



# Standards at the Service of Sustainability and Interoperability of ID Systems

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# Why standards are important

## › STANDARDS ARE NEEDED FOR:

1

Avoiding vendor lock-in

2

Achieving interoperability

- In a given country
- Among countries

3

Ensuring security & privacy

Harmonization of legacy and continued harmony in the identity ecosystem going forward



# What standards are available

## ➤ TECHNICAL STANDARDS AVAILABLE TODAY:

- Enrollment/data capture
- Data storage
- Data update
- Data usage
- Format and features of credentials (Passport, driving license etc.)
- Biometrics
- Authentication protocols

## ➤ CONCURRENTLY DEVELOPED BY:

- International organizations (ISO, IEC, ICAO)
- National organizations (NIST, US FBI, ANSI)
- Industry consortia (FIDO, OASIS)

There is a rich and complex body of standards that exists today and we need to navigate



# A glance at the complex body of standards

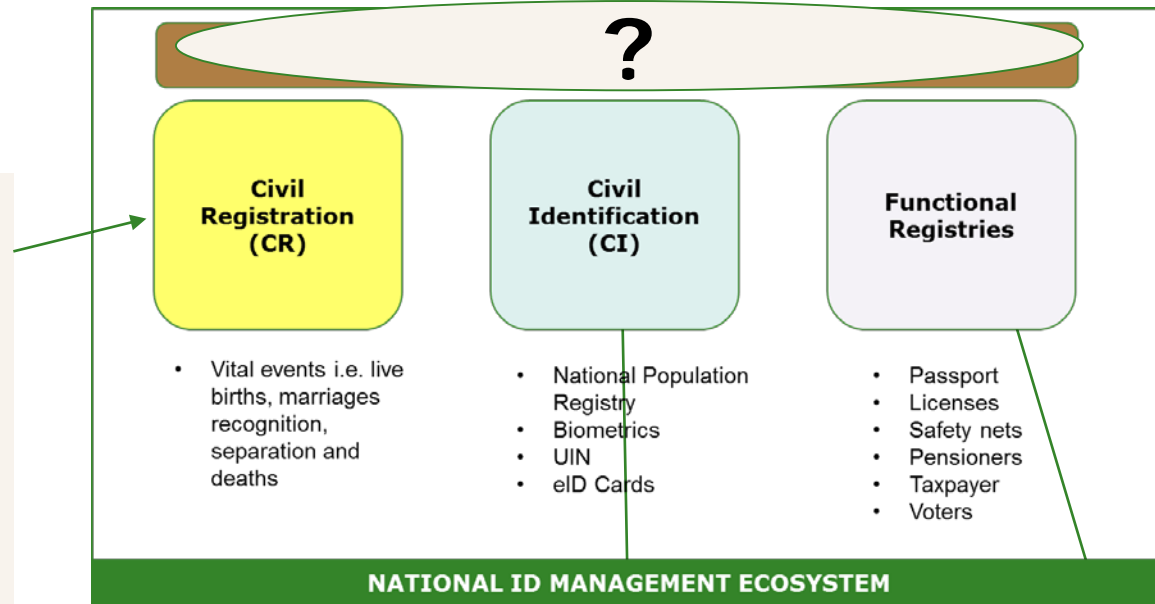
<p><b>Interoperability of capture devices</b></p> <p>ISO/IEC 19784 (BioAPI)</p>	<p><b>Biometric data standards</b></p> <p>ISO/IEC 19794 (image &amp; template formats)</p>	<p><b>Packaging biometric data (CBEFF)</b></p> <p>ISO/IEC 19785 (Common Biometric Exchange Format Framework providing common structure, metadata &amp; security)</p>
<p><b>Biometric sample quality</b></p> <p>ISO/IEC 29794</p>	<p><b>Credential standards</b></p> <ul style="list-style-type: none"> <li>● ISO/IEC 7810 to 7813 ID Cards Standards</li> <li>● ISO/IEC 7816 eIDs, Smart Cards, Contact Cards Standards</li> <li>● ISO/IEC 14443 Contactless Cards Standards</li> <li>● ISO/IEC 8583 Standard for Payment Cards with Magnetic Stripe</li> <li>● ICAO 9303 Standards for Machine Readable Travel Documents (MRTDs)</li> <li>● EMV Standard for Payment Cards (CAP-MS, DPA-Visa, EuroPay)</li> <li>● ECOWAS specifications</li> </ul>	
<p><b>Authentication</b></p> <ul style="list-style-type: none"> <li>● ISO/IEC 24761 Authentication Context for Biometrics</li> <li>● ISO/IEC 29115 Entity Authentication Assurance Framework</li> </ul>		



