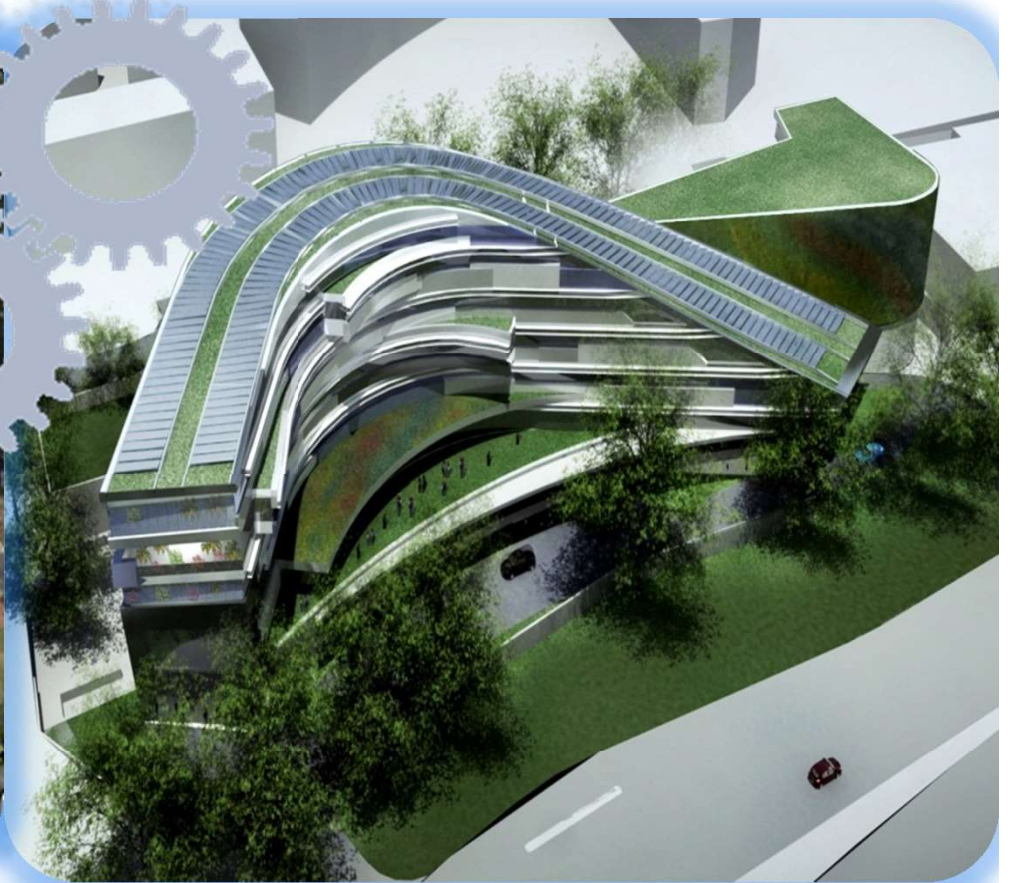
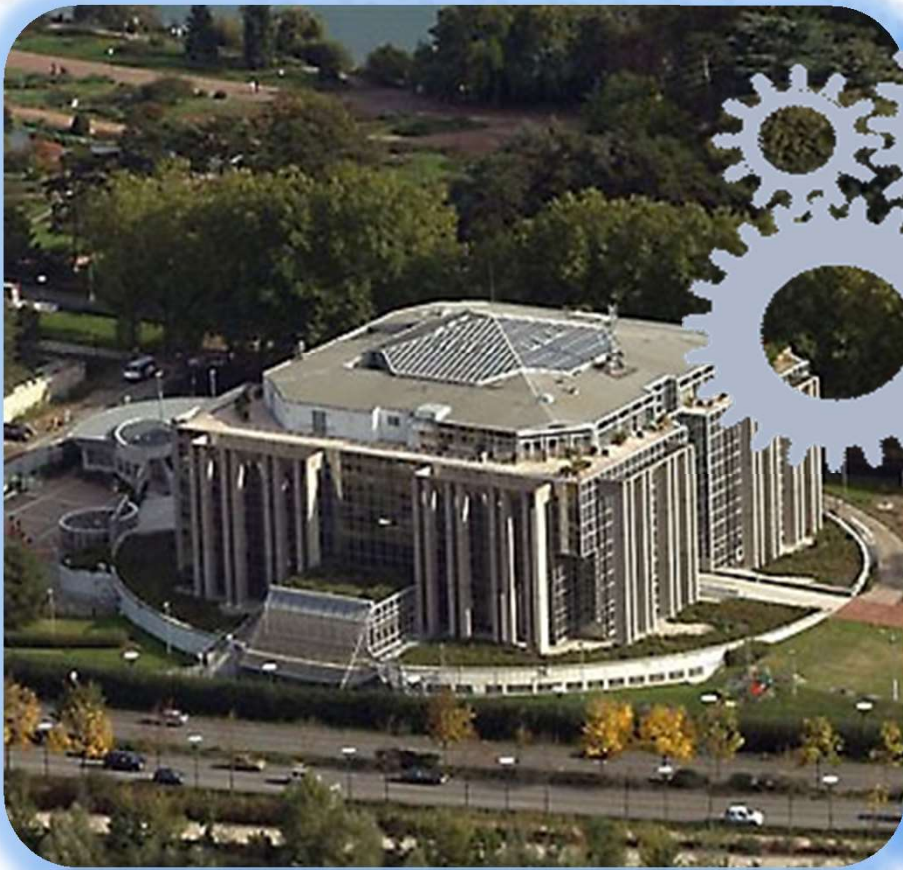




INTERPOL

POLICE FORENSICS SUB-DIRECTORATE

INTERPOL and Biometric Capabilities



A GLOBAL STRUCTURE



194 MEMBER COUNTRIES CONNECTED THROUGH A SECURE NETWORK





INTERPOL'S VISION AND MISSION

THE VISION – what INTERPOL aspires to achieve

"Connecting police for a safer world"

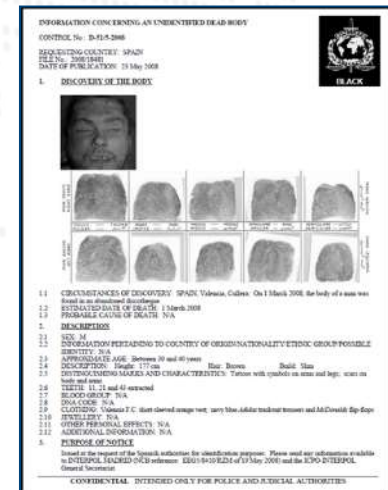
THE MISSION - what INTERPOL does to achieve its vision

