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# GAMBIA NATIONAL DIGITAL IDENTITY STRATEGY

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**Strategy Report**



**United Nations  
Economic Commission for Africa**

27<sup>th</sup> April 2023 / 24<sup>th</sup> Oct 2023

Honourable Minister Ousman Bah  
The Ministry of Communication and Digital Economy (MOCDE)  
Banjul, Gambia

Dear Sir

Subject: Report on National Digital ID Strategy for the Gambia

In pursuance of our engagement with The Ministry of Communication and Digital Economy (MOCDE) of Gambia, we are pleased to submit the Detailed Project Report National Digital ID strategy for Gambia as part of the services for the Implementation of the National Digital ID System for Gambia.

We are grateful for the cooperation from the Ministry and other stakeholders. We hope to receive similar cooperation throughout the rest of the assignment.

Should you require any information or clarification on the report, please get in touch with me by email: Mactar Seck (seck8@un.org)

Best wishes,

Yours sincerely,

Dr. Mactar Seck  
For: United Nations Economic Commission for Africa

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## Abbreviations

Abbreviation	Description
ABIS	Automated Biometric Identification System
CRVS	Children registration Vital Statistics
DIDS	Digital Identity System
DC	Data Centre
DR	Disaster Recovery
FIDO	Fast Identity online
ICT	Information Communication Technology
G2C	Government to Citizen
G2B	Government to Business
KYC	Know Your Customer
eKYC	Electronic - Know Your Customer
GBoS	Gambia Bureau of Statistics
ISO	International Organisation for Standardisation
PHC	Population and Housing Census
NIN	National Identity Number
ICT4D	Information Communication Technology for Development
NIST	National Institute of Standards and Technology
ITU	International Telecommunication Union
LOA	Level of Assurance
SIMSP	System Integrator & Managed Service Provider
RCs	Registration Centres
MOCDE	Ministry of Communication and Digital Economy
MNO	Mobile Network Operators
PRs	Permanent Residents
UNECA	United Nations Economic Commission for Africa

## Executive Summary

This document describes the Government's strategy to create a National Digital ID System (DIDS) in Gambia. The Digital ID will establish a digital identity consisting of a minimum set of data, including a unique number, biographical data (name, date of birth, etc.), and biometric information. Biometric data will prevent duplicate registration for services. The system will enable citizens and residents to access a wide range of public and private services reliably. It will also help the private sector and Government reduce fraud and fake identities and cut transaction costs in verifying identities. International studies show that identity systems can significantly support economic growth and access to financial services.

There is a strong case for the launch of digital ID in the Gambia as some study estimates that the benefits of implementing digital ID in the economy can range from 1 to 3% of real GDP over time. The projected impact is within the estimated range in many countries where digital ID has been implemented. The significant benefits are seen in the increase in the efficiency of identification both for the Government and businesses. Cost of operations for both Government and businesses fulfilling Know Your Customer (KYC) norms, of subsidies to the citizens, thereby preventing leakage and reducing fraud in the Government subsidy program. These benefits make an extreme case for implementing a digital ID system in the Gambia.

This strategy covers using existing demographic and biometric data available to the Government in its National Identity Number Database. The report also defines the model for implementing the national digital ID strategy. The report considers three different models for the approach in which model one uses the existing NIN demographic and biometric data to issue digital IDs. The second model is based on the parameter that demographic data would be collected from from the NIN; however, new biometric data of the citizens would be captured to issue digital IDs. The final model is about capturing fresh demographic and biometric data to issue digital IDs to the citizens of Gambia. A pro-con analysis has been done. It suggested that Model - 3, capturing fresh demographic and biometric data, is best suited in the current context for building up the digital ID for the Gambia.

Nevertheless, this approach does not discard the existing NIN; the citizens will continue using the NIN number. However, at the system level, a new unique random number would be generated for digital ID and linked in the databases. This will not only bring uniqueness to digital ID but also prevent repeated allotment of ID numbers to the citizens. This type of approach has been adopted in many countries where a biometric-based national ID is already in existence.

The strategy brings out the roadmap for implementation of the national digital ID in five phases, phase one being the approval of the National Digital ID program, followed by project initiation and planning and requirement finalisation; the next phase revolves around the design of the program and implementation of the national digital ID strategy of the program. The last step covers the operations. It is further advised that the implementation would be in PPP mode, and the project would sustain itself with some cost of implementation being contributed by the Government of Gambia.

The report also brings out the contours of financial analysis. However, the exact economic costing and budgeting figures have yet to be provided, which can be done during project approval. The ministry may consider the required investment through donor resources, and the Government of Gambia can meet the operations and the recurring budget.

A high-level legal and regulatory framework is also provided in the report. The citizens data and privacy will be strongly protected by creating a unique digital ID. It is proposed that the law will include limits on data collection and access, user control over data, user choice on whether to enrol or to use the Unique ID (i.e., voluntary rather than compulsory enrolment), and the establishment of independent and effective grievance redress mechanisms.

A section of the report brings out the salient features of the national digital program. These salient features include creating a national digital ID trusted online platform, providing universal and inclusiveness in the program coverage, and at the same time, strengthening the current NIN database. The new registration of

demographic and biometric data and linking with the current NIN database will protect the knowledge and investment that has hitherto been spent on creating an extensive infrastructure of NIN database. A vital feature of the new project would be to reduce the biometric capture age of children up to 5 years and above so that use cases in education and health can be launched. Secondly, the system also provides for the capture of registration of children at birth. This will help us in creating a modern digital CRVS system, thereby greatly enhancing the healthcare and education programs of Gambia; finally, the digital ID system would be open standards-based, and interoperable so that many players can participate in the ecosystem and bring down the total cost of ownership of such a program.

The way forward for taking up this program would be to circulate this report to the stakeholders and discuss it in a workshop so that the information can be finalized and the approach to the strategy and implementation can be concluded. Thereafter, Government can consider this report for approval and puts in place the governance structure like the National Digital ID Council and Steering Committee to oversee the implementation of the National Digital ID program. It is intended to register more than 2 million Gambian citizens and link digital identities to the banking and telecoms sectors, voter and civil registration, health and education records, business registration, and other critical functional databases.

This strategy and the operational plan were developed in association with UNECA by the Government, using a consultative process by a team of ID experts led by consultants and the officials of the Ministry of Communication. This strategy benefitted from the high-quality and timely technical and financial support provided by the UNECA. It greatly benefited from experiences in India, the Philippines, Morocco, Malaysia, and Sierra Leone together with the Timor-Leste IDU program,

It is time now to implement these important changes. The success of the Digital ID will depend on the ongoing cooperation of all relevant Ministries, the private sector, and citizens in improving access to essential services throughout Gambia.

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## 1. Introduction and background

In the last decade, 'Identity' has emerged as a cornerstone of targeted benefits and efficient service delivery for social benefit schemes in many countries. The transition from paper-based identity to digital identity is now recognized as the next indispensable stage in the development of the identity landscape in a country. While it has been recognized by various development agencies across the world that citizen identity is a necessity, the increasingly emerging opinion is that there is a requirement for a much greater effort to build true digital identity systems that not only meet the growing needs of targeted benefits in countries but are also seen as transformational systems.

Identification is fundamental in facilitating interactions between individuals, Government, and private sector organizations. A robust identification system allows for recognizing an individual's legal identity. It enhances the level of trust that enables the Government and other Service Providers (SPs) to effectively deliver services to the citizens. A legal system based on digital identification also empowers individuals to access their benefits, services, and rights. Further, it allows Government and private sector entities to deliver services through various channels efficiently across country.

In the past, most foundational identity systems used paper or card-based identification systems. However, with the massive adoption of digital technologies in various sectors and the changing preferences of citizens to operate digitally, many countries, including Singapore, Estonia, India, Morocco, Philippines, Timor-Leste, Sierra Leone, Togo, and Canada, etc., are investing in the creation of a digital identity platform as it offers a foundation to the next generation of digital services and digital transactions in the country.

Furthermore, digital identification can allow Government and private organizations to interact remotely with citizens and residents. This allows Government and private organizations to offer newer and innovative services in a much more efficient and cost-effective manner, contributing to the country's modern development and economy<sup>1</sup>. Gambia is one of the economies in the world that is progressing toward a high-growth economy. To continue its growth, embracing the opportunities the digital ID is essential for Gambia. More than 51% of the population has internet and digital services. Today, individuals, businesses, and Government organizations are looking at innovative models and platforms that enable them to connect, interact, and transact in the digital world. The National Identity Number (NIN) Program of Gambia could provide the underlying platform to increase the security and convenience of online services and allow citizens, businesses, and Government to operate online with confidence in a trusted digital ecosystem.

The Ministry of Communication and Digital Economy (MOCDE) of Gambia was established in 2022 after the decoupling of the Ministry of Information Communication and Infrastructure, which is now totally dedicated to the ICT sector. The Honourable Minister Ousman Bah, the Minister has outlined a five-point priority agenda of the Ministry which are:

- Submarine landing cables
- Regional Data Centre that can connect the region.
- E-governance
- Payment gateway – with a fixed deadline of
- National Identity Digital Cards for Gambia's Population of approximately 2.64 million.

This document deals with the Digital Identity strategy for Gambia. It has been prepared based on current situational on the ground and recommendations on how the Ministry can implement a digital identification system working directly with the Ministry of Interior, Department of Immigration, and Gambia Police Force.

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<sup>1</sup> <sup>1</sup> World Bank, The Digital Economy, <https://openknowledge.worldbank.org/bitstream/handle/10986/30926/128267-REVISED-Digital-Economy-web.pdf>

This analysis looks at all components of what exists in terms of National identification within the Gambia, the type of unique identification numbers, overall processes, the various entities in the Gambia need to undergo in preparation for a full digitized identification card in the Gambia with technical advice provided from the United Nations Economic Commission for Africa supporting the Government of the Gambia through the MOCDE.

Digital Identification is essential to building a Digital economy in the Gambia. The National Development Plan (2018 to 2021) listed Information Communication Technology (ICT) and Data for Development as two of the seven listed critical enablers (<https://mofea.gm/ndp>). It's important to note that the Government of the Gambia is presently finalizing the second National Development Plan, in which the objective of creating a "Digital Economy" for the Gambia is a vital component of the National Development Plan (NDP).

Key components within the Gambia Landscape for the implementation of a Digital Identity for citizens are already in place. These are.

- National Identification Card, Resident Permit, and Drivers licenses are all in place with a digital chip that still needs to be enabled. Each of these cards already has biometric data captured in terms of fingerprints and digital pictures. These cards already have a unique identifier with a 11-digit National Identification Number (NIN), which is uniquely the same on an individual National Identity and the individual driving license. The unique point about the NIN number is that the first six digits are the individual's date of birth, comprising Day, Month, and Year.
- Presently there is complete collaboration between the Ministry of Interior and various other departments engaged in the card production, the Department of Immigration, and the Gambian Police Force.
- It may be noted a Digital Birth certificate is already in place (Initiated last quarter of 2022) under the direct responsibility of the Ministry of Health, with its own serialization of certificate number by incorporating 10 digits on digitized birth certificate. However, it doesn't have a slot for NIN numbers for those just born or those below 18. The above shows no direct correlation and data synchronization between the Immigration Department and the Ministry of Health.

It must be noted that each of the entities responsible to produce these identification cards for Gambians and non-Gambians works directly with each other as need be with their internal processes of data protection and data collation. A tabular representation shows down of identification documentation valid in Gambia is given below.

Identification in Gambia	National Identification Number	Other Identification	Authority Responsible	Expiration Dates
National Identity Card	It is a 11 digital number with 6 digits representing the date of birth.	A department Number (DP) with nine digits and a Batch number of 5 digits	Department of Immigration	Valid for five years, then a renewal
Resident Permit (For ECOWAS and other Nationals residing in the Gambia)	A 12 digital number included is six digits representing the date of birth	A Resident Permit Number (RP) with nine digits	Department of Immigration	Renewed Yearly
Driving Licences	A 12 digital number included is six digits representing the date of birth	A driving Licences number of 9 digits	Gambia Police Force	Renewed Yearly

Identification in Gambia	National Identification Number	Other Identification	Authority Responsible	Expiration Dates
Digitized Birth Certificate (Initiated in the last quarter of 2022)	A 12 digital number included is six digits representing the date of birth (applies for those above 18 years)	A Birth certificate number of 10 digits	Ministry of Health	No Expiration Date

Table 1 of Identity documents in Gambia

## 1.1. Objectives of the Project

The National Digital ID system shall aim to improve access and delivery of public and private services to all citizens and residents of Gambia and to assist the Government in managing these services better. Transactions are expected to be online over time increasingly.

## 1.2. Project Benefits

The National Digital ID system shall aim to improve access and delivery of public and private services to all citizens and residents of Gambia and shall deliver the following benefits :

<b>Citizen Benefits</b>
<ol style="list-style-type: none"> <li>To provide a form of legal identity to those currently not having a valid Government ID document</li> <li>To improve access to electronic services like e-KYC/KYC and online real time authentication</li> <li>To increase the number of services received by the citizens. To improve the quality, reliability, and speed of services received</li> <li>To ease access to the formal banking and financial sector, promoting financial inclusion and mobile banking</li> </ol>
<b>Government Benefits</b>
<ol style="list-style-type: none"> <li>To provide a better overview of the Identity data of citizens, greatly improving Government planning and target subsidies to the needy citizens</li> <li>To reduce fraud, fake and duplicate identities; to stop leakage and improve efficiency and saving money.</li> <li>To reduce administrative costs by facilitating information sharing across different databases</li> <li>To improve the targeting of social programs using Digital Identity to identify those in need.</li> <li>To create a foundation for further E-Government initiatives</li> <li>To link different databases with the digital ID System and identify one digital ID for all functional databases,</li> </ol>
<b>Private Sector Benefits</b>
<ol style="list-style-type: none"> <li>To reduce administration and transaction costs to businesses in delivering services</li> <li>To reduce theft and fraud in customer verification procedures</li> <li>To reduce compliance costs, for industries offering financial payments, mobile technology, and healthcare services</li> <li>To reduce the carrying costs of holding, maintaining, and securing clients' data for identification</li> <li>To reduce time, money, and effort in business interactions with the Government</li> <li>To contribute to growth that benefits the broader economy with a "business-friendly" environment</li> </ol>

for companies.

