



# **EU Interoperability framework for border management systems**

**Secure, Safe and Resilient Societies**

**5 June 2018  
Brussels**

**European Commission – Directorate-General Migration & Home Affairs  
Unit B3 – Information Systems for Borders and Security**

# Who are you?



## What do we know about you?

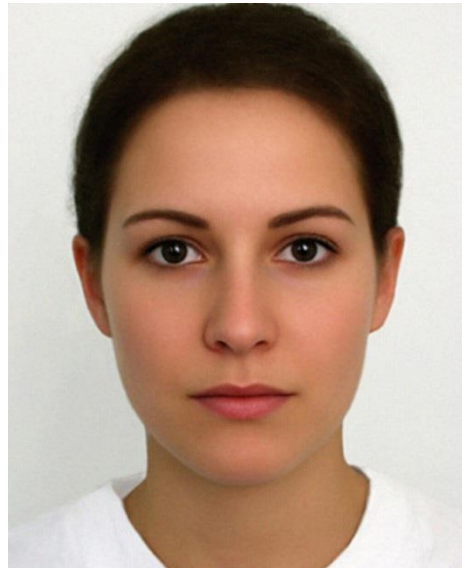
**Where are you from?**

**Where will you go?**

**How long will you stay?**

**Are we sure you will leave?**

**Where have you been?**



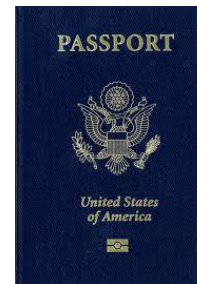
**Why are you here?**

**Are you wanted for anything?**

**Can you pay for your stay?**

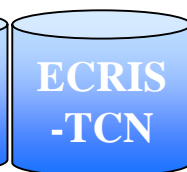
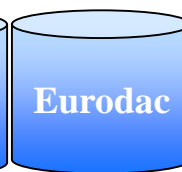
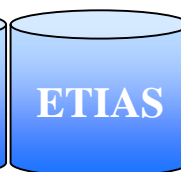
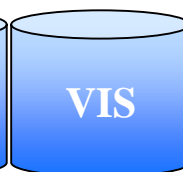
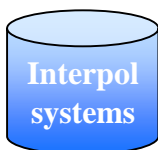
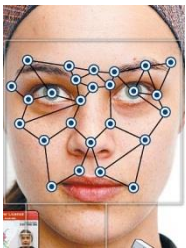
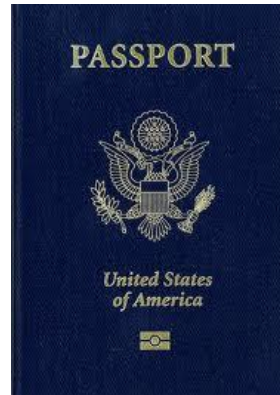
**Have you done anything wrong?**