"Preventing and fighting crime through enhanced cooperation and innovation on police and security matters"

What INTERPOL can do

- 1. INTERPOL's Notices / Diffusions
- 2. INTERPOL's Databases:
 - Fingerprints (AFIS)
 - DNA (direct and kinship matching)
 - Facial recognition
 - Travel documents (SLTD, TDAWN)

Tools for Identification of High-Risk Missing Persons and Deceased FTF



IMPORTANT

- ✓ You = resource of information **retains full control over it**
- ✓ You decide **how long the data shall remain** in our databases
- ✓ You manage the **visibility of data** – e.g. the restrictions

**Withholding information within any region
puts the rest of the world at risk.**



DATABASES IN 2019

FIREARMS
NOMINAL DATA **FORENSIC DATA**
CHILD SEXUAL EXPLOITATION IMAGES
TRAVEL AND OFFICIAL DOCUMENTS
MOTOR VEHICLES **FOREIGN TERRORIST FIGHTERS**
WORKS OF ART

18

DATABASES

100

MILLION

**POLICE
RECORDS**

20

MILLION

**SEARCHES
PER DAY**

0.5

SECONDS

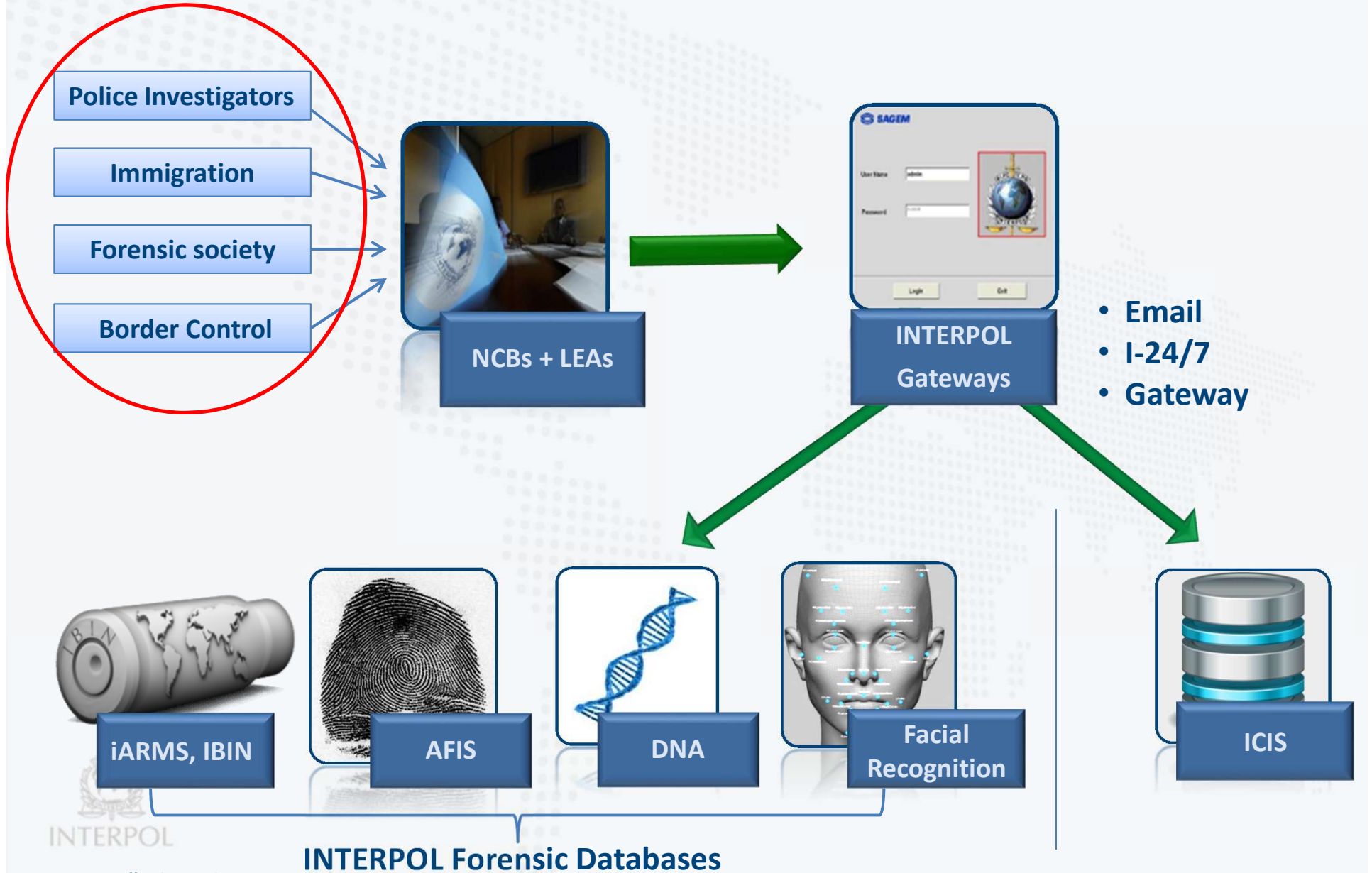
**RESPONSE
TIME**



INTERPOL

September 2019

Transmission of forensic information



- Email
- I-24/7
- Gateway

INTERPOL Forensic Databases

INTERPOL BIOMETRICS



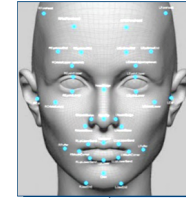
FINGERPRINTS

- **222,491 TP**
- **18,216 UL**
- **183 MC**
- Offenders, missing persons, unidentified bodies, CSI
- ANSI/NIST ITL-1-2007
- New XML standard June 2020
- AFIS gateway/HUB



DNA

- **226,000 profiles**
- **77 MC**
- Offenders, missing persons, unidentified bodies, CSI
- DNA gateway
- Bi-lateral matcher



FACIAL RECOGNITION

- Start in 2016
- **80,000 images**
- **180 MC** so far agreed on use of their images
- Offenders, missing persons
- In 3 years nearly 1000 possible identifications proposed to member countries