Table 2: Objectives of Digital ID System

### 1.3. Key Stakeholders

The Gambia Digital ID ecosystem comprises various partners, including but not limited to Government departments, public and private bodies, owners of social service schemes, partner agencies, users, and business entities. These partners would interact with the Gambia Digital ID to register citizens and residents, utilize identity information, conduct authentication and other identification-based transactions, and support the ecosystem by effectively delivering services.

The Ecosystems partners for National Digital ID are the ones who can integrate the NIN numbers of the Registered citizens into their programs (referred to here as Service Provider) to leverage the benefits of Gambia digital ID. These benefits will accrue as soon as registration starts – in the form of deduplication of the existing databases and removal of fake/ghost identities, if any. In addition, benefits would be realized if NIN number and Digital ID-based authentication are integrated into the partners' existing systems to track and accurately deliver benefits to targeted citizens. Monitoring these systems by citizens and Government authorities will be more efficient and effective using digital ID-enabled online/mobile solutions.

A snapshot of the potential ecosystem partners of the Digital ID System of Gambia is given in the table below. The table below illustrates the partners interacting with the Digital ID System and the business use for each of the partners. The role of the identified ecosystem partner in the Digital ID project is as follows.

#	Entity / Partner	Description
1	Ministry of Communications & Digital Economy	The role of the Ministry of Communication and Digital Technology is to mentor the project and provide overall guidance and direction. The projects shall be owned by the Ministry of Communication & Digital Economy
2	Ministry of Interior	The Ministry of Interior shall continue to be the owner of the of the National ID Project and shall provide support by way of demographic and biometric data during the implementation of the Digital ID System of Gambia
3	Director General Immigration	The office of Director General Immigrations has a signification role. As the custodian of NIN database, the validations processes will be very important in the success of the Gambian Digital Program
4	Ministry of Local Government and Lands	Chiefs and Alkalos are under the Minstry at district or village level, and their role , is important when it comes to verification and issuance of birth certificates and fulfilling requirements obtaining national IDs.
4	Citizens	The most important stakeholder in the system. Citizens would receive the Digital ID and interact with the system in different ways – during Pre-registration using the Pre-registration application, during Registration Centres, during authentication as and when required by some Service Provider or User Agency, and finally, for ID lifecycle management. This partner category would essentially interact with the Digital ID System (DIDS)
5	Registration Officers	The Registration Officers would be responsible for the Registration of the citizens and residents who visit the Registration Centres (RCs) for registration. Registration Officers would be interacting with the DIDS for the Registration of citizens and residents using registration software.
6	Service Providers (SPs) including	The SPs would act as a gateway to the National Digital ID for the Gambia. All citizens and User Agencies wanting to avail of the authentication services shall avail of digital services through SPs.

#	Entity / Partner	Description
	Financial Services sector entities	
8	Telecom Companies:	Telecom companies are actively employing the Know-Your-Customer (KYC) norms for subscribers. One of the objectives of the National Digital ID project is to provide biometric authentication and e-KYC services. These services would be rolled out using various agencies, including Telecom Service Providers, and thus, Telecom companies play an important role in the National Digital ID Ecosystem.
9	Banks	As telecom companies are employing KYC services, banks in the Gambia are also envisaged to leverage the authentication services of National Digital ID for KYC. The banks could emerge as a significant ecosystem partner
10	System Integrator & Managed Service Provider (SIMSP)	The System Integrator would be a selected agency to implement the entire technology solution required under the National Digital ID Gambia project. This agency will play the most important role in operationalizing the project.

Table 3 of Stakeholders of Gambia Digital ID System

#### 1.4. Existing Laws and Regulations

A law for creating the DIDS, reflecting the strategy of the National Digital ID in the Data Privacy and Protection Law, will be required in Gambia. This law will also identify databases and registries where they must be regulated through law or Ministerial notifications. The use of IDs in physical or digital format as officially valid evidence of identity for Government and other transactions, including as e-KYC/KYC for financial transactions (banking, insurance, money remittances) will necessitate appropriate provisioning in the applicable rules. Any effective and long-lasting identity system puts the individual's rights and needs at the center of the overall system and processes. Privacy and security by design principles and robust enforcement mechanisms will be incorporated into the technical system and the rules governing every agency that is engaged with DIDS. The DIDS law will cover, amongst others:

- Robust data protection frameworks, including rules for limited data collection.
- Restrictions on access by Security Services/Police to data without judicial orders.
- User control over data and notice requirements.
- Inclusiveness, including user choice on whether to enrol or use a Digital ID
- Effective grievance redress mechanisms

## 1.5. Purpose ,Vision, Mission, and Values

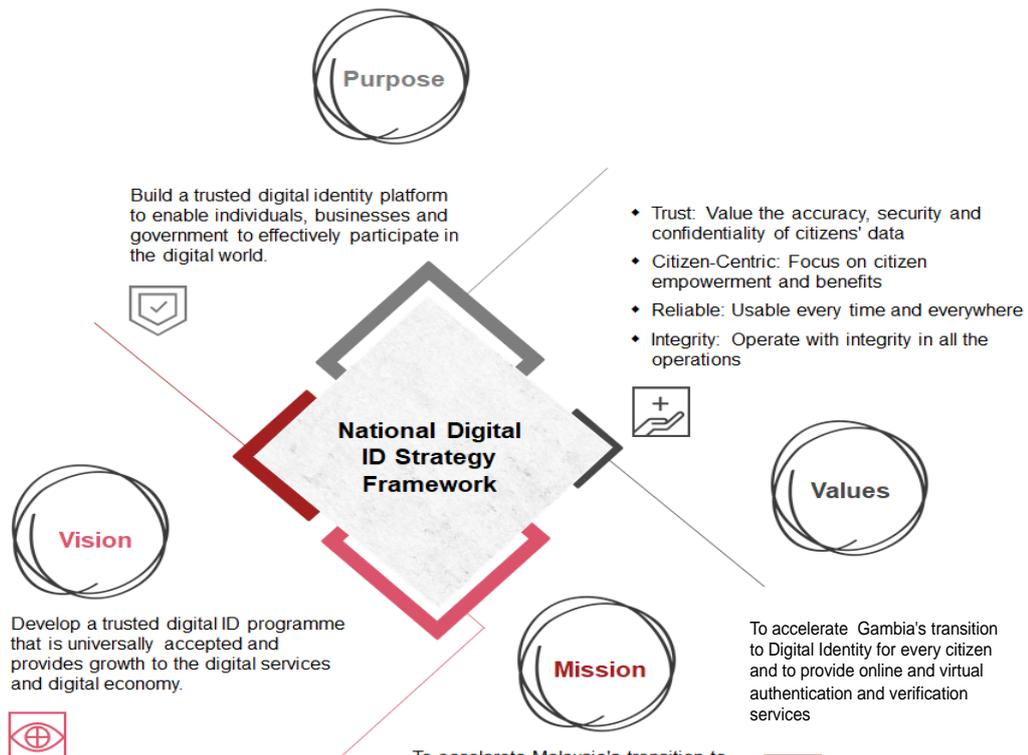


Figure 1: Vision, Mission, and Value Statement of Digital Identity System

### Purpose

**“Build a digital identity solution to enable Government, Citizens, and Businesses to participate in the digital economy effectively.”**

### Vision

**“Develop a trusted digital ID that is accepted universally and provides growth to the digital services and economy.”**

### Mission

**“To accelerate Gambia’s transition to digital identity for every citizen and resident to provide online, virtual, real-time authentication and verification services.”**

### Values / Principles

- ♦ **Trust: Value the accuracy, security, and confidentiality of Citizens data**
- ♦ **Citizen-Centric: Focus on citizen empowerment and benefits.**
- ♦ **Reliable: Usable every time and everywhere**
- ♦ **Integrity: Operate with Integrity in all the operations**

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## 2. Gambia Demographics & Socio-Economic Indicators

### 2.1. Census Data & Demographics

The details of the demographic data and target population for registration are given below to help estimate the Digital ID system volume requirements. Gambia is set to conduct a digital population and housing census in April, 2023. The 2023 Population and Housing Census (PHC) will be implemented by The Gambia Bureau of Statistics (GBoS) in collaboration with all relevant Government stakeholders, including development partners. The last population and housing census was conducted in April 2013. The Population and Housing Census is conducted every ten years in Gambia.

### 2.2. Demographic Data of Gambia<sup>2</sup>

### 2.3. Key Demographic and Socio-Economic Indicators

This section deals with the various sources employed to carry out the volume analysis, which feeds into various components of the Digital ID implementation strategy. The data, as seen from various sources, and DIDS volume calculations and estimations are given below:

- **Gambia Labour Force Survey (GLFS), 2018:** This source provided the details of the existing population and projected. As per the report, the population in 2018 was 2.33 million.
- **Projection of the Urban and Rural Population of the Region, 2018:** This source provided information about the population living in urban and rural areas within different regions.
- **Incremental Birth rate:** This source provided information about the birth rate, which was 2.36 in 2018.

This section details the potential registration volumes for the registration program.

The total population of Gambia, as per GLFS data of 2018, stands at 2.33 million. Considering the birth rate, the population at the end of the year 2022 is estimated to be 2.50 million, and at the end of the year 2030 is estimated to be 3.14 million.

It is estimated that 80% of the population will be registered during the program's initial phase. The balance of 20 % of the population will also be covered, but the same can be done using the resources already deployed for the coverage of 80 % of the population. Considering this, the total Registration volume in Phase -I of the program works out to 2,050,896. In addition to the above registration volumes, the continuous registration of the annual increments in the population will also be required to be considered in the volume estimations for registration.

It is proposed that a registration strategy would be prepared whereby the Registration Centres would be set up (RCs), the locations of which can be publicized so that the citizens become aware of the Registration facility in these centers. These centers will need to be equipped with Registration Kits.

In addition to the current population, it is vital to register the new-born and deactivate the IDs of the deceased. Moreover, it will also be essential to capture the biometrics of children first at the age of 5, when biometrics become mature enough to be recorded, and then later at the age of 18, when the biometric profile becomes permanent. In addition, the citizens may want to update their demographics, such as mobile number, address, etc., in the record. The estimated annual volume of such transactions should also be considered.

#	Population Parameter	Unit	Population (unit = person)
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<sup>2</sup> Source: Gambia Labour Force Survey (GLFS), 2018

A.	Total Population	In the year 2018, GFLS data	2,335,504
B.	Current population by the end of 2022	Applying the annual birth rate 2.36 %	2,504,791
C.	The target population for registration	80 % of the current population by the end of the year 2023	2,003,791
D.	Rural population in %	36 % of the current population by 2022	901,724
E.	Urban Population in %	64 % of the current population in 2022	1,603,067
F.	Total projected population by the end of 2030 <sup>3</sup>	Using the annual birth rate of 2.36 %	3,018,657

Table 4: Demographic data Gambia

## 2.4. Workload Indicators

The table below provides an overview of the volumes and throughput requirements of the Biometric Solution deployed by the implementing agency. It also shows the accuracy and performance criteria for deduplication and authentication systems.

#	Item	Volume	Unit
1	Biometric Solution - ABIS throughput required – packets processing in 24 hrs.	3125	Per day
2	Peak ABIS throughput required	6250	Per day
3	The total size of the registration data packets	1,50,00,000	MB
4	Total raw image database size	15	TB
5	ABIS gallery size	14648	GB
6	Response Time – Registration request from ABIS	Max 24 hrs.	No daily backlog

Table 5: Biometric Volume and Performance Criteria

## 2.5. Estimated Authentication Volumes

The estimated volumes of authentication services are provided in the table below. Post-completion of registration, the authentication services, and the corresponding authentication volumes would start growing. In the beginning, it is estimated that 10% of the total population of Gambia would use authentication services. The estimates of authentication transactions are given below:

#	Item	Qty	Units
1	Auth Transactions/Person/Month	10	Number

<sup>3</sup> Annual Birth rate is considered as 2.36 % per annum.

2	Population Using Auth every month	10	%
3	Auth Volume/Day	2,50,000	Number
4	Auth Volume/Month	75,00,000	
5	Auth Volume/Year - Individuals	90	Millions
6	Auth Volume/Year - Institutions	90	Millions
7	Total Auth Volume Required/year	180	
8	Auth Volumes/Day	0.5	Million
9	Auth Volumes/Sec	13.89	
10	Auth Response Time	0.5	Seconds
11	Auth Packet Size	20	KB

Table 6 : Estimates of Authentication volumes

### 3. Gambia Digital Landscape

In line with the high-level NDP vision, a new ICT policy was developed that articulates strategic objectives pertaining to public digital platforms, a high priority for the GoTG. The Gambia ICT for Development (ICT4D) Policy Statement 2018–2028 fully recognizes the country’s digital transformation aspirations. The policy's main purpose is to reinforce the GoTG's priorities set in the NDP, particularly the fifth objective to “Make Gambia a Digital Nation and create a modern information society” by harnessing the benefits of ICT in all economic sectors. ICT4D is a clear Government-wide IT policy, and MOCDE is mandated to implement and enforce it. Strengthened e-Government is considered central, as it can help the GoTG achieve its high-level national targets:

- Revenue generation of 20 percent of GDP.
- At least 80 percent of financial transactions (budget execution and payments) are captured within the Integrated Financial Management Information System (IFMIS).
- at least 75 percent of citizens and residents registered in the National Biometric ID database,
- The objectives cover connectivity for Government, citizen-based services, and the use of ICT for inclusion and skills development while underscoring transparency and sound public sector governance through the expanded application of digital technologies.

