Biometrics-assisted Border Clearance: Challenges and Opportunities

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Agenda

- Introduction

- Factoid

- Examples of ABCs and RTPs

- Remote Borders

- Lessons learned, challenges and opportunities

- Conclusion

Introduction: ABC 101

- ## Why ABC?
  - An efficiency boosting component to accommodate increasing air (and land) border crossing traffic pressure
  - Part of the challenge to balance seamlessness and security with different weights applied by the stakeholders

- ## A dual vocation
  - Facilitate and speed up border crossing for bona fide travellers
  - Free expert border control officer resources to focus on higher risk passengers involved with biohazard, drugs, organized crime or terrorism

→ **Should be part of a country's Integrated Border Management**

Introduction: ABC 102

"A fully automated system which authenticates the e-MRTD, establishes that the passenger is the rightful holder of the document, queries border control records, then automatically determines eligibility for border crossing according to pre-defined rules."

➢ **The border officer always retains the power to override the system's "decision" whenever required**

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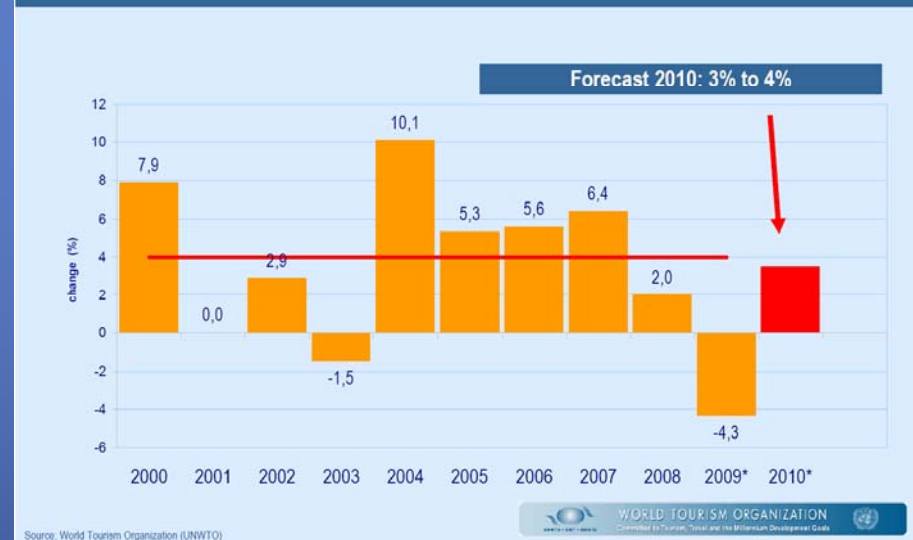
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Factoid: ABC Flow Metrics I

2009: an exceptionally challenging year

International tourist arrivals, 1995-2009*

880mn

WORLD TOURISM ORGANIZATION
Committed to Tourism, Travel and the Millennium Development Goals

International Tourism: back to growth in 2010

Forecast 2010: 3% to 4%

Source: World Tourism Organization (UNWTO)

WORLD TOURISM ORGANIZATION
Committed to Tourism, Travel and the Millennium Development Goals

