POLICY ACTION NETWORK

PAN TOPICAL GUIDES

AI & DATA SERIES 5

# AI, BIOMETRICS AND SECURITISATION IN MIGRATION MANAGEMENT: POLICY OPTIONS FOR SOUTH AFRICA


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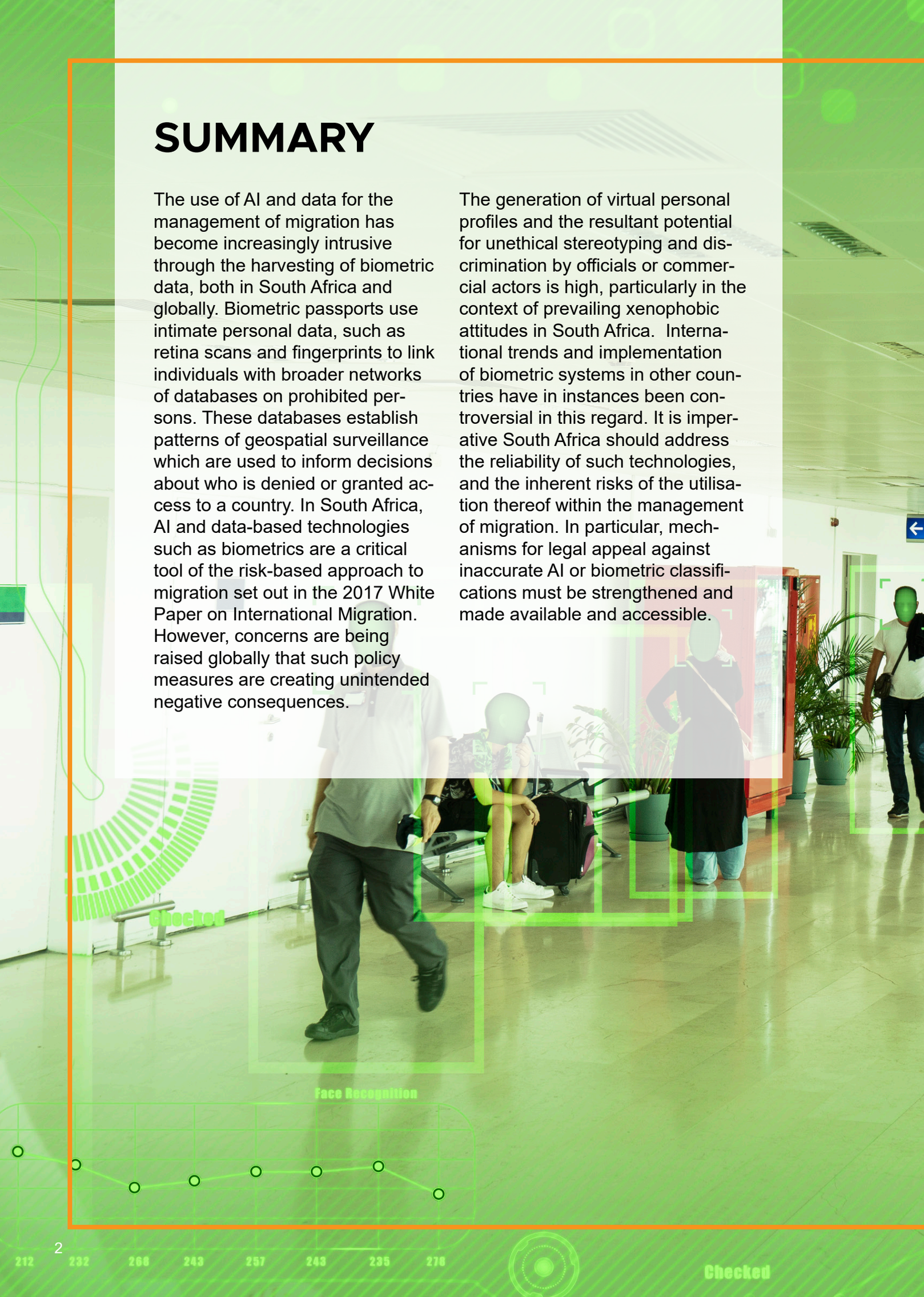
# SUMMARY