Key elements of the policy environment for digital public platforms are as follows.

Key Policy Initiatives		
E-Government Strategy 2021–2024	ICT4D Policy Statement 2018–2028	Information and Communications Act 2009
Universal Access and Service Policy 20	Development of a Digital Economy Master Plan currently supported by the EU;	Second backup Submarine cable to support the only existing ACE cable
Development of E-Governance systems and Platforms	Introduction of National ID Systems.	Establishment of Tier 3 National Datacentre,

Table 7: Table of policy initiatives

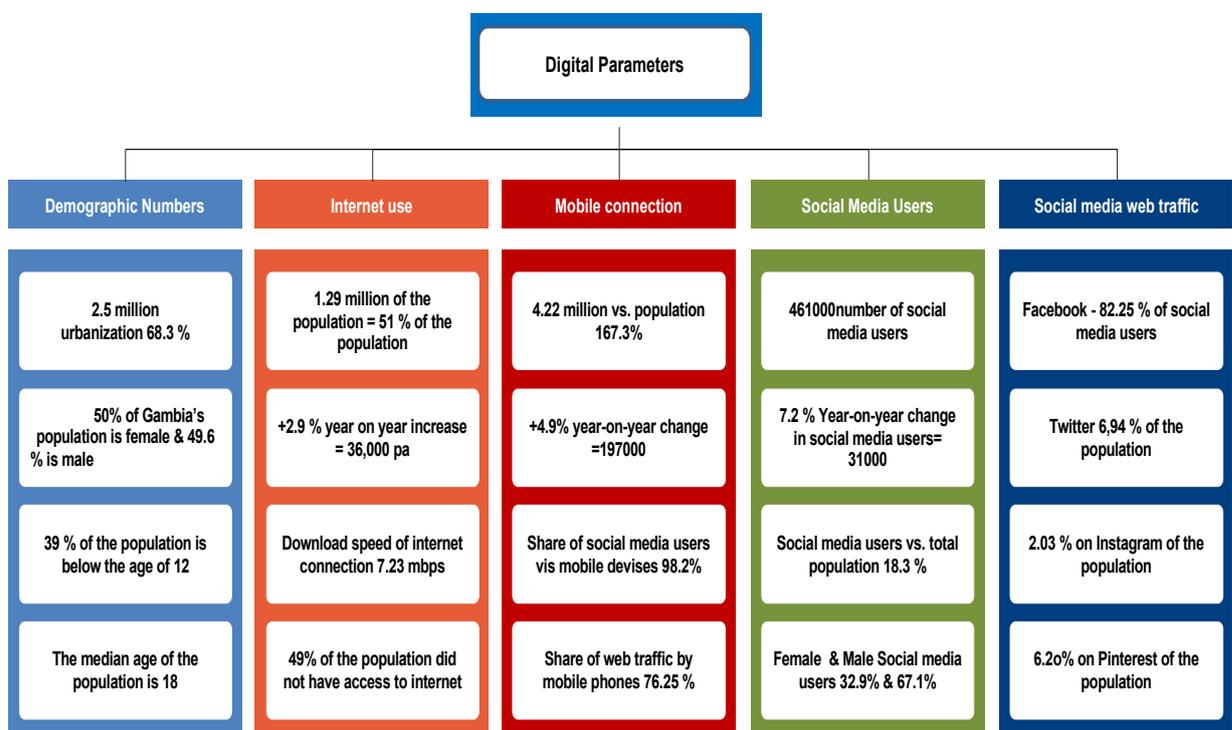
As a result of these initiatives, Gambia has witnessed a higher broadband penetration rate in the country. The penetration rate for broadband has been increasing over the last few years. The growth in mobile

broadband is attributed to various reasons, including easy access and affordability of mobile broadband connectivity.

### 3.1. Digital Parameters of Gambia<sup>4</sup>

The country's digital index comprises the ratio of mobile connections/ internet usage/ active social media users in a country's total population. In the context of Gambia, it is observed that out of the total population of 2.33 million, the penetration of mobile connections at the start of 2022 is more than 4.22 million / 167 % of the total population.

In other words, several households or individual residents have more than one mobile connection. On the other hand, the internet user base is 51 % of the total population, with an extensive active base of social media users. This indicates that the Gambia residents are familiar with mobile technology and broadband. Hence, this indicates that the e-Government services in the G2C and G2B sectors can be rolled out efficiently.



**Figure 2: Digital Parameters of Gambia**

An interesting point to be noted in the digital score of Gambia is the increase in the number of internet users every year. The figures show a consistent rise in the percentage of internet users in Gambia. On an annual basis, there is an increase of over 3% in the number of internet users, which amounts to over 36 thousand residents in the country. This trend indicates that over a period, a very large segment of the population will be using the internet in one way or the other.

Further analysis of the data shows that a very large percentage of the residents are using mobile connections. Out of these mobile connections of over 4.22 million show that mobile connection penetration is almost 167 % of the population. The design of the e-Government service systems must consider these data inputs while designing the systems for the G2C and G2B services. There are four Mobile Network Operators (MNOs) in The Gambian market: **GAMCEL** (State Owned), **AFRICELL** (foreign investor-owned), **COMIUM** (foreign investor-owned), and **QCELL** (owned

<sup>4</sup> <https://datareportal.com/reports/digital-2022-gambia>

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by a Gambian). Mobile network connectivity is one of the key inputs in considering the development e-Government sector for a country. In Gambia, the broadband network, the mobile infrastructure, and the associated connectivity, both for data and voice, shows that the ground situation is appropriate for the launch of the Digital ID for Gambia.

## 4. The National ID of Gambia

This section describes the current Gambian National ID card and the Gambian national passport, including their respective issuance. It also describes the birth registration and provides details of the Gambian identity documents in general. The details are based on open-source secondary and tertiary information. Different versions of the Gambia national identity cards that have been issued so far.

- At least three types of identity cards have been an issue during the last 15 years: an identity card without a chip and two cards with a chip, where the newest version with a chip is called the biometric ID card.
- The version of the identity card without a chip was issued up to 2009 when it was substituted by an identity card with a chip. The identity card with a chip was issued between 2009 and up to mid/late 2015, when the issuance was stopped.
- The first identity card bearing a chip issued between 2009 and 2015 contained a photo, a thumbprint, an encoded chip, name, the citizen address and signature, and an 11-digit National Identification Number (NIN). The first six digits of the NIN are the cardholder's date of birth, and the following digits are a series of random numbers. In October 2018, the issuance of the new biometric ID card was initiated.

Application procedure for the identity card

- Gambian citizens over the age of 18 are always required to carry an identity card.
- The Gambian Immigration Department issues the identity card. To apply for a National Identity Card, Gambian citizens must apply form along with a birth certificate or any other old identity document such as a passport, a voter's card, a registration/naturalization card, or, in the alternative, an attestation issued by the chief of the district (Seyfo) or the village (Alkalo). A police report shall be attached to the application if the previous card is lost or stolen.
- The application fee for the biometric ID cards is 450 dalasis (approximately 11.65 USD).
- The new biometric card, issued in October 2018, has improved security features, and contains, in addition to the information mentioned above, a chip that stores a citizens ten fingerprints.

Gambian National passport

- In 2017, two passports were circulated: a machine-readable passport and a biometric passport.
- The Gambian machine-readable passport was issued between 2002 and 2014. The price of a standard national passport was 1,000 dalasis (approximately 20 USD).

The authority responsible for issuing Gambian national passports is the Immigration Department.

### 4.1. Identity Landscape of Gambia

A company Semlex Europe SA, Brussels, Belgium, has a contract with the Government of Gambia for implementing the Semlex biometric system for the purpose of the reliable identification of persons living in the Republic of The Gambia. That the project implementation is taken up in the form of an investment by Semlex on a PPP basis in the ratio of 70:30 (where Semlex's share is 70%), with Semlex operating the project in the Gambia and creating the conditions necessary for such operations to run smoothly.

Semlex undertakes, as part of the necessary ongoing investments, to implement all hardware and software resources, build its team, and carry out the supervision and training of the officials involved in the project.

The project consists of three dimensions:

- Production of National ID cards, Driving License, Visa Stickers Resident Permit using biometrics for identification and authentication. This list can be amended with the written consent of the Government.
- Implementation of national databases used to register the persons concerned. Implementation of landed border control systems
- Semlex, at its own expense, upgrades, if need be, the facilities necessary for a normal state of operation and maintenance, considering their nature and use

The Government has the right to access and inspect the infrastructure for verification prior to the transfer. Upon the conduct of the system audit and verification, the Government has also the right to request an upgrade of the infrastructure to a normal state of operations from Semlex. The Government and Semlex may also enter into an agreement on maintenance, updated technical assistance, and training, thereby facilitating the Government's management of the transferred infrastructure and ensuring the continuity of operations relating to the databases and preparation. production and issuing of IDs and other documents.

## 4.2. Digital Identity - Diagnostic Summary: Findings

Key challenges with the current state of identity management in Gambia underscore the need for change across Government and businesses. Some of the key challenges are:

- **Duplication of Effort:** Every service provider from both the public and private sectors is following their own ID system to serve their own customers.
- **User Experience:** Citizens are asked to prove who they are in many ways and experience different identity journeys, dealing with multiple usernames and passwords, sometimes with low trust in the security of their online identities and privacy.
- **Restricted Growth:** Unable to move high assurance services online without a secure and easy-to-use method to prove identity.
- **Potential for misuse:** Stronger identity and authentication reduce the opportunity for misuse, fraudulent activity, and identity theft.
- Lack of online authentication & verification:
- **Multi-Channel Scenario:** Citizens expect better access to services through more channels (e.g., online, and mobile). There is a need for strong verification of customer's identity for online transactions to improve trust.

## 4.3. Strengths / Challenges in Current Identity Systems

Limitations	Strengths
Multiple functional identity systems based on specific use cases	Familiarity with handling of the biometric profile and deduplication of a large segment of population.
Proliferation of identity numbers	Legacy knowledge of enabling transactions across some functional databases
Strong functional identity databases, but non-transactional	Citizens have good accessibility of the identity systems
Identity verification mostly through physical means	Presence of an organisation structure to run multiple identity programs at the national scale

Limitations	Strengths
Different costs for obtaining multiple functional identity cards like passport, Driving License	Disbursements of benefits are made by the government using functional IDs
In many functional ID programs Biometric enrolment and 1 : N matching is not done before issuing ID numbers,	Historical knowledge and experience of managing identity systems
The primary identity program NIN may be using a proprietary biometric template <sup>5</sup>	Presence of established law, rules, and regulations for issuance of National ID card

**Table 8** : The strengths / challenges of the current system

#### 4.4. Gambia Digital ID Development

The emergence of digital technologies and the growing needs of citizens are changing how they interact with the Government and businesses. Aspirations to transact online, in real-time, through multi-channels with ease and convenience are transforming the traditional systems to advanced digital platforms. This results in need for identification in the digital world. Hence, the Government of Gambia is keen to develop a National Digital Identity platform to provide a verifiable trust platform for the digital world. The National Digital Identity platform shall address the current limitation of the traditional identity ecosystem and provide a digital platform to enhance user experience and privacy, reduce identity thefts, and provide a cost-effective way to identify and participate in the digital world. This platform shall be the foundation to creating a digital society.

The National Digital Identity platform is envisaged to play an enabling role in delivering digital services and it shall be a source of trusted and reliable identity information for the citizens and residents. The National Digital Identity will also provide a foundation for enablement platforms like digital payments, digital lockers, electronic KYC, digital signatures, etc., that shall work effectively to deliver commercial and public services to individuals, businesses, and Government.

#### 4.5. Socio-economic benefits of Digital ID

Some studies estimate that the benefits of Digital ID to the economy are 1-3% of real GDP over a period. The projected impact is within the estimated range for countries such as India, Canada, and Estonia. A notable difference can be found in the Estonian adoption of Digital ID. This could be attributed to the extensiveness of its e-Government services. These include the use for voting, as a legal form of travel identity within the EU, and for e-prescriptions in the healthcare sector. The following table summarises the benefits of Digital ID into four main components.

