



**TECHNICAL ADVISORY GROUP ON MACHINE READABLE
TRAVEL DOCUMENTS (TAG/MRTD)**

TWENTIETH MEETING

Montréal, 7 to 9 September 2011

Agenda Item 2: Activities of the NTWG

Agenda Item 2.9: ePassports and Biometrics

ePASSPORTS AND BIOMETRICS

(Presented by the NTWG)

1. INTRODUCTION

1.1 Based on a recent study, a matrix, at Appendices A and B have been prepared identifying those states and economies issuing electronic machine readable passports. (provided in a world view and by region) and is presenting using the following categories; biometrics used with the ePassports, estimated number of ePassports in circulation, issuing authorities participating in the ICAO Public Key Directory (PKD), states using Automated Border Control (ABC) systems supported by the use of ePassports and states using biometrics as a border management tool.

1.2 This information is presented to provide a more comprehensive picture of ePassport issuance and the use of biometrics in border management. These tables are derived through open source research gathered from publicly available mediums and by interviews. The information is based on the best available data from all open sources as of July 2011.

1.3 The information is subject to change, and more often than not will show an increase in the number of issuing and border management authorities employing ePassport and biometric technologies.

2. STATE OF PLAY

2.1 The following ePassport statistic have been collected:

- a) Ninety-three states and economies issue ePassports;
- b) It is estimated that 345,039,000 ePassports have been issued and it is estimated that there are 339,976,000 ePassports in circulation;

- c) Thirty-five states and economies use the bearer's face as the stored biometric;
- d) Forty-five states use the face and fingerprints as the stored biometrics;
- e) Fourteen states currently using the face image only plan to begin including fingerprint images;
- f) Twenty-one additional states plan to issue ePassports within next 12 to 48 months;
- g) fifteen states currently use an Automated Border Control (ABC) system with the ePassport as the required token; and
- h) Fifty-six states and economies use biometrics as part of their border management process.

2.2 There are several states that characterize their passports as ePassports but they are not in compliance with one or more ICAO specifications. These documents have not been counted as an ePassport nor have their issuance numbers been counted in the estimated number of ePassports in circulation.

3. CONCLUSION

3.1 The TAG/MRTD is invited to review the associated appendices and note the state of play of ePassports and biometrics.

APPENDIX A

ePASSPORTS AND BIOMETRICS

93 states issue ePassports.	34 states use the bearer's face as the stored biometric.	45 states use the face and fingerprints as the stored biometrics.	14 states using the bearer's face biometric will begin including fingerprints within 2011.
21 additional states plan to issue ePassports within this 2011.	9 of these states will use the bearer's face as the stored biometric.	12 of these states will use the face and fingerprint images as the stored biometric.	
27 states currently participate in the ICAO PKD.	10 issuing authorities have indicated their intent to join.		
15 states use an Automated Border Control (ABC) system. 1 state has an ABC plan in place using fingerprints.	6 states use the face as the ABC biometric.	6 states use fingerprints as the ABC biometric.	3 states use the bearer's face and fingerprints as the ABC biometrics.
56 states use biometrics as part of their border management process.	19 states use facial recognition.	8 countries use fingerprints.	24 states use both fingerprints and facial recognition.
	2 states use facial recognition and fingerprints.	2 states use both fingerprints and iris.	1 country uses iris.

APPENDIX B REVISED - This Product is derived from open source research gathered from publicly available mediums and is presented to provide a more comprehensive picture of epassport issuance and the use border management