**Were you here before?**



# Schengen Border Checks

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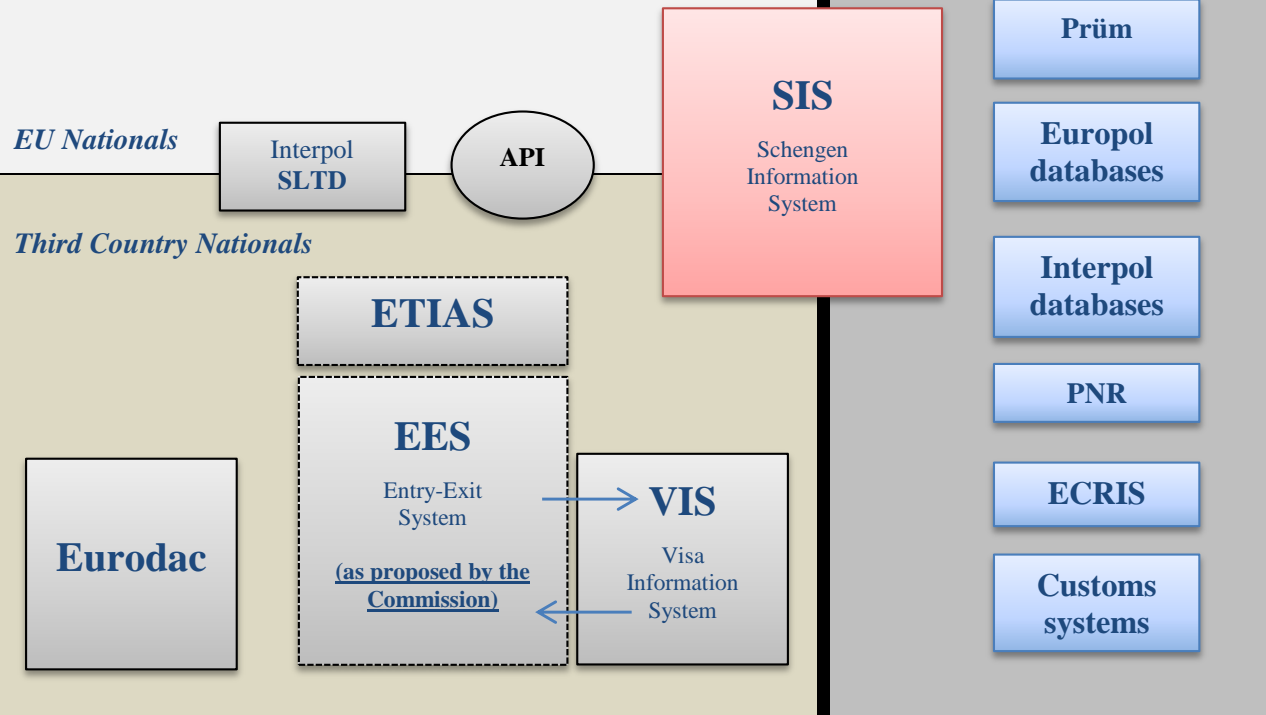


