Eighth Symposium and Exhibition on ICAO MRTDs, Biometrics and Security Standards

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THE CONVERGENCE OF APPLICATIONS

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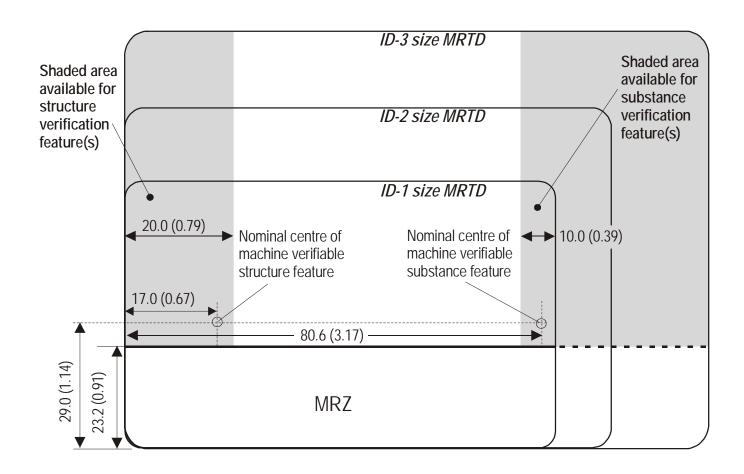
OVERVIEW

Reuse of ICAO 9303 MRTD Standards

Convergence of Applications

International Standardization Alignment

DOC 9303 HAS MANY FACES

ID-3 size MRTD

ID-2 size MRTD

ID-1 size MRTD

Shaded area available for structure verification feature(s)

Shaded area available for substance verification feature(s)

20.0 (0.79)

10.0 (0.39)

Nominal centre of machine verifiable structure feature

Nominal centre of machine verifiable substance feature

17.0 (0.67)

80.6 (3.17)

29.0 (1.14)

23.2 (0.91)

MRZ

Nominal dimensions in millimetres
(inch dimensions in parentheses)

Not to scale

3

GOVERNMENT ID?

NeID

ePassport

Schemes	■ National ID
	■ International travel documents
	■ Healthcare/Social Security
	■ Driving licences & permits
	■ Residence Permit Cards
	■ e Government solutions
Document Form	■ **ID 1** - Smart Card Format ■ **ID 2** - Format: 74.0 mm x 105.0 mm ■ **ID 3** - Format: Passport booklet
Data	■ **Standard:** Nationality, surname, first name, date and place of birth, gender, serial number, national number, passport picture, address etc. ■ **Trend:** Digital signature, biometric reference data, multi-application capability.

PROCUREMENTS REFERENCING ICAO

Barbados – DL

Nigeria- vehicle registration

Guatemala

Brazil RIC

Afghanistan

Panama

Pakistan ID

Brazil – RIC IPC

Spain (eRP)

Sweden (eRP)

Armenia

Peru (eGov)

Nigeria - voting card

Estonia (eRP)

Germany (eRP)

Indonesia (FW)

Italy (eRP)

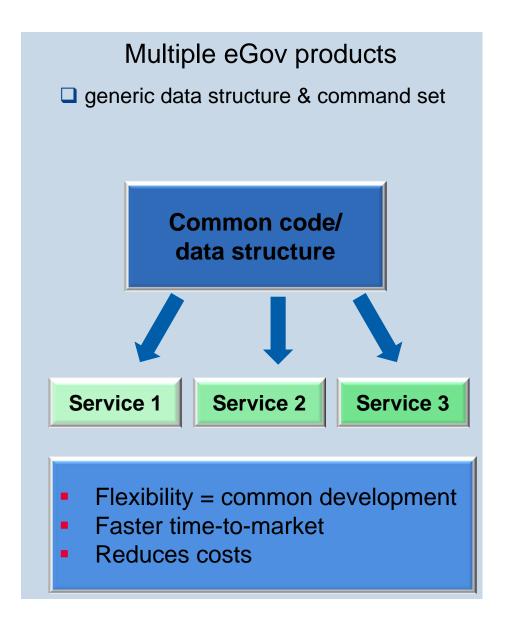Luxemburg (eRP)

Japan (eARC)

Taiwan (eARC)

Portugal (eRP)

Switzerland

SYNERGIES BETWEEN eID´s

		eMRTD	National ID
Infrastructure	PKI	✓	✓
	Population Registration	✓	✓
	Biometric data Capturing	✓	✓
	Electronic Personalizing	✓	✓
	Production Infrastructure	✓	✓
	Border Control Terminals	✓	✓
Specification	Logical Data Structure	✓	✓
	Security Architecture	✓	✓
	Biometrics	✓	✓

Synergies reduce schedule, resources, and costs

FACTORS FOR CONVERGENCE

Multiple eGov products

❑ generic data structure & command set

**Common code/
data structure**

Service 1 · **Service 2** · **Service 3**

- Flexibility = common development
- Faster time-to-market
- Reduces costs

Synergies between different eID´s

References: (e.g. travel & biometrics)

Sweden (since 2005)

The Netherland (since 2006)

Monaco (since 2009)

Lithuania (since 2009)

Germany (since 2010)

Czech Republic (since 01/2012)

Croatia (from 2012, t.b.c.)

Nigeria (from 2012, t.b.c.)

Turkey (from 2013, t.b.c.)

Brazil (from 2013, t.b.c.)

South Korea (from 2014, t.b.c.)

France (from 2014, t.b.c.)

Contactless = Travel Function (ICAO 9303)

Sweden

Contact-based = eID/eGov Function (CEN TC 224)

RESIDENCE PERMIT

Synergies on Documents, for data capturing and on IT-infrastructure.

Could be useful for a national wide Entry-Program.