# National Identity Ecosystem

## Overview of standardisation

- Advocacy**
- UN-ECA
- Guidance**
- UNICEF (birth registration)
  - UN-WHO
  - UN-Stat
  - APAI-CRVS
  - CEN/TC224/WG19 (breeder docs)



- Guidance**
- OSCE (NPR)
- Biometry**
- ISO
  - NIST
  - CEN
  - US FBI

- Guidance**
- OSCE (Voter registration)
  - ICAO
  - NIST



# The challenge

**STANDARDIZATION WORK REFLECTS ORGANIZATION OF NATIONAL ID MANAGEMENT ECOSYSTEM – SILOED**

**THE CHALLENGE IS...**

## **Navigate the standards**

No Standards One-Stop-Shop.  
There is no standards guideline  
in place

## **Identify gap(s)**

Standards are not complete

## **Fill the gap(s)**

Ex. No standardization framework for  
interoperability/data exchange between  
repository



The challenge -  
What SIA is doing about it

Standards Taskforce



# The challenge - what SIA is doing about it

## Navigate the standards

No Standards One-Stop-Shop.  
There is no standards guideline in place

**DELIVERABLE: SIA standards reference manual**





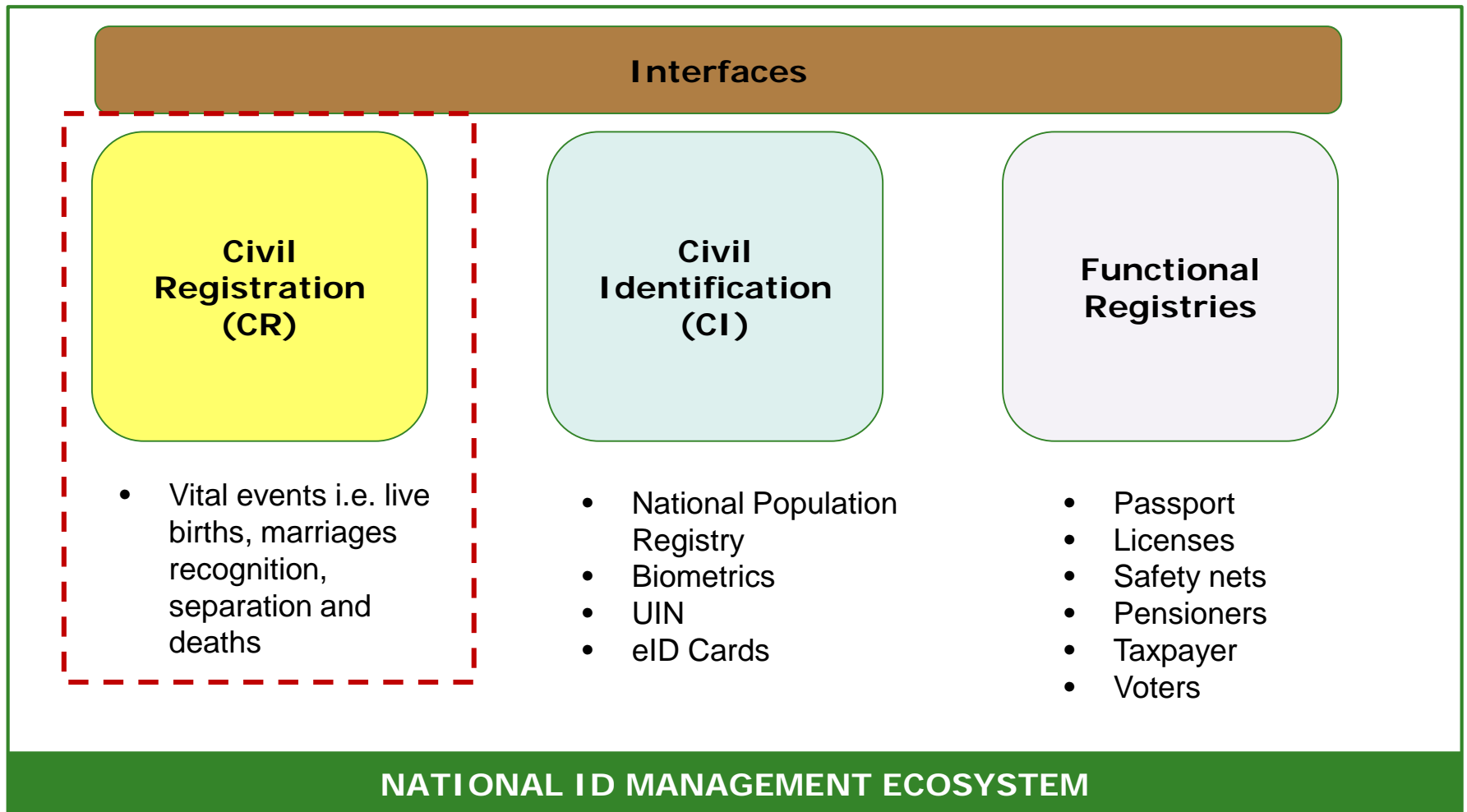
# Navigate the standards – A Guideline for governments

