Agile Portfolio of ID Credentials

An inclusive ID credential model
that can nicely scale up to deliver more value to individuals
according to their specific needs & capacities

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Introduction

The objective of this document is to introduce the **different forms of physical or digital credentials** that could be proposed to populations, not imposing systematically one credential form but having an **agile portfolio**.

These would be **adapted to the context and the capacities of each one**.

The targeted goals are **inclusiveness** and **costs optimization** by offering to all a usable means for identification, while enabling capacity to **propose added value with more elaborated ranges of credentials:**

- Starting by **cheapest usable free of charge form**
- Then scaling-up to **enforced quality of physical and digital features.**
- Thus offering a set of **additional services** to those who have **specific needs** and **possible access to technologies and infrastructures**.

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Painpoints

- Historical ID Card model are difficult to afford for multi-million citizens
- Most of citizens don’t use some costly features of cards (ie chip)
- Low-cost technologies allow to encode data in QR code
- Identity market is moving to digital ID and notably to ID Wallets
- Cost of cards are barriers for people to receive a card
- Everyone should have an identity
- Everyone in capacity to use technologies could use it anyway

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Portfolio of ID Credentials



A4 paper certificate free of charge (download and print it on your own)



White PVC card, more robust, free of charge at registration

Allows to **verify a unique identity online by doing a 1:1 biometric match** or **offline** by manually **comparing the person's face with the photo encoded in the QR code**.



Polycarbonate card, long term use, with physical security features for offline ID check, enabler for digital services.

Allow **both online or offline authentication**, the physical security features allow to **trust authenticity of the document**.

The document **facilitate and reinforce digital processes** thanks to use of QR code and CVV.

It's has to be an enabler for **value-added services**.



Digital or Mobile Credential, allows 100% smooth interactions, it can be stored in a Digital Wallet.

The digital credential is stored on the **individual's phone** (or in **other electronic storage**) and can be shared with a third party for verification. Regardless of the container, the data format is a **Verifiable Credential**

