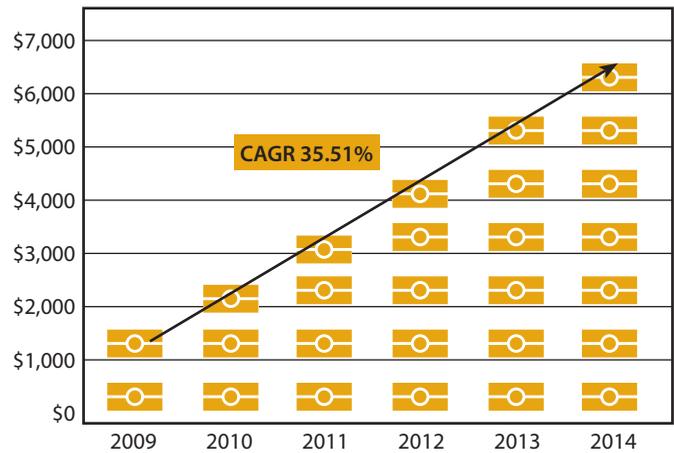
Market sizing

The e-passport market, made up of hardware, software, and services, will reach sustainable annual revenues of $7 billion by the end of 2014, with a compound annual growth rate of 31.5% from 2009 through 2014. Europe's market dominance will diminish as overall market share drops from 49% to 20% during this period. At the same time, the Asian market will experience the most significant market share growth increasing from 25% to nearly 46% of annual market revenues with an annual compound annual growth rate of nearly 50%.

E-passport Adoption	2009	2010	2011	2012	2013	2014
Total countries issuing e-passports	71	91	98	99	101	104
Passports issued (000)	103,955	104,995	106,044	107,105	108,176	109,258
Of which e-passports issued (000)	59,424	83,013	92,919	96,359	96,369	96,809
% e-passports of passports issued	57.16%	79.06%	87.62%	89.97%	89.09%	88.61%
Passport circulation (000)	663,692	670.329	677,032	683,803	690,641	697,547
Of which e-passports circulation (000)	186,866	266,700	353,697	434,243	507,860	553,828
% e-passports of passports circulation	28.16%	39.79%	52.24%	63.50%	73.53%	79.40%

The strongest revenue growth will be in South America where the compound annual growth rate will reach a startling 117%. Annual revenues will increase from a modest $11 million in 2009 to nearly $540 million in 2014 as South America's market share expands from less than 1% to more than 8% of global revenues.

The e-passport industry has grown from humble beginnings. In 2004, Malaysia and Belgium introduced the first e-passports together issuing less than one million documents to their citizens. By the end of 2009, 71 countries were issuing e-passports. By the end of 2010, e-passport adoption will climb to 91 countries with another 11 countries planning to convert their passports e-passport by the end of 2014.

While the number of 2010 issuing countries represents just less than 50% of the International Civil Aviation Organization's (ICAO) 190-country membership, the total volume of 83 million projected passports produced by these countries accounts for 79% of the expected annual global volume. By 2015, 104 e-passport issuing ICAO members will generate almost 97 million e-passports, representing nearly 89% of the annual worldwide passport volume and nearly 80% of the total passports in circulation at that time.

Biometrics

Current ICAO requirements dictate the use of a facial biometric on all e-passports. Thirty-seven countries now require fingerprints as a secondary biometric with another 10 countries planning to require fingerprints by 2014. The European Union (EU) Commission mandated use of this secondary biometric by June 2009 and to date, all 27 EU countries have or are in the process of complying. Finger as a secondary biometric is also increasingly being considered in Asia and South America, and will likely be adopted in the Middle East as these countries move to e-passports.

Capture of biometric data at enrollment varies significantly by country and region. Enrollment options range from mailed-in photographs to fully automated kiosks with live capture and validation of biometrics, digital signature and authentication documents at application. Countries that require

Live Capture at Enrolment & Borders

	Total countries issuing e-passports	Total Countries with live capture	Countries with e-passports with live capture
2009	71	37	52.11%
2010	91	40	43.96%
2011	98	42	42.86%
2012	99	45	45.45%
2013	101	46	45.54%
2014	104	47	45.19%

fingerprints for their e-passports all have some level of live biometric capture which for most of these countries means simply deploying readers at all application locations and providing an IT infrastructure to manage the data.

The inherent limitations of applicant photograph submission - the cost of quality control to meet ICAO specifications and the potential poor performance of facial recognition programs – will become significant roadblocks as countries adopt automated border control systems. It is therefore, highly likely that as automated border control become more prevalent, so too will live capture enrollment solutions.

E-passport Readers (standalone)

	Total addressable market	Total e-passport readers deployed	Adoption
2009	122,018	18,258	14.96%
2010	128,119	19,801	15.46%
2011	134,525	24,380	18.12%
2012	141,251	28,535	20.20%
2013	148,314	30,215	20.37%
2014	155,729	29,985	19.25%

Currently, use of e-passport biometrics at border entry is, with few exceptions, still in trial phase. Travelers from designated origins can use automated border control systems based on e-passports with facial recognition at:
  • Manchester and Stansted airports in UK,
  • Lisbon airport and other border control points in Portugal,
  • Helsinki airport in Finland, Frankfurt airport in Germany, and
  • International airports in Australia (and soon in New Zealand).

However, for most international travelers, e-passports are still used in the context of a standard visual check that compares the facial image retrieved from the chip to the photograph in the passport and the individual presenting themselves to a border control agent.

E-passport readers

Most e-passport readers that have been deployed to date are used to verify documents at issuance. Approximately 16,000 systems are currently installed at passport enrollment locations, representing 13% of the total addressable market for these standalone e-passport readers.

E-passport readers deployed at border control posts account for less than 2% of this total addressable market. Limited growth is expected for readers over the next five years, which is somewhat counterintuitive given the significant investment being made in the e-passport documents themselves. Even by 2014, when as discussed nearly 80% of the world's passports

will be e-passports, only 6% of the world's border control points will be equipped to read them.

Market evolution

By the end of 2012, global e-passport adoption will reach more than 60% of total circulation. For many countries, e-passport holders will represent the majority of travelers crossing their borders. Use will then reach a critical tipping point. It will simply no longer make economic or operational sense not to leverage the capabilities of these documents. Traditional border control processes will be replaced by automated solutions on a global scale driving significant market growth and associated revenue.

This will mean accelerated deployment of eGates and kiosks with integrated e-passport and biometric readers. A precondition is the global uptake of ICAO's Public Key Directory, which will act as a central broker to manage the exchange of nations' PKI certificates and certificate revocation lists. Twenty to 30 countries are currently participating in the directory and the majority of the remaining e-passport issuing countries will likely follow in the next two to three years.

The ongoing development and production of a secure e-passport infrastructure will provide sustainable market opportunities as countries stabilize existing programs, continually incorporate new document security features, replace aging equipment, and re-issue documents on a five or ten year lifecycle. In addition, by 2014, the deployment of a secure global border-crossing infrastructure that leverages the proliferation of e-passports will begin in earnest. With an emphasis on automated self-service verification of documents and identity, and global data exchange, this border transformation will both be driven by and drive e-passport market evolution. **ID**

This analysis is based on The Global ePassport and eVisa Industry Report published in May 2010 by Acuity Market Intelligence (www.acuity-mi.com)

Photo: 3M