## ➤ GUIDELINE OBJECTIVES:

1. Build a smart taxonomy to locate relevant standards against defined ID system component/function
2. Identify areas where there are competing standards
3. Assess applicability of standards in a developing country context

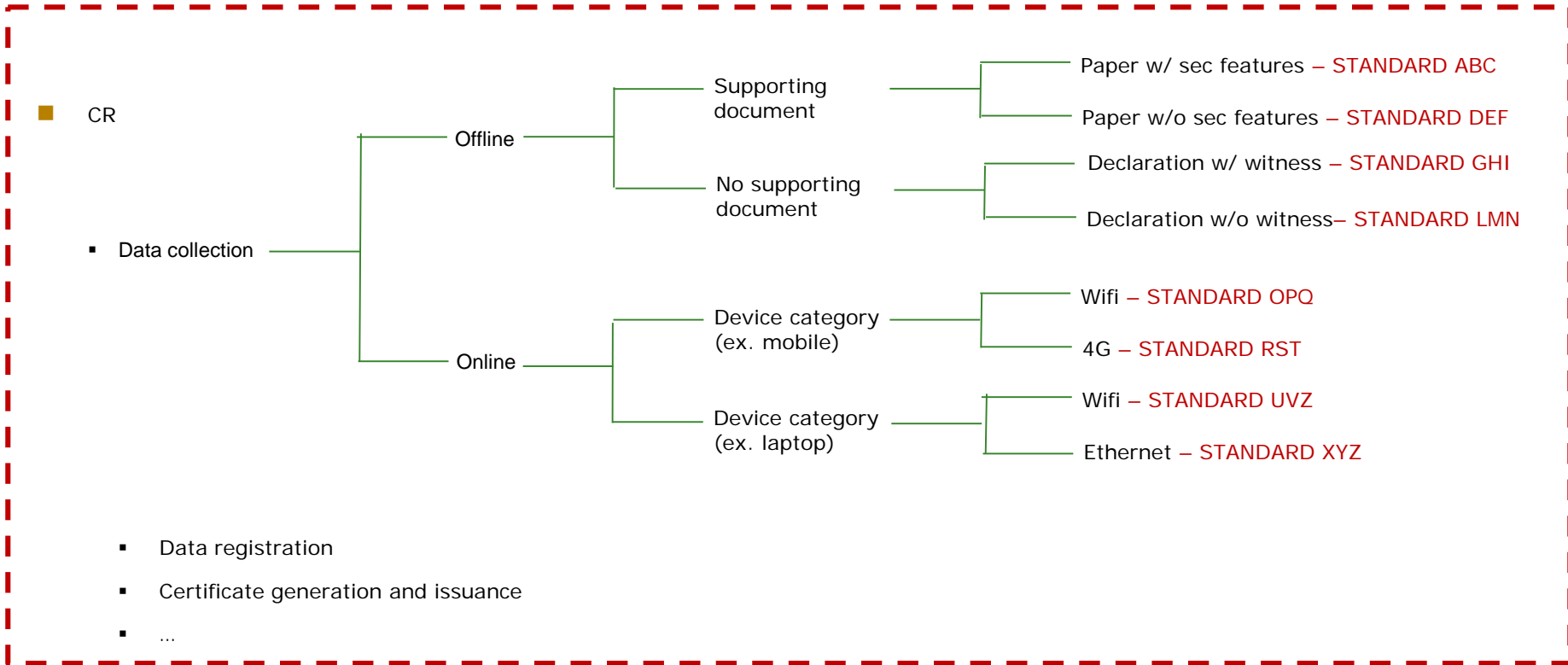


# Navigate the standards – The taxonomy





# Navigate the standards – The taxonomy



- CI
- Functional Registries