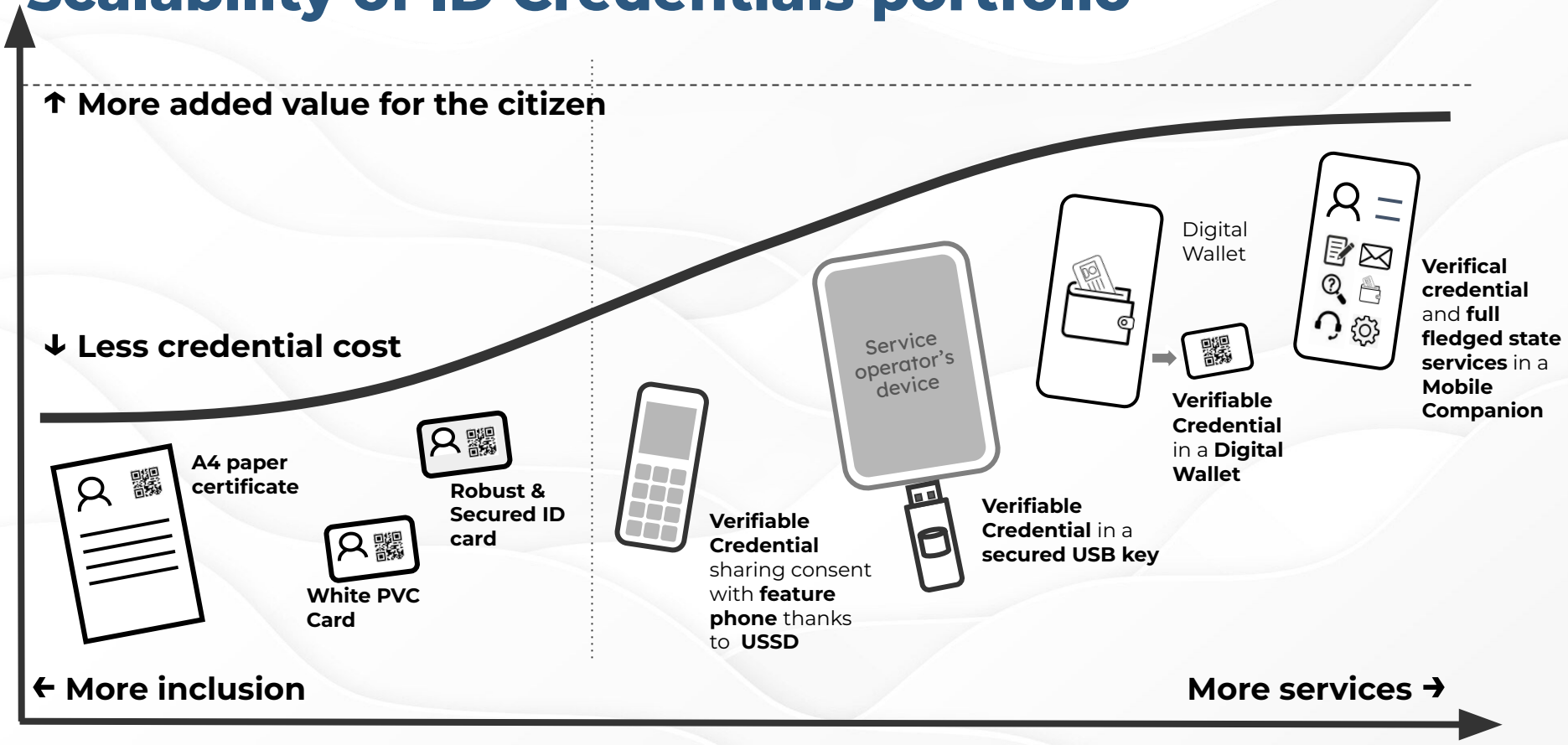


Mobile Companion, including all identification services, it offer access to state services.

The **mobile companion can host all state interactions**, and offer **trusted interactions services** to its users interacting with third parties: **ID authentication**, **KYC**, **digital signature**, **personal data** storage /management /retrieval /sharing.

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Scalability of ID Credentials portfolio



Options for PHYSICAL CREDENTIALS

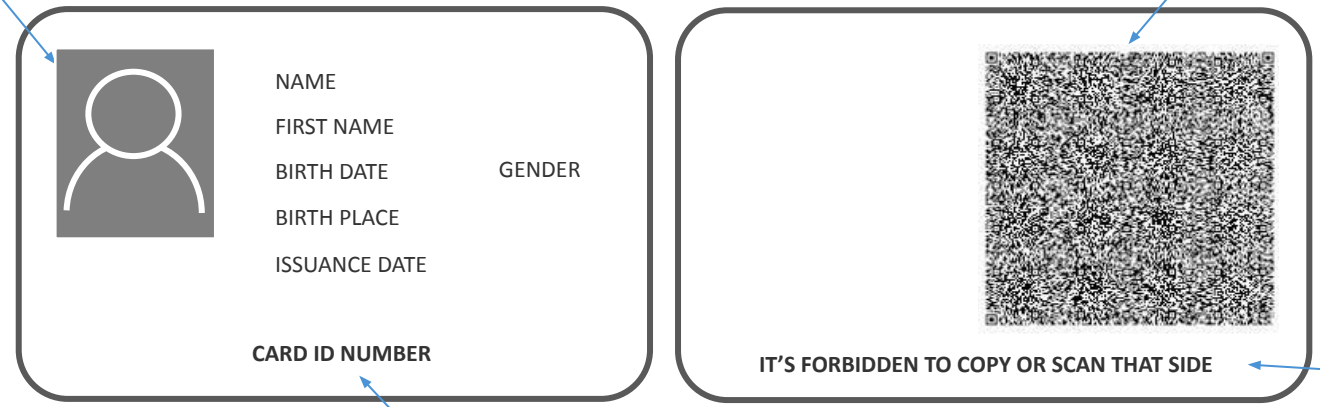
Be inclusive then have a differentiated value added card offer

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White PVC card design example

Individual's portrait

Cryptogram containing demographic data and a low resolution photo.