# EU Interoperability framework for border management systems



## BORDER MANAGEMENT

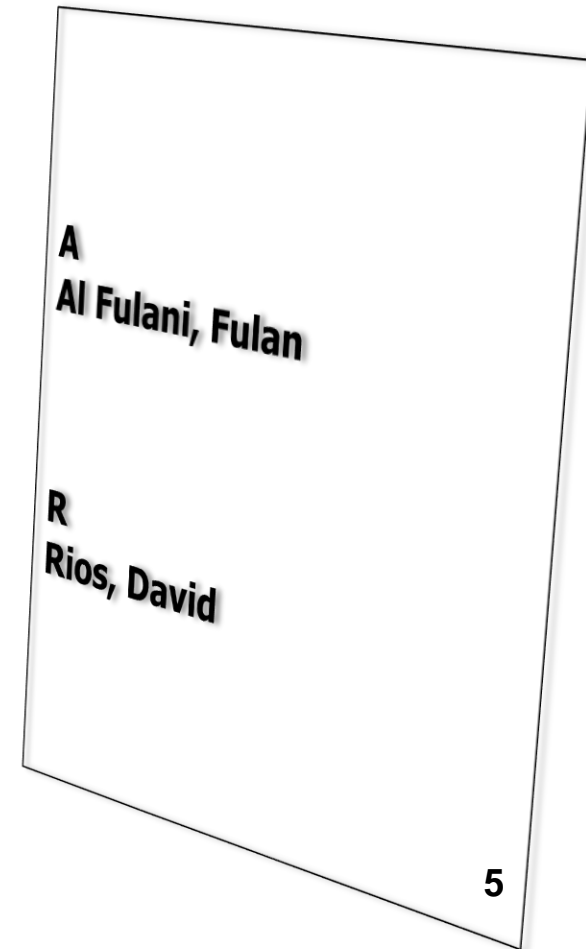
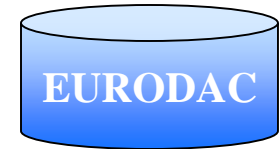
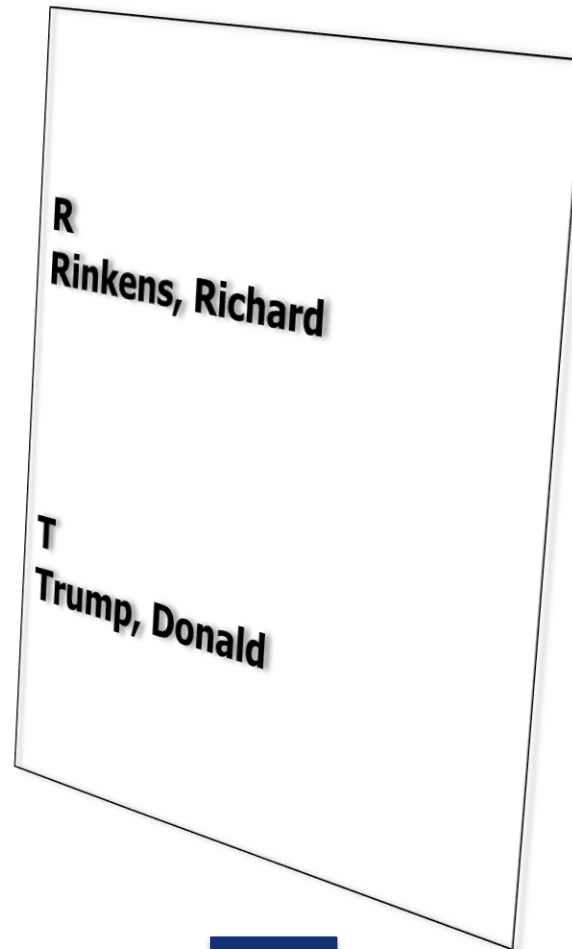
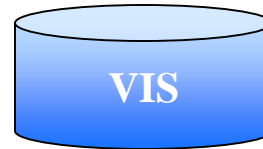
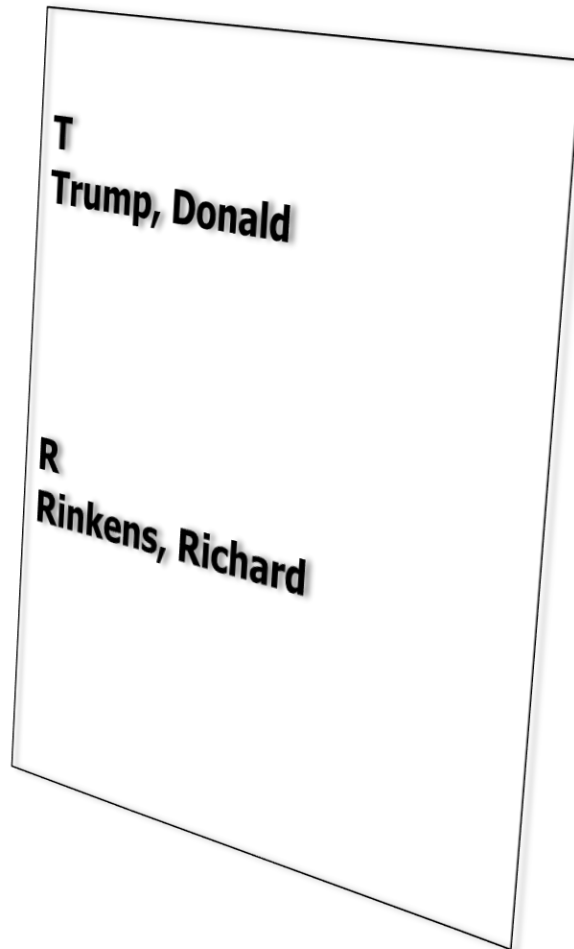
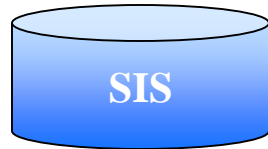
## LAW ENFORCEMENT



The specific objectives of this 'interoperability' proposal are to:

