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# SERIES ON DIGITAL IDENTITY AND BIOMETRICS

## *Topic 1: Digital Identity (ID) in Civil Identification*

**Greater Internet Freedom**

**Centre for Intellectual Property and Information Technology Law (CIPIT)**
**Strathmore University**

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## Digital Identity in Civil Identification

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| **The Centre for Intellectual Property and Information Technology Law (CIPIT) is an evidence-based research and training Centre based at Strathmore University, Nairobi, Kenya. CIPIT was established in 2012 and focuses on studying, creating, and sharing knowledge on the development of intellectual property and information technology utilizing diverse methodological approaches to inform debates on ICT applications and regulation.** | **The Greater Internet Freedom Project (GIF) is a three-year, consortium-based, global program implemented by Internews and the GIF consortium across 39 countries. GIF places regional and local organizations at the forefront of the fight to preserve an open, reliable, secure, and interoperable Internet – and, by extension, protects the citizens, civic actors, journalists, and human rights defenders who rely on it to realize fundamental freedoms.** |

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# Introduction

*The CIPIT and the GIF have developed exploratory material relevant to pertinent digital identity and biometrics topics. The 'Digital Identity in Civil Identification' topic briefly explores how digital identity has been deployed in civil identification systems.*

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Digital identity (ID) systems allow for authentication of voter identity, efficiency in voting cycles through online voting, and reduction of fraud in elections.[1] Using biometric data such as fingerprints and facial recognition allows governments to identify voters, citizens or residents who access government services, enabling the robust authentication of identity. Biometric technologies can be used in biometric voter registration, biometric voter ID cards, biometric deduplication and biometric voter verification.[2]

Unfortunately, close to a billion people worldwide are not registered in the identity systems of any country, leaving them vulnerable to poverty, statelessness and exploitation.[3] Many people lacking ID reside in low and lower-middle-income countries.[4] About 500 million people in Africa live without formal identification due to countries' lack of appropriate ID systems, which are often decentralized and paper-based, increasing the risk of duplication, delay, and theft of ID data.[5] In Latin America and the Caribbean region, failure to report births accounted for a lack of identification documents among 10% of children under five in the region in 2011.[6] This exclusion from public records would later expose them to exclusion from social services and employment opportunities.

The interoperability of digital ID and civil registration (CR) systems is crucial to service delivery as it ensures the accuracy of ID data through the seamless and secure sharing of verified user identities and credentials across different

government bodies.[7] Interoperability also allows for efficiency by eliminating data duplication and improving security, since it promotes the continuous recording of vital events such as births, marriages and deaths.[8] The case of Botswana demonstrates the benefits of interoperability, where the national ID system receives real-time updates of vital events. For instance, the birth registration of a child in Botswana permits their data into the national ID register, allowing children to use their birth certificate as their ID until the age of majority.[9] The national ID system also automatically removes people from the national ID register as soon as their death is recorded, ensuring efficiency and preventing data and identity theft.

**Important Note on Emerging Technology in Digital Civil Identification Systems**

*Artificial intelligence (AI) and machine learning (ML) algorithms are being used to improve fingerprint matching and voice and facial recognition systems by making them more dependable and practical to increase the precision and speed of biometric identification. The Unique Identification Authority of India (UIDAI) used Artificial Intelligence to establish fingerprint authentification in the Aadhaar digital identity system for a more robust and secure identity authentification system.*[10]

**Source:** ETBFSI.

Civil and population registration systems are also critical for governments to improve service delivery, because verifiable identity allows citizens to receive healthcare, e-commerce, financial and social protection services. The Indonesian government increased the number of applications for civil registration and digital ID among vulnerable populations in the ID for Inclusive Service Delivery and Digital Transformation Project. The project, facilitated by a US$250 million loan from the World Bank,[11] improved civil registration by boosting the government system's cyber security, data protection and privacy frameworks, and updating the data infrastructure while enabling the creation of ID verification and electronic know

your customer (e-KYC) system, a data exchange system for government bodies, and a digital ID app.[12]