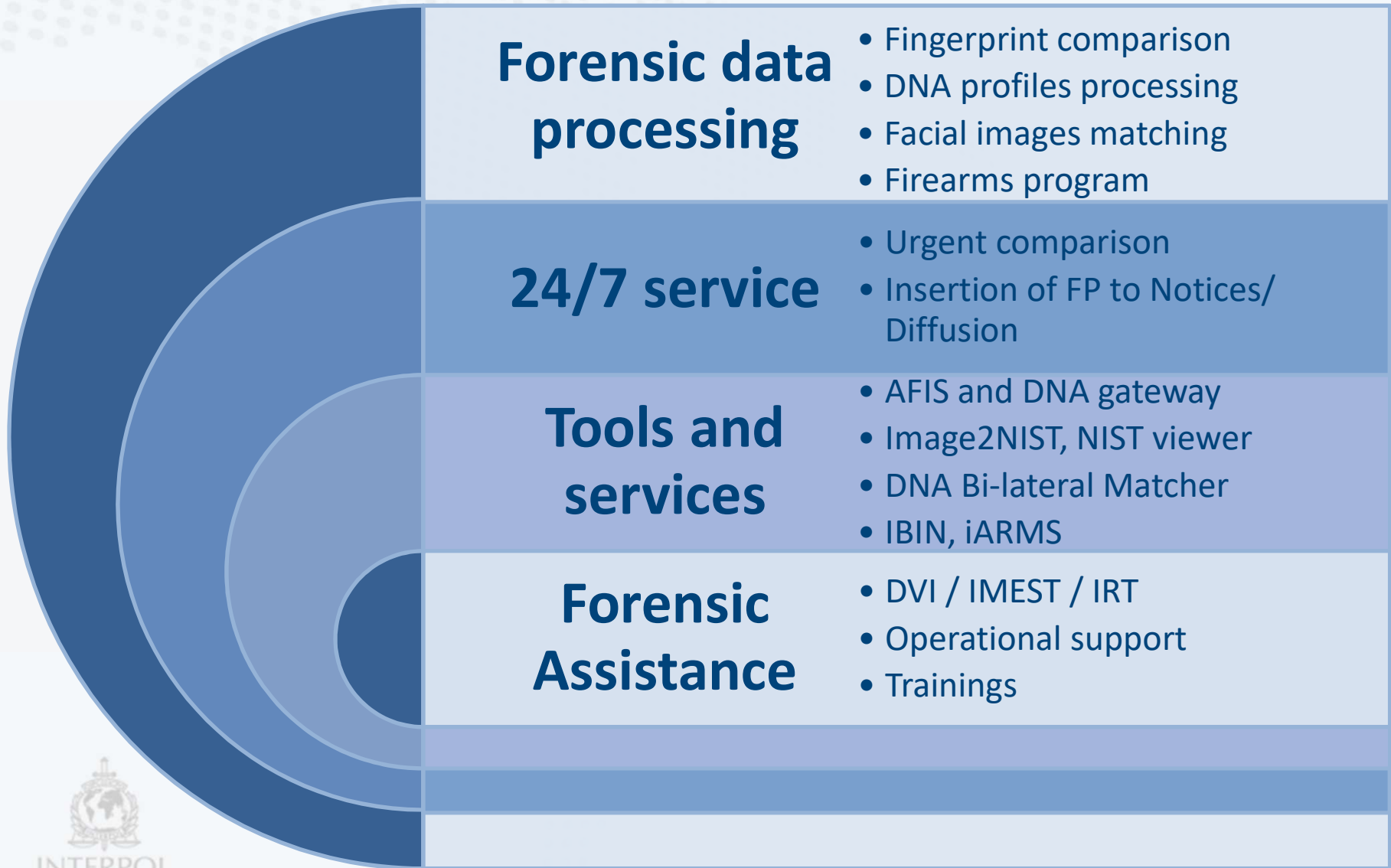


* TP = Tenprints; UL = Unsolved fingerprint latents; AFIS = Automated Fingerprint Identification System; ICIS= INTERPOL Criminal Information System

What YOU can do

1. **Communicate** with forensic units and your NCB about processing of fingerprints/ DNA/ ballistics/ firearms/ facial images in INTERPOL databases
2. Invite NCB to your trainings for police officers– to **present the INTERPOL tools and services**
3. **Request I24/7 extension** from your INTERPOL NCB
4. Request **access for your staff** to INTERPOL forensic databases - DNA and AFIS gateway, firearms tools
5. **Participate in INTERPOL events** – Symposiums, Seminars, Trainings, Conferences, Operations

INTERPOL Forensic Units – How can we help?



All data at INTERPOL in accordance with:



LEGAL

INTERPOL's constitution (Art. 2 & 3)

RETENTION

INTERPOL's Rules on the Processing of Data
(Art. 49; Art. 50, Art. 51, Art. 52, Art. 53, Art. 58)

TECHNICAL

Specific documents for each type of data-standards, manuals, guidelines, procedures



All available online on www.interpol.int



FINGERPRINTS

INTERPOL AFIS

AFIS



Number of fingerprints:

214,491

Number of latent prints:

15,216

Number of identification (2019):

1767

Countries sending FP:

182

Countries using AFIS gateway:

68

Main users:

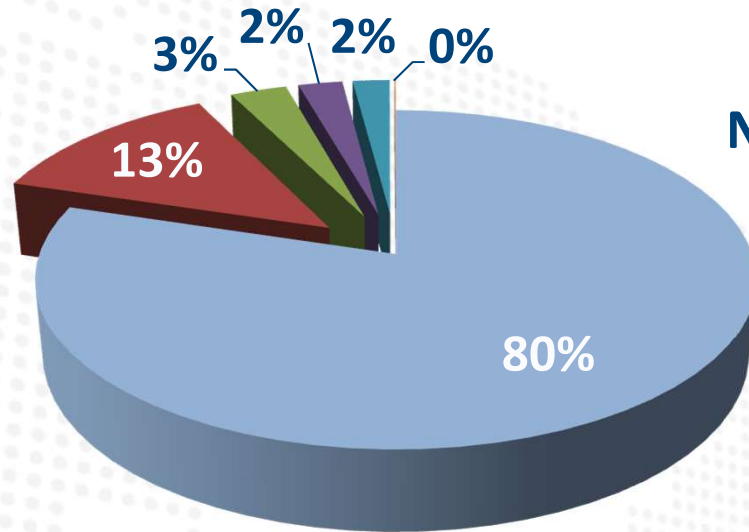
**UK, Slovakia, Denmark,
Greece, Seychelles,
Ireland (> 500
searches in 2019)**