The following table summarises the benefits of Digital ID into four main components:

Stakeholder	Component	Benefit/ use case	Example
Citizens	<b>Increased efficiency of identification systems</b>	– A secure Digital ID improves the ability of citizens to identify themselves. This is critical to identity-linked services	– Healthcare practitioners, with access to patients' complete medical history, will be able to improve the quality of patient care and experience through a

<sup>5</sup> World Bank ID Report on Morocco 2014

Stakeholder	Component	Benefit/ use case	Example
		<p>where accurate identification is key to the successful delivery.</p> <ul style="list-style-type: none"> <li>- Digital ID would minimize the likelihood of identification errors being made, thus improving the experiences of citizens with identity-based products.</li> </ul>	<p>reduction in duplicate diagnostic testing and misdiagnosis errors.</p>
Government & Businesses	<b>Increased efficiency of identification systems</b>	<ul style="list-style-type: none"> <li>- A secure digital ID enhances efficiencies related to records management and reporting.</li> <li>- Interoperability or integration between identification systems with sufficient coverage can reduce or eliminate redundant identification attempts. This could lead to economies of scale for data management.</li> </ul>	<ul style="list-style-type: none"> <li>- Reduction in redundant systems dedicated to maintaining identity databases for customers (e.g., banks, private hospitals, and e-hailing firms).</li> <li>- With an up-to-date population register that is linked with social and economic databases, Digital ID reduces the need for constant management and updating of citizen data between Ministries</li> </ul>
Government & Businesses	<b>Reductions in operating costs for institutions</b>	<ul style="list-style-type: none"> <li>- Digital ID would facilitate a decrease in the per capita cost of identity-related transactions for identity providers and businesses that rely on verification.</li> <li>- The transaction costs are directly lowered through a reduction in staff time and resources needed for manual identity verification, and authentication</li> </ul>	<ul style="list-style-type: none"> <li>- Direct savings are primarily from a reduction in staff time and other costs (e.g., cost of printing, postage, and telephone calls), which are needed for identity-related transactions. This will reduce the per-capita costs for e-KYC checks for financial institutions and verification.</li> <li>- A secure national Digital ID could also indirectly reduce transaction costs via further expansion of e-Government or self-service portals for businesses.</li> </ul>
Citizens	<b>Time-saving benefits</b>	<ul style="list-style-type: none"> <li>- Manual processes to conduct identity validation and authentication lead to slower access to services.</li> <li>- Physical interactions with Government and business service desks are time-consuming.</li> </ul>	<ul style="list-style-type: none"> <li>- Time spent on account opening and authentication/verification at various points of the consumer's lifecycle at banks/online services could be minimized.</li> </ul>

Stakeholder	Component	Benefit/ use case	Example
		<ul style="list-style-type: none"> <li>- The repetitive authentication and verification processes could be minimized with a secure digital identity.</li> </ul>	<ul style="list-style-type: none"> <li>- Time spent in confirming identity for Government services that are done manually is minimized (e.g., e-tax filing, paying summons, and bills).</li> </ul>
Government	<b>Reduction in fraud</b>	<ul style="list-style-type: none"> <li>- A more robust identity authentication process will result in significant financial savings from a reduction in multiple or incorrect enrolments.</li> <li>- Digital ID allows for better identification of ineligible beneficiaries who do not meet the eligibility criteria of welfare programs.</li> </ul>	<ul style="list-style-type: none"> <li>- This involves linking the Government welfare system to a digital identification system to disburse welfare benefits. For example, in India, Aadhar numbers were used in combination with biometric data to verify recipients of the direct benefit transfer system.</li> </ul>
Businesses		<ul style="list-style-type: none"> <li>- Physical identity documents can be easily falsified, lost, or stolen.</li> <li>- A strong identity system prevents important user information from being overexposed, lost, or stolen. It also provides businesses the ability to accurately gauge customer fraud risk.</li> </ul>	<ul style="list-style-type: none"> <li>- Digital ID allows businesses to minimize the number of losses to fraud and other identity-linked economic crimes by allowing businesses to avoid redress costs when they or their customers are defrauded.</li> <li>- Digital ID also allows businesses to accurately gauge customer fraud risk. This can mitigate fraud at the point of transaction to prevent fraud losses.</li> </ul>

**Table 9 Benefits of Digital ID Systems**

## 5. Financial Analysis

One of the essential activities of project planning is the determination of the financial cost of the project.

This section provides detailed financial estimates for the project costing.

### 5.1. Project Cost Components

Identifying the key components affecting the project to determine the cost is imperative. Thus, as a first step towards cost estimation, the critical cost components and their sub-components have been identified.

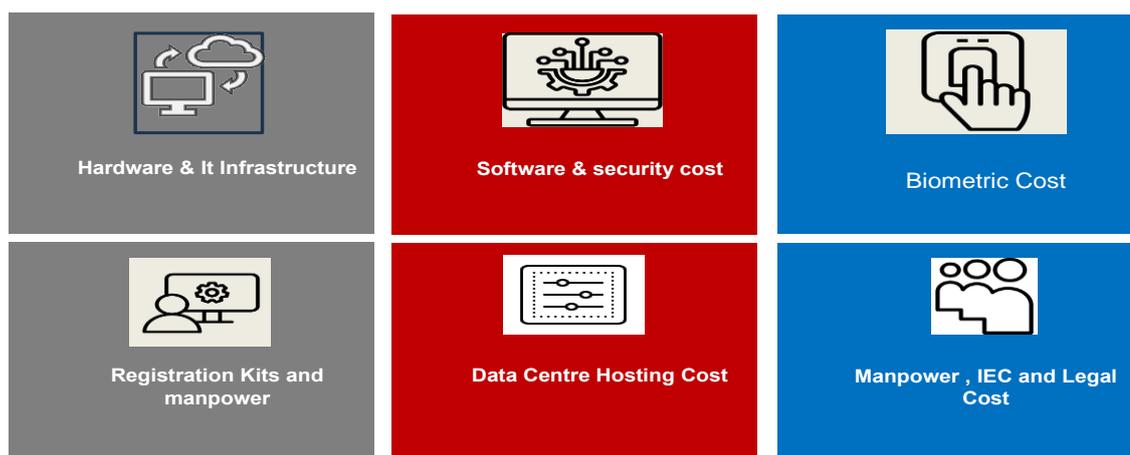


Figure 3 - Project Cost Components

## 5.2. Summary Cost

The total project cost of the National Digital ID of Gambia works out to USD 22.24 million. A summary of the overall cost of the project and component level break up is given below in the table.

Item	Capx						Total		
	2025	2026	2027	2028	2029	20230	Capex	Opex	Overall
Hardware Cost	16,63,750	-	1,66,375	1,66,375	1,66,375	1,66,375	16,63,750	6,65,500	23,29,250
Software Cost	1,83,797	2,03,701	2,40,460	2,40,460	2,40,460	2,40,460	1,83,797	11,65,541	13,49,338
Biometric Cost	9,00,000	5,76,396	6,98,063	4,46,969	2,90,789	2,92,775	9,00,000	23,04,992	32,04,992
Security Cost	10,03,466	-	1,61,833	1,61,833	1,61,833	1,61,833	10,03,466	6,47,332	16,50,798
Registration Kit Cost	4,00,200	2,46,731	2,79,062	2,27,095	1,93,834	1,94,579	4,00,200	11,41,301	15,41,501
Registration Manpower Cost	1,05,000	5,55,000	5,40,000	5,40,000	5,40,000	5,40,000	1,05,000	27,15,000	28,20,000
Data Centre Cost	-	3,74,208	3,74,208	3,74,208	3,74,208	3,74,208	-	18,71,040	18,71,040
Implementing Agency Cost	9,77,700	5,51,700	5,51,700	3,06,600	3,06,600	3,06,600	9,77,700	20,23,200	30,00,900
MOCDE Human Resources Cost	-	2,79,990	2,74,500	2,74,500	2,74,500	2,74,500	-	13,77,990	13,77,990
Legal, IEC, Capacity Building Cost	1,27,500	1,02,750	88,688	18,688	18,688	18,688	1,27,500	2,47,502	3,75,002
Cost levy	53,614	28,905	33,749	27,567	25,673	25,700	53,614	1,41,594	1,95,208
Total (in USD)	54,15,027	29,19,381	34,08,638	27,84,295	25,92,960	25,95,718	54,15,027	1,43,00,992	1,97,16,019
<b>Admin cost @13</b>									<b>25,26,976</b>
<b>Total Cost in USD</b>									<b>2,22,42,995</b>

Table 10 – Cost Summary

## 5.3. Component I – Hardware & IT Infrastructure

The first component of the project cost is Data Centre Infrastructure. This component relates to all aspects of technology infrastructure at the Data Centre. The description of the sub-components within the technology component is given below:

- **Servers:** The cost related to the servers, chassis, and server racks are covered under this item.
- **Storage:** The cost related to the storage, tape library, and storage racks is covered under this item.
- **Network and Security:** The cost related to the network equipment, storage equipment, and associated racks are covered under this item.

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## 5.4. Component II – Software and Security Component cost

The project aims to create an identification service platform containing various software such as Registration, Identity Management Systems, customer relationship management, authentication, and document management systems. The cost related to the software includes the cost of licenses and annual maintenance support. The second component of the project cost is software. The description of the sub-components within the software component is given below:

- **System Software:** The cost related to licenses and maintenance of system software.
- **Application Software:** The cost of licenses for the software related to core and support applications.
- **Security Software:** The cost of licenses for the software related to security.

## 5.5. Component VI – Biometric Deduplication

To create a repository of unique individuals, the deduplication will be required on demographic and biometric details of individuals to ensure that no person gets two Digital IDs&&

## 5.6. Component V – Registration Kits and Registration Manpower Costs

This component relates to all aspects of registration, such as the Registration Kit, registration application form, and officers. The description of the sub-components within the Field Infrastructure and Operations component is given below:

- **Registration Kit:** To perform the registration, the kits are required, which contain items such as laptop/desktop, biometric capture devices, mobile phones/ Tablets / Handheld devices peripherals, etc. The cost under these items includes the cost of supply, installation, warranty, and maintenance.
- **Bandwidth:** The Registration Centres will be connected to the Data Centre and Disaster Recovery site through the internet. The cost of bandwidth will be considered under these items.
- **Authentication Devices:** The cost of fingerprint and iris capture devices for authentication services during the pilot is considered under this item.

## 5.7. Component III – MOCDE Human Resources , IEC and Legal Cost

The project will require services during its entire lifecycle, i.e., during and after implementation. The cost in respect to services related to implementation services and operations and maintenance services will form part of this item. The description of the sub-components within the services component is given below:

- **SI Services:** The manpower cost related to implementation and maintenance to be carried out by a third-party agency.
- **Operations and Management Services:** The manpower cost related to post-implementation operations, i.e., call center, security operations, network operations, IT helpdesk, etc., are covered under this item.
- **Security:** The manpower cost related to security operations is covered under this item.

## 5.8. Component IV – Data Centre Network and Power

The Data Centres will require network connectivity to the internet and connectivity to each other (DC-DR). In addition, the data centers consume electricity during their operations. The network bandwidth

and electricity cost will form part of this item. The description of the sub-components within this component is given below:

## 6. Implementation Approach

### 6.1. Governance Models

The success of the Gambian Digital ID will depend to a great extent on the organization which manages it. National ID project activities are currently managed by the office of the Director General, Immigration Department, under the Minister of Interior, along with the technology provider Semelx. The governance model of the National Digital ID program brings out the Government's role in the National Digital ID Program. There are no pre-defined criteria for the governance model of an identity program, and its construct depends on numerous local factors. The Governance of any digital identity program is highly critical, and its success depends on the Government's role.

Three governance models are primarily prevalent across the National ID Programs. These are:

1. **Government as a Regulator:** In this model, the Government acts as a Regulator and is not involved in other identity services. In the role of Regulator, the Government performs a number of roles and responsibilities of a Regulator.
2. **Government as a Regulator and an Identity Provider:** In this model, the Government is at the forefront of the digital identity program as it acts as a Regulator and an Identity Provider. The responsibilities of the Government are manifold in this case.
3. **Government as a Regulator and an Identity Broker / Clearing House:** In this model, the Government acts not only as a Regulator but also as an identity broker or clearing house. Hence, the Identity Providers conduct identity management operations, and the Government only acts as an intermediary.

In the context of Gambia and considering the small volumes, the appropriate model would be for the **Government to act as the Regulator and Identity Provider**. A key rationale for selecting this model are as follows:

- The Government has the necessary experience and expertise to run a National ID Program.
- In Gambia's context and considering the existing regulatory framework, the Department of Immigration has been the authority to regulate and provide National IDs.
- Government ministries, departments, and private sector entities shall act as service providers and leverage Digital IDs authentication and verification services.



**Government shall act as  
the Regulator and Identity  
Provider**

### 6.2. Governance Framework

The governance framework is designed to ensure that individuals within an organization and the organization as a whole operate within the overall strategic direction set out for it, ensuring accountability for actions and decisions made by individuals. In a program such as the National Digital Identity, there is an 'added layer' of accountability by its receipt and use of public resources to attain its purpose and have enhanced planning, reporting, and disclosure obligations under the overall scheme.