ePassports and Biometrics - World View

Issuing Entity	Region	ePassport Issuance	Beginning Date	ePassport Biometrics	Annual Issuance	Estimated Number of ePassports issued to date	Validity Period (Adults)	Estimated Number of ePassports in circulation	ICAO PKD	Reading ePassports at borders/airports	ABC using ePPT/Biometric *
Afghanistan	SCA	No					5		No	No	No
Albania	EUR	Yes	2009.6	Face, Finger	450,000	900,000	5	900,000	No	No	No
Algeria	NEA	Yes	2010	Face	500,000	500,000	5	500,000	No	No	No
Andorra	EUR	Yes	2006.9.1	Face	4,000	19,000	5	19,000	No	No	No
Angola	AF	No					10		No	No	No
Antigua and Barbuda	WHA	No					5		No	No	No
Argentina	WHA	Yes	2010	Face	2,000,000	1,500,000	5	1,500,000	No	No	No
Armenia	EUR	Pending	2011.09	Face, Finger	15,000		10		No	No	No
Australia	EAP	Yes	2005.10.24	Face	1,800,000	10,800,000	10	10,800,000	Yes	Yes	Yes/FR
Austria	EUR	Yes	2006.6.16	Face, Finger	500,000	2,500,000	10	2,500,000	Yes	No	No
Azerbaijan	EUR	Pending	Planned 2011	Face, Finger	150,000		5		No	No	No
Bahamas	WHA	Yes	2007.12.5	Face, Finger	52,000	200,000	5	200,000	No	No	No
Bahrain	NEA	Pending	Planned 2011	Face			5		No	No	No
Bangladesh	SCA	No					5		No	No	No
Barbados	WHA	No					5		No	No	No
Belarus	EUR	Pending	Planned 2011	Face, Finger	190,000		5		No	No	No
Belgium	EUR	Yes	2004.11.24	Face/Finger planned 2010	500,000	3,500,000	5	2,500,000	No	No	No
Belize	WHA	No					5		No	No	No
Benin	AF	No					5		No	No	No
Bermuda	WHA	see UK		Face, Finger			5		No	No	No
Bhutan	SCA	No					5		No	No	No
Bolivia	WHA	No					5		No	No	No
Bosnia Herzegovina	EUR	Yes	2009.10.15	Face	300,000	600,000	5	600,000	No	No	No
Botswana	AF	Yes	2010.3	Face	100,000	120,000	5	120,000	No	No	No
Brazil	WHA	Yes	2010.1	Face, (Finger ?)	1,500,000	2,200,000	5	2,200,000	No	No	No
Brunei	EAP	Yes	2007.2.17	Face, (Finger ?)	21,000	80,000	10	80,000	No	No	Yes/FP
Bulgaria	EUR	Yes	2010.3	Face, Finger	500,000	750,000	5	750,000	No	No	No
Burkina Faso	AF	No					5		No	No	No
Burundi	AF	No					5		No	No	No
Cambodia	EAP	Yes	2008.11.11	Face, (Finger ?)	220,000	600,000	5	600,000	No	No	No
Cameroon	AF	Pending	Planned 2011	Face			5		No	No	No
Canada	WHA	Yes, limited	2009.1	Face	3,500,000	50,000	5	50,000	Yes	Yes	No
Cape Verde	AF	No					5		No	No	No
Central African Rep.	AF	No	(Reporting of CEMAC ePassport Planned 2011)				3		No	No	No
Chad	AF	No	(Reporting of CEMAC ePassport Planned 2011)				5		No	No	No
Chile	WHA	Yes	2009.12	Face, (Finger ?)	300,000	480,000	5	480,000	No	No	No
China (PRC)	EAP	Pending	2011	Face, (Finger ?)	7,000,000		5		Yes	No	No
Colombia	WHA	Pending		Face, Finger			10		No	No	No
Comoros	AF	No							No	No	No
Congo , Republic of	AF	No	(Reporting of CEMAC ePassport Planned 2011)				5		No	No	No

