

# Finding Birnin Zana: In pursuit of an African smart city

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**B**irnin Zana, or the Golden City of Wakanda, is arguably the most popular visual representation of an African smart city. The fictional city featured in the Marvel Comics movie, *Black Panther*, inspired many grand visions about what a technologically advanced African city could look like. Smart city development in Africa has become an increasingly topical field and many African cities have already embarked on exciting journeys to become 'smart'. But despite this, little is known about smart city development in Africa.

In order to shed a little insight into this, the Urban Real Estate Research Unit (URERU) at the University of Cape Town set out to explore what it means to be 'smart' in an African context. In order to understand what 'smart urbanism' means in Africa, one needs to start by developing a foundational understanding of what smart urbanism actually is.

The term 'smart' is pervasive in modern society and there are countless different contexts and understandings from which the conceptual understanding of 'smart' is applied.



Source: Marvel Cinematic Universe

Despite this, there is a dearth of a comprehensive understanding of the concepts that underpin what it means to be smart, particularly in the context of urban development. The term ‘smart city’ often gets appropriated and exhibited without being accompanied by any substantive meaning.

This has made such labelling problematic and misleading as the term is often used to represent plans that are not smart or do not promote the principles of smartness.

Thus, it is important to try and define what it is to be a ‘smart city’ and what would it look like. Put simply, a smart city is one that leverages the strategic use of enabling technologies to support key urban development objectives. On a theoretical level, a smart city is a place that provides a virtual and physical platform to empower urban actors to openly collaborate to drive innovative solutions in order to achieve urban development objectives, and by doing so, improving the quality of life for all inhabitants. The concept is more synonymous with innovative governments and collaborations with various urban actors than technology alone. To this end, a smart city cannot be realised by merely investing in distributed sensors and digital technologies.

A smart city would more accurately be described as an urban environment where technology is leveraged to help reinvent of the way cities operate, solve problems, and redefine the roles and responsibilities of urban actors. Traditionally, government

is seen as a supplier of public services and citizens and businesses as the consumers of those services. In a smart city this binary definition of urban role-players is outdated as having a digital platform that facilitates an open exchange reconfigures these relations of power and responsibility so that non-state actors can assist in the service delivery and decision-making functions traditionally assigned to government institutions. This enables cities as a collective to tap into specific skills and resources drive greater efficiencies and capacities of urban actors whilst also providing equity and social justice in terms of how people experience the city.

**What this means for Africa**

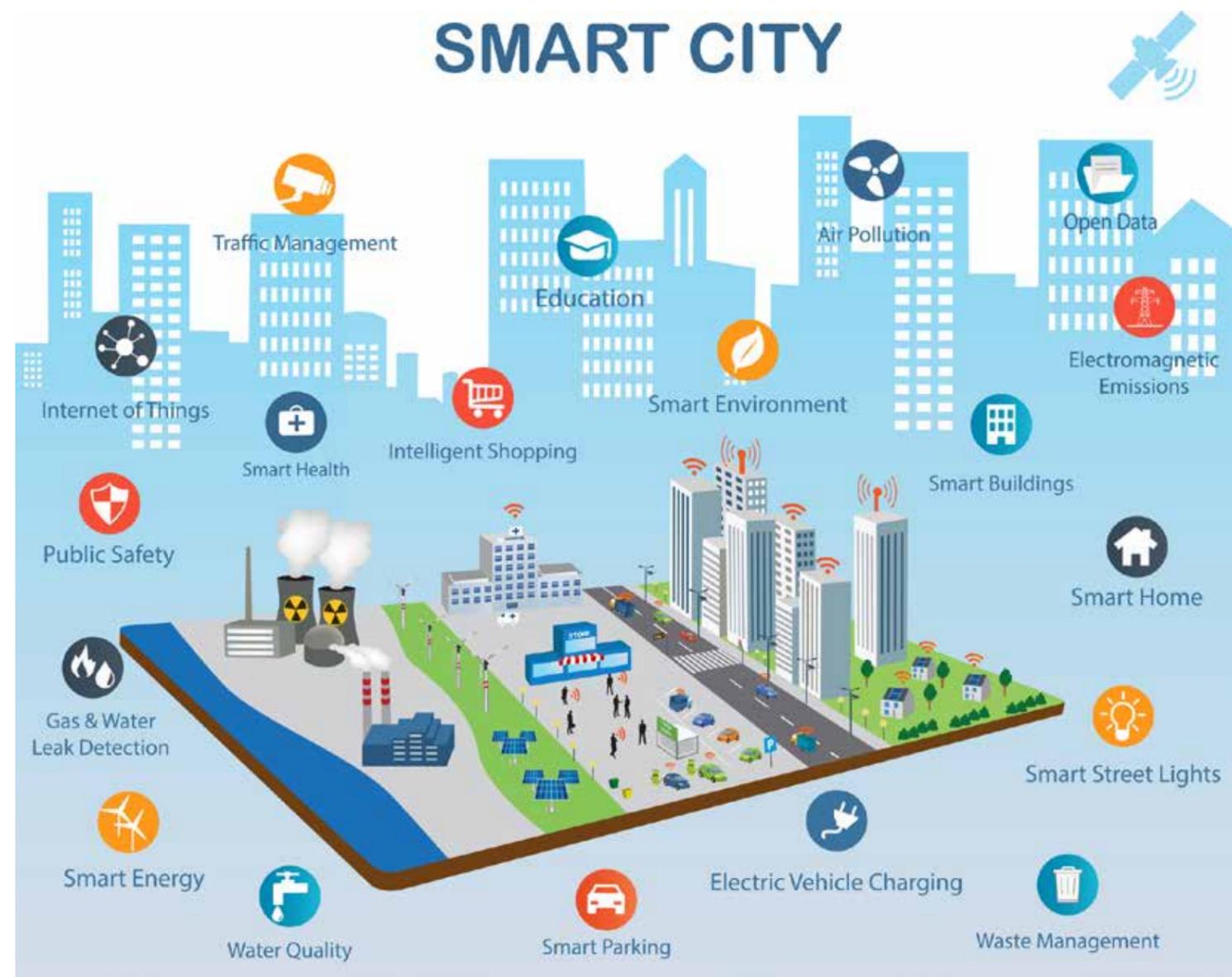
In Africa, we live in a unique context of dual cities, rapid urbanisation (leading to an exponential growth in urban poverty) and overburdened local governments with institutional limitations. To many, this rules most African cities out of contention of becoming ‘smart’. However, the promise of smart urbanism does have relevance and applicability in Africa.