### 6.3. Key Tenets of the Governance Framework

A Governance framework is an important component in the project as it influences the objectives of the project and its achievements. An effective governance framework ensures that the various stakeholders clearly understand and oversee the project objectives, performance, risk appetite, and reporting

requirements. The basic tenets of the governance framework are (i) Responsibility and Accountability (ii) Design and reporting Structure (iii) Cross Department Representation (iv) Coordination

A brief explanation of the Governance Framework is given below:

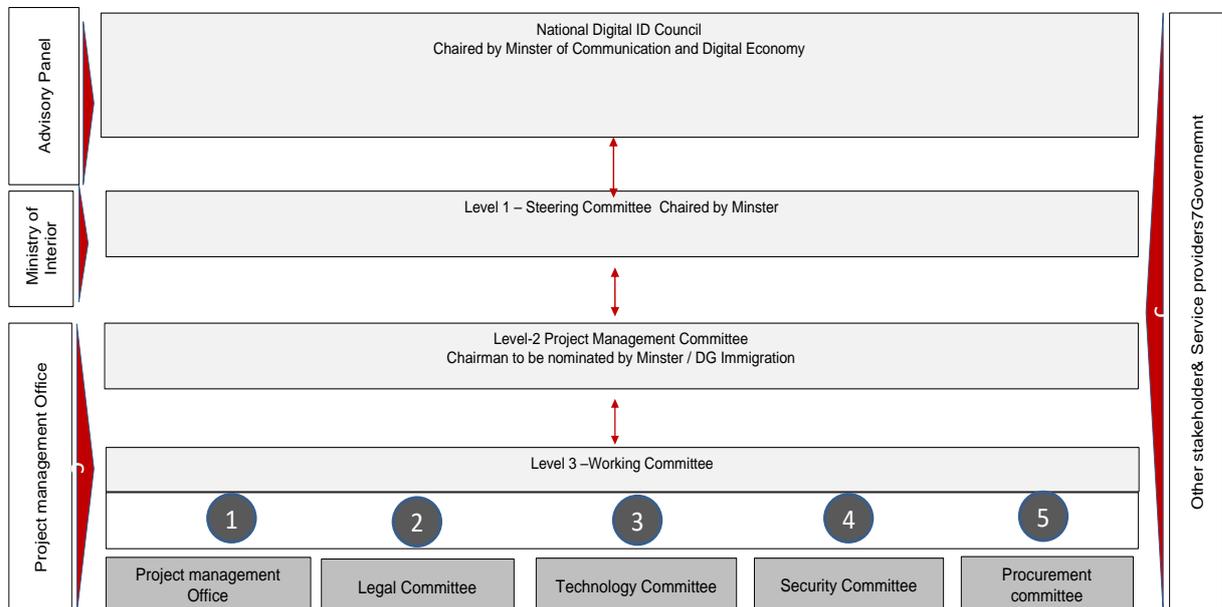


Figure 4 : Governance Framework

**MOCDE** : The strategic position of MOCDE has been identified under the Governance Structure / Framework of this strategy. The role of the MOCDE is briefly defined as under ;

Ensure rollout of Nation Digital ID Program

Program Monitoring

Arrangement of funds for the program

Coordination with other ministries

Release the regulations, notifications, circulars and guidelines in relation to the legal framework for National Digital ID program

Program design and implementation

### **National Digital ID (NDID) Council**

The National Digital ID Council will address matters of key policies referred by the Steering Committee in relation to the National Digital ID program. It will provide guidance or make decisions. The National Digital ID Council shall comprise representatives from key ministries (preferably stakeholders) and Regulators (in charge of sector adoption). The Minister as Chairman will head the Council.

### **Steering Committee**

Steering Committee shall be responsible for deliberating, monitoring, and making decisions on key strategic issues related to the project to ensure the achievement of the vision, mission, and objectives of the National Digital ID Program. It is recommended that a DG level officer shall head the Steering Committee and comprised of the members of various Departments and Ministries.

### **Project Management Committee**

Project Management Committee shall be responsible for meeting the goals of the implementation roadmap, KPIs, and targets to ensure the timely implementation of the National Digital ID program.

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**Working Committee** Working Committees shall be responsible for the day-to-day management of projects in their respective areas and provide direction to personnel involved in the National Digital ID program.

## **6.4. Legal and Institutional Requirements**

Every citizen has the right to access personal data stored in a computer system or entered into mechanical or manual records regarding him or her. The law shall determine the concept of personal data and the conditions applicable to the processing thereof. Processing personal data, political and philosophical convictions, religious faith, party or trade union membership, and ethical origin without the interested person's consent would be prohibited.

To specify these rights, it would be essential to approve a Data Privacy and Protection Law and to establish its implementation and supervisory mechanisms.

### **6.4.1. Strengthen the Legal Environment for the Digital ID of Gambia.**

The need for a legal and regulatory framework to effectively implement the national digital identity program is indisputable. Such framework shall provide for issuing a Government-recognized digital identity and other matters relating to the digital identity. Further, existing regulations that facilitate the implementation of the digital identity and sector-specific regulations and guidelines may also need to be amended to ensure existing legal restrictions and hindrances in the implementation of the national digital identity program are overcome. Specifically, it would be necessary to:

- Issue a new set of regulations under the NRA i.e., the Digital ID Regulations, to give legal backing to issuing a government-recognized digital identity. The Digital ID Regulations should set out matters relating to digital identity, such as eligibility for digital identity, the establishment of an DIDS platform, personal data protection, offenses, and others.
- Amend the existing law to allow for the collection of additional biometric information and to allow the collection of children's information from the age of 5 and demographic data at the time of birth.
- Issue regulations to provide for specific data protection requirements that apply to collecting and processing personal data in the context of digital identity.
- Amend various sector-specific laws, regulations, and guidelines to allow for the adoption of digital identity for authentication or eKYC or for data exchange purposes.

A law for creating the Digital system may be required. This law will also identify databases and registries requiring a change in cases regulated through law or Ministerial notification. The use of NIN in physical or digital format as officially valid evidence of identity for Government and other transactions, including as KYC for financial transactions (banking, insurance, money remittances) will necessitate appropriate provisioning in the applicable rules. Any effective and long-lasting identity system puts the individual's rights and needs at the center of the overall system and processes. Privacy and security by design principles and robust enforcement mechanisms will be incorporated in the technical system and the rules governing every agency involved.

## **6.5. Standards and Interoperability**

Standards will be critical in developing robust, interoperable, and vendor-neutral systems in the National Digital Identity Strategy. Some of the key standards of interoperability have primarily to be considered from the National Institute of Standards and Technology (NIST), the United States, the International Telecommunication Union (ITU), and the International Organization for Standards (ISO). Standards and ranking reports of these institutions /agencies are available in the public domain. Many other agencies working in the field of identity landscape, like the World Bank and UNICEF, have also prescribed standards for demographic data capture, Civil Registration Vital Statistics (CRVS), data exchange, and metadata standards.

Standards are applicable at two levels. At the time of capturing demographic and biometric data and for disseminating information from the Digital Platform. Another aspect of the standards is providing adequate security to the information data by providing adequate assurance for the transactions. ISO standard 29115 defines the level of assurance from LOA - Level of Assurance based on various combinations of authentication and verification factors. The level of assurance primarily depends on the transaction's importance at the time, the value associated with the transaction, and the service provider's requirement. In other words, it would be right to say that service providers would ideally define their transactions and the assurance level requirements. The National Digital ID System design will incorporate and provide features to accommodate all transactions, ranging from LOA1 to LOA4.

## 6.6. Technology Landscape for Gambia Digital ID

**Technology Landscape in Digital Identity:** Technology forms the backbone of any national digital identity system, whether a completely new system is being built or it is being built on the existing functional IDs. Technology choices and issues pertaining to technology selection continue to be critical decisions to be taken for National Digital Identity Strategy.

Innovation in the technologies related to ID systems is happening at a very fast pace. Hence, prior to designing the National Digital Identity Program, it is essential to review the technology landscape and assess the technologies that could potentially be used in the National Digital Identity Program. This section provides a detailed analysis of the technology landscape for digital identity.

While discussing the various technologies, the digital identity lifecycle has been considered right from the time of registration till the ID is deactivated or removed. While some of the technologies mentioned below have been in use for some time and are easy to use or affordable. Some other technologies are relatively new, complex, and costly.

Although futuristic technology is state of the art, it still must find its use in large-scale deployment or enterprise-level identity programs. However, these technologies are being used in specialized Identity programs like high-end military establishments or in crime and criminal networking systems.

The table below provides a snapshot of the prevalent and emerging technologies in the digital identity landscape, and these are finding applications in their various domains. A table of broad categories of technologies used in Digital ID Systems is given below.

S. No.	Technology	Modalities
1.	Biometrics	Fingerprints, Iris, Face, Voice, Vascular, Behaviour, Ear, and DNA
2.	ID and Smart Cards	Contact smart cards, Contactless smart cards, RFID non-smart cards, Biometric system on cards, and non-electronic cards
3.	ID cards technology	Bar code, QR, Magnetic Stripe, Machine-readable text, and physical security features
4.	Mobile	One-Time Password, Smart-ID, Cryptographic SIM, Authenticator mobile app, Mobile Connect, and Trusted Platform Module
5.	Authentication & Verification	Blockchain, SAML, FIDO Universal Authentication Framework, FIDO Universal Second Factor, OAuth 2.0, and OpenID Connect
6.	AI & Advanced Analytics	Risk Analytics, Predictive Analytics, Business and Operational Analytics, Robotic Process Automation, and Fuzzy matching

Table 11: Few Technologies Used in Digital ID Systems

## 6.7. Types of Digital ID: Digital Identity System Technology Landscape

As seen from above, the capture and recognition technologies continue to evolve for the fingerprint, iris, face, and other modes of technology such as voice, DNA, vascular, and behaviour are still in the nascent stage.

Some of the key trends are.

- In various countries, fingerprint, facial and iris are the dominant biometrics being used currently.
- Multi-modal technologies, that is a combination of fingerprint, facial, and iris modalities are the most promising methodology for verifying and authenticating users.
- Devices and sensors such as contactless fingerprinting or iris at a distance and liveness detection are becoming popular and seeing increasing adoption.
- Scanners and algorithms are being developed so that infant biometrics can be captured along with facial biometrics in low resolution or poor illumination.
- Biometric authentication is fast becoming popular in mobile devices (smartphones and wearables) and is predicted to grow significantly.

A summary of Digital ID modalities and landscape is given below

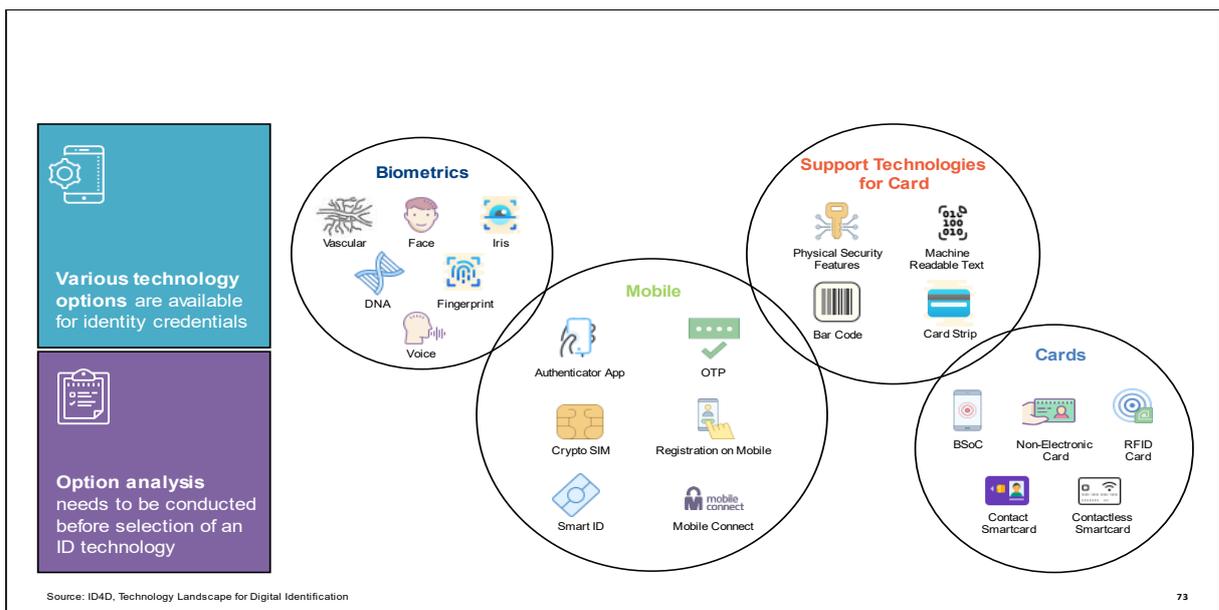


Figure 5 – Digital ID System Technology landscape

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## 6.8. Registration & Validation for Digital ID

The implementation of a Mobile ID solution primarily involves two different scenarios – in situations where a de - novo identity solution is required to be implemented and in situations where the countries already have a National Identity card. In both scenarios, the Mobile ID solution has two stages. The first stage is of registration of the citizens, and the second stage is if onboarding of the citizens. In the first scenario, without a National ID card, the registration is done using other identity documents like a driving license, passport, voter ID card, bank card, etc. In scenarios where a National ID card exists, the approach to registration is easier, and by a simple verification process, the citizens can be registered into the Mobile ID solution.

A feasibility study of the Mobile ID solution needs to be carried out considering the existing NIN program, the maturity of the Mobile ID solution in the global market, and the current technology landscape in the Gambia. Some of the key enablers for the Mobile ID solution are as follows,

- NIN Program was implemented in the year 2009, and since then, it has allotted a multipurpose smart card to the adult population, which not only provides services to the citizens, but it also acts as proof of citizenship in the Gambia. Leveraging the existing NIN Infrastructure and datasets can make roll out of Mobile ID fast and less costly since as per the statistics, Gambia has a smartphone penetration rate of ~167%.
- Considering the above factors, Gambia is better positioned to launch a Mobile ID solution to achieve quick wins. The implementation approach for the establishment of the Mobile ID solution can be divided into three parts,

## 6.9. Mobile ID

The implementation is envisaged as an interim phase of the National Digital ID, after which the National Digital ID Platform will be rolled out. One of the key features is reliance on NIN demographic and biometric data for the launch of authentication and verification services using Mobile devices. This will enable the initiation or launch of authentication services quickly and help in creating an ecosystem of players leveraging authentication services through NIN. The key features of the Mobile ID solution are given below:

- Mobile ID solutions can leverage existing biometric and demographic information associated with NIN to verify citizens.
  - Semelx has already established Registration Centres and network connectivity between Registration Centres and Data centers, which can be leveraged for in-person Onboarding and Verification of Mobile-ID.
  - Existing Data Centre space can host the servers (Application, Database, and Storage) required for the Mobile ID solution.
  - Augmentation of the new infrastructure and services:
    - Mobile ID application for citizens, which will be used to avail Government services from a remote location on a real-time basis.
    - Mobile ID solution (Mobile ID Servers – application, storage, etc., Mobile ID database, authentication servers) to be hosted at the current data centers.
    - Online authentication service to be designed and integrated with Mobile ID solution.
    - Establishment of a centralized helpdesk for grievance and query redressal.
    - Capacity building of the ecosystem partners:
    - Business process re-engineering of the existing Government to Citizen services considering Mobile ID solution as a channel for online authentication.