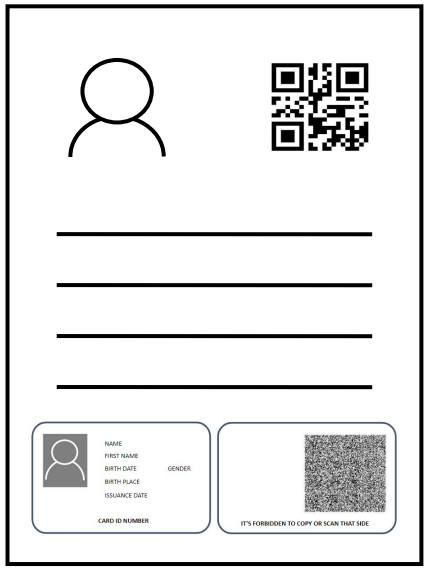


Text indicating to copy to scan the back of the card so it can prevent fraud. This is to be backup by laws and fines.

Tokenized version of person Unique Identity number is clearly visible

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Paper certificate



The paper certificate would **contain the same information as the PVC card**.

It would include the **photo** and a **cryptogram** containing demographic data and a low-resolution photo.

As there is available space on the A4 page, the paper certificate could contain **guidelines of use** and **rules applying**.

A part of the certificate could be possible to separate then laminate to **make a card from it**.

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Options for a value added polycarbonate card

Card background has serigraphy and is covered by a secured laminate.

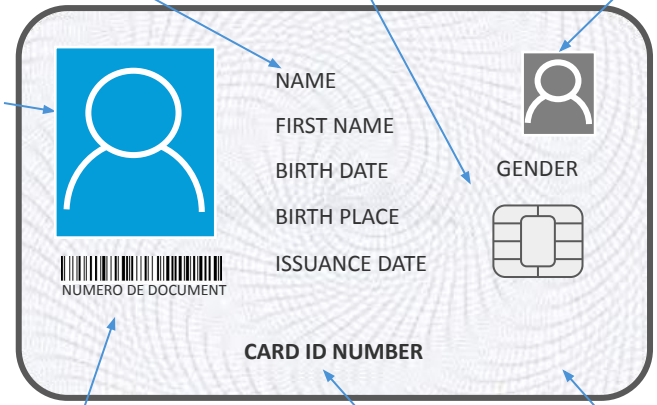
A chip can be included to allow strong authentication and digital signature. It should be contactless.

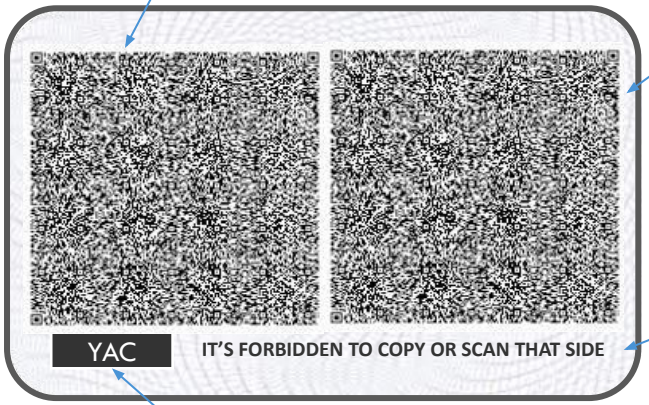
Ghost picture to defeat photo counterfeit

Cryptogram containing demographic data with additional protected data : verified contact information, emergency information.

Second cryptogram containing the photo in higher definition, possibility to make an automatic match.

Color portrait with photo replacement prevention security feature.