- Interfaces



## The challenge - what SIA is doing about it

**STANDARDS ARE DIFFICULT TO NAVIGATE BUT WORSE, THEY ARE NOT COMPLETE**

**Identify gap(s)**

Standards are not complete

**THE PROPOSED SERVICE-BASED TAXONOMY CAN IDENTIFY AND LOCATE GAPS IN STANDARDS...**



# The challenge - what SIA is doing about it

## WHICH ALLOWS US TO...

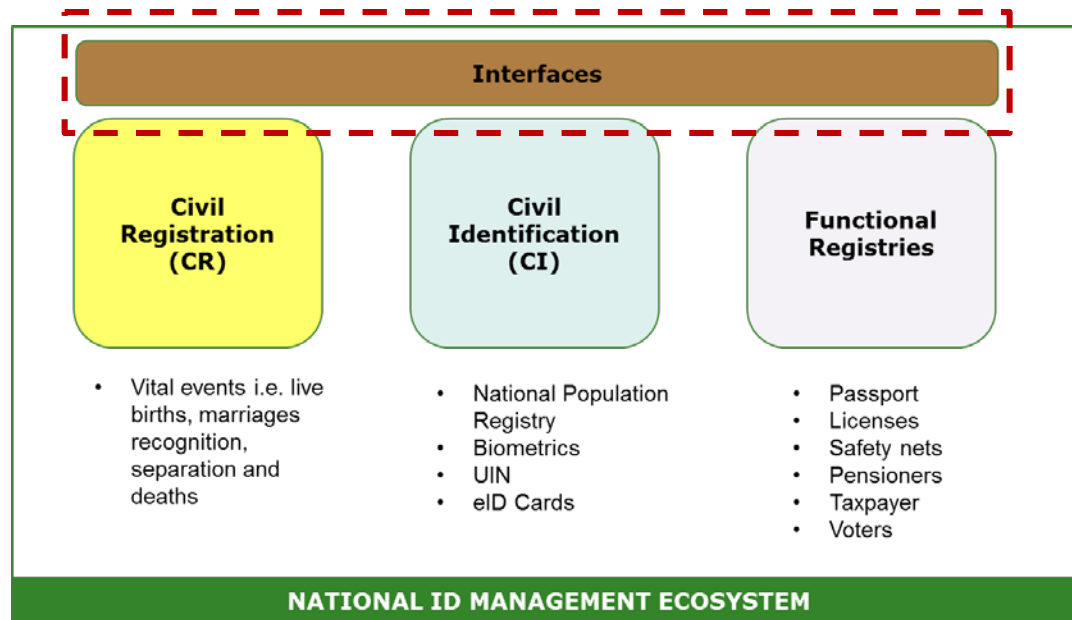
### Fill the gap(s)