- Technical enablement of the infrastructure and applications required to avail the online authentication services.
- All the citizens and residents of Gambia should be registered for Mobile ID using handheld devices. The citizens should visit the NIN registration centers or any authorized registration centers for registering into the Mobile ID program.

## 7. Implementation Model

The implementation model of National Digital ID arises from the National Digital ID strategy, archetype model, and Governance model. Based on this, the implementation model was defined for the National Digital ID Strategy. The Implementation model provides the approach to implement various components and sub-components of the National Digital ID Program. A description and approach to these components are provided in the section below.

### 7.1. Strategy and Options Analysis

The components mentioned in the implementation model are essential. One crucial element defining the digital identity platform is the registration approach adopted for implementing the program, i.e., the registration process, identity proofing method, and how digital identity is assigned to the individuals. Considering the existing Gambian Identity landscape following three models can be considered for the designing of the National Digital ID Program of Gambia:

1. **Model 1: Use NIN demographic and biometric data from the current database for the issuance of Digital ID**
2. **Model 2: Use NIN demographic data and collect new biometric data for the issuance of Digital ID**
3. **Model 3: Fresh demographic and biometric data is collected for the issuance of Digital ID**

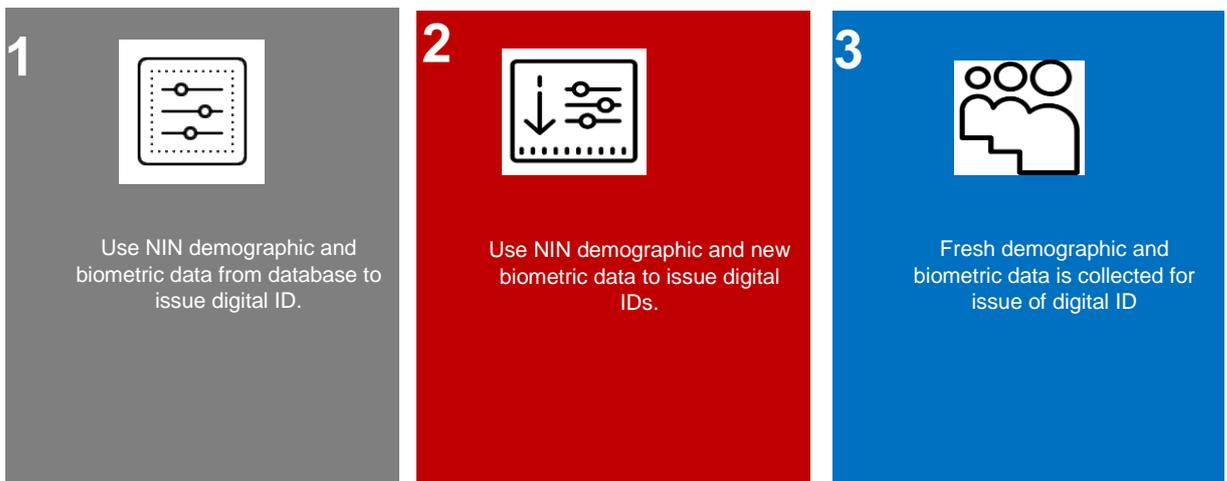


Figure 6: Implementation Options & Approach

### 7.2. Model 1: Use NIN Demographic and Biometric data to issue Digital ID

Model 1 is the simplest model to implement, relying on the existing National Identification Number (NIN) database for all the information. Key features of Model 1 are as follows:

- In this model, fresh registration of citizens and residents is not undertaken.
- Existing biometric modalities available in the NIN database are used for National Digital ID.

- The online authentication system is based on the existing fingerprint minutiae of existing thumbprint images or any other derived credential.
- An offline system of authentication must be developed.
- Some of the pre-requisites, strengths, and weaknesses of this model are:

### Analysis of Model 1

#	Area	Description
1.	<b>Pre-requisites</b>	<ul style="list-style-type: none"> <li>• The user should either be a Citizen or Permanent Resident (PR) of Gambia</li> <li>• A fresh gallery of minutiae shall be created from raw images in ISO format (interoperable)</li> <li>• A data validation exercise shall be undertaken to decide on the validation process required for the transfer of demographic data from the NIN database system</li> </ul>
2.	<b>Strengths</b>	<ul style="list-style-type: none"> <li>• No new demographic and biometric data are required to be captured.</li> <li>• NIN data of each citizen and PRs is used to generate and allocate a Digital ID</li> <li>• Faster registration process as citizens and PRs will not be required to go to registration centers for fresh registration for allotment of National Digital ID</li> <li>• The total cost of registration for a National Digital ID may be low.</li> </ul>
3.	<b>Weaknesses</b>	<ul style="list-style-type: none"> <li>• In case of possible errors, the same will be replicated in the National Digital ID database.</li> <li>• The National Digital ID registry may not have the verified, updated mobile number, address, and similar other fields of the citizens.</li> <li>• Existing Biometric templates in NIN database, if encrypted or in proprietary format, may affect the seamless interoperability of the authentication system across the National Digital ID Ecosystem.</li> <li>• In this model, only the existing biometrics can be leveraged for carrying out authentication services. In case additional channels/factors for authentication are required for online authentication, then additional derived credentials must be issued to the citizens. This will again require the citizens to carry out a registration exercise, and this means that there is an added cost of the issuance of the card.</li> </ul>

### 7.3. Model 2: Use NIN Demographic data and collect fresh Biometrics for Digital Identity

Model 2 would require fresh registration of the biometric data to be undertaken. This will require the individuals to visit the registration center/counter for the same. Some of its features are as follows:

- In this model, citizens and residents are registered through NIN database, and fresh multi-modal biometrics are collected.
- Backend / online validation of demographic data of citizens and residents is done from the NIN database.
- Online authentication services are provided using an ISO-based repository of multi-modal biometrics.
- An offline system of authentication shall have to be developed.
- Some of the pre-requisites, strengths, and weaknesses of this model are:

## Analysis of Model 2

#	Area	Description
1.	<b>Pre-requisites</b>	<ul style="list-style-type: none"> <li>• Demographic data shall be validated from the NIN database.</li> <li>• Multi-modal biometrics of citizens shall be captured as part of the registration exercise.</li> <li>• One-time registration shall take places for all citizens</li> </ul>
2.	<b>Strengths</b>	<ul style="list-style-type: none"> <li>• This model proposed a faster registration process wherein NIN demographic data is leveraged for carrying out the registration of citizens.</li> <li>• Fresh multi-modal biometrics are captured as part of this model. The fresh biometric data collection leads to the following gains: <ul style="list-style-type: none"> <li>○ Creation of a fresh and updated biometric registry with multi-modal biometrics. This enables all individuals to use their latest / updated biometrics for carrying out authentication.</li> <li>○ <b>Enhanced Reliability:</b> This shall allow high levels of assurance for an accurate match in identification and verification modes.</li> <li>○ <b>Very High Accuracy:</b> The creation of a multi-modal biometric registry and using the multi-modal biometrics for the deduplication process provides higher accuracy rates, thereby allowing National Digital ID to operate at a very high level of accuracy.</li> <li>○ <b>Prevents Exclusion:</b> It is understood that a significant portion of the employed population of Gambia works in the agriculture sector and other manual-labour-intensive sectors. In such cases, fingerprints of these strata of the population might be damaged or are difficult to capture. Furthermore, in the case of senior citizens, there is a high Failure-to-Enrol error due to worn-off fingerprints and problems relating to the Iris. Hence capturing multiple biometrics allows greater inclusion of society and provides an opportunity for different strata of people to participate and engage in this program. This allows us to capture the Biometrics of Children at the age of 5 or allow registration even at birth to enable CRVS.</li> <li>○ <b>Enables Multi-Factor Authentication:</b> Capturing multiple biometrics would enable the use of multi-factor authentication (depending on the use cases). This will allow greater flexibility and choice to the citizens, Government, and private sector entities.</li> </ul> </li> <li>• This model also provides an opportunity to update the demographic details of the citizen and provides an opportunity for the Government to collect additional data, e.g., Mobile No., Email Address, and Communication Address. This field shall be important for the Identity Repository.</li> <li>• This model allows for building a fit for future Digital ID repository.</li> </ul>
	<b>Weaknesses</b>	<ul style="list-style-type: none"> <li>• Citizens and residents will have to visit registration centres for registration.</li> <li>• A backend / online validation process will have to be built for verification NIN database.</li> <li>• Total cost of registration may be higher</li> </ul>

## 7.4. Model 3: Fresh Demographic and Biometric data is collected for Digital Identity

Model 3 would require fresh registration of the demographic as well as the biometric data, which would mean all data would need to be collected from the beginning as if it is a fresh registration. Key features of the model are described below:

- In this model, fresh registration of citizens and residents is undertaken.
- A new set of fresh demographic data is collected along with multi-modal biometrics.
- An online authentication system is based on any of the freshly collected biometrics or their combination.
- An offline system of authentication can be provided by using a 2D barcode or QR code.

Some of the pre-requisites, strengths, and weaknesses of this model are:

### Analysis of Model 3

#	Area	Description
1.	<b>Pre-requisites</b>	<ul style="list-style-type: none"><li>• A new registration process and workflow need to be designed.</li><li>• Registration Kits will have to be procured along with registration software.</li><li>• New technology set-up</li></ul>
2.	<b>Strengths</b>	<ul style="list-style-type: none"><li>• A newly updated repository will be created.</li><li>• Dependency on the NIN database is minimal.</li><li>• Multi-factor and potential multi-channel online authentication system in addition to the current system</li><li>• Up-to-date demographic and biometric database for the National Digital ID system</li><li>• Fresh biometric and demographic data provides higher performance and better accuracy results.</li><li>• This system is scalable, modular, and built on interoperable standards.</li><li>• The end-to-end lifecycle management of National Digital ID is easy.</li></ul>
3.	<b>Weaknesses</b>	<ul style="list-style-type: none"><li>• citizens and residents shall go to registration centers to fill out a new form, do a fresh registration, and provide biometrics.</li><li>• The total cost of registration will be high. Hence a PPP model can be followed.</li><li>• The time taken to implement it would be considerably higher</li></ul>

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## 7.5. Salient Features of Model -3

The salient features of the National Digital ID program are provided below:

1. **National Digital ID will be a secure and trusted online platform:** The National Digital ID strategy will enable a secure and trusted platform that shall be accessed by various stakeholders, including citizens, Government, and Private Sector entities, to verify and authenticate the identity of an individual while carrying out online transactions.
2. **Inclusive program:** The National Digital ID strategy is envisaged to be an inclusive program that shall cover all population segments. The program is currently targeted at citizens and residents of Gambia.
3. **National Digital ID to strengthen NIN:** The National Digital ID strategy is envisaged to leverage NIN for issuance of the Digital ID.
4. **National Digital ID to collect fresh biometric data:** As part of the National Digital ID strategy, it is envisaged that fresh multi-modal biometric data for all the citizens and residents shall be captured once to carry out registration under the National Digital ID strategy. Fresh biometric data shall include ten fingerprints, two Iris, and a facial image. The fresh biometrics shall reside in the secured National Digital ID registry.
5. **Biometrics Capture Age:** The Biometric capture age has been proposed to be modified from the current NIN registration process. To Registration under National Digital ID, the biometrics for an individual registering under the program are proposed to be as follows (i) Initial biometric capture at the age of 5 years (ii) Biometric update at the age of 18 years (iii) Registration at birth for integration with the CRVS system.
6. **National Digital ID Number:** National Digital ID platform shall generate a random 12-digit number (National Digital ID Number) linked to the NIN number in the National Digital ID registry and not communicated to the citizens. It is proposed that Citizen and residents shall use their NIN number for carrying out Digital ID transactions. The National Digital ID number shall be unique from birth to death, and there shall be no two individuals with the same number.
7. **National Digital ID to provide offline/ online real-time authentication and e-KYC services:**

**KYC, or "Know Your Customer"**, is a set of processes that allow banks and other financial institutions to confirm the identity of the organisations and individuals they do business with, and ensures those entities are acting legally.

The National Digital ID platform shall provide identity services such as authentication and eKYC. The platform shall allow the Service Providers (e.g., Government Departments, Bank, Telecoms, etc.) to connect to the National Digital ID platform and utilize the authentication and e-KYC services. The National Digital ID platform shall receive the authentication request from the Service Provider and shall authenticate an individual's identity. The response to the authentication request shall be communicated from the platform to the Service Provider/ User.
8. **National Digital ID to enable security and privacy by design:** Personal sensitive information is expected to be collected as part of the National Digital ID strategy. Privacy and security must be built into the framework and the technical design of the National ID platform from the initial stages.
9. **National Digital ID platform to be Interoperable:** The National Digital ID program shall ensure interoperability to enhance the platform's adoption by various Government and private sector entities. Interoperability shall be achieved through various measures like enabling policies around data exchange standards, defining standard operating procedures around the identity

lifecycle, using standard terminology, and using open standards. This will enable achieving interoperability of the National Digital ID platform. <sup>6</sup>

## 7.6. Proposed Implementation Plan

The analysis of various models of implementation has been considered, and it is found that Model 3 is best suited in the context of Gambia's Digital landscape.