Text indicating to copy to scan the back of the card so it can prevent fraud. This is to be backup by laws and fines.

Bar code and unique card number allowing identification of the document, for traceability, revocation or authenticity investigation.

Tokenized version of person Unique Identity number is clearly visible

Robust card material with lamination.

Enrollment/delivery center number, facilitating logistics. Usable later as an additional security in authentication (banking card VCC like)

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Options for DIGITAL CREDENTIALS

For normalizing trusted exchanges of digital data

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Normalizing use of Verifiable Credentials

A base verifiable credential will contains the **same information as a QR code** printed on cards.

Different versions of the QR code can be generated for different usage by the Digital Wallet or the Mobile Companion to provide more or less information (Contact, Emergency, Zero knowledge information)

A key benefits of verifiable credential is that it is a **structured information which can be verified towards its issuer.**



Indeed the chain of trust ensured by Verifiable Credentials allows to **verify information with the preceding data source** including up to the **initial event of identity declaration**.

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Options for MOBILE FORMS OF ID

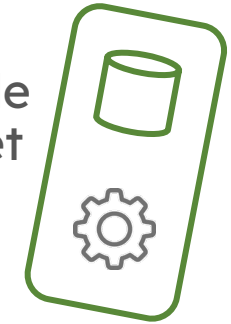
**Be inclusive in the form of wallet,
and scale services if technology is accessible.**

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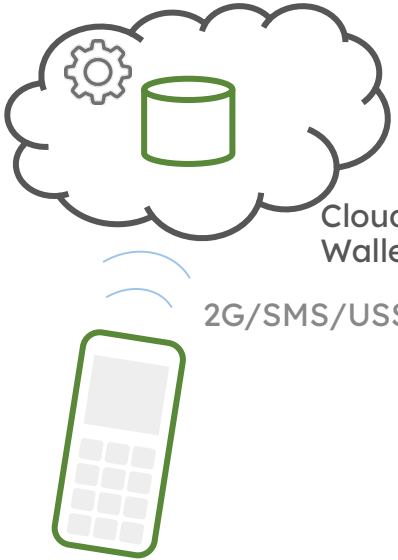
Inclusive options of Digital Wallet

