



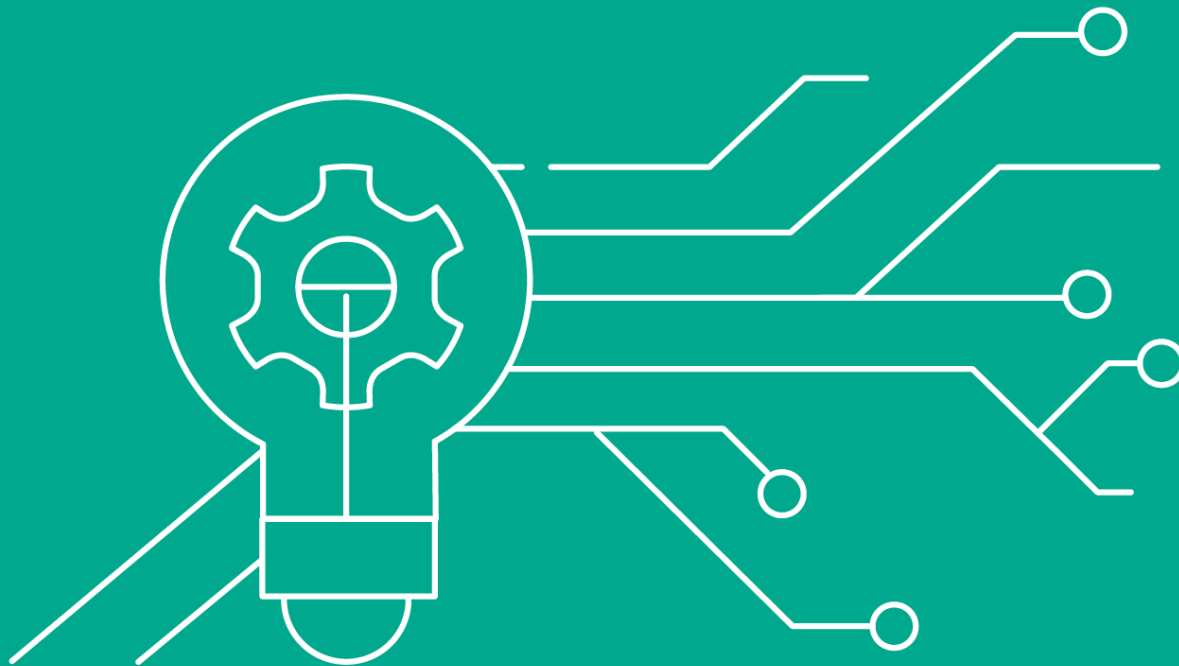
Identity Management at eu-LISA

eu-LISA Industry Roundtable, 16th June 2022

Agenda

1. Identity Management (IDM) Framework
2. IDM - Legacy systems (VIS, SISII, Eurodac)
3. IDM - New systems and Interoperability
4. IDM - Requirements
5. IDM - Complexity
6. IDM - Key Factors to succeed

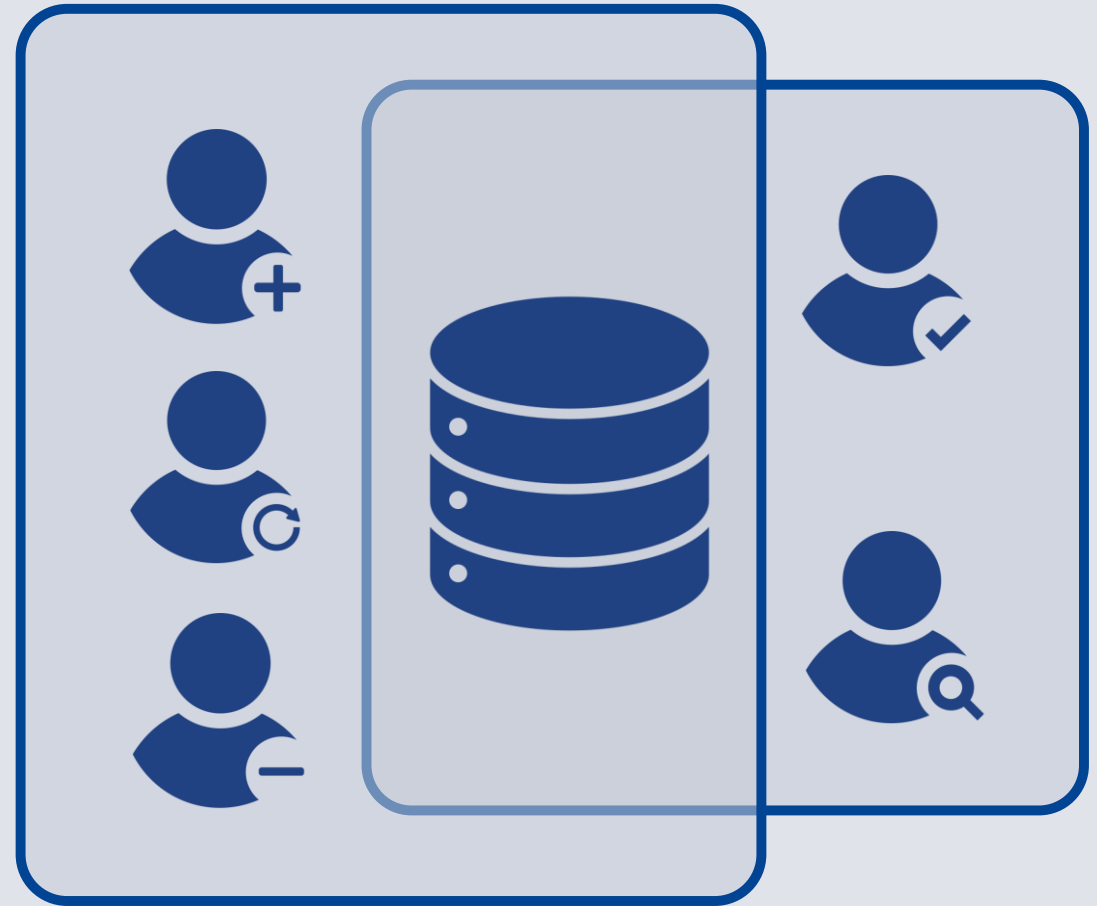
1. Identity Management (IDM) Framework



Identity Management

A framework including:

- processes to **create**, **update**, and **remove** the **identity** of an individual
- processes to **verify** or **identify** the **identity** of an individual
- policies
- technologies
- access rights and security measures