Factoid: ABC Flow Metrics II

Source: World Tourism Organization (UNWTO) ©

World Inbound Tourism: International Tourist Arrivals, 2009

Asia and the Pacific, 182 mn, 21%

Americas, 140 mn, 16%

Africa, 46 mn, 5%

Middle East, 53 mn, 6%

Europe, 460 mn, 52%
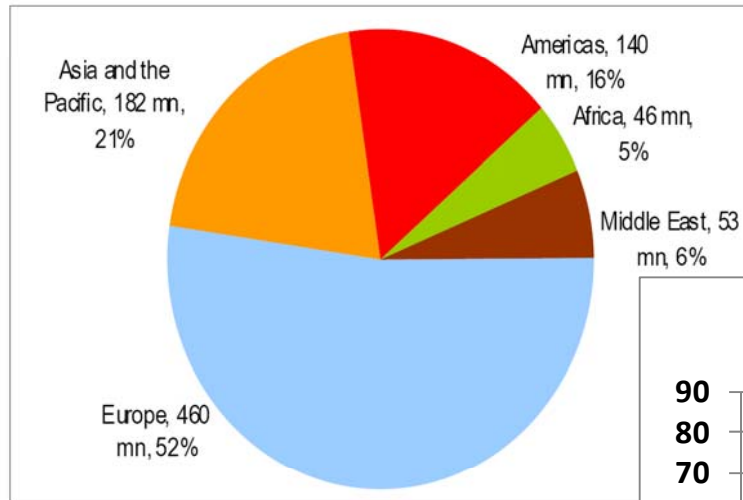
Source: World Tourism Organization (UNWTO) ©

International Arrivals by Country 2008 (in million)

Country	Value	%
France	~79	8,5%
USA	~58	6,3%
Spain	~57	6,2%
China	~53	5,8%
Italy	~43	4,6%
UK	~30	3,3%
Ukraine	~25	2,8%
Turkey	~25	2,7%
Germany	~25	2,7%
Malaysia	~22	2,4%

