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Africa in the Digital Silk Road Initiative: The security implications of urban surveillance technologies

Background

Since its announcement by the Chinese government in 2015, the Digital Silk Road Initiative (DSRI) has played a crucial role in Africa's technological and digital advancement, including constructing 5G infrastructure and enhancing artificial intelligence (AI) capabilities. The DSRI is part of China's broader Belt and Road Initiative (BRI), which seeks to facilitate the growth of Chinese enterprises in regions including Southeast Asia, South Asia, Africa, the Middle East, Europe, and Latin America. Some of China's Big Tech companies, such as Huawei and Hikvision, have also leveraged the DSRI to export their urban surveillance technologies via their Smart or Safe City programs to African countries. Safe Cities are essentially urban surveillance architectures that often employ advanced technologies such as facial and license-plate recognition to enhance policing efforts. These projects have often been marketed as solutions to curb crime and promote public safety. However, they also present security challenges necessitating action from both governments and policymakers. This research brief highlights the national and human security implications of urban surveillance infrastructure in Africa constructed as part of the DSRI. It also considers how African countries can lower their exposure to such risks by striking a balance between urban security, civil liberties, and national security.

The rise of "Big Cam" in Africa

As a governance technique, surveillance has been a part of Africa's socio-political landscape since colonial times. Today, urban surveillance is often carried out through sophisticated CCTV cameras equipped with advanced technologies such as facial recognition and other AI capabilities. Companies that dominate Africa's urban surveillance landscape include companies like Huawei, ZTE, and Hikvision, belonging to what I refer to as the "Big Cam" industry. These companies have been exporting their surveillance tools under the umbrella of the DSRI—which also aims to advance smart cities in participating countries. Some examples include Safe City initiatives across Africa—from Egypt to Nigeria, Kenya, Botswana, and many others in between. Such Safe Cities often include advanced AI-powered CCTV cameras equipped with facial recognition technology, which enables law enforcement to identify individuals in real time and respond swiftly to incidents.

However, companies from China are not the sole exporters of surveillance tools to African nations. Companies from Russia, Europe, the US, and Israel, for instance, have also supplied African governments with surveillance tools, including those used for internet and social media interception. When it comes to urban surveillance tools, however, Chinese companies have been at the forefront, meaning the impact of their technologies could potentially be more significant. These tools can significantly impact national and human security in African countries and compromise democratic governance by shifting the state-citizen power dynamic in favour of the state.

There are multiple factors driving the adoption of urban surveillance technologies in Africa, including both pull and push factors. On the pull side, African city governments may be pursuing these technologies driven by a real desire to curb urban crime. It is also worth noting that some African governments, both at the national and city levels, have their own agendas to adopt smart cities. An important push factor is the drive by states and transnational corporations, predominantly from China and the US to dominate smart cities both technologically and discursively. For these countries and their multinational companies, smart cities have become part of their strategic narratives, which are communicative tools used to articulate their interests, values, and aspirations for the international order. Whoever crafts a more compelling smart city narrative stands a better chance of drawing in other participants, thereby expanding their influence and soft power. Chinese companies have employed various strategies to get African city governments to buy into their solutions, including "donation diplomacy" and paid trips for African officials to their headquarters in China to observe first-hand how these systems work. While such donations—ranging from buildings and telecommunications infrastructure to computers—might be framed as acts of goodwill or standard business practices, they also raise concerns.

Implications for national and human security

Safe City technologies raise various national security concerns for African countries. This is especially the case since, in many instances, these technologies are implemented without sufficient regulatory frameworks. First, Safe City projects are often funded through substantial loans provided by Chinese banks. Given that most African countries are already heavily indebted to China, this financial dependency could further increase China's leverage over these nations. Such leverage may enable China to gain greater access to natural resources and strategic infrastructure across the continent. Second, these technologies

acquire vast amounts of data on urban populations which, some argue, could be used by the People's Republic of China (PRC) to spy on the global population. These concerns are heightened by a Chinese law requiring companies to share data with the state for national security purposes. This possibility is also enhanced by the fact that certain Chinese companies supplying these technologies are either state-owned or have very close relations with the Chinese state. Relatedly, and thirdly, Safe City technologies may come with security vulnerabilities such as backdoors that may enable unauthorized access. These vulnerabilities could be exploited for various purposes, including the pursuit of military objectives.

The human security implications of Safe City technologies are also multifaceted. These technologies lend themselves to abuse by local governments, enabling activities such as the surveillance of political opponents, suppression of dissenting voices, and broader infringements on civil liberties. This has led to the emergence of what is often referred to as "digital authoritarianism"—the use of surveillance technologies to entrench political control and stifle democratic processes under the guise of maintaining public order. These technologies can also create a chilling effect on society by deterring people from engaging in activism. This is particularly concerning as such systems are sometimes installed in urban spaces historically recognized as arenas for public demonstrations and collective action. It is unsurprising, then, that the motive behind the adoption of these tools remains questionable.

How African countries can lower their exposure

Although African countries and China generally maintain a nonthreatening strategic partnership, it is important to address these risks by implementing measures to ensure that urban surveillance technologies do not compromise national and human security. To this end, recommended measures include:

- Enhancing regional and national regulatory frameworks that govern the use of urban surveillance technologies, as well as the storage, processing, and use of the data collected.
- Promoting diversity among technology suppliers at the city level. The aim should be striking a balance between costs, technology security standards, and public safety. Mechanisms to include local suppliers must also be promoted.
- Establishing clear legal frameworks to ensure that data collected through surveillance technologies is used in alignment with privacy laws and human rights principles.
- Developing mechanisms for public engagement and promote technology-awareness campaigns to ensure transparency and build trust among the state, corporations, and citizens.
- Developing procedures to monitor the effectiveness of surveillance technologies over time and learn from findings.

Conclusion

This brief highlighted selected national and human security implications of urban surveillance technologies exported to African countries via the DSRI in the form of Safe City projects. With regards to national security, the brief discussed risks stemming from Africa's financial dependency on China and those related to data and cybersecurity. Concerning human security, it highlighted the risk of abuse and the potential rise of digital authoritarianism, which may undermine democratic values. Looking ahead, African

governments need to strike a balance between technological development and security across multiple levels—human, urban, and national. African countries must also carefully navigate the current global geopolitical landscape and leverage technological competition among major powers to their advantage.

Recommended reading:

Jili, B. (2023). What is driving the adoption of Chinese surveillance technology in Africa? *Atlantic Council.* Retrieved from https://www.atlanticcouncil.org/in-depth-research-reports/issue-brief/what-is-driving-the-adoption-of-chinese-surveillance-technology-in-africa/

Langa, V. (2024). Rise of Chinese surveillance tech in Africa: Development or espionage? *The African Report*. Retrieved from https://www.theafricareport.com/354469/rise-of-chinese-surveillance-tech-in-africa-development-or-espionage/

About the author:

Dr. Lungani Nelson Hlongwa is an independent researcher who focuses on the geopolitics of technology. He is also a former student of the Faculty of Military Science at Stellenbosch University. This brief is based on his doctoral research titled "China's Digital Silk Road Initiative and the making of a new *nomos* of the Earth: The case of Hikvision in Johannesburg."

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