The use of AI and data for the management of migration has become increasingly intrusive through the harvesting of biometric data, both in South Africa and globally. Biometric passports use intimate personal data, such as retina scans and fingerprints to link individuals with broader networks of databases on prohibited persons. These databases establish patterns of geospatial surveillance which are used to inform decisions about who is denied or granted access to a country. In South Africa, AI and data-based technologies such as biometrics are a critical tool of the risk-based approach to migration set out in the 2017 White Paper on International Migration. However, concerns are being raised globally that such policy measures are creating unintended negative consequences.

The generation of virtual personal profiles and the resultant potential for unethical stereotyping and discrimination by officials or commercial actors is high, particularly in the context of prevailing xenophobic attitudes in South Africa. International trends and implementation of biometric systems in other countries have in instances been controversial in this regard. It is imperative South Africa should address the reliability of such technologies, and the inherent risks of the utilisation thereof within the management of migration. In particular, mechanisms for legal appeal against inaccurate AI or biometric classifications must be strengthened and made available and accessible.



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# ABOUT THIS TOPICAL GUIDE

This series of PAN Topical Guides seeks to provide key research insights and policy considerations for policy-makers, and other interested stakeholders, on how these technologies need to be developed, used and safeguarded in a manner that aligns with the transformation objectives of South Africa. In addition, each Guide outlines ways in which South Africa may respond to the growth of data-driven systems and technologies, including AI, to foster and inculcate a more inclusive and equitable society, rather than deepen divides.

The series is curated by the Policy Action Network (PAN), a project by the Human Sciences Research Council (HSRC) supported by the Department of Science and Innovation (DSI); and the University of Pretoria (UP) South African Sustainable Development Goals (SDG) Hub and Data Science for Social Impact Research Group, under the ABSA UP Chair of Data Science.

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# BACKGROUND

The use of advanced data-processing technologies has been central to the modernisation of migration management practices worldwide. The collection and analysis of migration-related data is typically used for undertaking identity checks and border security; for reviewing and analysing visa and asylum application data; and for understanding local and global trends in migration.

AI extends the capabilities of existing identity verification and trend analysis tools by adding additional layers of processing which enable these computing platforms to improve the accuracy of their algorithms over time. Machine learning (ML) is one of the most prominent subfields of AI. ML-based tools are initially 'trained' using large amounts of data, and then continuously 'learn' or adapt their operation as new data is received.

In migration environments, it is expected that AI, and especially ML-based algorithms, can use 'big', unstructured data from multiple sources for 'forecasting and managing migratory flows'.[1]

As a result, there is much optimism as to how these algorithmic and data-driven technologies can transform international migration, from predicting migration crises,[2] to the use of fintech (tech-enabled financial services, often available on mobile phones) to create easier access to financial services for immigrants.[3] One of the key mechanisms by which high-performance data processing and AI has, and is likely to have a major influence in migration management is through the use of biometric technologies.

**Biometrics** are scientific measurements used to identify individual persons. There are 'hard' and 'soft' biometrics. Morphological hard biometrics use fingerprints, retinas, voice and facial recognition technologies to identify people; while biological hard biometrics is often forensic in character, e.g. DNA analysis.

Soft biometrics analyse gait or other behavioural characteristics to identify people. Biometrics are used in a range of applications apart from border control, such as smart-phones, financial services, and the payment of social grants.

The biometric harvesting of personal data by both state and commercial actors has increased exponentially in recent years. The most common use in relation to migration - in the sense of formal cross-border travel - is through biometric passports, which use hard morphological data contained in an embedded chip to validate the identity of a traveller at the point of entry. This is linked to a database that contains other collection data, such as lists of prohibited persons (terrorists, deportees, etc.) as well as persons who have been pre-cleared for entry or exit. In addition, there are related biometric applications that are typically integrated with CCTV technology, such as facial, gait and emotion recognition technology, discussed further below. Oftentimes, individuals are unaware that their data is being collected and for what purpose it is being used.