OPTION 1

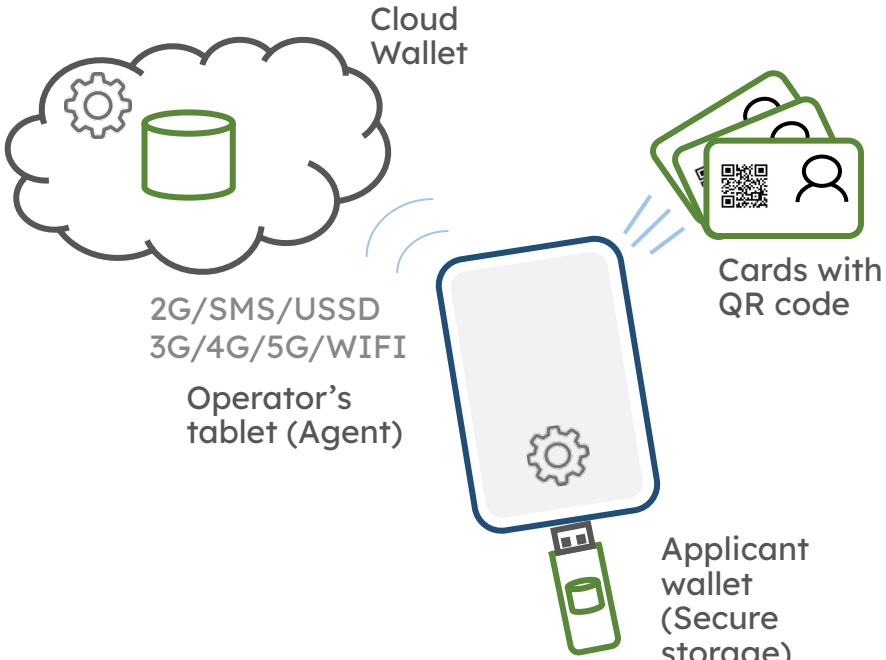
Mobile Wallet



OPTION 2



OPTION 3



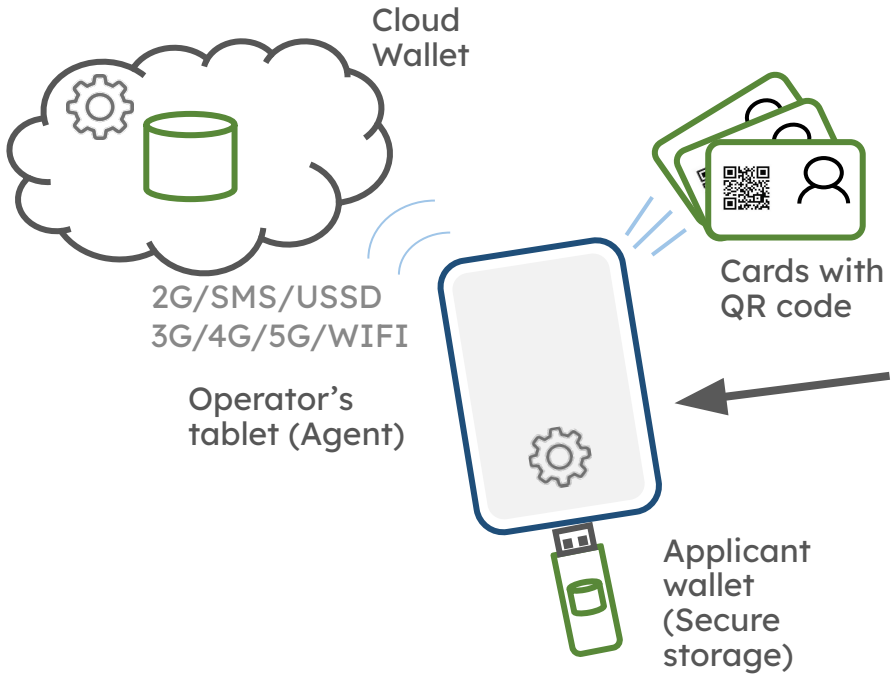
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A polyvalent solution for low setup country

We need to **avoid to use multiple solutions** to adapt to different context

One solution to meet the different low setup case (No device or low-line)

Once identified, this solution should then been **re-designed on the standpoint of the different contexts**.



A **cost effective ANDROID TABLET** would nicely make the job for multiple cases.

It should have:

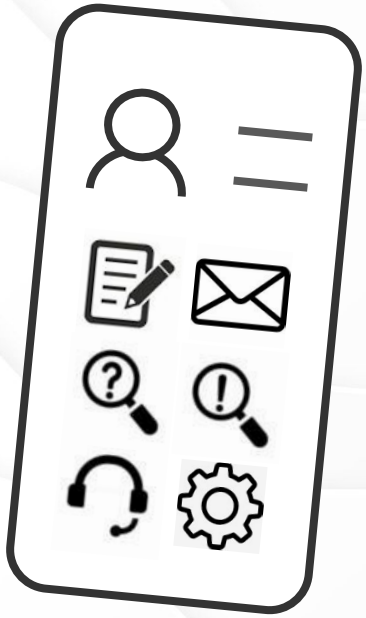
- **Camera**
- **USB slot**
- **SIM slot**

That tablet would **belong to the operator** of the **services provider**.

Professional **can afford** a **device** and a **data subscription**.