ANSI/NIST ITL 1-2007, INTERPOL
Implementation



The use of INTERPOL AFIS by member countries

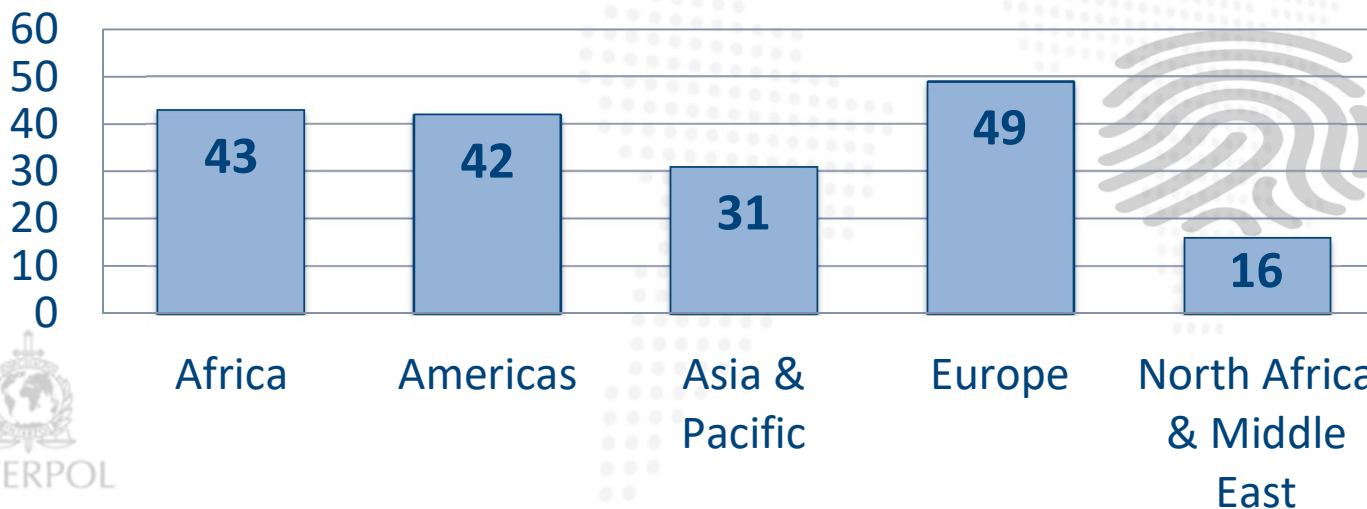
**INTERPOL
AFIS**



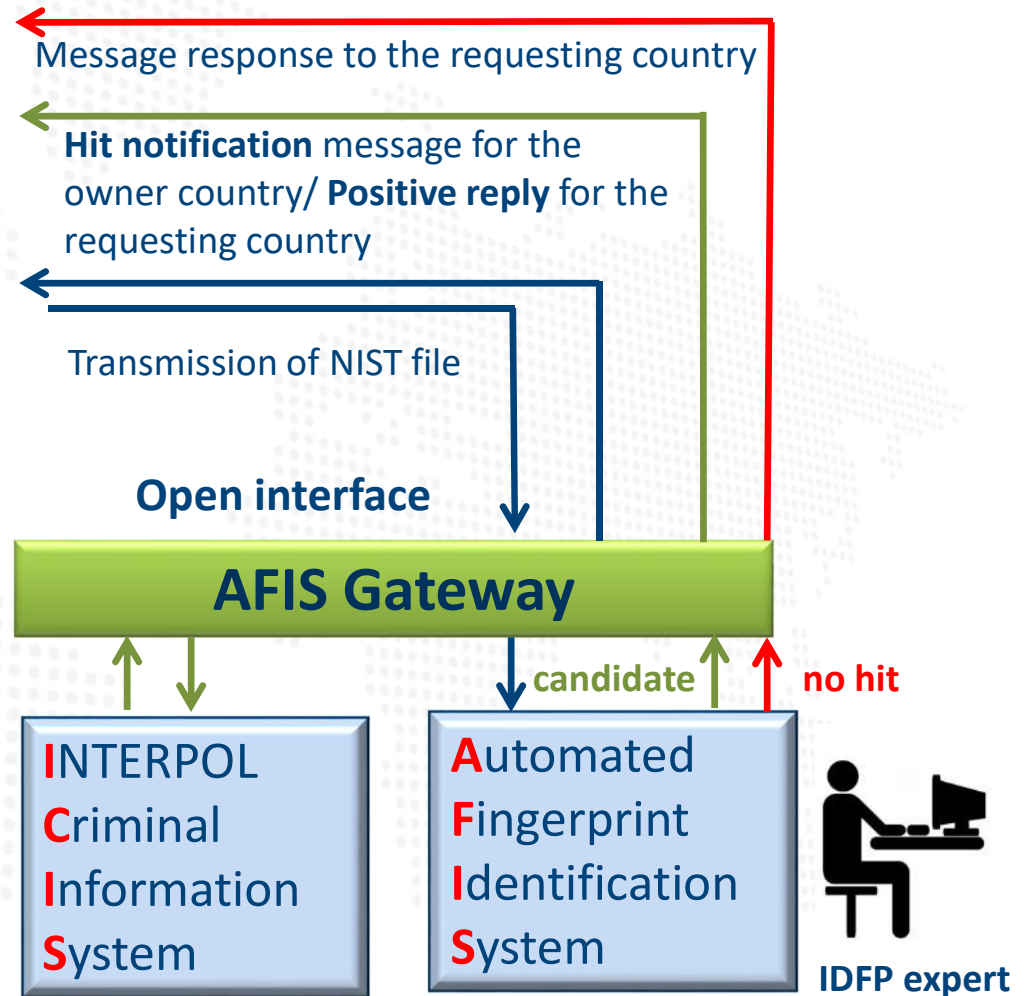
Number of Fingerprints

- Europe
- Americas
- Asia & Pacific
- Africa
- North Africa & Middle East
- Int. Organization