■ Top 10 world destinations
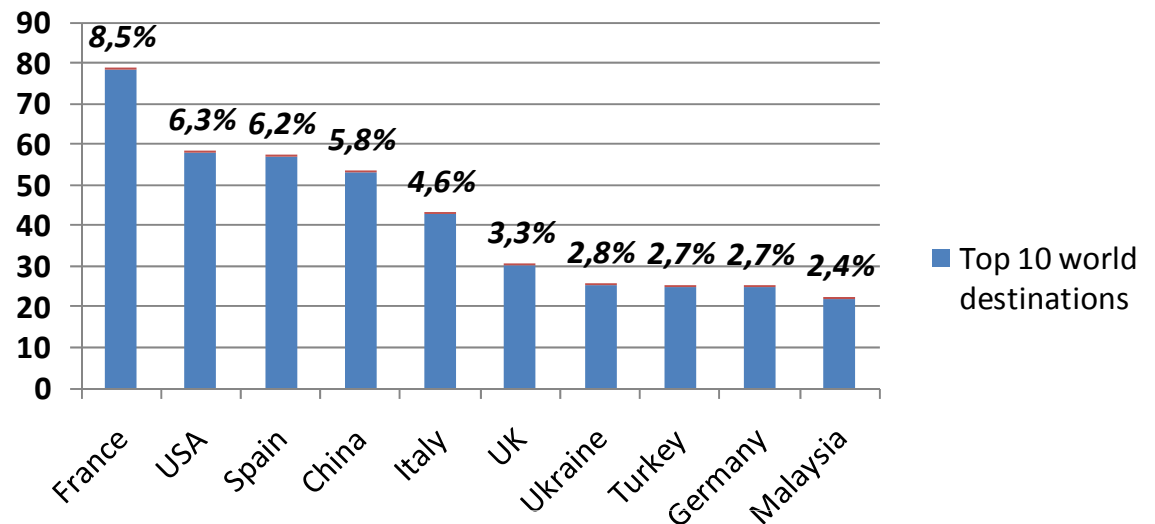
Factoid: ABC Flow Metrics III
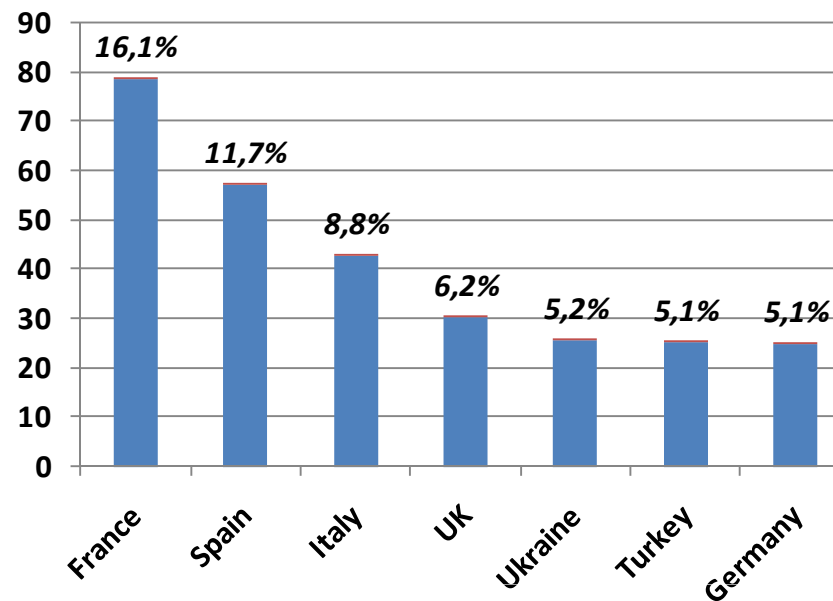