Similar efforts to increase civil registration in Kosovo allowed thousands of those first registered to access services ran by public authorities and development partners. The process also enabled the creation of the voter list used in the first election organised in the region by the United Nations Interim Administration Mission in Kosovo (UNMIK).[13] After this initial registration in the year 2000, the Municipal Civil Registration Centers (MCRCs) were created to facilitate continuous civil registration by collecting applications and forwarding them to the Central Processing Center to develop ID cards. The collected data also enables Kosovo residents to receive travel documents and UNMIK ID cards.[14]

Similarly, countries in Latin America and the Caribbean have integrated civil registration services with health services to attract more registrations, which yielded positive impacts by increasing the number of registered people.[15] Notably, there are disproportionately low registration rates among minority communities such as the indigenous communities, Afro-descendants, the poor and migrant children.[16] These groups are left behind in registration due to the fees required by the state, fear of deportation, and the inaccessibility of registries to marginalised communities.[17] Efforts to reduce these barriers to civil registration occur with international development partners, civil society and government efforts.

In the Central Asian country of Tajikistan, many citizens who cannot acquire birth certificates cannot access education or professional employment. About 50,000 people per year miss out on the initial birth registration, which leaves many children (about 16% of boys and 18% of girls) under the age of two unregistered.[18] Failure to acquire this form of civil registration is caused by barriers such as lengthy and expensive processes at the civil registry, the requirement for women

and girls to be accompanied by a husband or lack of knowledge of the importance of civil registration. Civil registration numbers have increased since the United Nations Development Programme (UNDP) working with the government, established an efficient electronic registration system to ease the process and remove barriers for citizens. Further, a parliamentary amendment allowed the registration of births to be issued free of charge in the first three months of birth.[19]

A majority of previously paper-based ID systems are now digitalized in Asia, where governments are using individual biometric data to promote development as opposed to the prior purpose of gathering demographic statistics on citizens.[20] ID systems maintained by government entities are functional and interoperable, incorporating all interactions with government processes such as voting, accessing services, digital transactions, medical insurance, cash-out, and debit services. Further, digital ID adoption in Indonesia, Thailand, Malaysia, and Singapore has enabled efficient citizen data management, captured once citizens turn eighteen.[21]

Thus, using interoperable digital ID and civil registration can lower costs and increase ease for users compared to traditional government methods. For example, the African Union's *Digital Transformation Strategy (DTS) for Africa (2020-2030)*[22] creates an interoperable digital identity framework in the continent, enabling economic and social connection and the meaningful participation of Africans in development matters, such as the African Continental Free Trade Area (AfCFTA).

Various other standards have been established worldwide to guide nations in developing effective digital identity systems. Most of these standards are formulated by international organisations such as the World Bank, the World Economic Forum, the Association of Southeast Asian Nations (ASEAN) and the UNDP. The American (National Institute of Standards and Technology) NIST Digital Identity Guidelines can play a persuasive role in policymaking among other regions

in African nations, the Balkans, Central Asia, South East Asia, Latin America and the Caribbean. The *Digital Identity Toolkit: A Guide for Stakeholders in Africa* has been created by the World Bank to guide African stakeholders on the practical implementation of digital identity.

# Resources and Reading List

## Basic Resources

*African Union Union Africaine União Africana the Digital Transformation Strategy for Africa (2020-2030)*. (2020). African Union (AU). https://au.int/sites/default/files/documents/38507-doc-dts-english.pdf.

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'Digital Identities Advancing Digital Societies in Asia Pacific (2018) https://data.gsmaintelligence.com/api-web/v2/research-file-download?id=30933435&file=Digital%20identities%20advancing%20digital%20societies%20in%20Asia%20Pacific.pdf.

Identity for Development in Asia And The Pacific. (2016). In *Asian Development Bank*. Asian Development Bank. https://www.adb.org/sites/default/files/publication/211556/identity-development-asia-pacific.pdf.

## Guides and Policy on Digital ID and Biometrics

‘ASEAN Digital Integration Framework | Digital Watch Observatory’ (*Digital Watch Observatory*2019) https://dig.watch/resource/asean-digital-integration-framework.

A Blueprint for Digital Identity: The Role of Financial Institutions in Building Digital Identity - https://www3.weforum.org/docs/WEF_A_Blueprint_for_Digital_Identity.pdf.