Issuing Entity	Region	ePassport Issuance	Beginning Date	ePassport Biometrics	Annual Issuance	Estimated Number of ePassports issued to date	Validity Period (Adults)	Estimated Number of ePassports in circulation	ICAO PKD	Reading ePassports at borders/airports	ABC using ePPT/Biometric *	
Congo Dem. Rep.	AF	Yes	2009.4.1	Face	250,000	400,000	5	400,000	No	No	No	
Costa Rica	WHA	No					5		No	No	No	
Cote d'Ivoire	AF	Yes	2008.7.30	Face, Finger	200,000	600,000	5	600,000	No	No	No	
Croatia	EUR	Yes	2009.7	Face, Finger	200,000	400,000	5	400,000	No	No	No	
Cuba	WHA	No					5		No	No	No	
Cyprus	EUR	Yes	2010.12.13	Face, Finger	32,000	16,000	5	16,000	No	No	No	
Czech Rep	EUR	Yes	2006.9.1	Face, Finger	800,000	2,700,000	10	2,700,000	Yes	No	No	
Denmark	EUR	Yes	2006.8.1	Face/Finger planned 2010	750,000	3,750,000	10	3,750,000	No	No	No	
Djibouti	AF	No					5		No	No	No	
Dominica	WHA	No					5		No	No	No	
Dominican Republic	WHA	Yes	2004.5.1	Face	480,000	3,360,000	5	2,500,000	No	No	No	
Ecuador	WHA	No					5		No	No	No	
Egypt	NEA	No					5		No	No	Yes/FP	
El Salvador	WHA	No					5		No	No	No	
			(Reporting of CEMAC ePassport Planned 2011)									
Equatorial Guinea	AF	No					5		No	No	No	
Eritrea	AF	No					5		No	No	No	
Estonia	EUR	Yes	2007.5.22	Face, Finger	50,000	200,000	5	200,000	No	No	No	
Ethiopia	AF	No					5		No	No	No	
Fiji	EAP	No					5		No	No	No	
Finland	EUR	Yes	2006.8.21	Face, Finger	400,000	2,000,000	10	2,000,000	Pending	No	Yes/FR	
France	EUR	Yes	2006.4.12	Face, Finger	3,500,000	18,000,000	10	18,000,000	Yes	No	No	
Gabon	AF	Yes	2009.1.20	Face, Finger			5		No	No	No	
Gambia	AF	No					5		No	No	No	
Georgia	EUR	Yes	2010.6	Face, Finger	35,000	35,000	5	35,000	No	No	No	
Germany	EUR	Yes	2005.11.1	Face, Finger	3,000,000	15,500,000	10	15,500,000	Yes	Yes	Yes/FR	
Ghana	AF	Yes	2010	Face	240,000	240,000	5	240,000	No	No	No	
Greece	EUR	Yes	2006.8.26	Face, Finger	1,000,000	4,000,000	5	4,000,000	No	No	No	
Grenada	WHA	No					5		No	No	No	
Guatemala	WHA	No					5		No	No	No	
Guinea	AF	No					5		No	No	No	
Guinea-Bissau	AF	No					5		No	No	No	
Guyana	WHA	No					5		No	No	No	
Haiti	WHA	No					5		No	No	No	
Honduras	WHA	No					5		No	No	No	
Hong Kong	EAP	Yes	2007.2.5	Face	500,000	1,500,000	10	1,500,000	Yes	No	No	
Hungary	EUR	Yes	2006.8.29	Face, Finger	800,000	3,500,000	10	3,500,000	Yes	No	No	
Iceland	EUR	Yes	2006.5.23	Face, Finger	45,000	200,000	5	200,000	No	No	No	
India	SCA	Yes	2008.6.25 (2011)	Face, Finger	12,000,000	20,000,000	5	20,000,000	Yes	No	No	
Indonesia	EAP	Yes	2010	Face, (Finger ?)	2,500,000	2,500,000	5	2,500,000	No	Yes	No	
Iran	NEA	Yes	2007.7.1	Face	1,000,000	1,500,000	5	1,500,000	No	No	No	
Iraq #	NEA	Yes (Not ICAO compliant)	2009	Face			5		No	No	No	
Ireland	EUR	Yes	2006.10.16	Face	600,000	2,800,000	10	2,800,000	Pending	No	No	