The policy implications of these developments for South Africa are multi-faceted: how to deploy these technologies in the interests of national security for the public good;[4] how to protect the privacy and other human rights of both citizens and foreigners; how to evaluate the reliability of biometric systems;[5] how to guarantee the security of databases of personal information

from malevolent actors and from commercial exploitation; and how to ensure that the South African population is in a position to give informed consent to the harvesting of data, and has access to an appeal mechanism in the case of disputed or inaccurate data.

It is critical for democratic practice that civil society closely monitor the 'securitisation' of migration controls and procedures to ensure that the technology is used for the public good. This will entail the ongoing and explicit identification of intentions, benefits and negative consequences (intended or unintended) and the establishment of mechanisms to protect the rights of individuals in the context of growing government concern about border protection and management.[6] Such concerns include terrorism, illegal migration and trade, drug smuggling and crime-related activities. Other considerations, however, include people's desire to move freely to seek better life opportunities, to go on holiday as tourists, to get married or join relatives, or to conduct short-term trading activities.

## SOUTH AFRICAN AND INTERNATIONAL POLICY POSITIONS

The key stakeholder in migration policy development for South Africa is the Department of Home Affairs (DHA) which is responsible for the management of international migration and for border security. The DHA issues visas and passports as part of a broader role regulating and facilitating the movement of people. Other role players include the South African National Defence Force (SANDF), which monitors the border to detect and prevent illegal crossings. The Department of Public Works (DPW) maintains physical barriers (usually fences) on the border, a practice that was highly controversial in the apartheid period when electric fences caused multiple fatalities. The South African Police Service (SAPS) deals with crime-related matters associated with migration.[7]

South African migration policy has undergone massive changes since the consolidating Aliens Control Act No. 96 of 1991, which was based in the ideology of late Apartheid and was declared unconstitutional. The 1997 Green Paper on International Migration argued for two distinct policy areas, separating refugee and asylum policy from migration per se. The Refugees Act No. 130 of 1998 and the Immigration Act No. 13 of 2002 have since been passed. South Africa is also a signatory to the 1951 Geneva Convention Relating to the Status of Refugees, as well as related African Union and United Nations instruments.[8] There has even been some discussion of implementing 'free movement' within the framework of the fifteen-member Southern African Development Community (SADC) bloc. The major shift in policy has been the elimination of arbitrary administrative decision-making, the introduction of rights of appeal, and limits to the time migrants may be detained.[9]

However, in 2016, a new Green Paper on International Migration identified the absence of a pro-active strategy for the management of international migration as a major policy weakness that results in a failure to advance South Africa's 'national security and development agenda'.[10] The subsequent White Paper, published in July 2017, states that there are 'significant policy gaps … in a number of areas, such as the management of integration for international migrants, management of emigration and management of asylum seekers and refugees'.[11] This represents both a challenge and an opportunity.

In 2017 the revised White Paper on International Migration was published by the DHA. The policy sets out the risk-based approach to migration that the South African state has adopted. According to the policy, the use of technology in migration management is described as supporting the policy position on national security, as follows:

At the heart of efficient and secure traveller facilitation is traveller identification management where travel documents accepted for border integrity purposes underpin the ideals of safety and security. The importance of secure travel documents to international security cannot be overstated.