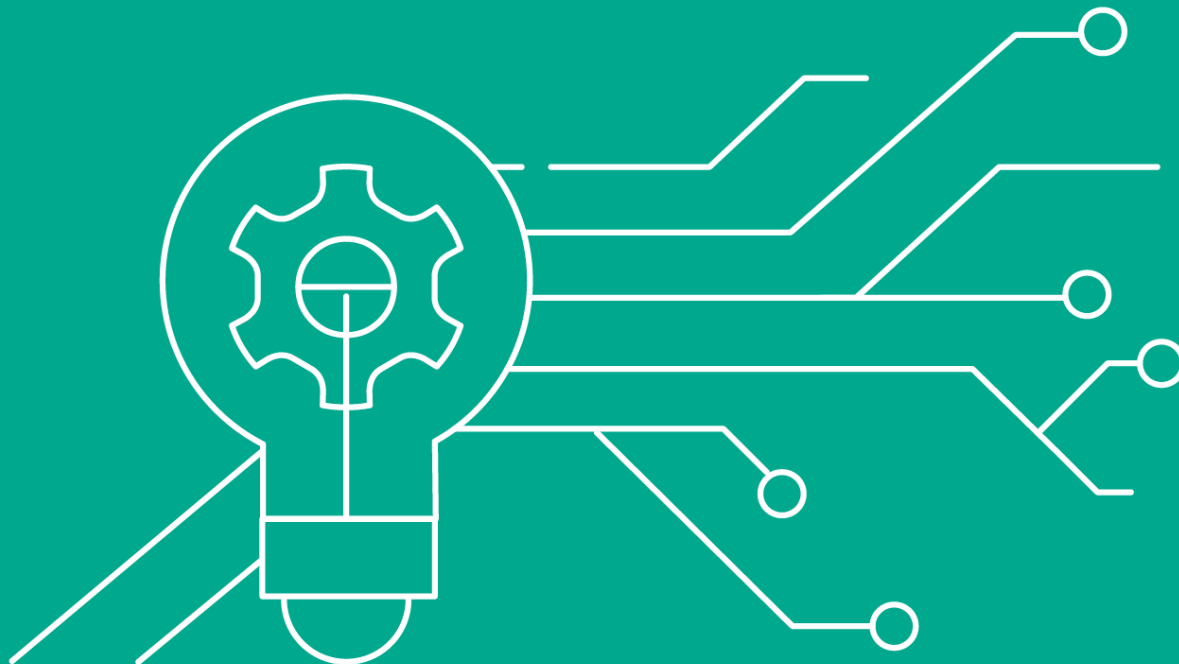


Dimensions of an identity (eu-LISA context):

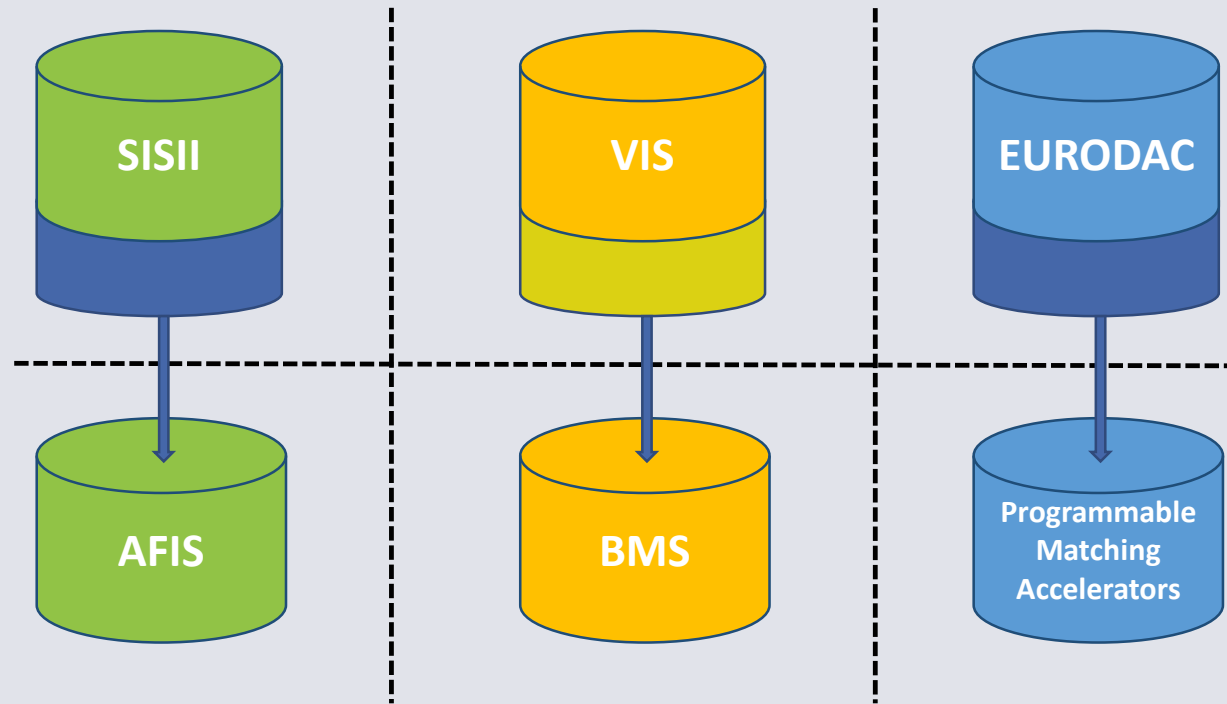
- **Biographic** (alphanumeric) identity data
- **Biometric** identity data
- ***Associated business data*** (visas, passports, identity cards, travel file information, asylum requests, alerts, etc...)



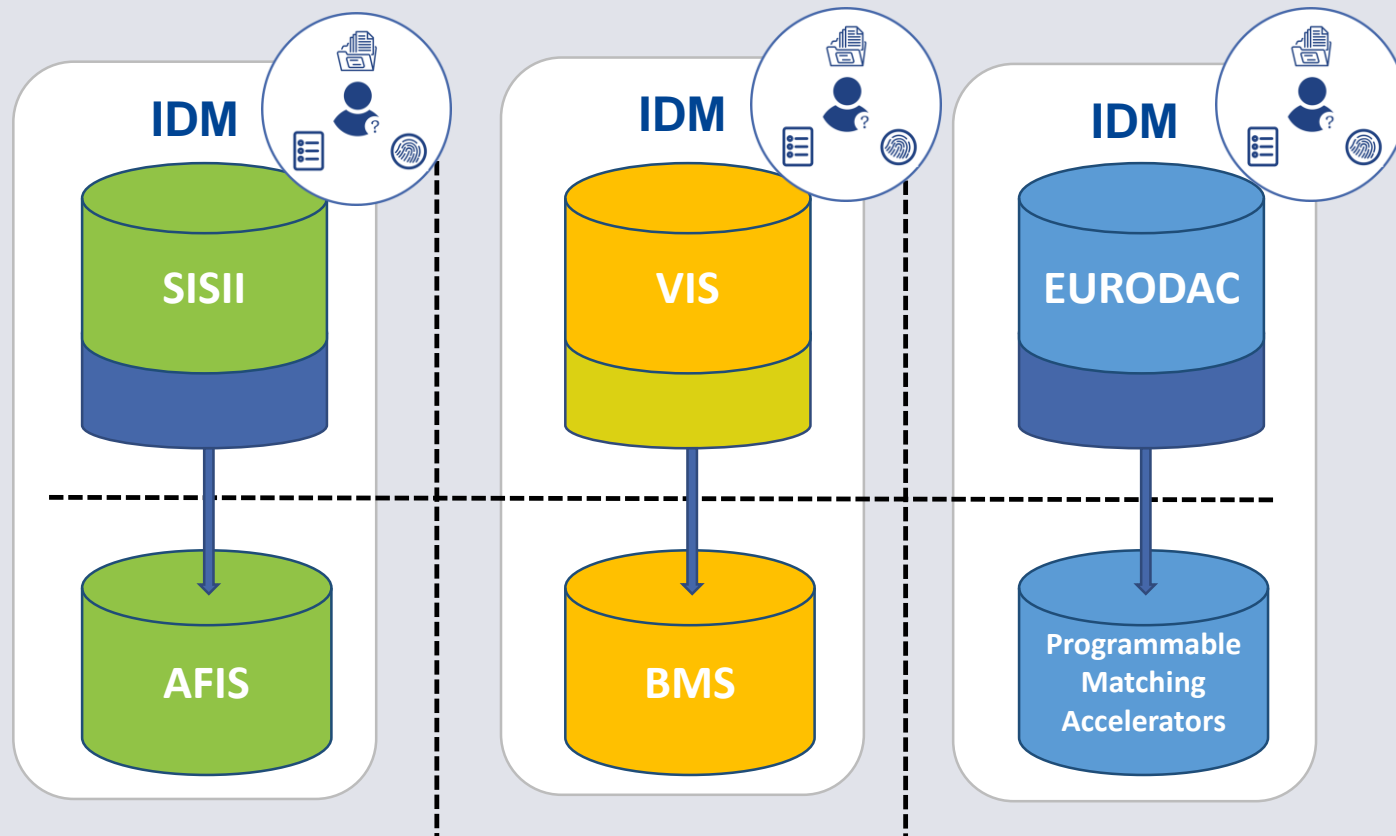
2. IDM - Legacy systems (VIS, SISII, Eurodac)