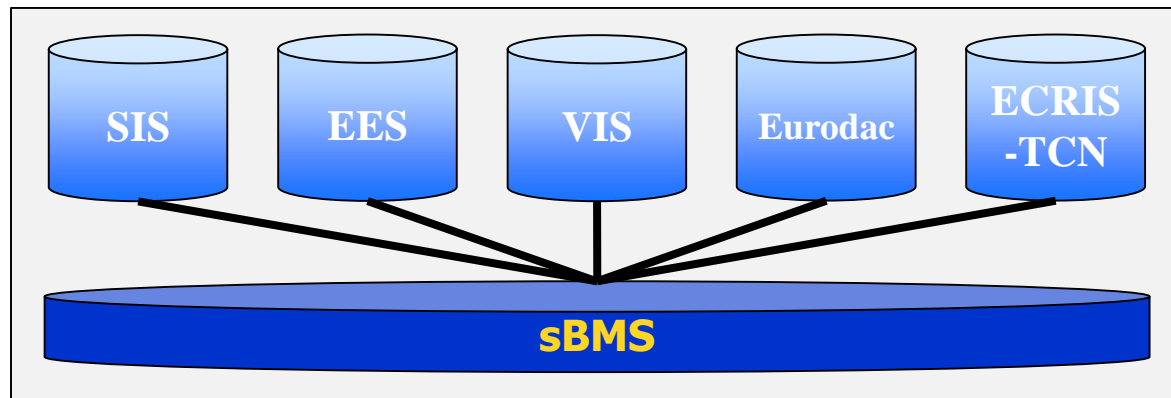
1. ensure that end-users have fast, seamless, systematic and controlled access to the information that they need to perform their tasks;
2. detect multiple identities linked to the same set of biometric data;
3. facilitate identity checks of third-country nationals, on the territory of a Member State, by police authorities; and
4. facilitate and streamline access by law enforcement authorities to non-law enforcement information systems at EU level

# My name is.....



# Shared BMS

## A back-end infrastructure component



A shared Biometric Matching Service will deliver economies of scale by providing a fingerprint & facial image search service to cross-match biometric data present on all central systems.

Biometric matches can be made when adding new data and when searching with biometric data.



extracted in 532 ms

----- identification started -----

&gt; C:\Documents and Settings\mikeri\Desktop\FP\_full\_test.jpg (score: 1833)

----- identification finished -----

elapsed time: 0 milliseconds

effective matching speed: 1. #3 templates/second



trivago

Bruxelles

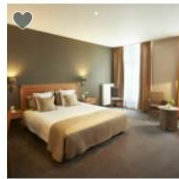
Chercher

Arrivée  
Mardi, 05/06/18

Départ  
Mercredi, 06/06/18

Chambre double

139 sur 1.557 hôtels



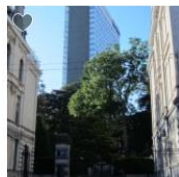
**Leopold Hotel Brusse**

★★★★

Bruxelles, à 0,4 km de : Europar

7.6 **Bien** (1176 avis)

Wi-Fi Gratuit



**The Hotel**

★★★★

Bruxelles, à 1,1 km de : Grand' Pl  
ville)

8.7 **Excellent** (1797 avis)

Wi-Fi Gratuit



**Park Inn by Radisson**

★★★★

Bruxelles, à 1,6 km de : Grand' Pl  
ville)

Top Filtres Autres Filtres

Prix

max. € 951

€ 49

€ 951

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guenstiger.de

Produktinformationen

€ 1 7 2

Alle Kategorien

▼

Home > Telekommunikation > Handy ohne Vertrag > Smartphone > Apple Smartphone



Abbildung ggf. abweichend

**Apple iPhone 8 (64GB)**

ab 647,00 €\* ★★★★★ (1) 7 Testberichte

Hersteller: Apple; Smartphone, Betriebssystem: Apple iOS 11, Prozessor: Apple A11, Prozessor Modellnummer: Bionic Chip 64-Bit ,mehr...

Preisalarm

Preisverlauf

Produkt-Agent

OTTO

Apple iPhone 8 4,7" 64 GB  
Versand: 5,95

779,99 €\*  
Preis inkl. MwSt.

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parallel.

End-user access rights are deterred

The ESP is a message broker that  
credentials.

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Apple MQ6G2ZD/A iPhone 8 11,94 cm (4,7 Zoll),  
(64GB ROM, 12MP Kamera) Space Grau

Versand: **frei!**  
● 1 - 2 Werktagen

647,00 €\*  
01.06.2018  
647,00 / St.

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amazon.de  
Marketplace  
[Details & Infos](#)

Apple MQ6J2ZD/A iPhone 8 11,94 cm (4,7 Zoll),  
(64GB ROM, 12MP Kamera) Gold

Versand: 3,95 €  
● 1 - 2 Werktagen

650,00 €\*  
01.06.2018  
650,00 / St.