This approach is in discussion in UK since CY2010

ID1 Smart Card, family concept w/ RP is possible.

RESIDENCE PERMIT

Europe (Example)
- 27 States
- 500 Million Citizens

Basics / Specification
- Format ID1 (ICAO 9303)
- Optical Uniform Design (front, back)
- Interface: contactless (ISO 14443)
- ICAO Biometrics and LDS
- Print: : Photo, MRZ, Name, Given Name, Validity

Regulation
- EU Regulation 1030/2002, published 2002
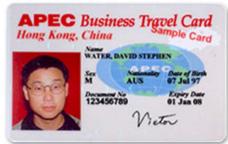
Roll out
- 05/2011 (1G)
- 05/2012 (2G)

Lifetime
- 3 Months, up to 5 Years

User Group others
- Worker, Students, Family, Displaced Person and

REGISTERED TRAVELER PROGRAM

Reference:

Asia	(since 1997)	$\Rightarrow$ ABTC
Netherlands	(since 2004)	$\Rightarrow$ Previum
USA	(since 2005)	$\Rightarrow$ CLEAR
Japan	(since 2006)	$\Rightarrow$ iPass
Oman	(since 2007)	$\Rightarrow$ eGates
Israel	(since 2008)	$\Rightarrow$ Clear
UAE	(since 2009)	$\Rightarrow$ Iris Codes

RTP EXAMPLE CHINA

ID1 Smart Card, combined w/ RTP

- Replacement paper with Registered Traveler eID Card (green border)

- Program name: Frequent-Pass (start in H1/2012)

- Pre-Condition: Registration of all Participants

- Target user group: frequent traveler from HK to mainland China

- Benefits: User: fast lane process
           Border-Police: reduction of effort

CONVERGENCE

European Citizen Card standard

- Bahrain, Belgium, Finland, Oman, Portugal, Qatar, Saudi Arabia, Sweden and UAE. Lithuania, Germany

European Residence Permit card

- The former Yugoslav Republic of Macedonia

- Portugal

- Taiwan

EU REGULATIONS AND RECOMMENDATIONS ON EID

Regulation	■ e-Tachograph: 2135/1998	running
	■ e-Passport: 2252/2004	running
	■ e-Residence Permit: 1030/2002 (eRP)	running
	■ e-European Health Insurance Card (eEHIC)	running
Recommendation	■ e-Car-Registration-Card 127/2003	in tender
	■ **National eID 14351/2005**	**running**
	■ e-Emergency Card	new
	■ Registered Traveler Program (RTP)	running
no Position	■ e-Driving License	definition
	■ e-Health	running

TURKISH ID SCHEME

TUBITAK (technical advisor of the project) started feasibility analysis in 2002/2003

Various groups in Tubitak defined and developed various elements of infrastrucure from Card OS, readers and IT backbone

Hybrid polyC cards with 10 years lifetime

- 64kB CB for eGov/eServices
- 64kB CL for eTravel

Pilot project was completed in Oct 2010 in a small city with 300.000 citizens

Volume Roll-Out to start in 2012 with hybrid cards

GERMANY NAT ID

- Project start in **November 2010**

- **Europe's biggest national eID project**

- Currently about 60m ID card holders in Germany

- About **6.5m e-ID cards** are issued **each year** in Germany

- The new German national eID (nPA) attracts significant attention worldwide as it is one of the **most advanced approaches** regarding security in e-ID projects

- ID (visible document)
- Travel (MRZ); ICAO with biometrics: face; optional 2 fingerprints (images)
- European Citizen Card (eID, eGov/eBiz, eSig) optional

INTEGRITY GUARD

EU DRIVING LICENCE : REGULATION 383/2012

The Commission did setup a expert working group that prepared the EU driving license requirements.

The requirements document is similar to Commission Decisions for EU Biometric Passport and Residence Permit, and contains sections for:

•Data to be stored

•Storage medium

•Logical data structure

•Data protection mechanisms

•Type Approval Member State representatives:

"Save costs and effort by reusing existing card/ reader technology, PKI, data protection mechanisms and inspection processes: stay as close as possible to eMRTD standards".

UL World e-ID congress 2012

EU DRIVING LICENSE INTEROPERABILITY

EU eMRTDs Logical Data Structure

- Mandatory Data DG (MRZ)

- Face Image DG

- Signature Image DG Data

Protection Mechanisms

- BAC

- Passive Authentication

- Active Authentication

- EAC (TR 03110 v1.11)

EU Driving License Logical Data Structure

- Mandatory Data DG

- Face Image DG

- Signature Image DG Data

Protection Mechanisms

- BAP-1 with MRZ input

- Passive Authentication

- Active Authentication

- EAC (TR 03110 v1.11)

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STANDARDIZATION ALIGNMENT

ISO\IEC 7816-x

ISO\IEC 14443-x

ISO\IEC 10373-x

ISO/IEC 18013

- **ISO JTC1/SC17/WG10 established in 1999**
- **ISO/IEC 18013-1:2005 – Physical characteristics and basic data set**
- **ISO/IEC 18013-2:2008 – Machine-readable technologies**
- **ISO/IEC 18013-3:2009 – Access control, authentication and integrity validation**
- **ISO/IEC 18013-4:2011 – Test methods Specific efforts for Europe**
- **2008: start working on test methods (EC Type approval)**
- **2009: development of a 1-line MRZ (interoperability with ePP readers)**

CONCLUSION

Reuse of ICAO 9303 MRTD Standards

- Proven global interoperability
- Leveraging industry solutions

Convergence of Applications

- Reuse of MRTD issuance infrastructure

International Standardization Alignment

- Multiple ongoing working groups
- Liaisons between working groups

THANK YOU

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