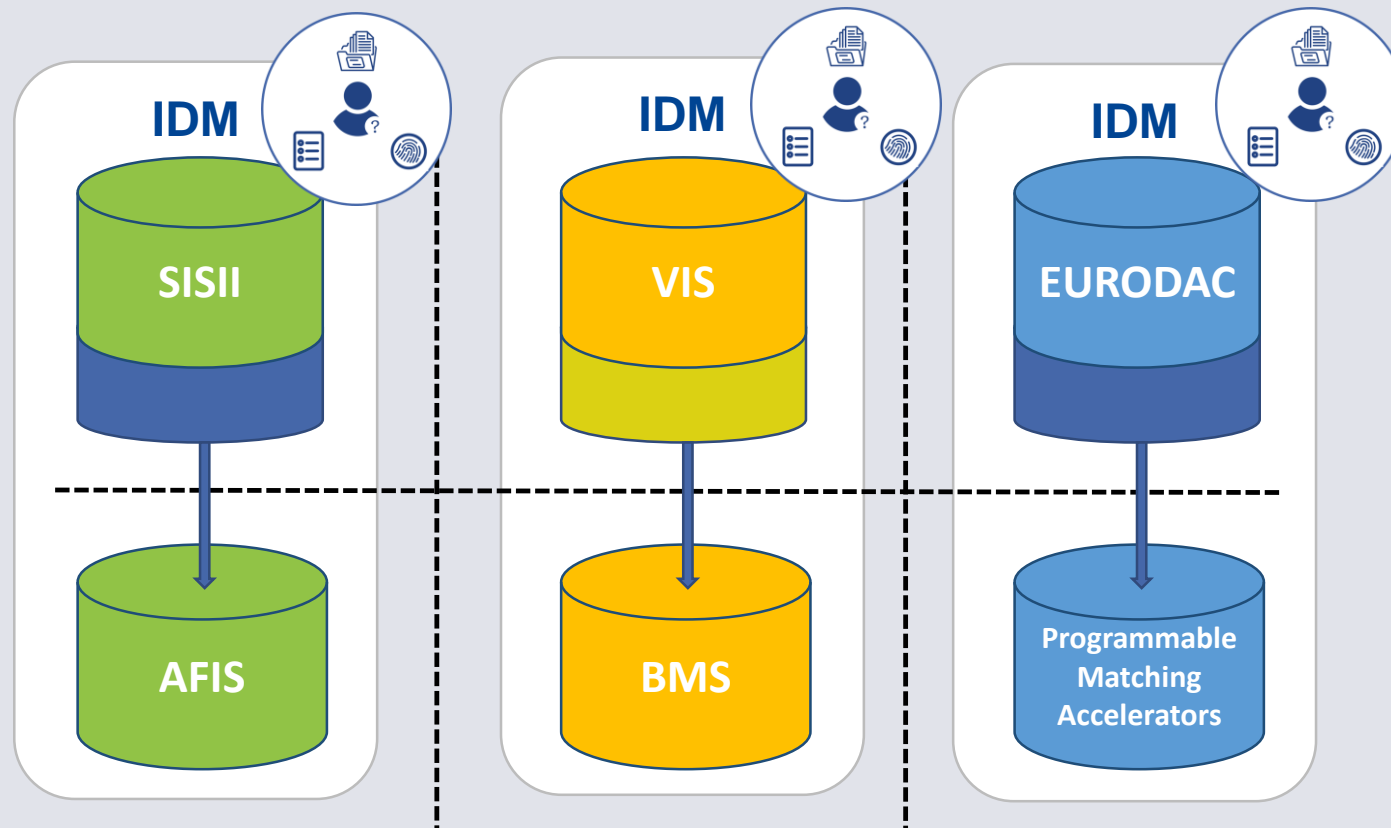
IDM - Legacy Systems (VIS, SISII, Eurodac)



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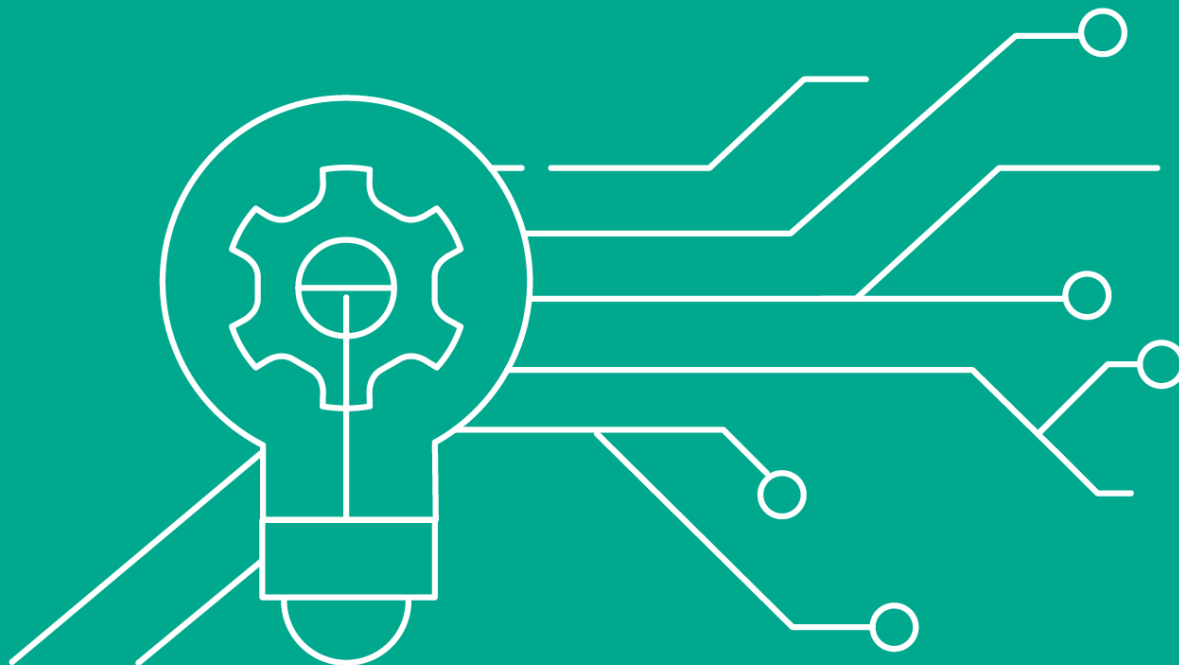


IDM - Legacy Systems (VIS, SISII, Eurodac)



- **Easy to handle** as these CBS do end-to-end **IDM** for a **specific business domain**
- **Do not allow** for fast and **flexible IDM services** such as **cross-matching** and **linking** between the identities in various business domains
- **Redundant** investment

3. IDM as part of an interoperable architecture



Interoperability Regulation



1. Ensure that end-users have **fast, seamless, systematic and controlled access** to the information (Border control, Visas, Asylum, Law enforcement, etc.)