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Citizens portal & Mobile companion



- Individuals need **channels to interact with the Government**
- Most common is **Citizen Portal** and **email/SMS channels**
- As most interactions will happen on mobile, a **mobile companion** would be the most relevant
- **Digital use cases** will support growth of infrastructure (**Datacenters**, **Networks**, **Devices**)
- Main features would be **Authentication** & **Signature**, **Consent** and **Data sharing, transactions** management, **Personal data** management, **Government Services** access and management, user **preferences** management, **grievance** management, **learning** management.
- Mobile companion should **leverage standards**, be **modular** and **vendor neutral**.
- **Inclusive forms** of it should be proposed to individuals not having a smartphone, **access free tablets**, **kiosks** with support of government operators.

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Some reference implementations of Mobile Companions



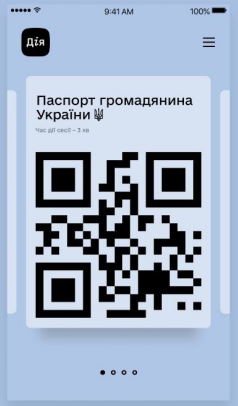


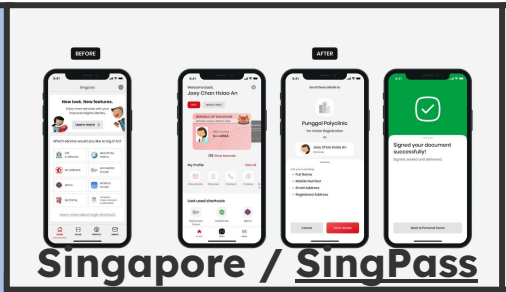


Ukraine / Diia

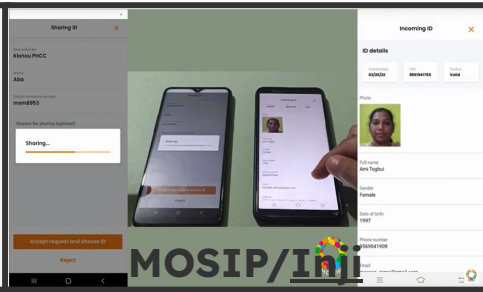




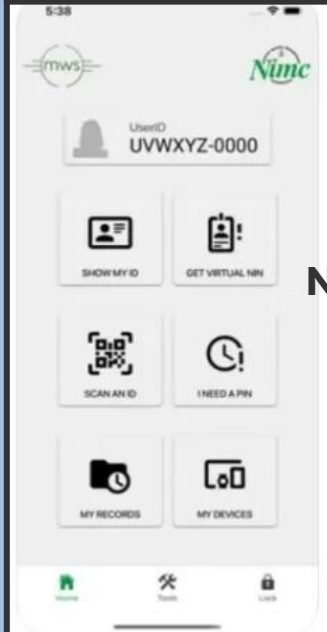




Singapore / SingPass



MOSIP/Inji







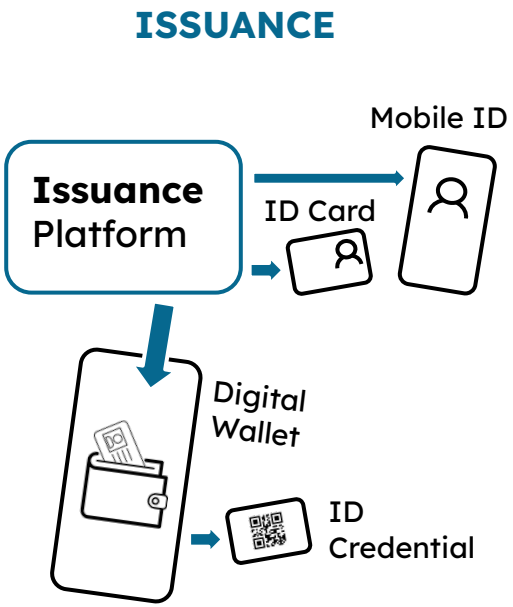
Nigeria / NIMC MWS

ID Credentials Issuance system

Flexible, cost-effective and mutualizable.

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ID Credential Issuance system



Card issuance request should be made using the **Mobile Companion** or on the **Government's Citizen portal**.