Europe: Inbound Tourism
International Tourist Arrivals   (million)
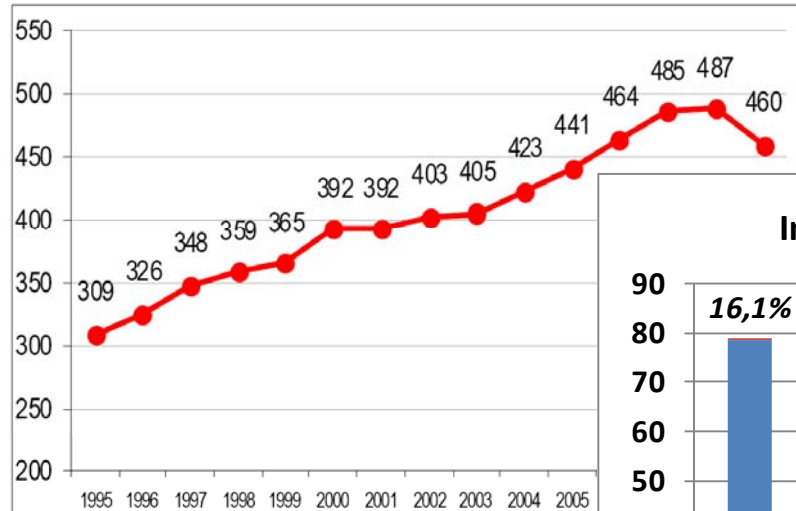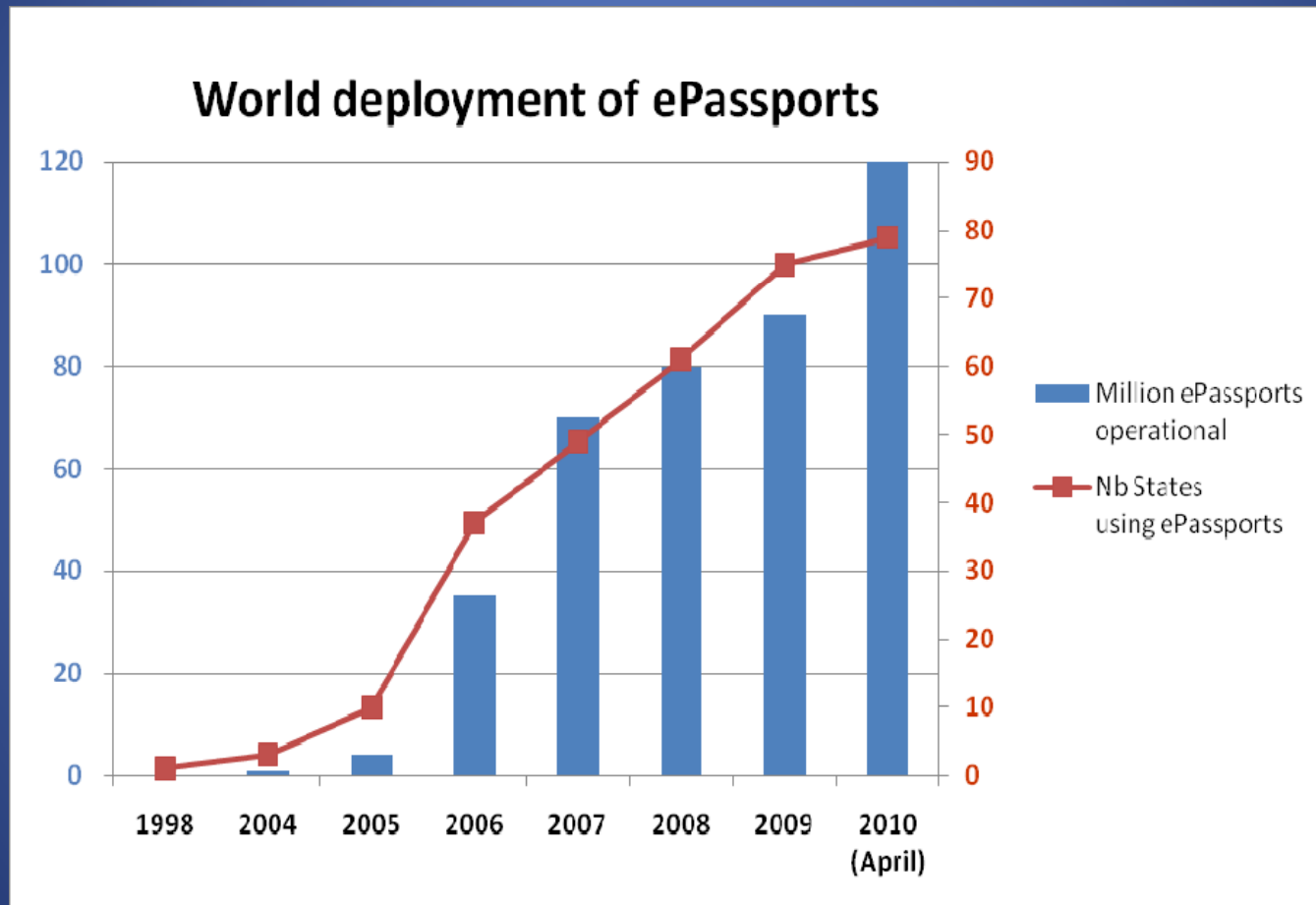