2. Detect multiple identities & potential identity fraud across CBS

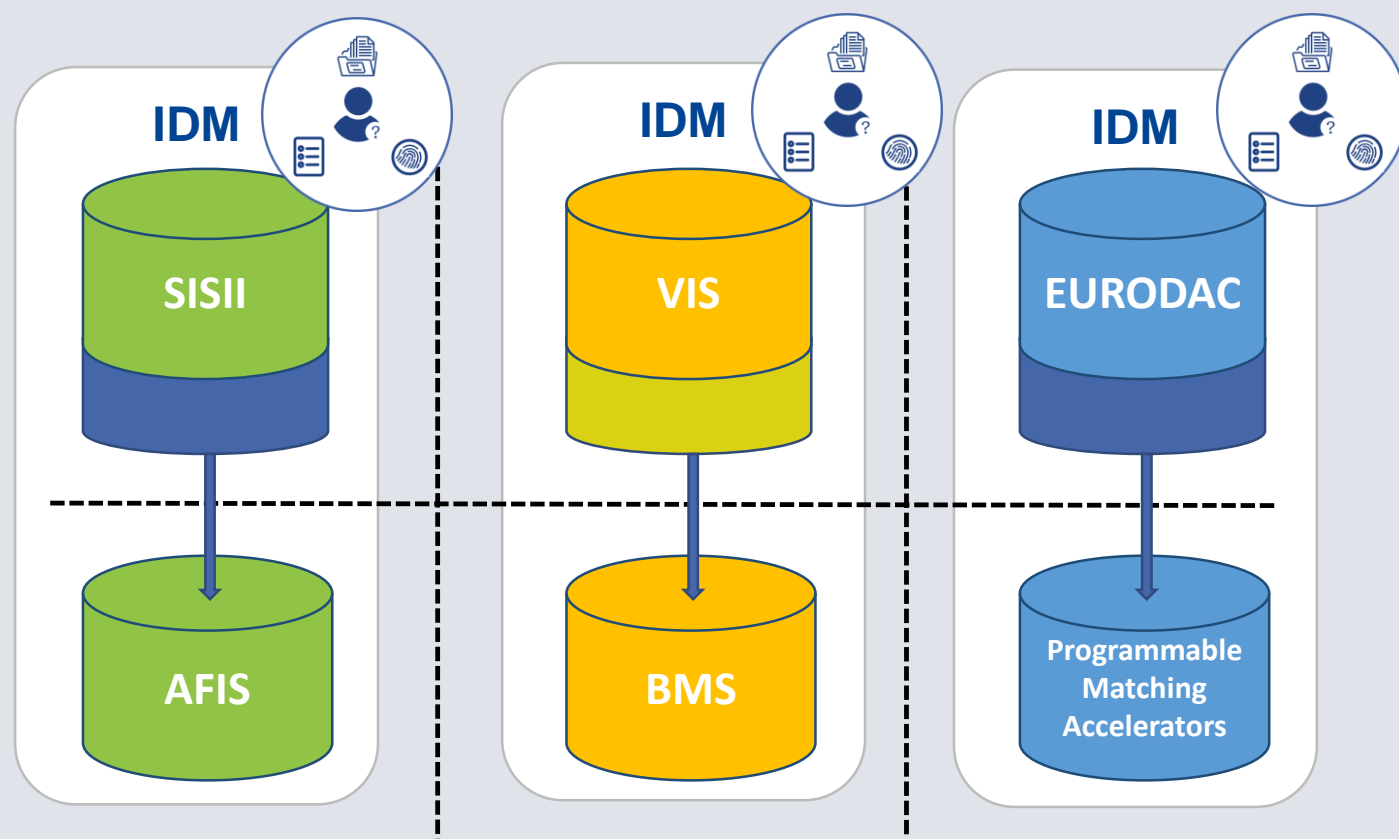


3. Facilitate **identity checks** of third-country nationals



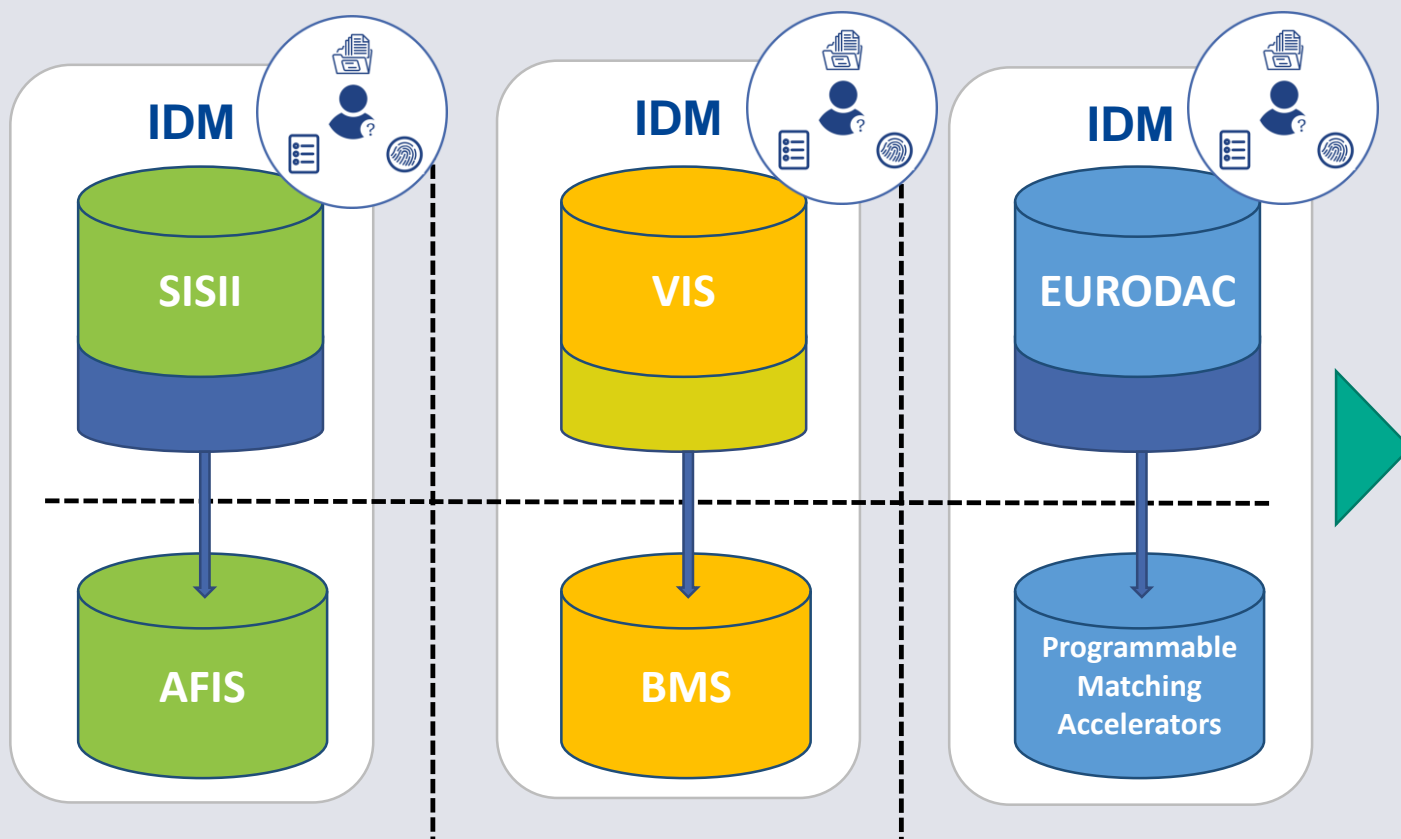
4. Facilitate and streamline **access by law enforcement authorities to non-law enforcement information systems at EU level.**