Ex. No standardization framework for interoperability/data exchange between repository

**DELIVERABLE: AGNOSTIC API + IMPLEMENTATION GUIDELINE**



## Fill the gap - Open standard API



**THE OPEN STANDARD API IS AN INTERFACE THAT:**

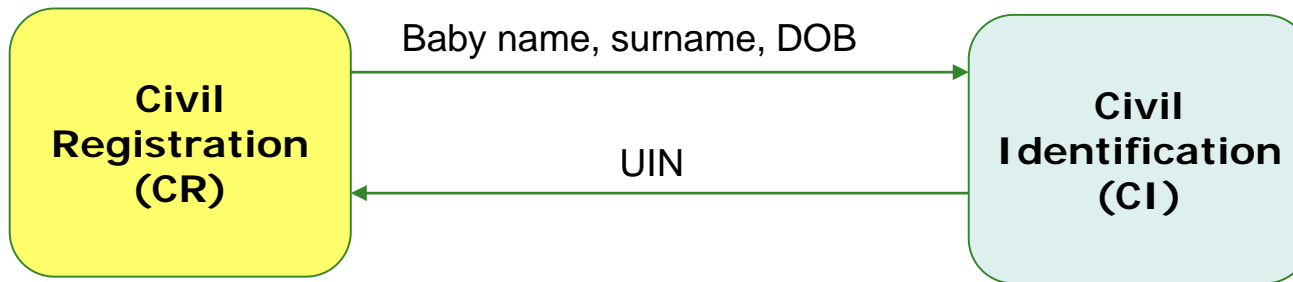
- **ALLOWS DATA EXCHANGE AMONG REGISTRIES**
- **IS AGNOSTIC (VENDOR NEUTRAL) AND AVAILABLE TO ALL**
- **PRESERVES LEGACY**



# Open standard API development methodology

## 1. Service Identification

ID\_Creation



## 2. Dataset definition

Status ID\_Creation (IN data, OUT data) →

Status ID\_Creation (IN UIN, OUT name, OUT surname, OUT date of birth, OUT nationality)



# Fill the gap - Open standard API methodology

## *3. Data Type and Structure*

{“name” = Debora; “surname”= Comparin; “date of birth” = 23/02/89}

## *4. Routing*

Defining the transport protocol by which data must be communicated.

## *5. Interface Quality*

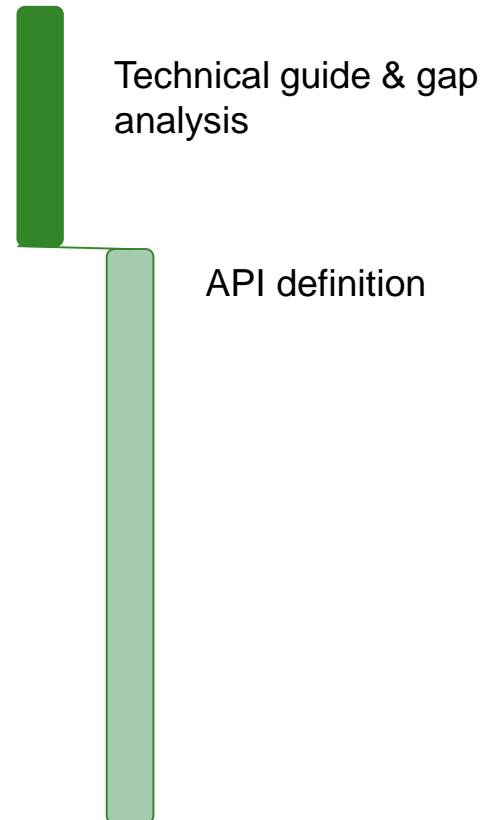
Ensuring that the API complies with the local jurisdiction in terms of privacy etc. and offers quality features.





# Conclusion – Standards Taskforce Objectives

- 0 Standards mapping
- 1 Services Identification
- 2 Dataset definition
- 3 Description of attributes





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