An implementation plan has been formulated in line with the proposed implementation model. This section presents the implementation phases of the National Digital ID Program. The implementation plan has been divided into six phases. The description of these phases is given below:

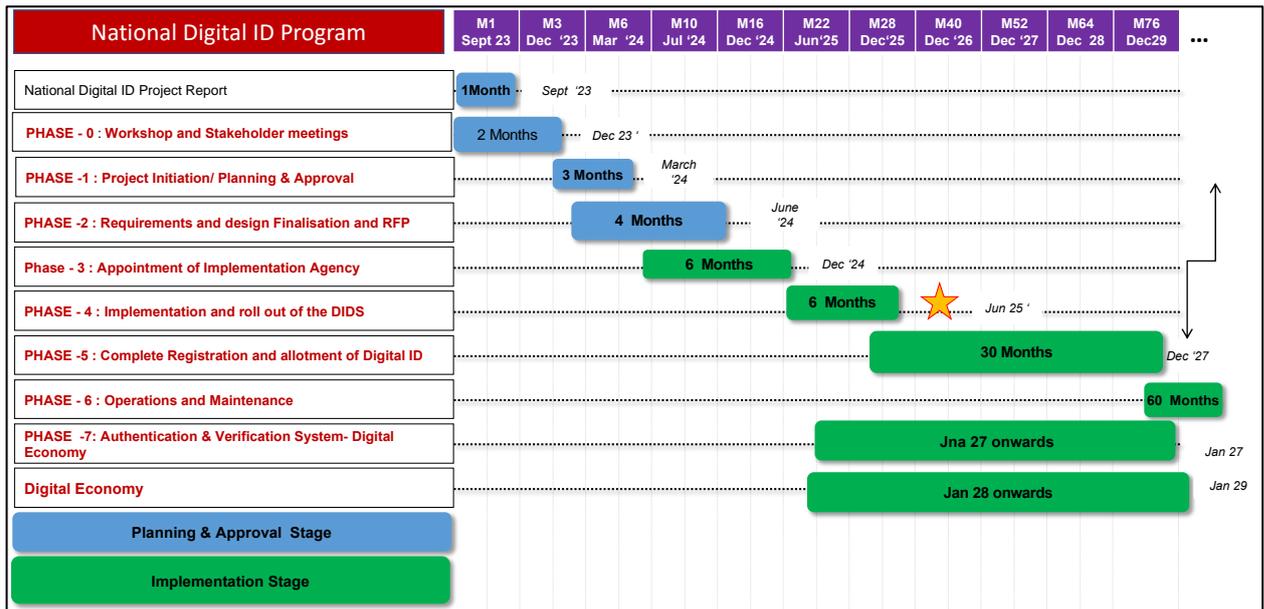


Figure 7 ; Proposed Implementation Plan

## 7.7. Phases and implementation activities

Phase	Activity	Timing	Responsible Body
Phase 0	<ul style="list-style-type: none"> <li>Sensitization and Building Strong Awareness Workshop and Stakeholder Meeting: this stage would primarily be for taking inputs of the stakeholders and finalisation of the National Digital ID Strategy</li> </ul>	July -Dec 23	MOCDE & UNECA
Phase :1 Project Initiation, Planning & Approval	<ul style="list-style-type: none"> <li>The implementation plan would entail getting approval for the National Digital ID Program from the Government of Gambia.</li> <li>The National Digital ID Framework and the program's cost estimates shall be proposed</li> </ul>	March - 24	MOCDE & UNECA

<sup>6</sup> World Bank, ID4D, <http://documents1.worldbank.org/curated/en/248371559325561562/pdf/ID4D-Practitioner-s-Guide.pdf>

Phase	Activity	Timing	Responsible Body
	<p>and considered for approval as part of this phase of the project.</p> <ul style="list-style-type: none"> <li>Phase 0 is expected to start in July 2023, and it is expected to be completed by Dec 2023.</li> <li>The initiation phase is the beginning of the National Digital ID Program. In this phase, the program's governance structure is established, and the project plan for the program is updated and approved by the Steering Committee. In addition, a project manager for the program is appointed, and various project committees are constituted. Finally, the kick-off meeting of the program is planned to be undertaken.</li> </ul>		
<p><b>Phase 2: Requirements and Design Finalisation &amp; RFP</b></p>	<ul style="list-style-type: none"> <li>deploying experienced resources with adequate domain knowledge.</li> <li>Preparation of the detailed technical design of the system. In the design phase, the finalized requirements are reviewed, and the detailed design of the National Digital ID platform is developed,</li> <li>in this phase, an assessment and analysis of the design choices are considered to select the best design option. In the context of the National Digital ID Program, the architecture design of the technology solution and end-to-end digital ID solution would be finalized.</li> <li>Preparation and issuance of the bid document</li> <li>Furthermore, the legal/regulatory framework is developed during the design phase, and regulations are amended.</li> </ul>	<p><b>June -24</b></p>	<p>MOCDE &amp; UNECA</p>
<p><b>Phase 3: Appointment of Implementing Agency</b></p>	<ul style="list-style-type: none"> <li>This Phase also involves procurement and contracting and appointment of an implementing Agency. This also involves bid process management.</li> </ul>	<p><b>Dec -24</b></p>	<p>MOCDE &amp; UNECA</p>

Phase	Activity	Timing	Responsible Body
<b>Phase 4 – Implementation and roll out of DIDS:</b>	<ul style="list-style-type: none"> <li>• In this phase, the project moves from the design phase to the implementation phase.</li> <li>• This phase involves procurement, supply, and implementation of the project components. In the specific context of the National Digital ID Program, this would entail the development of application software, construction/augmentation of data centers, hosting of IT infrastructure, and testing to ensure a successful rollout of the project. With the completion of the Implementation phase, all Digital ID Services, including but not limited to Registration, Authentication, eKYC, Mobile ID Mobile wallet, etc., will be tested and shall be made live for roll out.</li> </ul>	<b>June -25</b>	MOCDE & UNECA & Implementation Agency
<b>Phase 5 – Complete Registration and Allotment of Digital ID:</b>		<b>Dec – 27</b>	MOCDE & UNECA & Implementation Agency
<b>Phase 6 – Authentication &amp; Verification System</b>	<ul style="list-style-type: none"> <li>• <b>This</b> phase begins the beginning on online authentication and verification system.</li> <li>• This is also the beginning of Mobile ID and mobile wallet services.</li> <li>• This would lead to digitisation of services and beginning of digital society and economy.</li> </ul>	<b>June 27 onwards</b>	MOCDE & UNECA & Implementation Agency
<b>Phase 7 – Operations &amp; Maintenance</b>	<ul style="list-style-type: none"> <li>• The operations phase is about the operations and maintenance of the National Digital ID program.</li> <li>• All functionalities and services of the program, specific to the National Digital ID Program, like registration, issuance of Digital ID to citizens and residents, authentication and eKYC services, and grievance handling, are continued during this phase.</li> <li>• The maintenance of the technology platform is a key factor in the availability of the</li> </ul>	<b>June 25 onwards – dec 20230</b>	MOCDE & UNECA & Implementation Agency

Phase	Activity	Timing	Responsible Body
	<p>services and is carried out during the project's tenure.</p> <ul style="list-style-type: none"> <li>In this phase, the Government shall also undertake awareness and communication programs for enhancing the adoption of services by the citizens and permanent residents.</li> </ul>		

## 7.8. Workplan and Timetable

Work Plan and Time Table (as a whole)												
	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
2023								<ul style="list-style-type: none"> <li>Conduct a comprehensive needs assessment.</li> <li>Recruit and hire experts in system integration, cybersecurity, project management, and enrolment.</li> </ul>				<ul style="list-style-type: none"> <li>Establish the Project Management Office</li> <li>Develop a detailed project plan and Identify key stakeholders and partners</li> <li>Prepare a project report for a approval of the MOCDE and Government of Gambia</li> <li>Initiate capacity-building programs for the project team</li> </ul>
2024	Project Approval by the MOCDE and Government of Gambia Raise awareness about the benefits of digital identification..			Prepare Bid document for the appointment of Implementing agency				Issues RFP and undertake bid process management for appointment of implementing agency. Negotiate and sign contract  UNECA to provide technical and financial support for the pilot and Evaluation of pilot outcomes and making necessary adjustments.				
2025	<ul style="list-style-type: none"> <li>Set up technology infrastructure for roll out of the Registration system and allotment of Digital ID</li> <li>Go Live of the system</li> <li>Setting up of the Registration Centers</li> <li>Launch the pilot project in select regions and Enroll a representative sample of residents</li> </ul>							Registration of 0.5 million citizens and allotment of Digital IDs to the m  Sustainability and Ongoing Management by Developing long-term sustainability plans for the digital ID system				
2026	<ul style="list-style-type: none"> <li>Roll out digital ID Registration nationwide with an aim of Issuing digital IDs to residents, targeting a total of 1 million citizens</li> <li>Integration with Government Services such as health, education, and social services.</li> <li>Continuously monitor the system's performance and security.</li> <li>Operation and Maintenance of Services</li> <li>Evaluate the economic impact of digital identification</li> </ul>											
2027	Roll out digital ID registration nationwide with an aim of Issuing digital IDs to residents, targeting a total of 1 million citizens Start of authentication and Verification Services Financial Inclusion and digital transactions Ongoing Operation and Maintenance services											
2028	Updation of Demographic and Biometric data , linkages with CRVS , Registration of children , Mobile wallet and authentication Services continuous registration of citizens who could not reregistered in earlier years.											

## 7.9. Annual Activities and Outputs

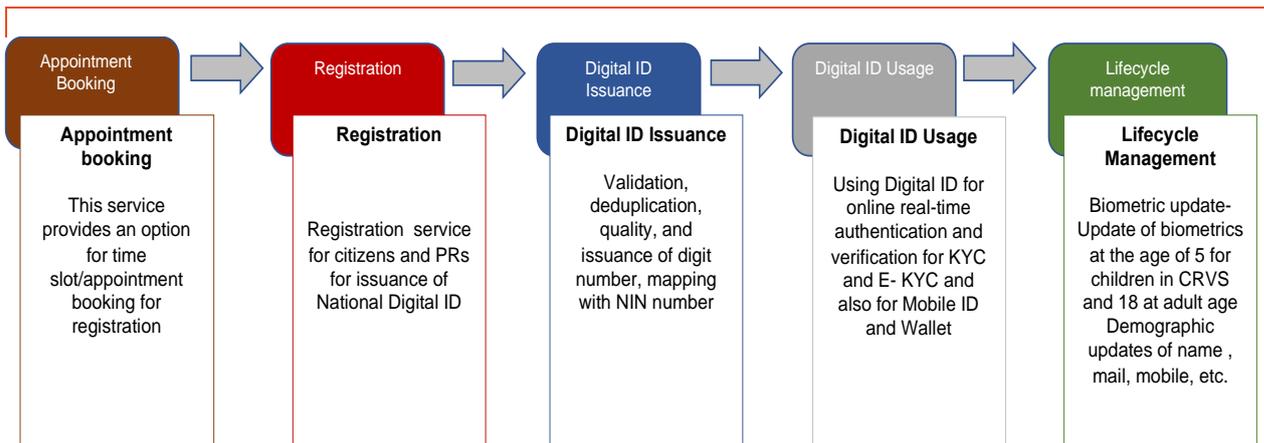
Year	Main Outputs	Main Activities

2023	Approval of the Project report	Stakeholder meetings Submission of project report for Government approval
2024	Project Approval and Preparation of bid document	Set up the Project Management Office, including staffing and infrastructure. Develop a comprehensive project plan detailing timelines, budgets, and objectives. Identify and engage key stakeholders and partners, including government agencies and potential collaborators. Conduct a thorough needs assessment to understand the project's requirements and challenges. Collect baseline data to assess the existing identification system in Ethiopia. Recruit and hire experts with the necessary skills and expertise. Launch capacity-building programs to prepare the project team for upcoming tasks and challenges.
2025	Appointment of Implementation Agency Beginning of Registration of citizens in second half of the year total of 0.5 MN citizens	Preparation of Bid and Contracting Set up of the technology system. Setting up of the Registration Centres
2026	Continuation of Registration of Citizens – 1million citizens	Allotment of Digital ID / National ID card
2027	Continuation of Registration of all Citizens - 1million citizens and Integration with CRVS -	Allotment of Digital ID / National ID card
2028	Authentication & Verification + eKYC Services	Set up of Policy and regulatory framework, Data Privacy rules and consent framework

## 7.10. Digital ID Lifecycle

The National Digital ID Program envisages developing a Digital ID platform that can enable citizens, businesses, and the Government to effectively interact in the digital world and contribute to the country's economic progress. The National Digital ID aims to provide a foundational platform to help the country leapfrog into becoming a truly digital society.

As part of the program, Digital Identity shall be issued to citizens, which can be used for carrying out online authentication, eKYC, and Digital Signing services. The below-mentioned figure depicts the lifecycle of Digital Identity.