IDM as part of an interoperable architecture

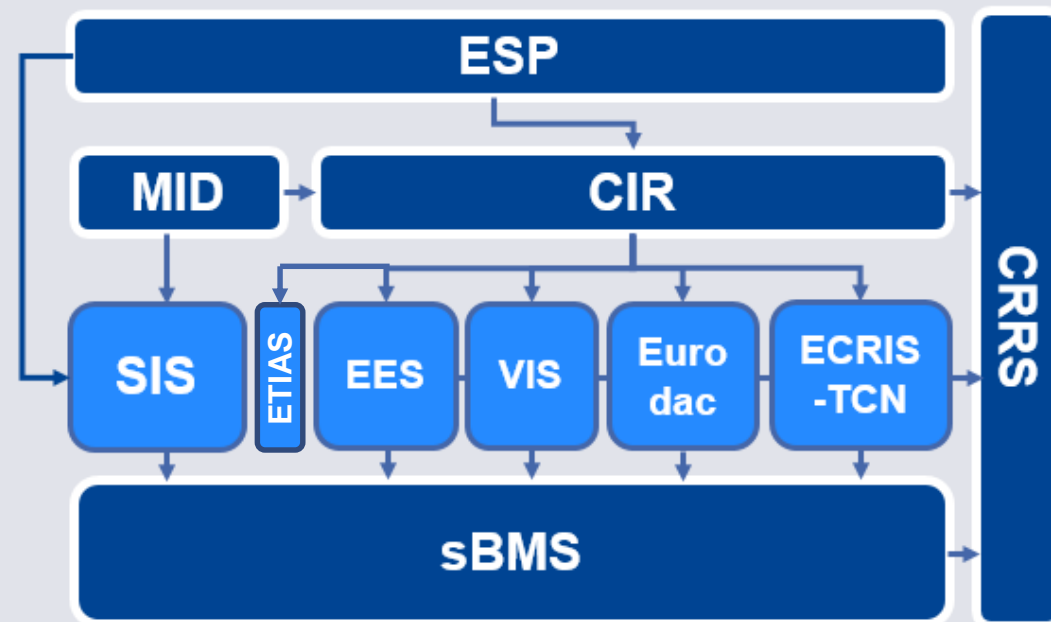


eu-LISA existing silo architecture

IDM as part of an interoperable architecture



eu-LISA existing silo architecture



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IDM - Interoperability Regulation



European Search Portal (ESP)

- Single window to simultaneous query CBSs.
- Access to identity data through profiles



Common Identity Repository (CIR)

- Stores data from the CBSs
- Creates individual files
- Drives the MID process



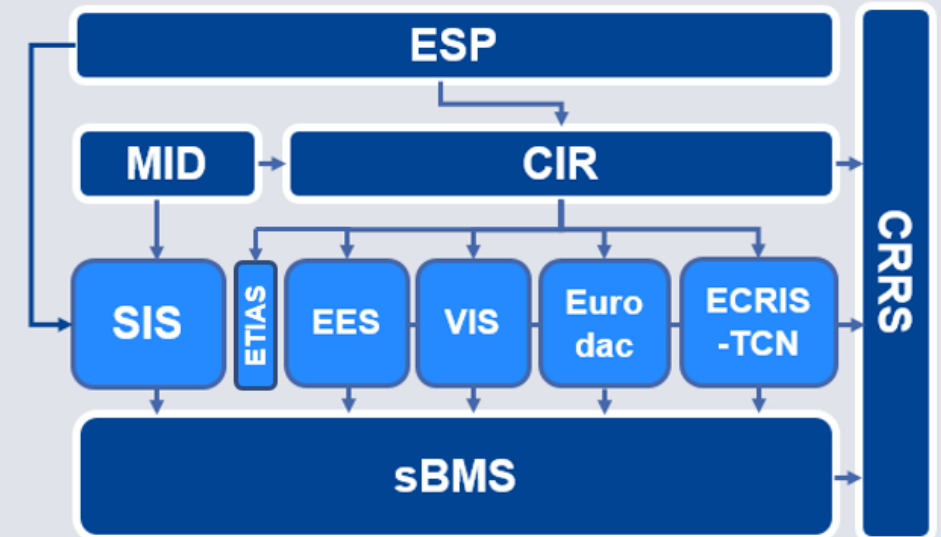
Multiple-Identity Detector (MID)

- Creates & stores identity confirmation files
- Stores links
- Allows manipulations of links by end-users

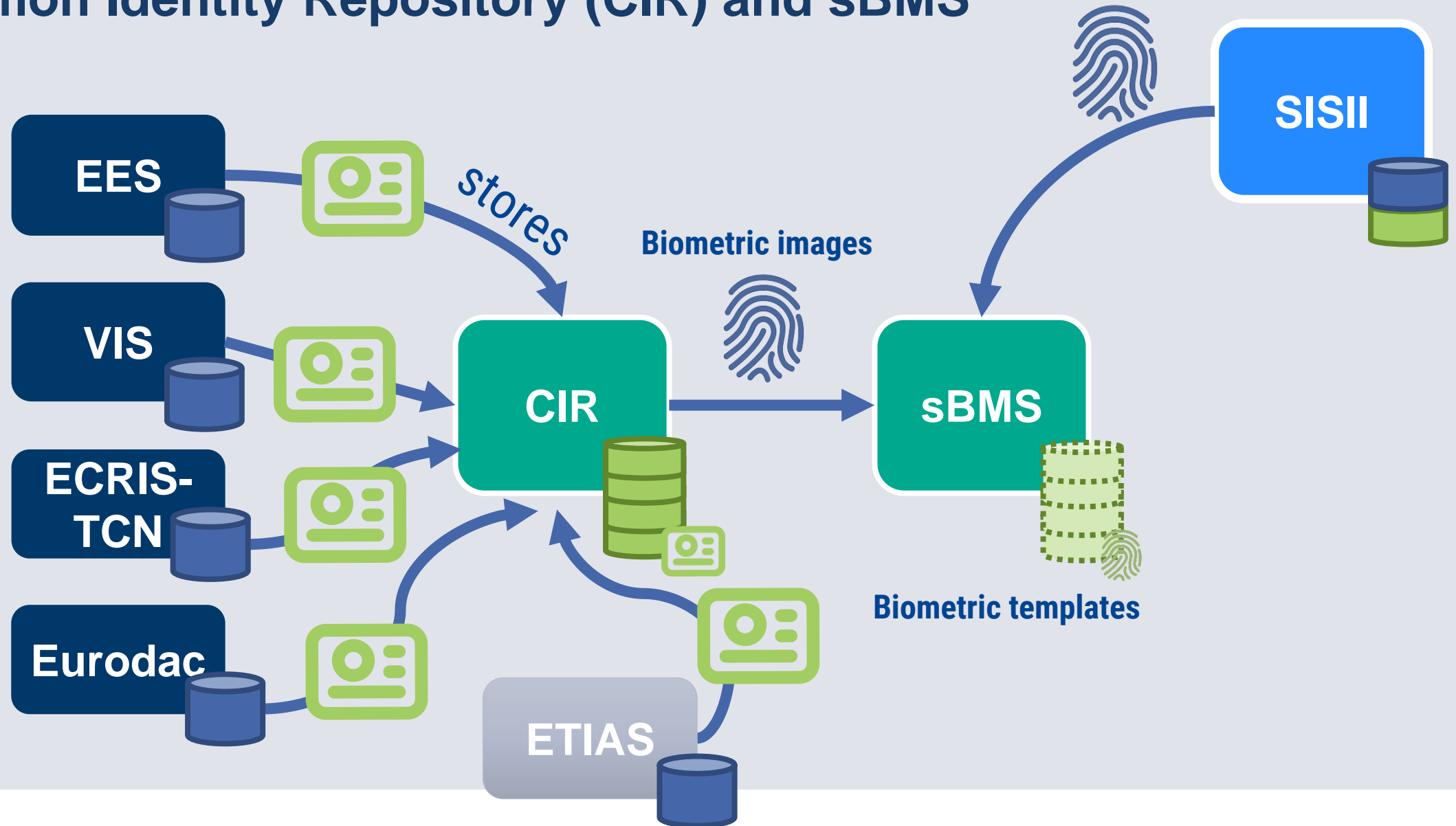


Shared Biometric Matching Service (sBMS)