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Apple iPhone 8 64GB spacegrau

Versand: **frei!**  
● Verfügbar - Lieferzeit ca.  
5-8 Werktage

656,95 €\*  
30.05.2018

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Apple iPhone 8 64GB silber

Versand: **frei!**  
● Verfügbar - Lieferzeit ca.  
5-8 Werktage

656,95 €\*  
30.05.2018

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ebay  
[Details & Infos](#)

Apple MQ6G2ZD/A iPhone 8 (4,7 Zoll), (64GB  
ROM, 12MP Kamera) Space Grau NEU OVP

Versand: **frei!**  
● unbekannt

669,99 €\*  
01.06.2018

Zum Shop

CHECK24  
★★★★★ (180)

Apple iPhone 8 64GB silber

Versand: 4,99 €  
● sofort lieferbar

687,00 €\*  
30.05.2018

Zum Shop

comtech  
★★★★★ (1755)

Apple iPhone 8 64 GB Silber MQ6H2ZD/A - DE  
Ware

Versand: 4,99 €  
● Lieferung in 1-3  
Werktagen

687,00 €\*  
29.05.2018

Zum Shop

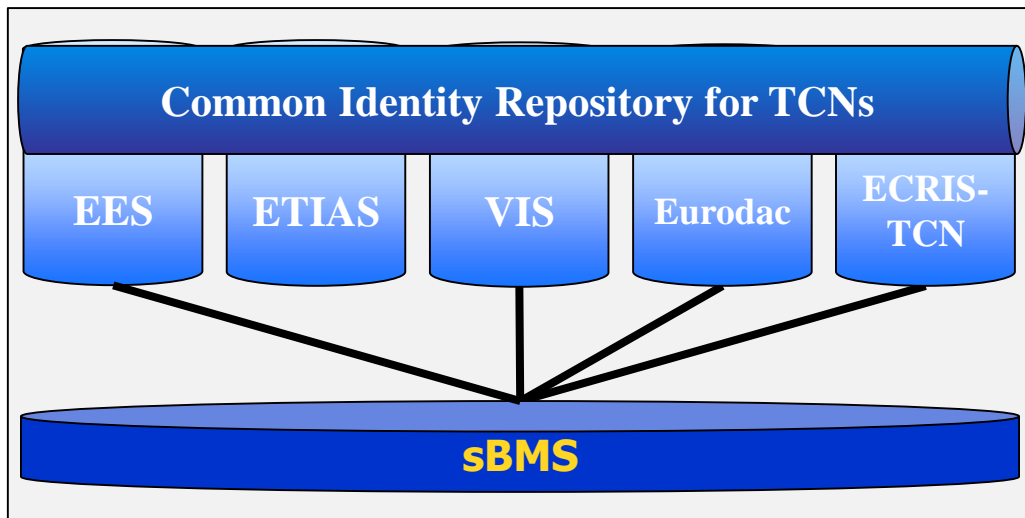


# Common Identity Repository (for TCNs)

## A front-end infrastructure component



- Al Fulani, Fulan
- Salieri, Paolo
- Rinkens, Richard
- Rios, David
- Trump, Donald



- Similar to the shared BMS combining biometric samples of persons to enable biometric identifications, the Common Identity Repository would combine biographical identities of persons (name, gender, date of birth)
- The common identity repository for third-country nationals would enable identification of TCNs without (proper) travel documents