Source: World Tourism Organization (UNWTO) ©

International Arrivals into Europe 2008 (in million)

France: 16,1%
Spain: 11,7%
Italy: 8,8%
UK: 6,2%
Ukraine: 5,2%
Turkey: 5,1%
Germany: 5,1%

Top 7 Europe destinations

Factoid: e-Passport Usage

World deployment of ePassports

Factoid: e-Passport driven ABC Country Deployment

Spread of Automated Border Control
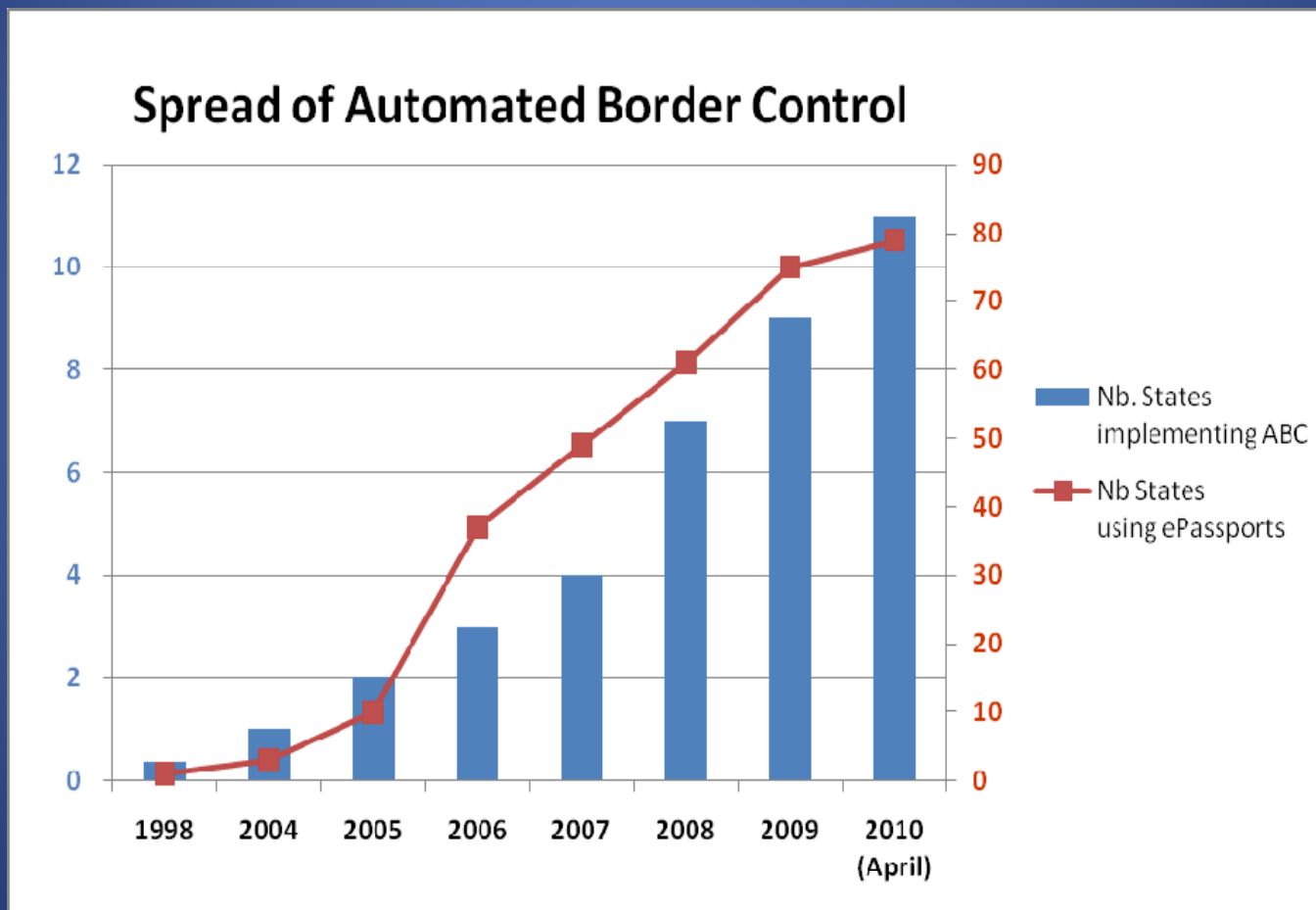
Initial Remarks about ABC

- ## Main goal in ICAO's view
  - Single e-token to maximize the eligible base of <u>VALID</u> eMRTDs carried by their <u>LEGITIMATE</u> holders crossing a border automatically without any prior enrolment
  - Open to eligible nationalities and profiles at the discretion of the receiving State (usually amongst visa waiver countries)
  - EU has taken the stand to favor the development of ABC using e-passports from all its eligible citizens
  - Different from enrolment-driven programs such as RTPs or Entry-Exit e-visas for TCNs

- ## Fact is that
  - Not all of the programs use the same biometrics
  - Some also use other e-MRTDs (even MRTDs)
  - Single e-token ABC and RTPs can coexist on a site

Initial Remarks about ABC

- Underlying challenges
  - Bolster bona fide travelers' flow *(seamlessness)*
  - Improve needle-to-haystack efficiency *(security)*
  - Need to align documents, technology, process, and economics with legislation and harmonize with other countries
  - Adapt to local travelers' profile distribution and regulations
  - Automated Border Crossing is meant to work both ways *(entry-exit)*

➢**Cannot function if operated in silos *(stakeholders need to regroup under a governmental Agency banner)***

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Quiz: Walking on thin Air

- 1st ever Fr. Fl. Program member including Border Control
  - Time to cross 17'30"
  - In the air (190 feet up)
  - 151 years ago

- Tricked US Customs by using an alias
  - Jean-François Gravelet *aka.* Charles Blondin

- First example of successful Piggyback during ABC [1]
  - Crossed the Border over Niagara Falls with his Manager Harry Colcord on his shoulders
  - A high risk traveler, after all!