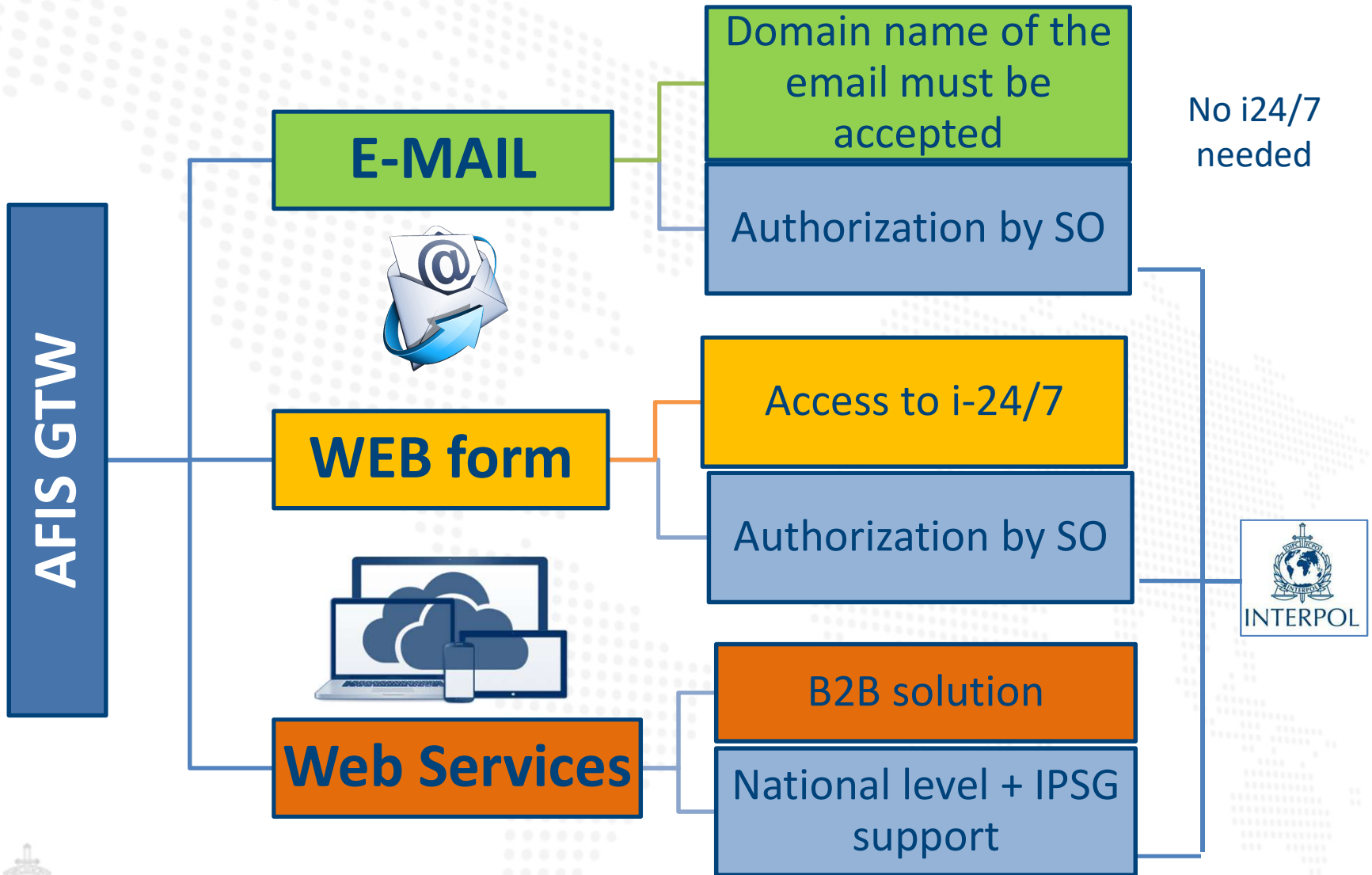
Countries submitting fingerprints- 182



3. Sending Fingerprints- AFIS gateway



ACCESS AFIS GATEWAY



INTERPOL

INTERPOL For official use only

I-24/7 system = VPN based (Virtual Private Network)

- Data are encrypted
- Can be accessed only after being granted access (by NCB)



DNA UNIT



INTERPOL DNA DATABASE

- Contribution to international police cooperation
- Provide international forensic intelligence links to:
 - Solve crime
 - Find/identify missing persons
- Applicable for bilateral, multilateral, regional and trans-regional data sharing and comparison

INTERPOL DNA DATABASE

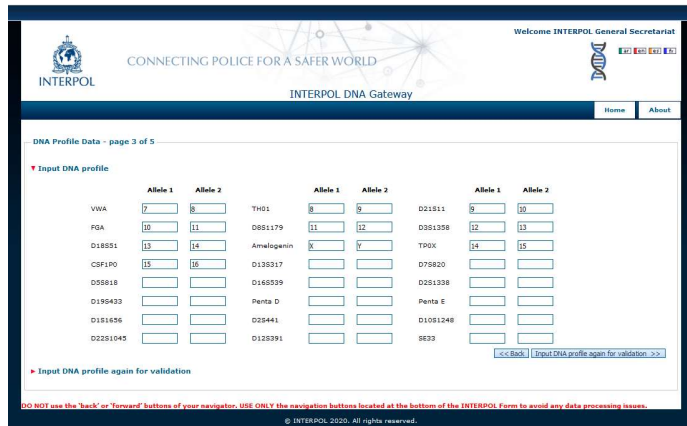
- No nominal information
- Unique barcode - only known to source country
- I-24/7 secure direct access to search/add/manage :
 - National Central Bureaus (NCBs)
 - Authorized entities eg, DNA laboratory
- Country retains full ownership of their data:
 - Restrictions (country-based / index-based)
 - Search and store / search only
 - Duration of retention of data
- No mixtures / No familial searching



Automatic 15 min
response

INTERPOL DNA GATEWAY

A Graphical User Interface to securely send DNA data to countries and / or INTERPOL DNA Database



INTERPOL DNA Gateway

Input DNA profile

	Allele 1	Allele 2		Allele 1	Allele 2		Allele 1	Allele 2	
VWA	7	8	TH01	8	9		D21S11	9	10
FGA	10	11	D8S1179	11	12		D3S1358	12	13
D18S51	13	14	Amelogenin	X	Y		TPOX	14	15
CSF1PO	15	16	D13S317				D7S820		
D5S818			D16S539				D2S1338		
D19S433			Penta D				Penta E		
D1S1626			D2S441				D10S1248		
D22S1045			D12S391				SE33		