Citizen could **express preference for the ID credential form** then the ID system would **delegate the printing** to one of the **ID credentials issuing partner**.

For **Digital forms**, they should be **stored in individual's personal data safe** and/or **exported to its device(s)**

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Building an Agile Issuance system

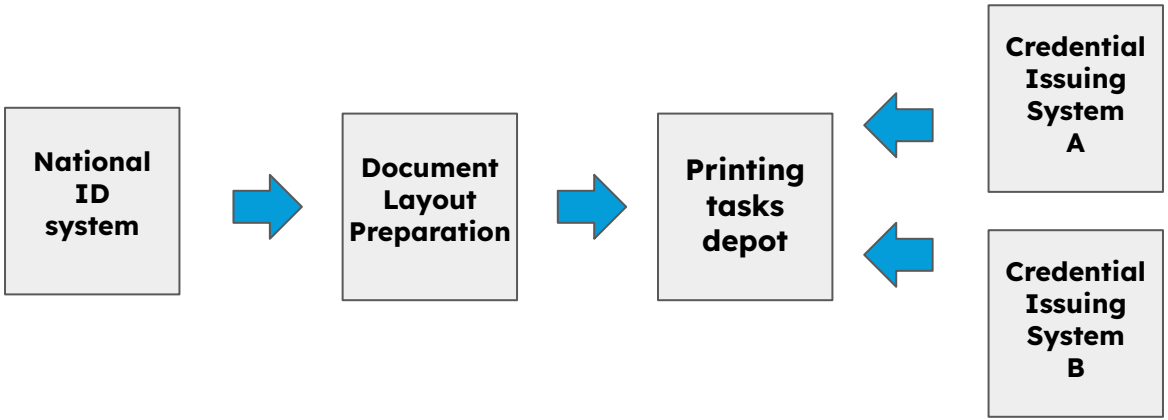
The ID system should separate functions of **generating document data** to printed, **document layout** and **document issuing**.

The issuing systems would receive verifiable credentials from the National ID system, that would be auditable in future.

A **formatting module** would prepare the credential format.