  - Security & Facilitation

[1] **ABC for Acrobatic Border Crossing**

Could Blondin succeed in carrying a man across the gorge?
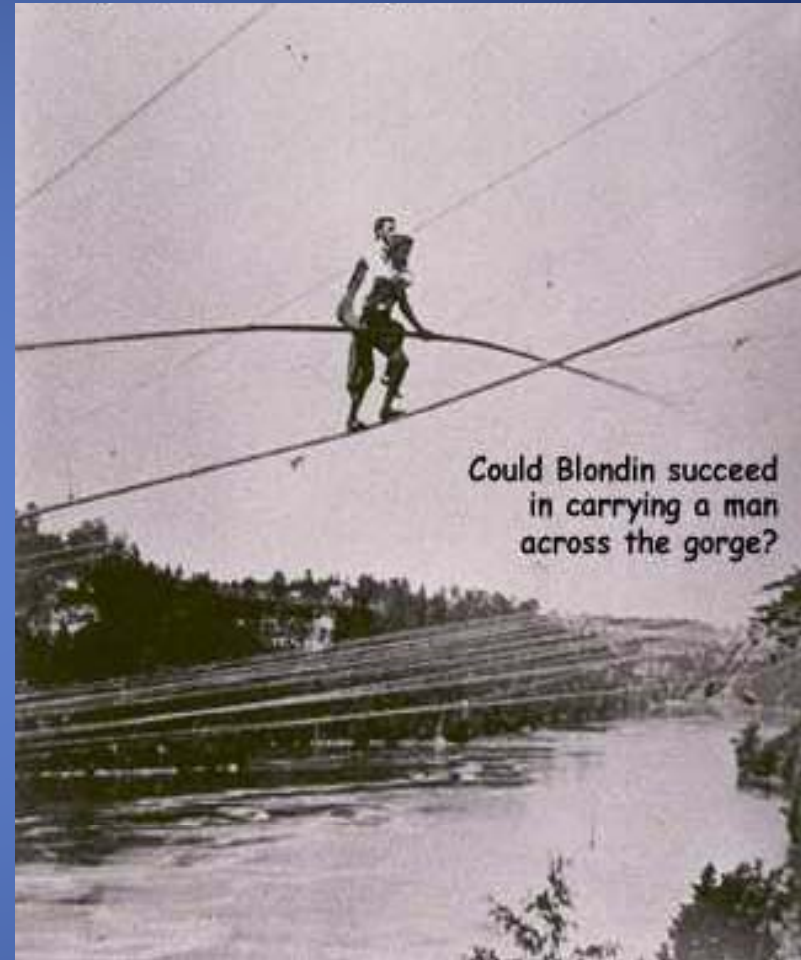
  - Reconciling the ultimate antonyms

e-Passport driven BC Examples:

Pictures courtesy of Vision-Box, Accenture and Morpho

✈ **Vive** **la** **différence !**

RTP worldwide:
a heterogeneous assortment

- **USA (N.A.)**
  - **INSPASS**
  - CANPASS
  - NEXUS
  - FAST
  - SENTRI
  - CLEAR
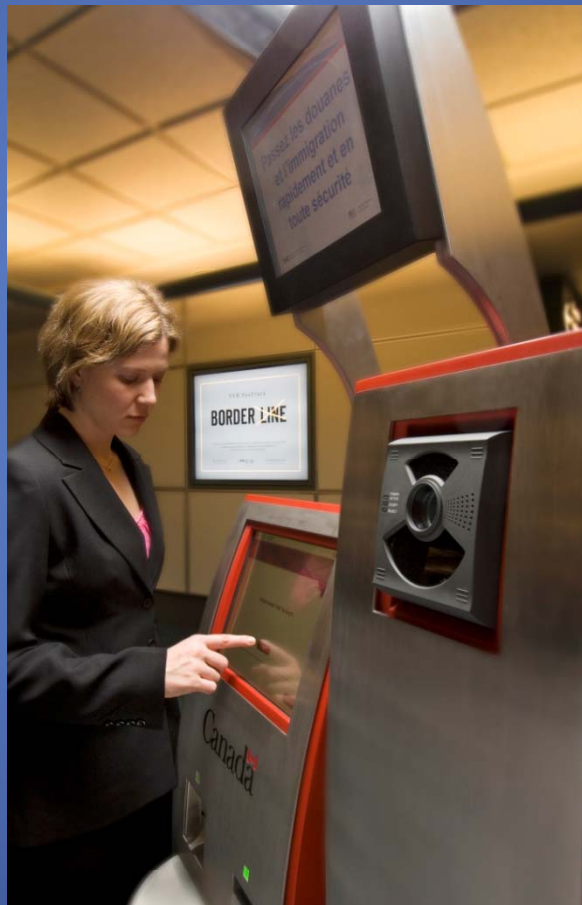 - Global Entry
  - Flux