Input DNA profile again for validation

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DNA GATEWAY



MEMBER COUNTRY / COUNTRIES

and/or



INTERPOL DNA DATABASE

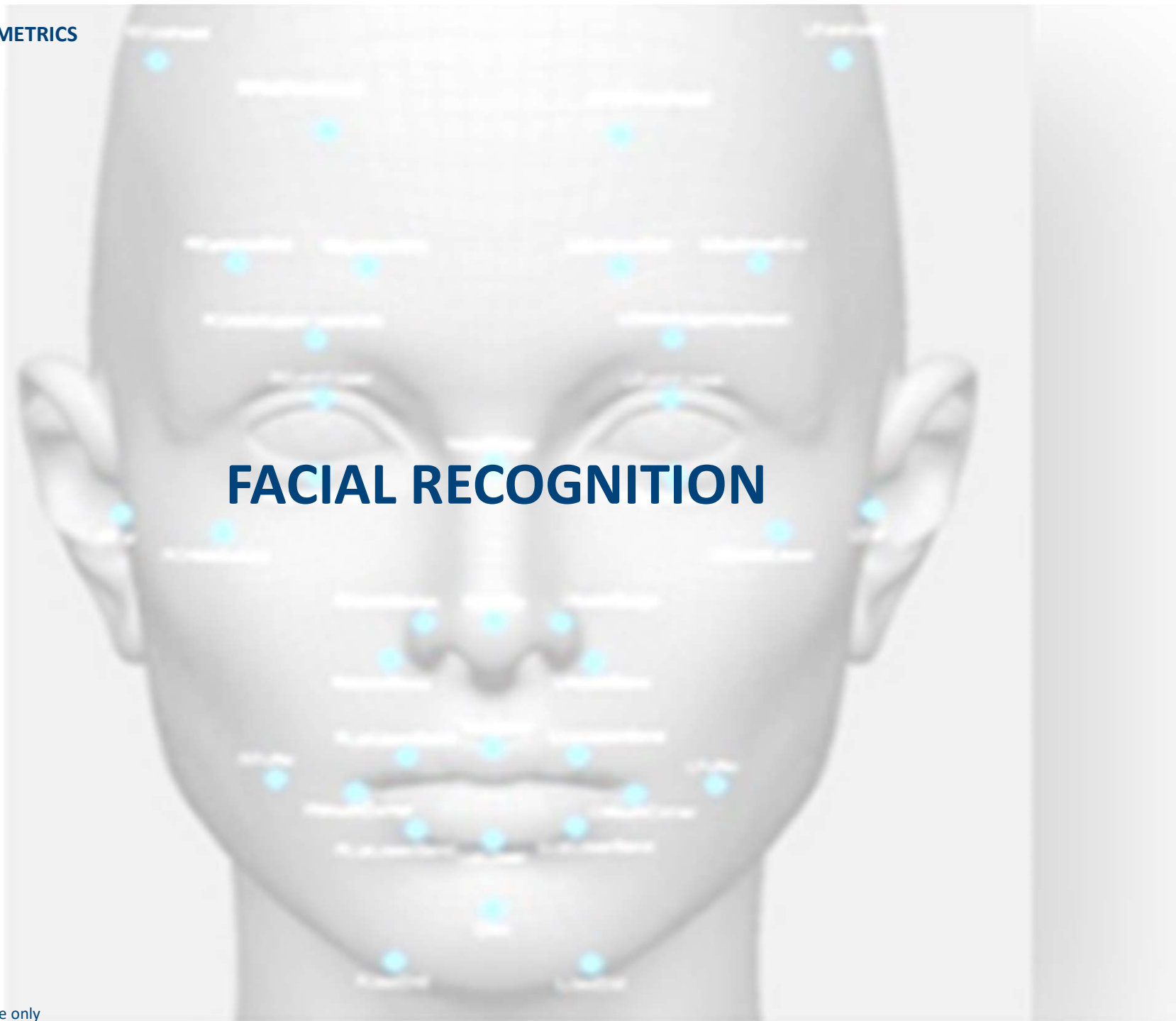
- automatic response: 15 min

Multiple Armed Robberies (United Arab Emirates/Switzerland/Liechtenstein/France/Monaco)



Multiple Armed Robberies (United Arab Emirates/Switzerland/Liechtenstein/France/Monaco)





FACIAL RECOGNITION

INTERPOL Face Recognition System

IFRS

Number of images:

80.000



Number of MC authorization:

180

Number of MC NEG reply:

3

Automated quality control check:

Min 40 pixels between eyes

% of good quality photos:

40%

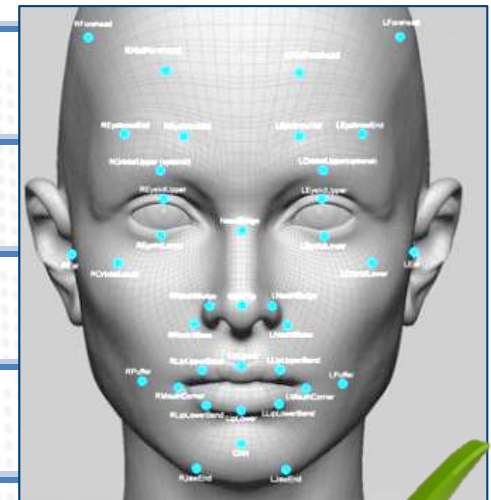
Main contributors:

USA, Switzerland, Moldova, Romania, Colombia, Belgium, Kazakhstan, Russia (> 1000 images)



INTERPOL Recommendations:

- 1 Face and shoulders visible
- 2 Even lighting – no highlights or shadows
- 3 Full frontal centred image with neutral expression
- 4 Uniform background
- 5 8 bit greyscale or 24 bit colour
- 6 Head width is 2/3 of the image width
- 7 150 pixels between the eyes
- 8 Extra cases – 60 pixels between the eyes
- 9 JPEG file format
- 10 Resizing – respect original aspect ratio, non-distortive
- 11 High resolution images- first cropped, then resized



GOOD QUALITY of Facial Images



INTERPOL for official use only



POOR QUALITY of Facial Images



INTERPOL for official use only

Workflow for Facial Images



I-24/7



I-LINK



INTERPOL

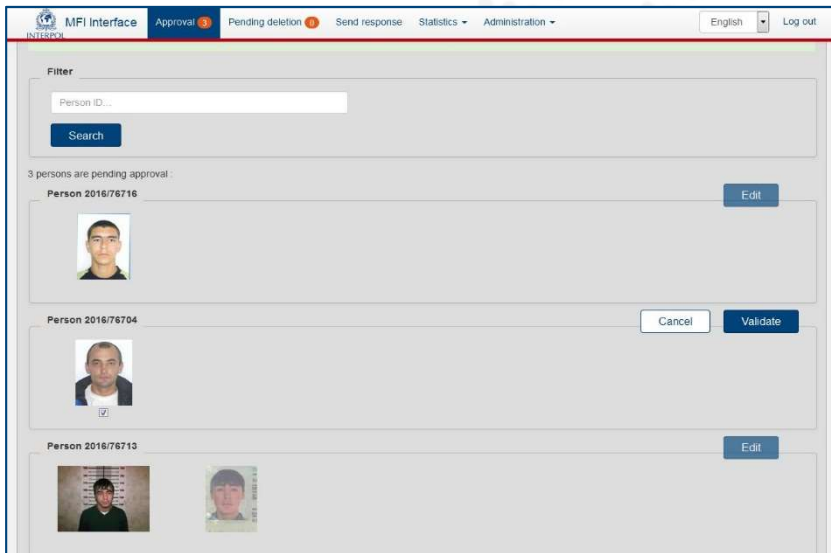
Quality control software detects and interrogates any images.