Travel documents are, however, only as secure as the people and systems behind their production, issuance, control and inspection. Technology and process innovations (biometric verification) are required to achieve effective and efficient security and facilitation measures; and as enablers of future security screening regimes.[12]

According to the DHA, the introduction of biometric technology is a key priority in the DHA's 'Modernisation Programme' and is regarded as 'key' to protecting South Africa. This has included investing in fingerprint and facial recognition technology, with a pilot scheme rolled out at OR Tambo International Airport in 2015, before implementation elsewhere. When the DHA started this trial it harvested the details of all travellers; this caused long delays and subsequently only non-nationals' details were collected. Currently, frequent travellers with no criminal record are able to move quickly through a port of entry (POE) since the system already has their information.[13] In a speech by Minister Gibaga at an inspection of the pilot project, he argued that harvesting travellers' biometric data at POEs would accurately identify people and determine whether they pose a risk to South Africa. Moreover, the use of biometrics would 'prevent the use of fraudulent documents, protect visitors from identity theft and stop criminals and immigration violators from entering the country'.[14]

South Africa's approach dovetails with a global, technology-enabled securitisation of migration which has arisen as a result of increasing state concern over terror attacks and criminal threats.[15] Following 9/11, the United States (US) has argued that the use of biometrics is an essential tool to prevent illegal migrants and terrorists (categories not sharply distinguished in policy discourse) from entering the country. Individuals who may be identified as potential terrorists are entered into an international database and their movements are monitored.[16] States build profiles of individual travellers: where they are from, countries they visit, how often and for what reasons they travel. This information gives governments information about travellers on which to base decisions on whether to admit them into the country or not, according to (often non-transparent) risk profiles. The current US government no longer issues visas to any potential visitors from six countries and is contemplating an extension of this restriction to a further seven countries that are perceived as security risks, unless they are able to comply with the 'biometrics, information-sharing and counterterrorism precautions' that are prescribed by the US Department of Homeland Security.[17]

Broadly then, state investment in technologies seeks to manage and monitor population movement. When considering the emerging role of AI and data in migration management, the claims and actions by DHA (and other countries) must be carefully examined in light of the responsibilities incumbent on all parties (state or otherwise) to promote and protect human rights, including privacy and freedom of movement.

# RESEARCH PERSPECTIVES AND POLICY CONSIDERATIONS

Contestation over citizenship and categories of citizenship form part of the broader history of the legacy of colonial practice. In most parts of Africa during the colonial period, England, France and Portugal deliberately used categories of citizenship and non-citizenship as part of the machinery of oppression and for control of the colonised populations. Race, ethnicity, language, and gender were all used to divide the population into settlers, assimilados, 'natives', 'foreign natives', and other arbitrary classifications.[18] The control of labour movement was an important factor in the growth of what is now thought of as the 'natural' existence of policed borders and the requirement that travellers should carry passports.[19] Vital events' demography—the requirement that births, marriages, and deaths be registered—often did not apply at all to those categorised as 'natives', with the result that many middle-aged and elderly African citizens alive today have no documentary proof of their parentage or their date and place of birth. Currently, less than half of all sub-Saharan African (SSA) births are registered, and according to UNICEF, the total number of unregistered children in Africa – people who will have no proof of their legal identity or nationality – will exceed 100 million by 2030, if rates of civil registration are not improved.[20]

The residence and movement of 'documented' and 'undocumented' people between South Africa and other SSA countries has become a major social and political discussion point over the past 15 years. According to the 2011 census there were 2.1 million[21] migrants in South Africa (4.4% of the total population), of whom over two-thirds originated from member countries of the Southern African Development Community (SADC).[22] [23] There are 71 designated ports of entry (POE) and in 2016, 31.5 million cross-border movements were recorded.[24] These data reflect only population movement through designated POE's and not illegal or informal border crossings along South Africa's extensive land borders and frontier zones. Policy development must take into account this reality.

In the context of South Africa's high crime rates, visa over-stayers, and a large population of illegal aliens, the dominant political meta-narrative presents the use of biometric and related data-driven technologies as broadly unproblematic in the management and surveillance of migration problems. Whilst there are a number of potential benefits in using AI and data for migration applications, these technologies can reinforce negative aspects of current migration governance regimes and lead to new challenges which emerging policies may take into account.