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NEXUS Pilot

Picture courtesy of Kevin Molloy CIO, Vancouver Airport

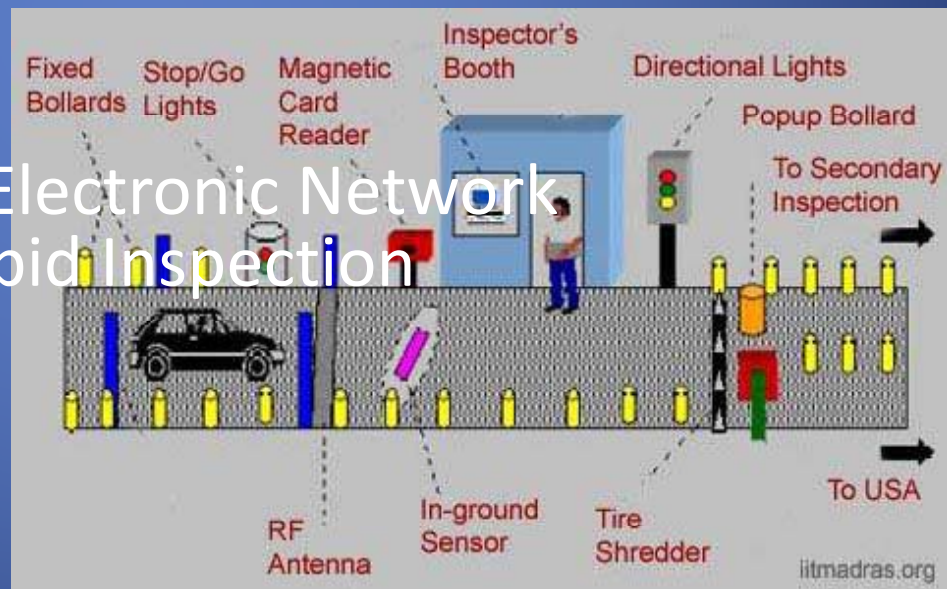# RTP worldwide:
a heterogeneous assortment

- **USA (N.A.)**
  - INSPASS
  - CANPASS
  - NEXUS
  - **FAST** (Free and Secure Trade)
  - SENTRI
  - CLEAR
  - Global Entry
  - Flux

U.S. Customs and Border Protection

RTP worldwide:
a heterogeneous assortment

- **USA (N.A.)**
  - INSPASS
  - CANPASS
  - NEXUS
  - FAST
  - **SENTRI** Secure Electronic Network for Travelers Rapid Inspection
  - CLEAR
  - Global Entry
  - Flux

Fixed Bollards | Stop/Go Lights | Magnetic Card Reader | Inspector's Booth | Directional Lights | Popup Bollard | To Secondary Inspection | RF Antenna | In-ground Sensor | Tire Shredder | To USA | iitmadras.org

RTP worldwide:
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- **USA (N.A.)**
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  - SENTRI
  - **CLEAR**
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RTP worldwide:
a heterogeneous assortment

- **USA (N.A.)**
  - **Global Entry**
  - **Flux**

- **Europe**
  - Privium

Fast border passage
U.S. & the Netherlands

- Save time
  at international airports
- No more forms
  to fill in at customs and immigrations
- Apply online

GLOBAL ENTRY | FLUX
TRUSTED TRAVELER NETWORK

RTP worldwide:
a heterogeneous assortment

- **USA (N.A.)**

- **Europe**
  - **Privium**
  - IRIS - MiSense
  - Parafes

- **Far East**
  - e-Channel
  - Saphire
  - China
  - Singapore

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Pictures courtesy of BAA and IER