### 7.11. Monitoring & Evaluation : Digital ID Lifecycle

It is essential that for the National Digital ID Programme a robust Monitoring and Evaluation (M&E) framework is designed that can be leveraged by the Government to monitor the programme. An indicative diagrammatic representation of the M&E elements of the National Digital ID Programme is given below:

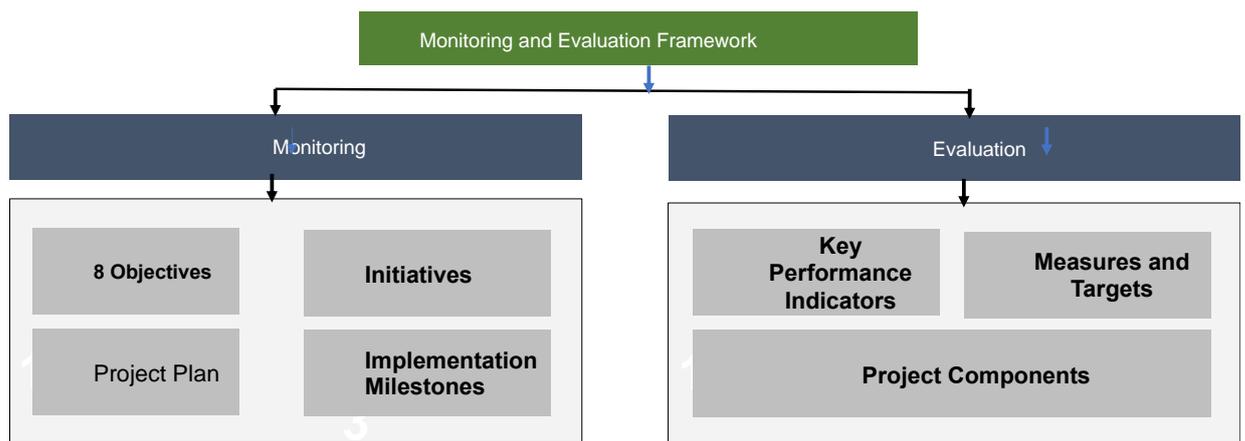


Figure 8 ; Monitoring and Evaluation Framework

The implementation of National Digital ID Programme shall be spread over many years and the successful implementation of the action plan involves implementation of a large number of project components. An action plan comprising of objectives, initiatives, milestones is provided in the project plan. In the M&E framework, the indicators of the action plan are captured and measured against baseline goals for monitoring the progress of the action plan. Whether the indicators are giving the desired results, is measured through key performance indicators and targets in the evaluation stage of the M&E Framework.

In the context of National Digital ID Programme, a strategy planning framework of the programme will be prepared. Under this framework, 8 indicative objectives of the programme have been identified. The corresponding initiatives have also been framed (45 initiatives). These objectives and initiatives are further mapped against key performance indicators and targets. The M&E Framework of the National Digital ID Programme will help in monitoring and evaluation of these elements of the strategy framework.

A M&E Framework for the programme has been prepared using the following are the elements:

1. **Objective:** This field provides name of the objective for which the measure and targets have been defined.
2. **KPI & KPI description:** This field represents the KPI of the concerned objective **Description:** This field describes the KPI in the context of its objective.
3. **Target & Target Description:** This field represents the target set against the KPI.**Target Description:** This field briefly describes the target in relevance to its KPI.
4. **Data Source:** This field shows the source from where the data will be obtained for measuring the progress.
5. **Means of Verification:** This field describes the means of verifying the targets
6. **Frequency of Measurement:** This field represents the frequency at which the progress will be measured.
7. **Proposed Ownership:** This field provides the name of the Department / Head within JPN that is proposed to be responsible to measure and report the progress.
8. **Critical Assumptions:** This field represents the critical assumptions taken for measurement of the concerned KPI.

Key performance indicators have been identified for the National Digital ID Programme. A list of the identified KPIs is tabulated below. These KPIs will be further detailed out using the components of the M&E Framework at the time of the implementation of the programme.

S.No.	Key Performance Indicator	S.No.	Key Performance Indicator
1.	High availability of the National Digital ID Platform	12.	Audit of the internal security and privacy policies and their effectiveness
2.	Solution should scale up to meet the performance requirements of population of Malaysia for the year 2030	13.	Security and privacy audit of Service Providers to ascertain violations of security and privacy framework
3.	Average time required for registration of a citizen	14.	Citizen and resident satisfaction survey
4.	Failure to Register as a % of number of total registrations	15.	Number of Service Providers (user agencies) on-boarded for utilizing services of digital platform
5.	Preparation and approval of a governance structure for the National Digital ID Programme	16	Year-on-year growth rate of user agencies and MoU
6.	Percentage of employees who have completed the training & Number of employees trained in core areas of operations, like biometrics, authentication, security including certification courses	17	Regulatory authorities to create regulatory environment for use of eKYC services in G2B and B2B categories as a full KYC norm
7.	Preparation and rollout of awareness campaigns	18	Digital ID Issuance
8.	Growth in digital transactions	19	Grievance redressal
9.	% of population whose NIN has been leveraged for Digital Identity Issuance	20	False Acceptance Rate (FAR)

S.No.	Key Performance Indicator	S.No.	Key Performance Indicator
10.	1:1 unique mapping of NIN to a new Digital ID issued under National Digital ID Programme	21	False Rejection Rate (FRR)
11.	Modify and amend current legal / regulatory provisions in National Registration Act, Digital Signature Act, PDPA, eCommerce Act to align with the National Digital ID Programme	22	Availability of authentication and eKYC services

**Table 12. KPIs of the National Digital ID Programme**

A detailed M&E Framework for the National Digital ID Programme comprising of the abovementioned KPIs will be prepared during the implementation of the programme

## 7.12. Risk and Critical Success Factors

Risk Category	Risk Description	Rating (High-Medium-low)	Mitigation Strategy
Support from all key stakeholder to discuss and provide relevant data and documents.	Due to incorrect and incomplete data, the design and implementation strategy of some of the components may get impacted.	Medium	<ul style="list-style-type: none"> <li>Request for discussions and meeting</li> <li>Undertake secondary research.</li> <li>Meeting with Govt and industry players</li> <li>Leverage experience of SMEs to be deployed by UNECA.</li> </ul>
Slippages in project timelines and milestones	Impact on implementation roadmap and delayed go-live and project cost	High	<ul style="list-style-type: none"> <li>Regular review meetings for tracking the progress.</li> <li>Quick troubleshooting and resolution of critical issues</li> <li>Increased interactions with KOIICA and Project team and Project Director</li> </ul>
At the inception, although detailed requirements are conceptualized, but key elements may be missed, or new requirements may emerge.	Delay in project completion or adoption of short measures to meet result.	Medium	<ul style="list-style-type: none"> <li>Clear understanding of requirements</li> <li>Quick identification and decision on the requirement</li> <li>Robust change management process</li> <li>Identification of alternatives</li> </ul>

## 7.13. KYC & Use cases : Digital ID Lifecycle

The Government of Gambia will be the biggest beneficiary of the National Digital ID. It's different ministries like Ministry of Health (MoHS), Ministry of Internal Affairs, Department of Immigration for Passport, National Revenue Authority), Law enforcement agencies and financial services will become more effective. The National Digital ID will also serve as an improved planning tool for state budget, donor interface and assessment of development programmes. Presently in Gambia, the Identity database and the social benefits system are independent components running in a segregated manner.

The convergence and integration of these into a common registry system based on NIN will reduce cost substantially.

The following table shows a list of services suggested for the use cases.

S.No.	Service/ Program Category	Use cases Services
1	Social Service	<ul style="list-style-type: none"> <li>eKYC or OTP authentication for registration</li> <li>Biometric authentication for access to hospital</li> </ul>
2	Social Service	<ul style="list-style-type: none"> <li>Biometric authentication for registration</li> </ul>
3	Social Service	<ul style="list-style-type: none"> <li>eKYC for registration</li> <li>Biometric authentication for attendance verification</li> </ul>
4	Social Service	<ul style="list-style-type: none"> <li>eKYC for registration</li> <li>Demographic authentication for school bags supply</li> </ul>
5	Social Service	<ul style="list-style-type: none"> <li>Biometric authentication for subsidised gas, sugar, flour purchase</li> </ul>
6	Social Service	<ul style="list-style-type: none"> <li>eKYC for Student Scholarship request</li> </ul>
8	Commercial Services	<ul style="list-style-type: none"> <li>eKYC for New Bank Accounts Opened</li> <li>eKYC for loans issuance</li> </ul>
9	Commercial Services	<ul style="list-style-type: none"> <li>eKYC for loans issuance for Mobile and internet Connection</li> </ul>
10	Others	<ul style="list-style-type: none"> <li>Biometric authentication for proof of life</li> <li>OTP authentication for linkage between NIN and pension fund database</li> </ul>

The Use cases envisage savings and benefits for the Government of Gambia in various social programs. The Cost-Benefit analysis shall cover the following area:

- Savings on Social Programs:** Due to implementation of National Digital ID program, various social programs will be able to improve on their targeting thereby reducing ghost beneficiaries, frauds, etc. This will allow government to save funds after the Digital ID implementation.
- Efficiency in Service Delivery:** The efficiency gains that the government will realise through the implementation will be calculated. The funds saved by the Government of Gambia on various social and administrative transactions will be calculated.

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## 8. Conclusion and Recommendations

National Digital ID is a program that can lead to the beginning of a digital economy in Gambia. Through this study, an effort has been made to conceptualize and design the National Digital ID and identify the socio-economic benefits that Gambia will realise after implementing the National Digital ID program. The study of the existing Identity landscape of Estonia, India, Canada, Sierra Leone, Timor-Leste, and Malaysia has been through and carried out secondary sources benchmarking of other Digital ID programs and formulated the National Digital ID Strategy of Gambia.

In terms of Gambia's Digital landscape, there has been an increase in the usage of the internet by the citizens, which is the result of various initiatives undertaken by the Government to enhance access and affordability of the internet, growing awareness, and providing facilities to the Gambians to make extensive use of Mobile phone. The Government is making significant efforts to build a digital nation and has already invested in some of the critical building blocks of the digital economy. These holistic reforms regarding creating enabling infrastructure, services, and further investments in emerging technology, digital applications, etc., are expected to give a boost to the digitization of the country's economy. In view of the above, it is observed that Gambia is in an ideal position to implement a National Digital ID program and commission this mission-critical program to strengthen its drive toward becoming a digital nation.

The National Digital ID strategy envisages the development of.

1. a Digital ID platform that shall enable citizens, businesses, and the Government to effectively interact in the digital world and contribute to the country's economic progress.
2. A digital ID provides a foundational platform to help the country leapfrog into becoming a truly digital society.
3. to achieve the above objectives, implementing Model 3 and capturing fresh registration of citizens is recommended.
4. A Digital ID would be issued to all the citizens; however, this would not replace the existing NIN.
5. The Digital ID would be linked with the NIN, and for all purposes, the NIN would become the Digital ID.

## 8.1. Next Step Forward

To formulate the implementation roadmap of National Digital Program a 6 (six) phased approach is proposed to be adopted. The Phased implementation approach is Shown below:

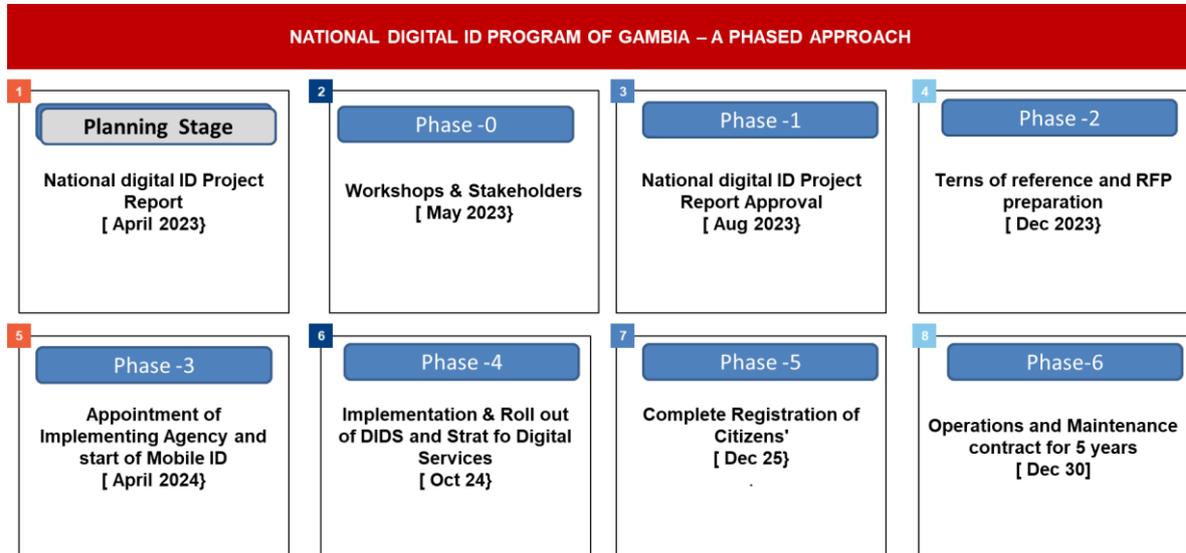


Figure 9 Strategic Planning Framework

The following key activities shall take place for the purpose of handover of the study as well as the necessary approval for the implementation of the National Digital ID program.

- Submission of the National Digital ID Strategy Study: The final report of the National Digital ID strategy shall be submitted to the Honourable Minster.
- An implementation workshop may be held with the stakeholders for developing the plan for the implementation of the program and discussions on the National Digital ID strategy report.
- Post presentation of the final report, the report shall be submitted for approval of the Government to implement the National Digital ID strategy.
- After approval, the governance structure for the National Digital ID program shall be established, and the National Digital ID Council and Steering Committee shall be formulated.

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