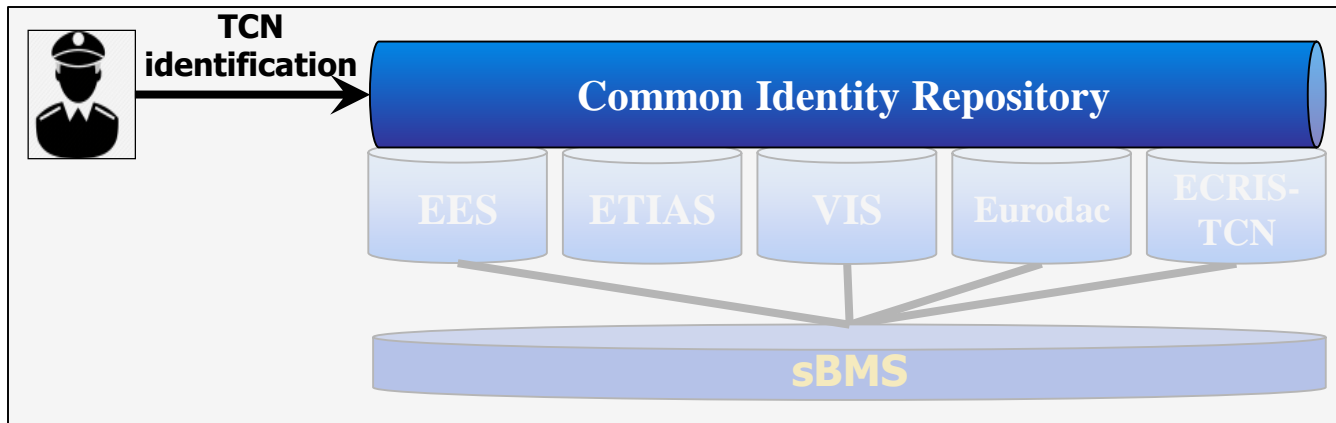
# Police identification of third-country nationals in the territory

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VIS, EDAC, EES, ETIAS, ECRIS-TCN legal instruments do not foresee identification of TCNs by police authorities.  
(unless for the purpose of migration management)

	SIS	VIS	Eurodac	EES	ETIAS (proposal)	ECRIS TCN (proposal)	Europol data	Interpol SLTD
<i>Purpose of access</i>	X							
<b>Police checks: Identification or verification of identity in territory of Member State</b>								

- The common identity repository only contains identity data commonly found in a passport, which a third-country national is supposed to carry.
- If a TCN has no identity document or the authenticity is doubtful, police authorities can use the CIR to identify the person using biometric data (via sBMS) or travel-document details (MRZ).
- No data from the underlying central systems will be retrieved.

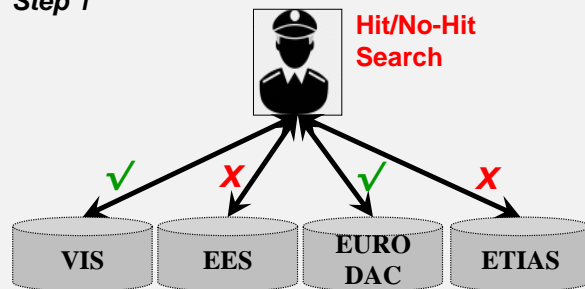


# Law Enforcement Access two-step approach



Systems like VIS, EURODAC, EES, ETIAS foresee Law Enforcement Access under strict conditions and following strict procedures involving ex-ante authorisation and cascading searches. A new Law Enforcement Access concept is based on a two-step approach:

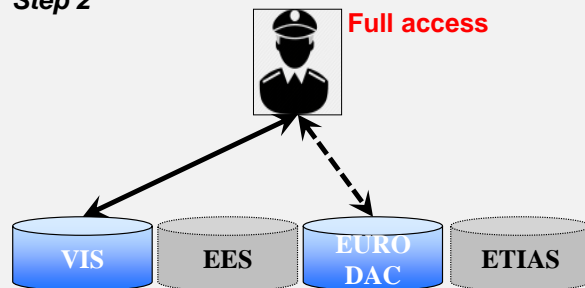
## Step 1



The end-user performed a parallel search (no cascade). The search was logged but did not require authorisation.

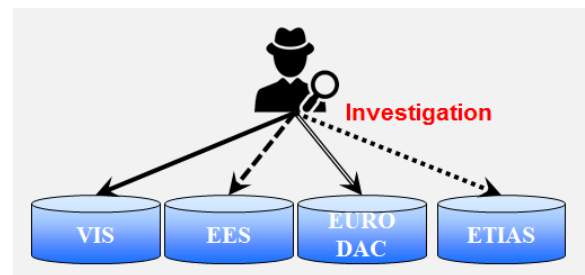
In this example, only VIS and EURODAC indicate to contain data concerning the person. The result of this search contains no other data. Only Yes or No.

## Step 2



In a second step, the end-user requests actual access to the data. In this example this would be VIS and EURODAC. If authorised, the end-user will access the data on the person in question. These retrievals of data are logged.