expert



Face detected with 40 or more pixels between the eyes



INTERPOL

Case Study – First Success Story

ARGENTINA

BULGARIA

PORTUGAL



2003 Red Notice – no FP
Kidnapping

2014 Diffusion – no FP
Armed robbery, prison break

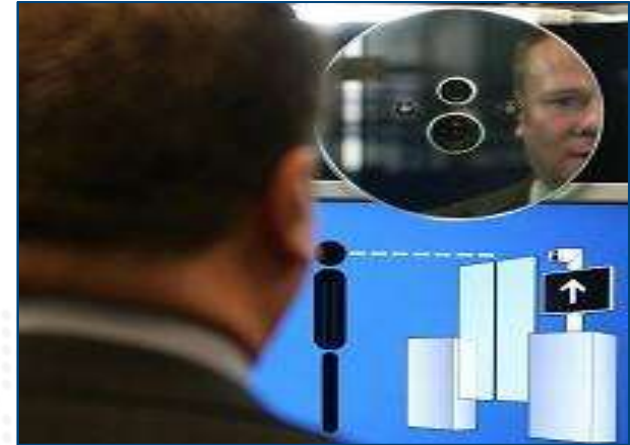
2016 Diffusion – FP & FR
Conspiracy to commit
armed robbery

CHALLENGE: facial images at border control



Manual comparison

1:1 verification



Automated comparison

1:1 verification

**No comparison
of the person with a
criminal database**

1:N verification

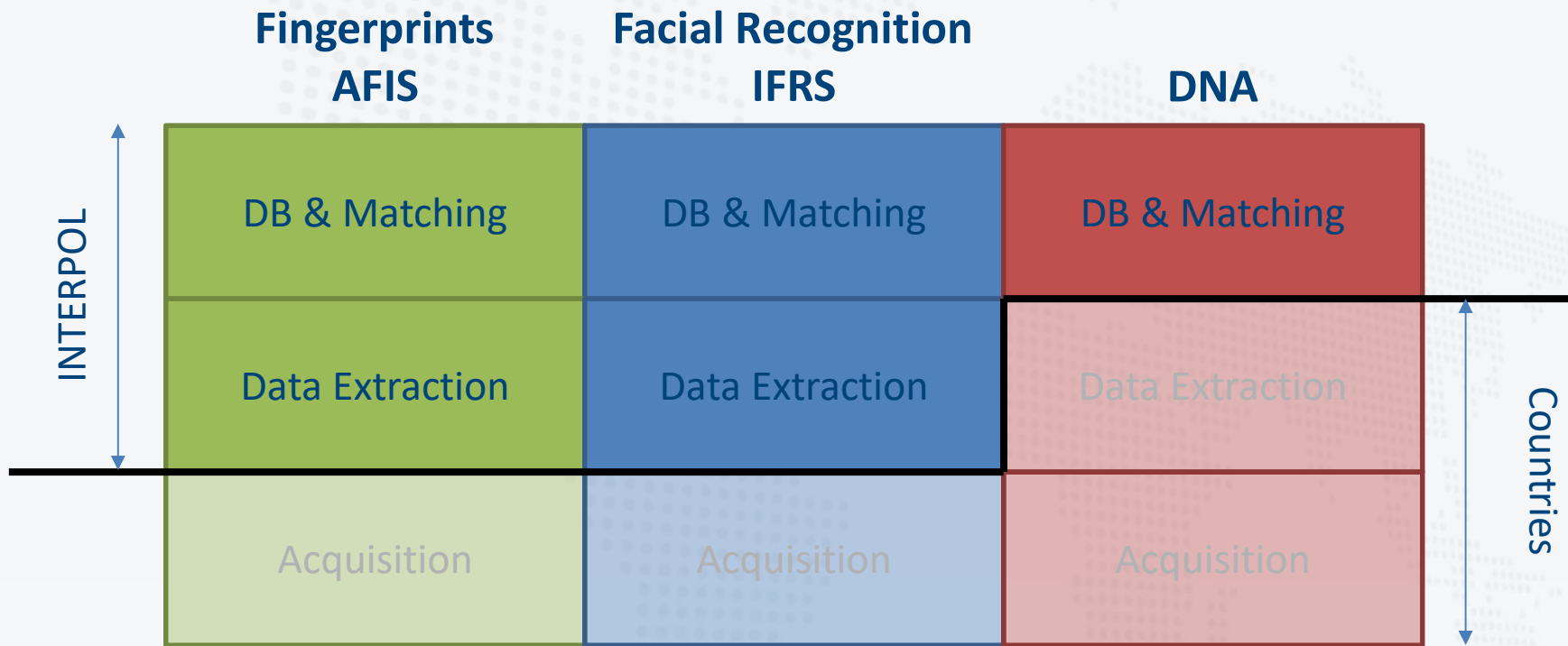
More information should be find on NCB Dashboard in
“INTERPOL Expertise” - “Forensics”