A Policy Framework for Responsible Limits on Facial Recognition Use Case: Law Enforcement Investigations - https://www3.weforum.org/docs/WEF_A_Policy_Framework_for_Responsible_Limits_on_Facial_Recognition_2021.pdf.

A Primer on Biometrics for ID Systems - https://id4d.worldbank.org/id-biometrics-primer.

Biometrics Institute Privacy Guidelines A good practice guide for biometrics and privacy, lawfulness, fairness, transparency and trust - https://www.biometricsinstitute.org/privacy-guidelines-2/.

General Data Protection Regulation (GDPR) - https://gdpr-info.eu/art-9-gdpr/.

Global Biometrics Guide 2022: A multi-jurisdictional look at the laws governing the use of biometric technology - https://us.eversheds-sutherland.com/portalresource/Global_Biometrics_Guide_2022.pdf.

Global Project Electoral Cycle Support II (GPECS II) - https://www.undp.org/publications/gpecs-ii-digital-identity-biometric-age.

Identification for Development (ID4D) Practitioner's Guide - https://id4d.worldbank.org/guide/about-guide.

National Institute of Standards and Technology (NIST) Special Publication 800-63B: Digital Identity Guidelines - https://nvlpubs.nist.gov/nistpubs/specialpublications/nist.sp.800-63b.pdf.

Principles for Biometric Data Security and Privacy - https://www.ibia.org/download/datasets/4955/Principles%20for%20Biometric%20Data%20Security%20and%20Privacy.pdf.

Publication: Digital Identity Toolkit: A Guide for Stakeholders in Africa - https://openknowledge.worldbank.org/entities/publication/7e5aa471-da85-531b-a921-a0122ed93e1e.

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'Improved Population and Civil Registration and Digital Identification for Better and More Inclusive Service Delivery in Indonesia' (World Bank15 May 2023) https://www.worldbank.org/en/news/press-release/2023/05/15/improved-population-and-civil-registration-and-digital-identification-for-better-and-more-inclusive-service-delivery-in-#:~:text=Digital%20identification%20empowers%20people%20to.

'Kosovo: UNMIK's Achievement in the Area of Civil Registration - Serbia | ReliefWeb' (reliefweb.int26 December 2007) https://reliefweb.int/report/serbia/kosovo-unmiks-achievement-area-civil-registration.

‘UIDAI Rolls out AI-Based Aadhaar Fingerprint Authentication to Curb Spoofing Attempts - et BFSI’ (ETBFSI.com2023) https://bfsi.economictimes.indiatimes.com/news/financial-services/uidai-rolls-out-ai-based-aadhaar-fingerprint-authentication-to-curb-spoofing-attempts/98298518#:~:text=The%20Unique%20Identification%20Authority%20of

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Biometric Update’ (*www.biometricupdate.com*30 August 2022) https://www.biometricupdate.com/202208/serbia-kosovo-reach-reciprocal-deal-to-accept-id-cards-as-travel-documents.

'Creating Digitised, Interoperable ID Systems | Centre of Excellence for Civil Registration and Vital Statistics Systems' (*Crvssystems.ca*2016) https://crvssystems.ca/blog/creating-digitized-interoperable-id-systems.

Graff A, 'Birth Registration Affects Life | United Nations Development Programme (*UNDP*5 February 2020) https://www.undp.org/eurasia/blog/birth-registration-affects-life.

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[2] *Ibid*.

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[5] *Ibid.*

[6] Nadine Perrault and Begoña Arellano (2011). Challenges > Newsletter on Progress towards the Millennium Development Goals from a Child Rights Perspective.

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[10] *ETBFSI (*2023). UIDAI Rolls out AI-Based Aadhaar Fingerprint Authentication to Curb Spoofing Attempts.

[11] World Bank (2023). Improved Population and Civil Registration and Digital Identification for Better and More Inclusive Service Delivery in Indonesia.

[12] *Ibid.*

[13] ReliefWeb (2007). Kosovo: UNMIK's Achievement in the Area of Civil Registration – Serbia.

[14] *Ibid.*

[15] Perrault and Arellano (n 6).

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[17] Kosovo: UNMIK's Achievement in the Area of Civil Registration (n 12).

[18] Anna Graff (2020). Birth Registration Affects Life | United Nations Development Programme.

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