Here, the end-user will not bother requesting access to EES or ETIAS as they indicated to hold no data on the person.



**Person(s) physically NOT present!**

Complex investigations may require full access to systems, for instance when reconstructing travel movements or looking for background data on several persons or groups of persons.

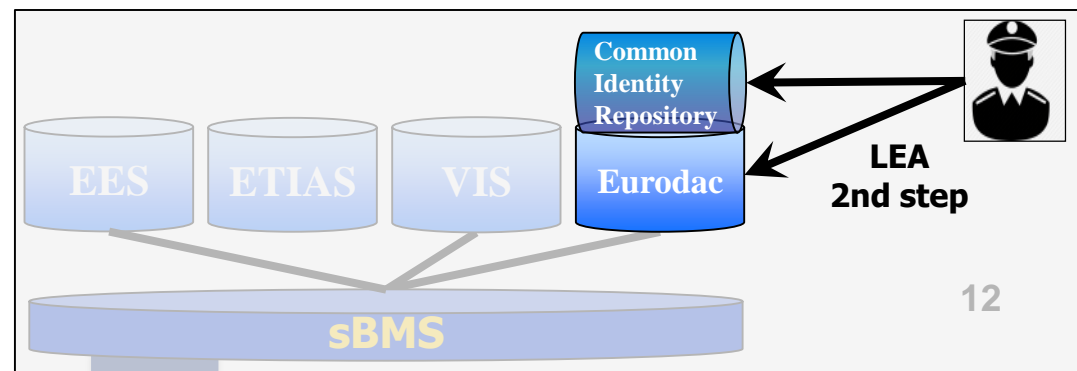
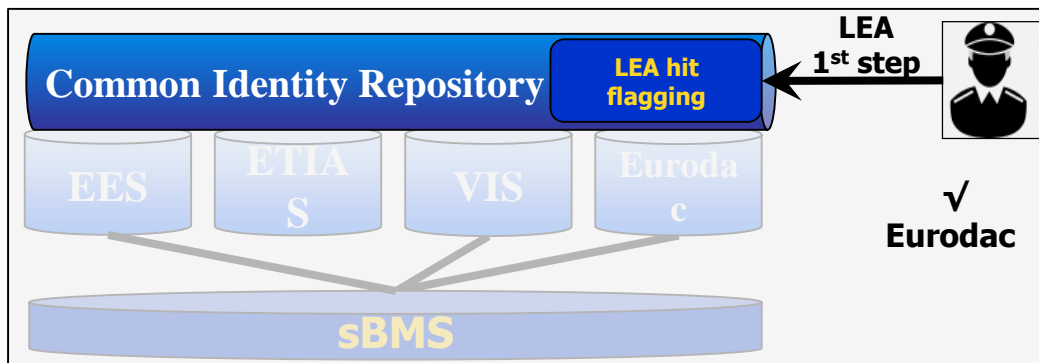
The user knows which system could hold relevant data, a sequential cascade is irrelevant. The access requires ex-ante authorisation and will be fully logged. Provisions for emergency situations will be made.