Issuing Entity	Region	ePassport Issuance	Beginning Date	ePassport Biometrics	Annual	Estimated	Validity	Estimated	ICAO PKD	Reading ePassports at borders/airports	ABC using ePPT/Biometric *
					Issuance	Number of ePassports issued to date	Period (Adults)	Number of ePassports in circulation			
Israel	NEA	Pending	Planned 2011	Face, Finger	600,000		5		No	No	No
Italy	EUR	Yes	2006.10.26	Face, Finger	2,500,000	11,200,000	10	11,200,000	No	No	No
Jamaica	WHA	Pending	Planned 2011	Face, (Finger ?)			5		No	No	No
Japan	EAP	Yes	2006.3.20	Face	4,200,000	20,000,000	10	20,000,000	Yes	Yes	Yes/FR, FP
Jordan	NEA	No					5		No	No	No
Kazakhstan	SCA	Yes	2009.1	Face	65,000	130,000	5	130,000	Yes	No	No
Kenya	AF	Pending	Planned 2011	Face	200,000		10		No	No	No
Kiribati	EAP	No					5		No	No	No
Korea (North)	EAP	No					5		No	No	No
Korea (South)	EAP	Yes	2008.3.11	Face	4,000,000	10,000,000	10	10,000,000	Yes	No	No
Kosovo	EUR	Yes	2010	Face (Finger?)	300,000	200,000	5	200,000	No	No	No
Kuwait	NEA	Pending	Planned 2011	Face			5		No	No	No
Kyrgyzstan	SCA	No					5		No	No	No
Laos	EAP	No					5		No	No	No
Latvia	EUR	Yes	2007.11.20	Face, Finger	300,000	1,000,000	10	1,000,000	Yes	No	No
Lebanon	NEA	Pending	Planned 2012	Face, Finger	100,000		5		No	No	No
Lesotho	AF	No					5		No	No	No
Liberia	AF	Yes	2011	Face, Finger	14,000	4,000	5	4,000	No	No	No
Libya	NEA	Yes	2009	Face	20,000	30,000	5	30,000	No	No	No
Liechtenstein	EUR	Yes	2006.10.26	Face, Finger	6,700	30,000	10	30,000	No	No	No
Lithuania	EUR	Yes	2006.8.28	Face, Finger	230,000	1,100,000	10	1,100,000	Pending	No	No
Luxembourg	EUR	Yes	2006.8.28	Face, Finger	25,000	110,000	5	110,000	Pending	No	No
Macao	EAP	Yes	2009.9	Face, (Finger ?)	180,000	150,000	10	150,000	Yes	No	No
Macedonia	EUR	Yes	2007.4.2	Face, Finger	180,000	1,100,000	10	1,100,000	No	No	No
Madagascar	AF	Yes	2010	Face	80,000	80,000	5	80,000	No	No	No
Malawi	AF	No					5		No	No	No
Malaysia	EAP	Yes	1998.3.1 (ICAO Compliant 2010.3)	Face, Finger	1,300,000	1,500,000	5	1,500,000	No	No	Yes/FR, FP
Maldives	SCA	Yes	2007.7.26	Face, Finger	30,000	100,000	5	100,000	No	No	No
Mali	AF	No					5		No	No	No
Malta	EUR	Yes	2008.10.8	Face, Finger	16,000	40,000	10	40,000	No	No	No
Marshall Islands	EAP	No					5		No	No	No
Mauritania	AF	No					5		No	No	No
Mauritius	AF	No					5		No	No	No
Mexico	WHA	Pending	Planned 2010-2011	Face, Finger	1,000,000		5		No	No	No
Micronesia	EAP	No					5		No	No	No
Moldova	EUR	Yes (Not ICAO compliant)	2008.1	Face	40,000		5		Pending	No	No
Monaco	EUR	Yes	2005.7.18	Face (Finger ?)	3,000	18,000	5	15,000	No	No	No
Mongolia	EAP	No					5		No	No	No
Montenegro	EUR	Yes	2008.5	Face	20,000	70,000	5	70,000	No	No	No
Morocco	NEA	Yes	2010	Face, Finger	200,000	150,000	5	150,000	Yes	No	No
Mozambique	AF	Yes	2011	Face	200,000	20,000	5	20,000	No	No	No
Myanmar	EAP	No					5		No	No	No
Namibia	AF	No					5		No	No	No
Nauru	EAP	No					5		No	No	No
Nepal	SCA	No			850,000		5		No	No	No
Netherlands	EUR	Yes	2006.8.26	Face, Finger	1,800,000	10,000,000	5	10,000,000	Yes	No	Pending/FR
New Zealand	EAP	Yes	2005.11.4	Face	720,000	2,600,000	5	2,600,000	Yes	Yes	Yes/FR
Nicaragua	WHA	No					5		No	No	No
Niger	AF	No			25,000		3		No	No	No
Nigeria	AF	Yes	2007.8.17	Face, Finger	1,100,000	5,000,000	5	5,000,000	Yes	No	No
Norway	EUR	Yes	2005.10.3	Face,Finger	600,000	3,600,000	10	3,000,000	Yes	No	No
Oman	NEA	Pending	Planned 2011	Face			5		No	No	No
Pakistan	SCA	Yes (Not ICAO compliant)	2004.10.25	Face, Finger	1,500,000		5		No	No	No
Palau	EAP	No					5		No	No	No