www.interpol.int

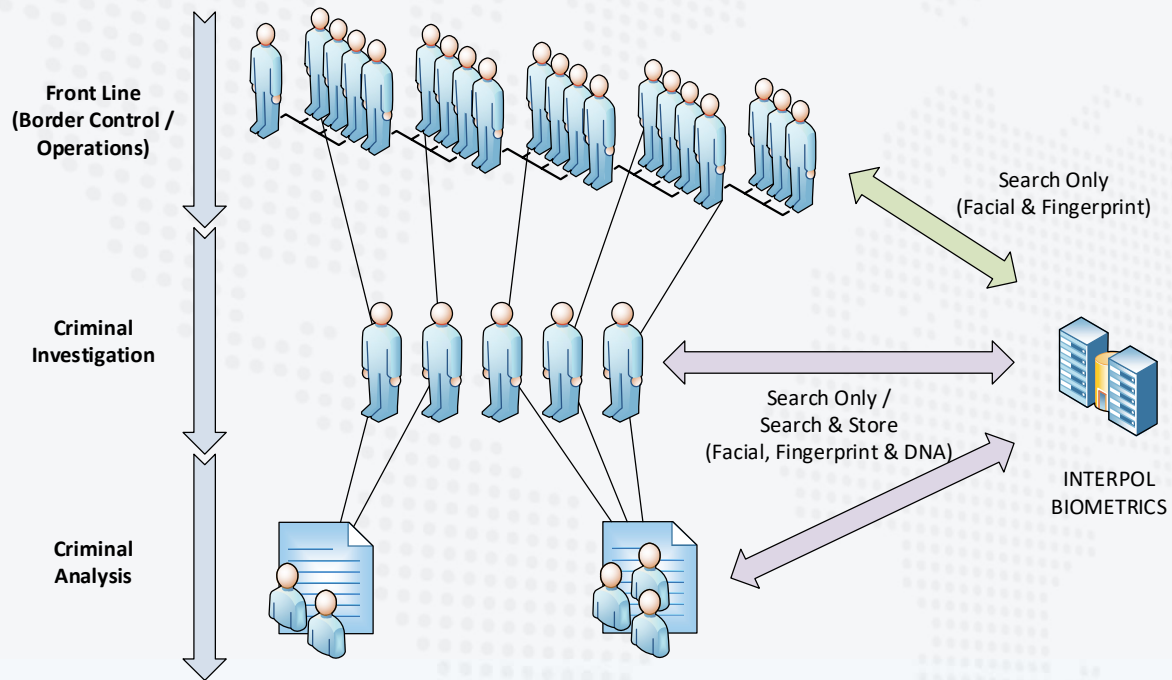
The screenshot displays the 'INTERPOL Expertise' dashboard. At the top, there is a navigation bar with 'INTERPOL EXPERTISE' selected. Below this, a 'NOTICES' section lists various types of notices: Red, Green, Orange, Yellow, Black, Purple, and Blue. To the right, there are links for 'United Nations' regarding sanctions. The dashboard is divided into several functional areas: 'TRAINING' (I-link Training Platform, Capacity Building), 'DATA EXCHANGE' (I-link Portal, UN Portal), 'DATABASES / APPLICATIONS' (Statistics, Databases, Applications, etc.), 'DNA PROFILING' (About the DNA Unit, DNA Database and Gateway, etc.), 'FINGERPRINTS' (NIST INTERPOL standard, Biometric Data Exchange, etc.), and 'FACIAL RECOGNITION & DVI' (Facial recognition - Project sheet, INTERPOL Facial Images - Best Practices Guide, etc.).



BIOMETRIC Overview & Context



BIOMETRIC Use Cases



BIOMETRIC HUB – Project Overview

Project:

Facilitate the usage of **Biometrics capabilities** to INTERPOL Member Countries via a new Biometric Hub.

Objectives:

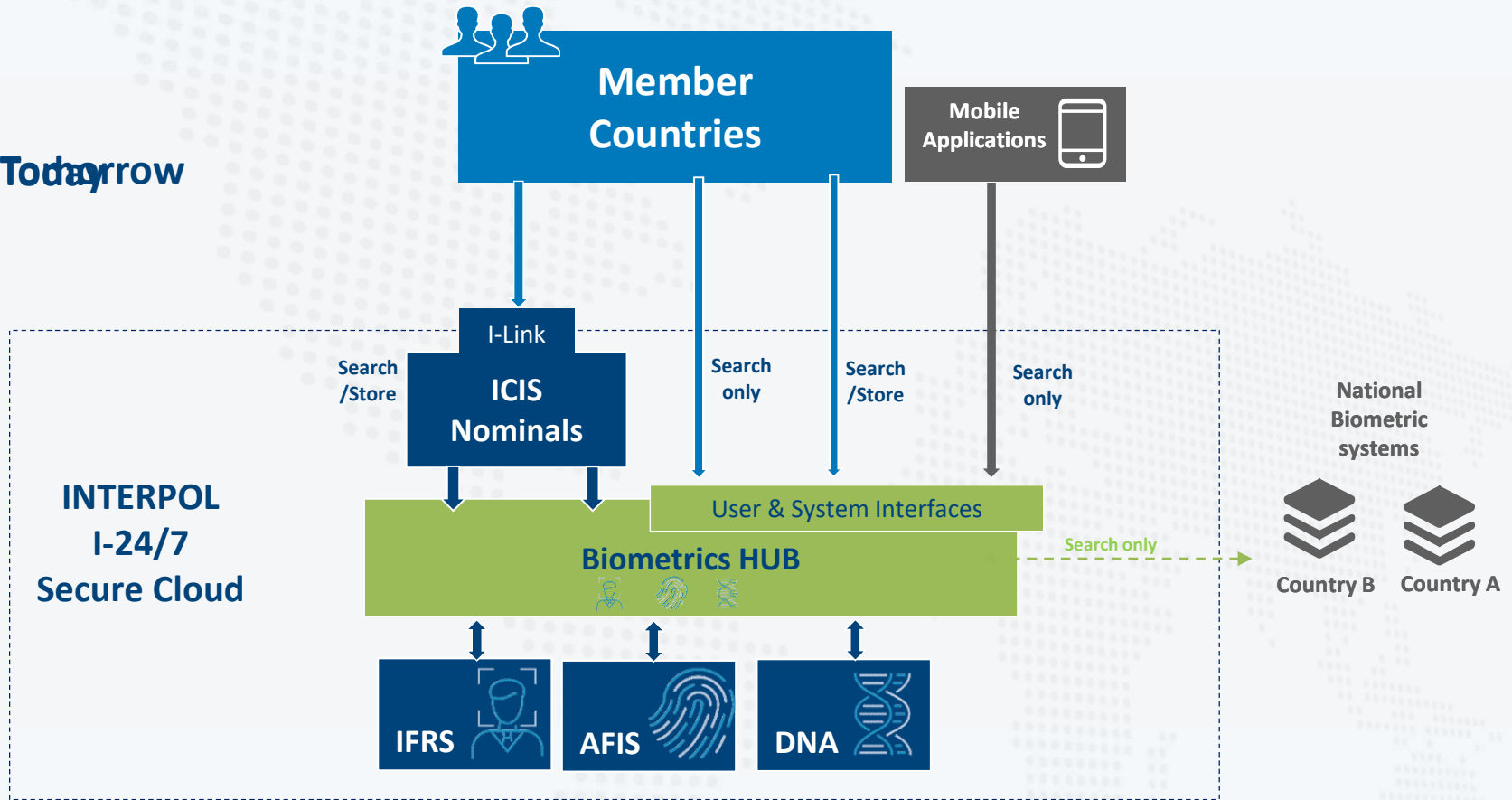
- Offer a **one-entry access** point to Biometrics for Member Countries
- Facilitate **international database sharing** with participating Member Countries
- Support Biometric controls in the field via the use of secured **mobile solutions**

Planning:

2019-2020	Technical developments and integration
2021	Biometric Hub launch



Today



- Strategy in line with I-CORE study
- More data exchanged
- Better quality data
- Faster response rate
- More identifications awaited
- Missing persons located
- Fugitives arrested

Outcomes





INTERPOL

Thank you

Operational Support and Analysis Directorate
Identification branch

I.C.P.O. - INTERPOL, General Secretariat
200, Quai Charles de Gaulle
69006 Lyon, France

www.interpol.int