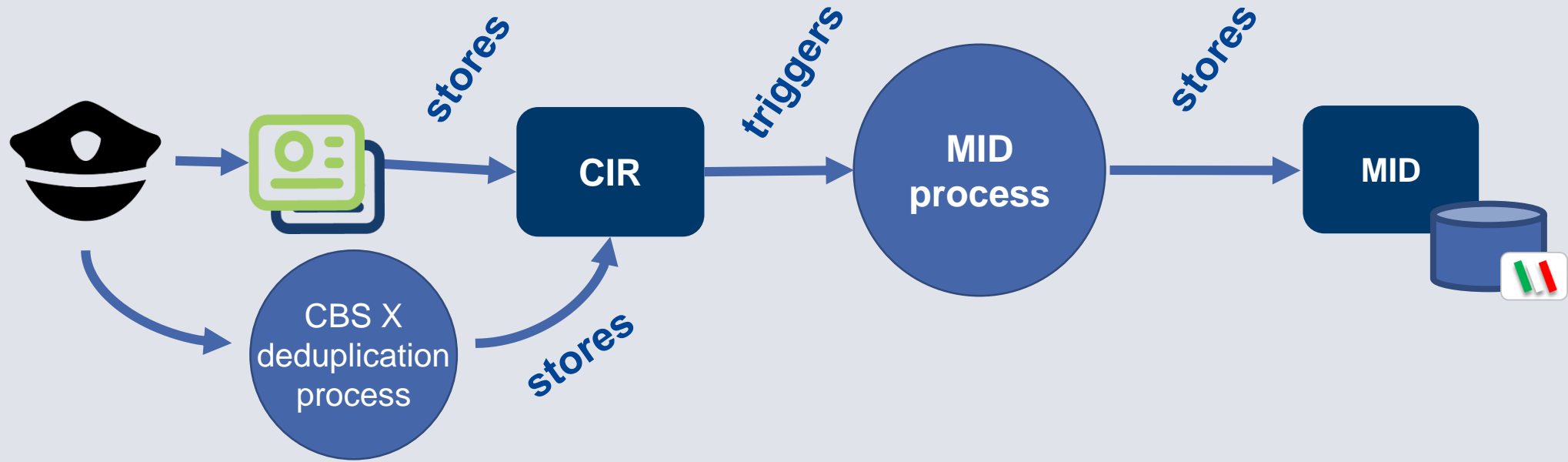
- Stores biometric templates from CBSs
- Biometric functionalities (CUD, 1:1, 1:N)
- Enables querying across the various CBS



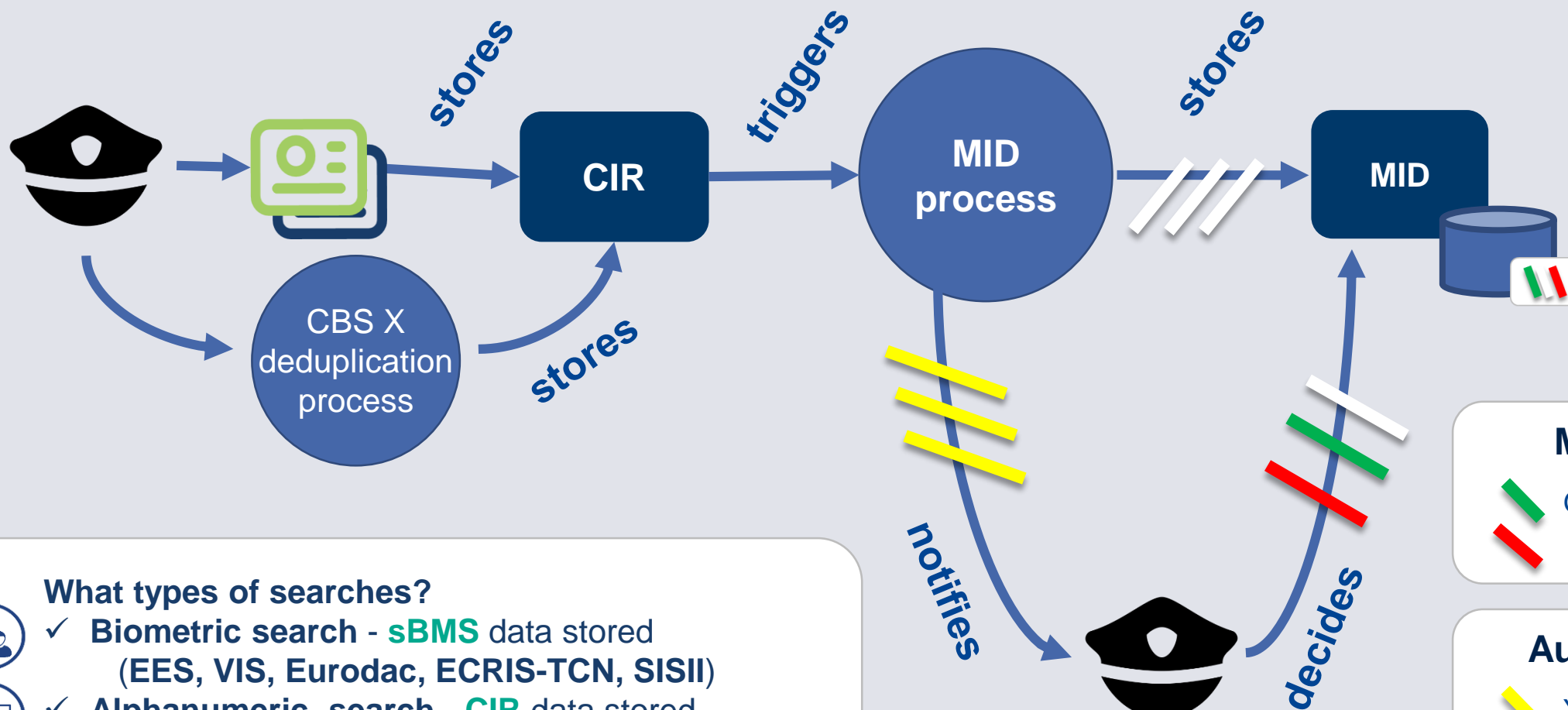
Common Identity Repository (CIR) and sBMS



The Multiple Identity Detector



The Multiple Identity Detector



What types of searches?

- ✓ **Biometric search** - **sBMS** data stored (EES, VIS, Eurodac, ECRIS-TCN, SISII)
- ✓ **Alphanumeric search** - **CIR** data stored (EES, VIS, ETIAS, Eurodac, ECRIS-TCN, SISII)