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Palestine	NEA	No					5		No	No	No
Panama	WHA	Pending	2012	Face			5		No	No	No
Papua New Guinea	EAP	No					5		No	No	No
Paraguay	WHA	No					5		No	No	No
Peru	WHA	No					5		No	No	No
Philippines	EAP	Yes	2008.8	Face	5,000,000	12,000,000	5	12,000,000	No	No	No
Poland	EUR	Yes	2006.8.28	Face, Finger	1,500,000	7,500,000	5	6,000,000	No	No	No
Portugal	EUR	Yes	2006.7.31	Face, Finger	400,000	2,000,000	10	2,000,000	Pending	Yes	Yes/FR
Qatar	NEA	Yes	2008.4.20	Face	15,000	45,000	5	45,000	No	No	No
Romania	EUR	Yes	2009.1	Face, Finger	1,000,000	2,000,000	5	2,000,000	No	No	No
Russia	EUR	Yes	2006.9.1	Face	2,200,000	7,500,000	10	7,500,000	Pending	No	No
Rwanda	AF	No					5		No	No	No
Saint Lucia	WHA	No					5		No	No	No
Samoa	EAP	No					5		No	No	No
San Marino	EUR	Yes	2006.10.12	Face	2,000	10,000	5	10,000	No	No	No
Sao Tome and Principe	AF	No					5		No	No	No
Saudi Arabia	NEA	Pending	Planned 2011-2013	Face, Finger	220,000		5		No	No	No
Senegal	AF	Yes	2007.12	Face (Finger ?)	620,000	1,300,000	5	1,300,000	No	No	No
Serbia	EUR	Yes	2008.7.7	Face (Finger ?)	440,000	1,300,000	10	1,300,000	No	No	Yes/FP
Seychelles	AF	No					5		No	No	No
Sierra Leone	AF	No					5		No	No	No
Singapore	EAP	Yes	2006.4.29	Face, Finger	600,000	3,000,000	5	3,000,000	Yes	Yes	Yes/FP
Slovakia	EUR	Yes	2008.1.15	Face, Finger	750,000	1,500,000	10	1,500,000	Yes	No	No
Slovenia	EUR	Yes	2006.8.28	Face, Finger	51,000	250,000	10	250,000	No	No	No
Soloman Islands	EAP	Yes	2009	Face			5		No	No	No
Somalia	AF	Yes	2007.1.21	Face, Finger			5		No	No	No
South Africa	AF	Pending	Planned 2011	Face, Finger	650,000		10		No	No	No
Spain	EUR	Yes	2006.8.14	Face, Finger	2,000,000	10,000,000	10	10,000,000	Pending	No	No
Sri Lanka	SCA	Pending	Planned 2012	Face			5		No	No	No
St. Kitts and Nevis	WHA	No					5		No	No	No
St. Vincent and Grenedines	WHA	No					5		No	No	No
Sudan	AF	Yes	2009.5	Face, (Finger ?)	100,000	200,000	5	200,000	No	No	No
Suriname	AF	No					5		No	No	No
Swaziland	AF	No					5		No	No	No
Sweden	EUR	Yes	2005.10.3	Face, Finger	825,000	5,100,000	5	4,900,000	Pending	No	No
Switzerland	EUR	Yes	2006.9.1	Face, Finger	750,000	3,500,000	10	3,500,000	Yes	No	YES/FR
Syria	NEA	No					5		No	No	No
Taiwan	EAP	Yes	2008.12.29	Face	1,500,000	4,000,000	10	4,000,000	No	No	No
Tajikistan	SCA	Yes, limited	2010.2.15	Face	40,000	50,000	5	50,000	No	No	No
Tanzania	AF	No					5		No	No	No
Thailand	EAP	Yes	2005.5.26	Face, Finger	860,000	5,200,000	5	4,300,000	No	No	No
Timor Leste	EAP	No					5		No	No	No
Togo	AF	Yes	2009.8	Face, (Finger ?)	30,000	50,000	5	50,000	No	No	No
Tonga	EAP	No					5		No	No	No
Trinidad and Tobago	WHA	No					5		No	No	No
Tunesia	NEA	No					5		No	No	No
Turkey	EUR	Yes	2010.6	Face	1,430,000	1,500,000	5	1,500,000	No	No	No
Turkmenistan	SCA	Yes	2008.7.10	Face	80,000	200,000	5	200,000	No	No	No
Tuvalu	EAP	No					5		No	No	No
Uganda	AF	No					5		No	No	No
Ukraine	EUR	Pending	2013	Face			10		Yes	No	No
United Arab Emirates	NEA	Yes	2010	Face, Finger	300,000	400,000	5	400,000	Yes	No	Yes?
United Kingdom	EUR	Yes	2006.3.6	Face	5,000,000	27,000,000	10	27,000,000	Yes	Yes	Yes/FR, FP
Uruguay	WHA	No					5		No	No	No
USA	WHA	Yes	2006.8.14	Face	13,000,000	72,000,000	10	72,000,000	Yes	Yes	Yes/FP