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**Picture courtesy of
Sandrine Trochu, Morpho**

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Picture courtesy of IST

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Remote Border: involve all Stakeholders to implement ABC

- **Draw from airport BPR**

- Pre-clearance & split process
  - Origin Border Control (possibly automation-assisted)
  - Destination Customs

- PNR, API, i-API
  - Mandate on-line e-visa approval/ATC

- Organize/agree on early Biometrics collection

- **Elastic boundaries: from/to home**

- CBP or UKBA Expatriates
  - In Dublin (US) or Paris (Eurostar)
  - Bullseye on critical resource management

- International check-throughs
  - Cannot complete check-in at origin (from ETA to ESTA)

- Consulate authentication and e-Visa application (Schengen VIS)

➔ **Move ahead Border, e-Documents, BC Inspectors and Controls**

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ABC Learning Curve

- **Early e-visa trials were helpful to all**
  - BIODEV and BIODEV II for TCNs visiting EU Member States

- **Started gathering data, opinions and KSFs**
  - Stakeholders' participation in markcom (carrier, airport)
  - On-site signage and close-by assistance
  - Preliminary reports available

- **Performances and customer satisfaction**
  - Steady performance improvements over time, including changes to processes, continuous post-installation software tweaking and hardware evolution (Smart Gate)
  - Time to cross ~ 12-15 seconds
  - Entire country deployed (Portugal)
  - Australia and New Zealand's major airports

➔ **No definitive position or global alignment as yet**

Lessons learned

- **Ruling/Regulating/Controlling**
  - Will remain a State prerogative, subject to bilateral or regional agreements

- **Operational enacting/scaling up**
  - Learning curve influenced by leadership and adhesion of all stakeholders on the premises
  - Still needs close expert support to ensure robust biometric performances and dedicated support to bolster user acceptance
  - Application mix will depend on country, travelers' mix, shareholder dominance, as well as market forces

- **Defining acceptable economic return is still WIP**
  - Quantifying ROI on what base? Who pays?
  - Recent evolution towards P-P-P ("No-Q" ABC trial in AMS)

→ **Still in need of best practices and harmonization**

Encouraging Signs

- **Evidence Of Identity issues start being revisited**
  - But it will take a long time
  - Meanwhile, ever more resilient e-passports will cast a forged identity into gold

- **e-passports will shortly become quasi universal for international travel**
  - e-passport driven programs are a right step towards interoperability
  - ABC portals may eventually be overwhelmed by queues ☺

- **Face recognition has significantly improved within the last 5 years**
  - 1:1 ID verification during ABC will help fight impersonation, a current leading fraud tactic

A few current Concerns

- **Time to decide, then deploy a robust distributed PKI architecture (via PKD) in each nation**

  - Each Member State still depends on its peers, which must keep their PKI and document "health indicators" current

- **Deployment to other transportation modalities is still a formidable challenge (rail, ports, road)**

  - Roving controls are limited and resource intensive

- **Entry-exit programs are laggard (*sticky stickers!*)**

  - All Schengen States will not link to the VIS system at the same time (when the latter finally kicks in!)

  - In the US, due to the lack of exit border control, the last API/PNR given by the carrier is not a valid substitute, because no 1:1 verification is performed on the traveler's ID at the boarding gate

- **When China and India produce more e-passports**

  - TCN-driven ABC programs will be put to stress

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Conclusion

- We are not there yet! ABC programs won't succeed alone!

- Listening to and educating the travelers, not to forget reaching out to the media for a zest of control over public opinion

- Even the best ELINT and layered security processes need high quality HUMINT to better detect high risk passengers

- Further process harmonization, extended inter-agency cooperation, as well as additional improvements in Biometrics standards and performances are still required prerequisites

➢ **Even if the scalability and interoperability between multi-national ABC programs still remain daunting tasks, ABC can positively contribute to bolster the secure flows of travellers which ICAO Member states are keen to welcome**

Thank You for your attention!

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