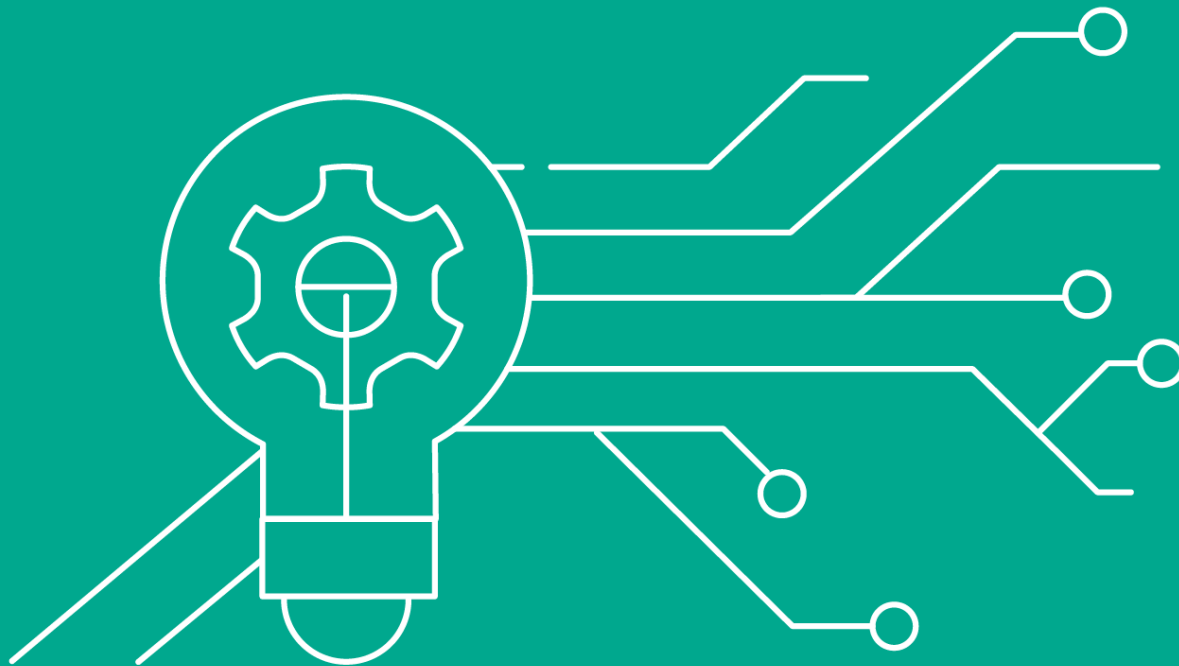
Manual

-  Green links
-  Red links

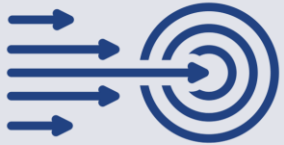
Automatic

-  Yellow links
-  White links

4. IDM - Requirements



IDM – Core requirements



Accuracy

- accuracy of **sBMS**
 - Intra/Inter CBS
- accuracy of **CIR**
 - Intra/Inter CBS
- accuracy of **manual linking**
 - risk of human mistakes



Data quality

biometric and biographic quality requirements play an important role in the accuracy of IDM services, both intra and inter CBS



Throughput and performance

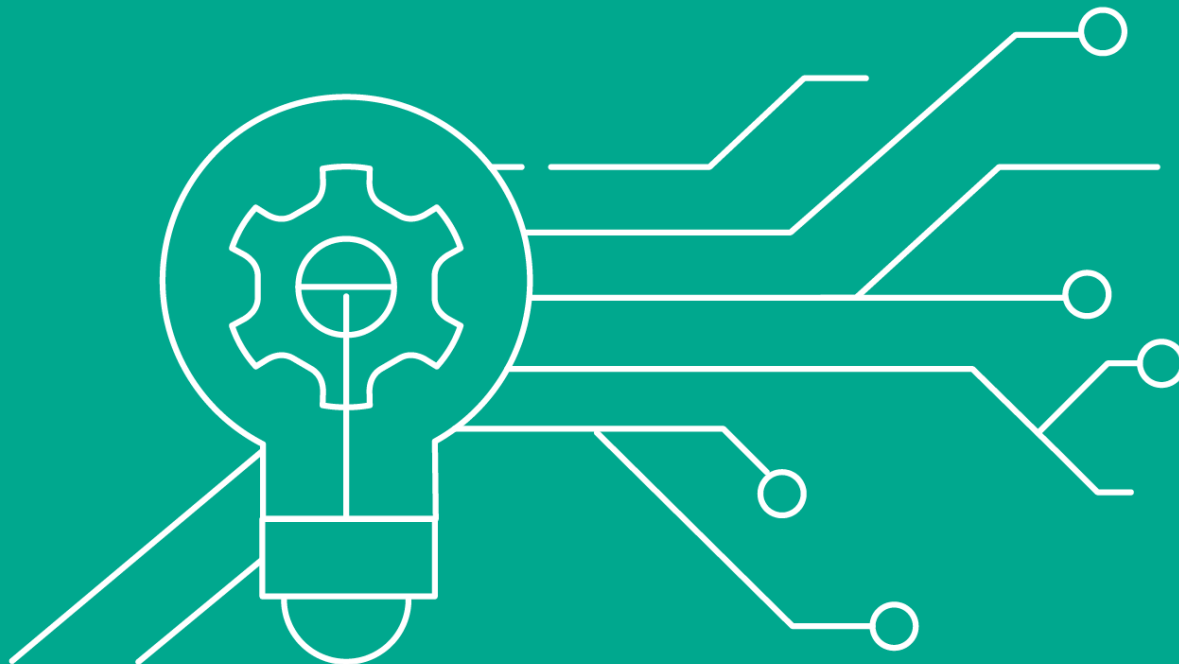
Different priorities for business use cases (e.g. border control MID process)



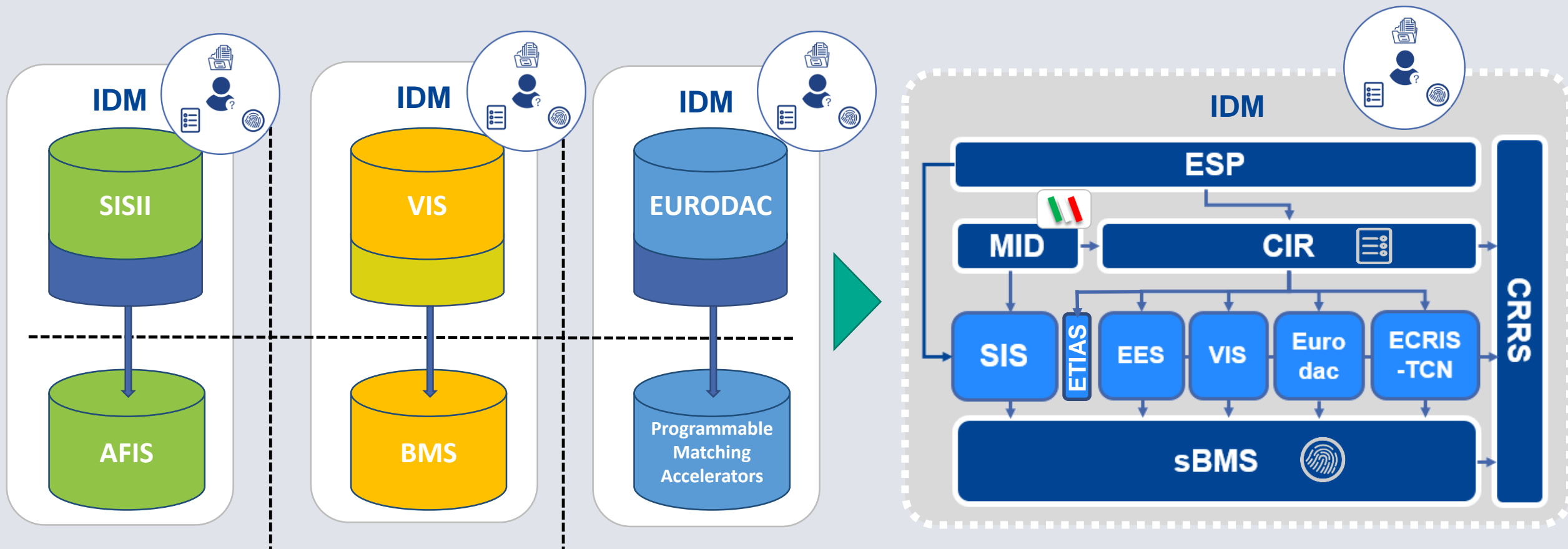
Security & data protection

protection of personal data
protection of database integrity
privacy and confidentiality

5. IDM – Complexity



IDM - Complexity



IDM - Complexity



Business flows are defined by the various regulations



Very **high security requirements** for each building block, no possibility to compromise the entire IDM system package in one shot