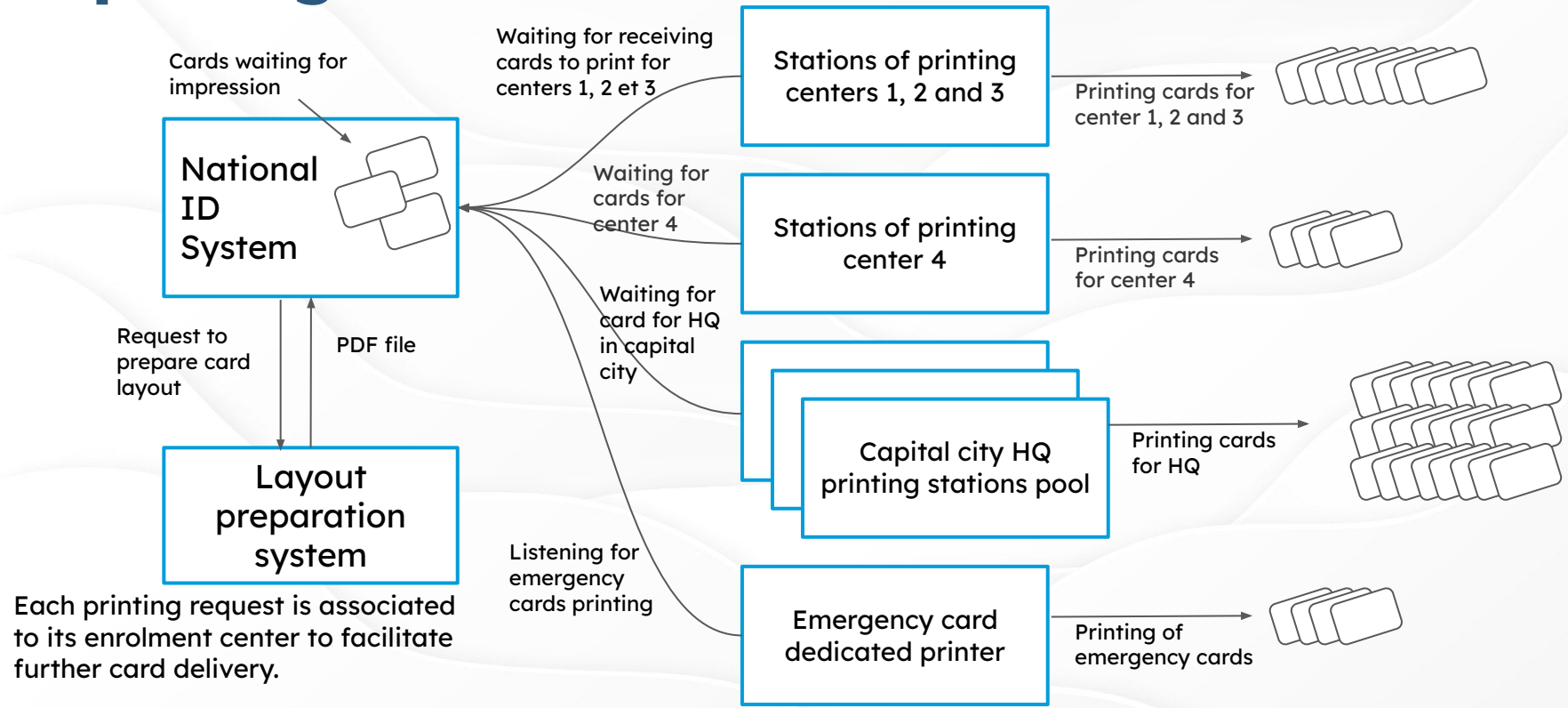
Several issuance system would consume issuance request from the National ID.

This would allow decentralized and delegated card printing also **mutualization of card printing systems**.



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Easy & flexible dispatch of printing by using ‘pooling’



Biometric cards authentication use cases online/offline

IDENTIFICATION KEYS
for access
to Services

NUI

Identifier for



Identification Card

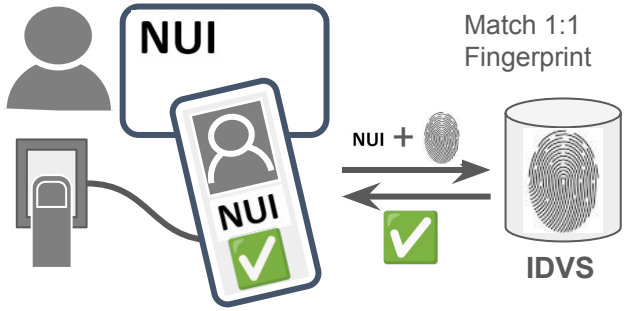
Ensure Uniqueness and Authenticity of

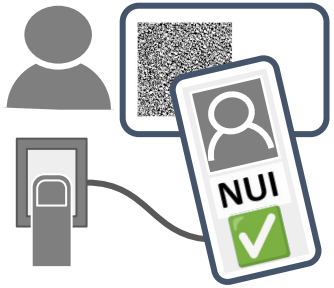
- Health
- Social Protection
- Education
- Banks / MNOs

Biometric card ONLINE

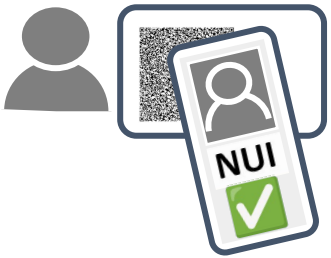
Biometric card OFFLINE

Secured VISUAL verification





Match 1:1
Fingerprint



Vérification
portrait signé

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Call for action

Whish to know more ID Cards ?
> Please let us know

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