At a global scale there is a strong possibility that the concentration of advanced technologies in the Global North (and emerging technology leaders) will exacerbate asymmetries in migration governance, meaning that less developed countries are effectively forced to adopt the migration rules of other regions.[25] At a country level, tying decision-making closely to data means that access to services or movement through a POE (and appealing decisions) depends on an automated system of standard profiles and rules. AI-based tools potentially support more flexibility and intelligence in processing transactions (e.g. managing spelling errors in surnames), but the complexity of these technologies makes them opaque for users, and therefore difficult to detect errors or potential bias.[26] Minor errors and bias in data-based systems can exclude certain individuals or population groups. Moreover, by automating decisions, public officials are further removed from meaningful interactions with individuals and their lived experiences.[27] The simultaneous lack of transparency means that data subjects are then also not able to appeal decisions. Finally, it is difficult to distinguish what identification data is needed for different applications (e.g. population statistics for planning vs. asset registers for corruption prevention), and to setup necessary safeguards between these applications to prevent misuse of personal data[28].

In the US, an increasingly 'rational', technical

approach to border security and deterrence has been shown to overlook much of the complexity of family relationships and drivers of migration, leading to the criminalisation of migrant groups and a stronger intent to migrate.[29] The International Organization for Migration (IOM) Regional Strategy for Southern Africa explicitly recognises the imperative for 'well-managed and orderly migration …. [in relation to] … combating transnational crime, including smuggling and trafficking, and averting security threats'.[30] However, it cautions against 'unnecessarily restrictive and discriminatory border controls and other immigration barriers … [that] … may undermine efforts towards free movement, economic integration and the protection of vulnerable groups'. Implementing AI and data-driven systems without addressing technical and social risks can reinforce existing weaknesses in migration management, undermining our relationship with neighbouring countries and affecting the legitimate movement of individuals and families (both South African and foreign). Such concerns require explicit recognition within South African migration policy.

The European Union (EU), for example, recognises that citizens and others have a 'right not to be subject to a decision based solely on automated processing, including profiling, which produces legal effects concerning him or her or similarly significantly affects him or her'.[31] It is unclear whether such a right exists in South African law under the Protection of Personal Information (POPI) Act[32], but following the principle that the human rights set out in Chapter 2 of the South African Constitution[33] apply (with exceptions) to all persons in the Republic, this is an important juridical and policy question, which the DHA must not be allowed to avoid. Indeed, in January 2020 it was reported that the EU was about to temporarily prohibit the use of facial recognition technology in public spaces under the above clause regarding automated processing.[34 35]

# RECOMMENDATIONS FOR POLICY AND PRACTICE

In harnessing the benefits of AI and biometric data for the administration and management of cross-border migration, it is essential that policy take cognizance of the following:

- The costs and benefits of imposing restrictive or discriminatory practices which undermine the free movement to which SADC aspires; with particular reference to the need for economic integration across the sub-continent, and for the protection of vulnerable groups, must be weighed.
- The use of AI and biometrics in the control of cross-border migration should be focused on the public good, which includes but is not limited to the preservation of national security, as well as South Africa's Bill of Rights and common law rights of everyone, irrespective of their legal status.
- Incumbent on the users of biometrics and AI systems is the obligation to determine the technical reliability thereof in generating data for decision-making.
- Equally critical is adherence the protection of personal information databases from parasitic commercial use and thus exposure of individuals to violation of their privacy. In all cases, persons from whom biometric data are collected should be sufficiently capacitated to provide informed consent for this purpose. Mechanisms for appeal against and methods for correction of inaccurate personal data (and associated algorithmic processing) should made available, accessible and user-friendly.

To this end the following recommendations are put forward:

**1** The security of databases of personal information from malevolent actors and from commercial exploitation must be guaranteed under the protections offered under the POPI Act

**2** Relatedly, the use of personal data gathered during migration processes must only be used for the purposes for which it was collected

**3** Persons affected from migration related data gathering activities, whether South African or not, must be granted the capacity to give informed consent for the harvesting of personal data, and an appeal mechanism in the case of disputed or inaccurate personal data and automated decisions should be implemented.

**4** Support ongoing research and assessments of the social, economic and international relations implications of AI and data-driven migration management to better understand potential risks, unintended consequences and critical system design considerations.

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