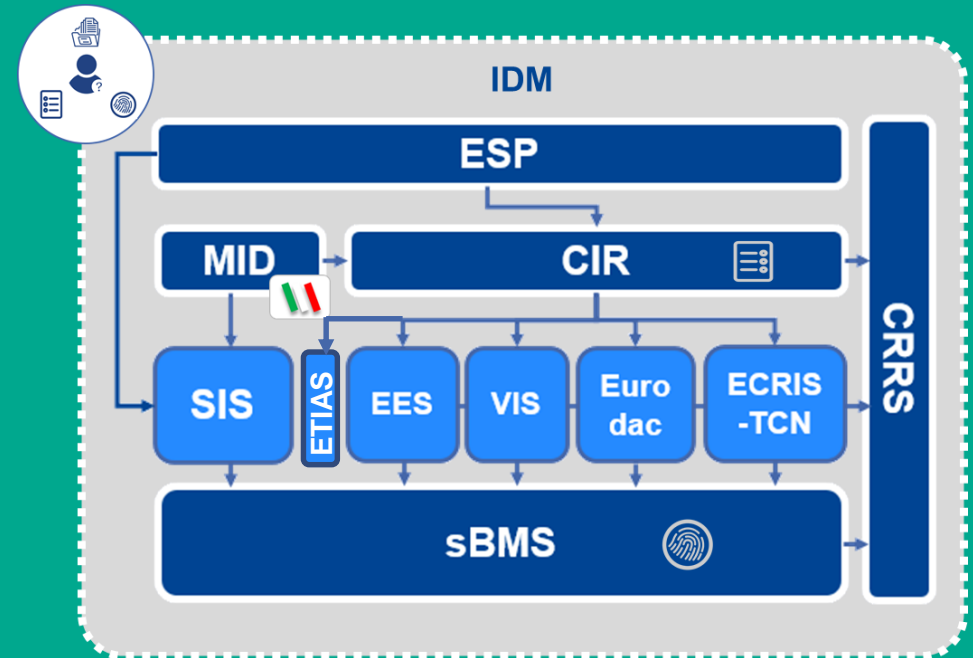


It is **not enough** if each of the IO components do their jobs correctly,



they will need to work as an **integral package** to provide **flawless IDM** services to the end-users.

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IDM - Complexity

- **sBMS performance and accuracy:**

- each business domain has its own processing time and accuracy and quality requirements
- each use case may have specific processing time and accuracy requirements
- a very flexible configuration should be designed in order to allow for customizations
- all use-cases require testing prior and after go-live



- **CIR performance and accuracy :**

- each business domain may have its own processing time, accuracy and quality requirements



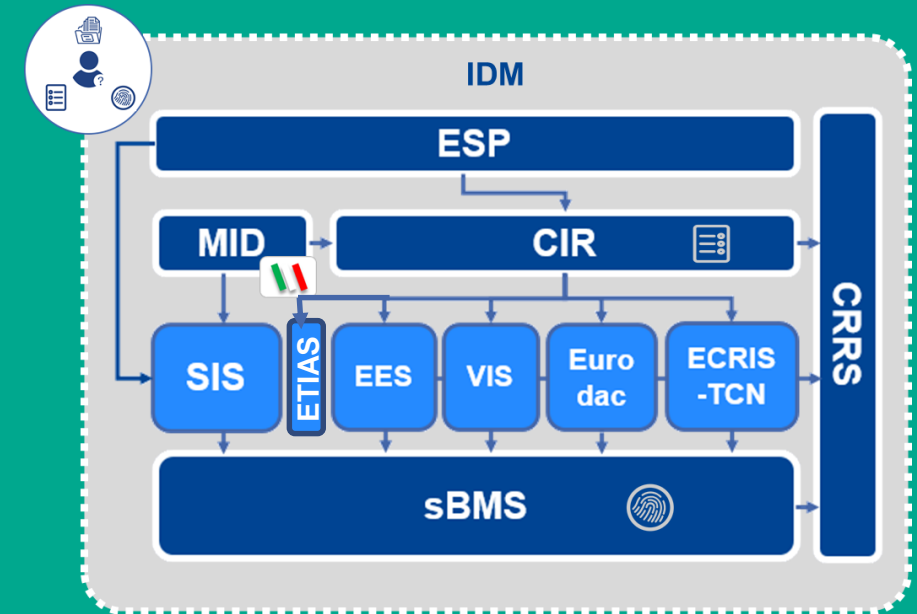
Data protection constraints:

- testing of biometric engine
- inter-CBS data access

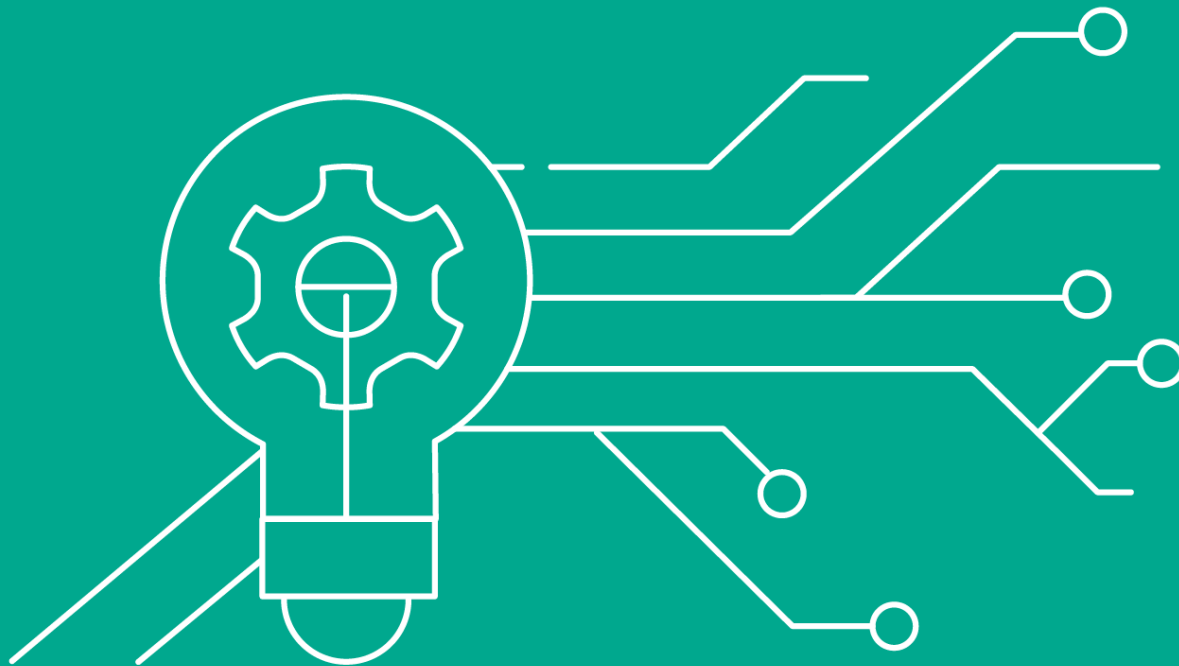


- **impact on the infrastructure / DC footprint**
- **exceptionally complex architecture**

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6. IDM – Key Factors to succeed



IDM – Key factors to succeed



- **standardization** (ISO, NIST)



- follow-up on the **innovations**



- good **governance model** (internal and external) that supports **flexibility** and **agility**
 - regulations
 - ownership/mandate
 - resources



- further work on **biometric test data** improvement (e.g. generation of synthetic mated pairs)



- active **collaboration** with our stakeholders, share findings and expertise



Thank you !

eu-LISA

European Union Agency for the Operational
Management of Large-Scale IT Systems in
the Area of Freedom, Security and Justice

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