# First step via CIR

## Second step to central-system



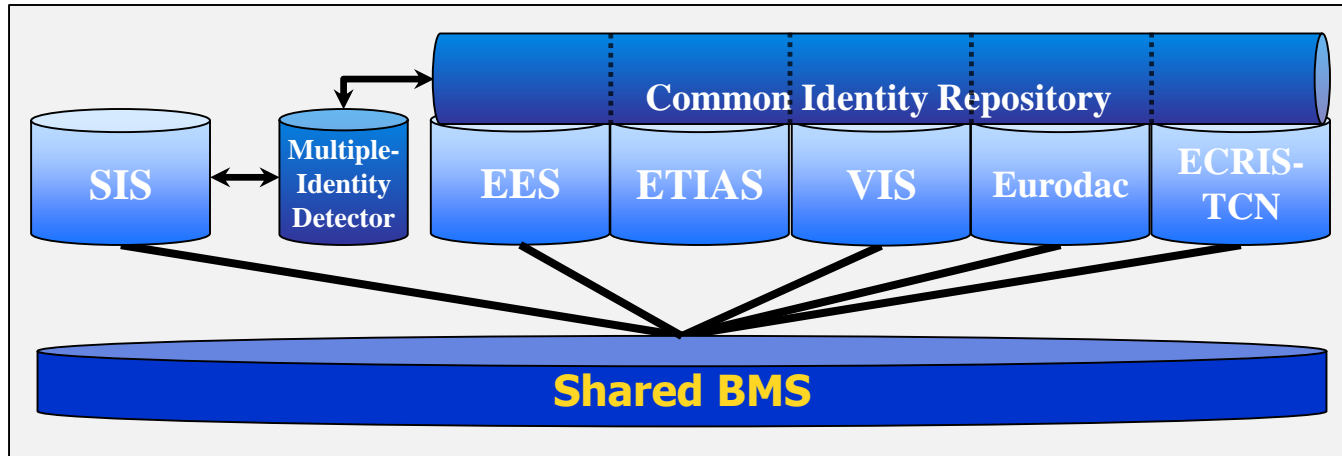
- The common identity repository can be queried using biographical identity data or biometric data via the sBMS
- For the first step of a law-enforcement access, this query will only result in:
  - *No hit*
  - *HIT in: EES ; ETIAS ; VIS ; Eurodac ; ECRIS-TCN*
- This first step requires no authorisation and is not part of any sequence or cascade
- In case a HIT was indicated in one or several systems, an authorisation is required to gain access to those systems that indicated a hit. (in the graphic below, only Eurodac is relevant)



# Multiple-Identity Detector



- To allow linking identities present in different systems, the Multiple Identity Detector will;
  - Detect a possible link
  - Determine the type of link
  - Store the link for future use



Trump, Donald



Rinkens, Richard



Al Fulani, Fulan



GREEN

WHITE

RED

Trump, Donald



Rinkens, Richard



Rinkens, Richard





MID links are 'colour-coded' to indicate the following situations:

## YELLOW:

- A link may exist, manual verification will lead to maintaining the link with a different colour or removing the link

## GREEN:

- Same or very similar biographical identities with different biometric data

## RED:

- Different biographical identities are linked to the same biometric data and manual verification determines that this is unlawful (identity fraud)

## WHITE:

- Same biometric data and same (or very similar) biographical data (same person in multiple systems)
- Same biometric data but lawfully differing biographical data after manual verification

Examples:

## YELLOW:

- John Irving (SIS) & Jonathan P. Irving (VIS) are probably the same person

## GREEN:

- Donald Trump (SIS) & Donald Trump (VIS) are two different persons

## RED:

- Richard Rinkens (SIS) & Fulan Al Fulani (EDAC) are the same person using different IDs

## WHITE:

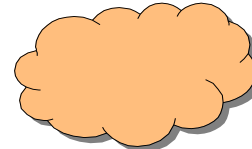
- Jean-Philippe Smet & Johnny Hallyday are legally different identities for the same person



# The full picture

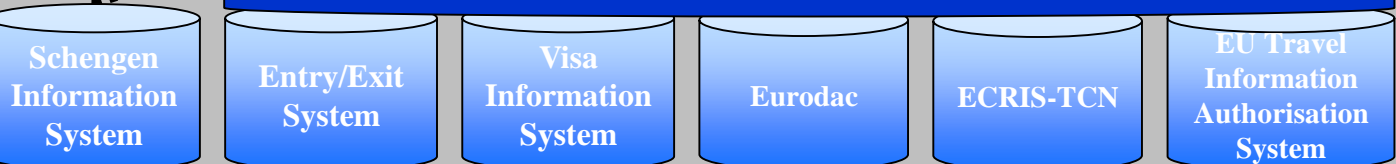


European  
Commission



**European Search Portal**

**Common Identity Repository**



**Shared Biometric Matching Service**

Central Repository for Reporting and  
Statistics



## Biometrics

- How to make capturing of biometrics more 'user friendly'?
- How to make trusted, revocable biometric identities?
- How to capture good quality biometrics in difficult situations?
- Spoofing and morphing?

## Biographic matching

- How to match different alphabets, different spellings, different pronunciations, different phonetics?

## Interfaces

- How to converge towards common, standard interfaces and data-models? (UMF)

## Societal

- How to make usage of biometrics more 'acceptable'?
- Why do people change names? (marriage...)
- How to retain original name in identity documents?

**Thank you**