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Uzbekistan	SCA	Pending	Planned 2012	Face, (Finger ?)	600,000		5		No	No	No
Vanuatu	EAP	No					5		No	No	No
Vatican City	EUR	Yes	2008.6	Face		2,000	5	2,000	No	No	No
Venezuela	WHA	Yes	2007.7.1	Face, Finger	420,000	1,200,000	5	1,200,000	No	No	No
Vietnam	EAP	Pending	Planned 2011	Face	400,000		5		No	No	No
Yemen	NEA	No					5		No	No	No
Zambia	AF	No					5		No	No	No
Zimbabwe	AF	No					5		No	No	No
						345,039,000		339,976,000			

Sources: ICAO MRTD Web, ICAO PKD web, Keesings Journal of Documents & Identity, Keesings Identity Checker, International Forum for Travel Documents (IF4TD), Security Document World, G8 Study, ICAO Implementation and Capacity Building workgroup (ICBWG) Study, additional assorted literature, Interviews

Security thread interferes with MRZ read. ePassport uses BAC so access to chip data is questionable.

* Additional countries do have ABC systems however the token used is not the passport (e.g. Hong Kong). Therefore, they are not listed.

** Some countries do use FR in connection with surveillance systems at airports, however FR is not used for entry purposes.

END

Use of biometrics in

**Biometrics at
Primary ****

No Biometrics used

(No)

No

No

FR

No

No

FR, FP

FP

FR

FR

No

No

No

No

No

No

No

No

No

No

No

No

No

FR, FP

FP

FR, FP

No

No

No

No

Iris

No

No

No

FR, FP

FR

FR, FP

No

FR, FP

**Biometrics at
Primary ****

No
No
FP
FR, FP
FR
FR, FP
FR, FP

No
No
No
No
No
FP
No

FR, FP
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FR, FP
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**Biometrics at
Primary ****

FR, FP

No

No

FR, FP

FR, FP, Iris

FR

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No

No

FR,FP

No

No

FR

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No

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FR

No

No

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FR

FR

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No

FP

No

No

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No

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No

No

FR, Iris

FR

No

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FR

No

**Biometrics at
Primary ****

No

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No

FP

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FR

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No

No

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No

No

FR, FP

No

No

No

No

FR, FP, Iris

No

No

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No

FR, FP

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FR, FP

FR

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No

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No

No

No

No

FR

No

No

No

FR, Iris

FR, FP

No

FR, FP

**Biometrics at
Primary ****

- No
- No
- No
- FR, FP
- FR
- No
- No
- No