One aspect of technology and development in Africa is the ability to leapfrog investments in technology. Most of Africa has the fortune of not having to follow the traditional trajectory of technological advancement to invest in cutting edge technology. This means we do not have to bear the cost of investing in old technology. For example, many places in Africa will be connected to a 5G network before they will be

connected to a fixed telephone line. In fact, very few African governments would see the point in investing in such obsolete technology.

Whilst it is evident that technology offers significant opportunities for African cities to make giant strides towards smart urbanism it is important that African cities deploy technologies that are appropriate to its context.

Many African city governments view smart city development as “keeping up with the Joneses” north of the equator in an attempt to remain relevant and attract talent and investment. Smart city interventions in Africa need to be strategic, incremental and linked to a specific outcome that serves its context. Technology should not be the central lens through which we understand and solve urban issues.



It is a powerful enabling tool that can support specific interventions if linked to a deeply understood issue. Cities must look at the specific objectives of their city and work according to that by selecting the available suite of available technologies to support that. This highlights that technology adoption is far higher when it is closely aligned with the behaviour and needs of the people in an area. Kenya's Mpesa system is a prime example of this.

Local governments most commonly steward the direction of urban development in a given city. The same applies to smart city development and local government is the vehicle which drives it. Therefore, you cannot have a smart city without a *smart city*. What this refers to is the capability and institutional characteristics of local government. This entails system and departmental integration where internal and external collaboration is central to their models of operation, leadership that is underpinned by a deep-seated understanding of available and appropriate technologies, and a culture of innovation where there is freedom to experiment and quickly adapt to changing practices. The vast majority of governments in Africa have weak local institutions which do not exhibit these characteristics. This makes coherent and meaningful attempts at driving smart urbanism rare.

This issue is compounded by the lack of strong leadership in the field of smart urbanism in governments across Africa.

This is not only present at the local level, but also at the regional and national level. This is reflected by the lack of supportive policy and legislation for smart city development and many African cities are not legislatively ready for the Fourth Industrial Revolution. Policy development needs to be responsive to support the application of new models of operating in a context of rapidly changing technologies. The absence of supportive legislation presents particular issues around data governance and privacy which is going to be a crucial concern for African cities as they enter this new world of digital platforms with open data.



Mpesa

Source: CIO Esat Africa



Arguably the most important issue regarding smart city development in Africa will centre around shrinking the digital divide. This refers to the disparate access to, distribution and use of technology and connectivity, most notably between the rich and poor. It is impacted by affordability, income, and geographic distance from economic hubs. Smart city development is likely to only entrench the inequities currently experienced in African cities unless massive strides are made to eliminate the digital divide. However, this is a layered and complex issue as it not only requires access to connectivity, but also technology and digital skills.

Therefore, addressing this challenge will require extensive collaboration with private sector and civic-based organisations across multiple sectors and disciplines. Increasing the inclusivity of connectivity needs to be a top policy priority for African cities.

Connectivity offers countless opportunities for empowerment, upward mobility, self-reliance and improving people's right to the city. To this end, it is posited that connectivity be viewed as a human right, or the very least a utility like water or electricity. Thus, African cities need to make massive investments into digital Infrastructure which supports connectivity and IT capabilities.

Another key consideration for smart city development in Africa is how to utilise technology to combat corruption in public institutions. New technologies and the models of operating they promote can have a significant role in enforcing accountability, creating more transparent systems of governance and eradicating corruption. The City of Cape Town's integrated digital back office platform has largely been responsible for the consistently clean audits that the city government has maintained for the past decade.

### Conclusion

Smart city development is not the panacea to the wave of problems that approach African cities as they become increasingly urbanised. Nevertheless, African cities can strategically harness the enabling attributes of emerging technologies to drive more equitable and inclusive development that can provide meaningful opportunities for upward mobility, a better quality of life for all, a more transparent and engaged form of governance, and effective responses to complex challenges such as climate change.

But central to this is not necessarily investing in technology but a gaining deep understanding of the issues that exist in our cities and nurturing an openness to collaborate with outside actors to address those issues.

Essentially this comes down to two key ingredients: having decisive leadership that can drive a coordinated and comprehensive vision for smart urbanism which demonstrates the value of technological interventions in the face of priorities such as basic service delivery and dignified housing; and strong institutions

that can rally behind that leadership to facilitate the realisation of a vision for an African urban future. Hence, before African cities can kickstart their smart city aspirations they need to fix the institutions required to drive those aspirations.

Technological interventions alone will not address the structural issues that result in many African municipalities' inability to deliver on their mandates. Tackling this monumental task will inevitably require focussing on the leadership, skills, partnerships (both internally and externally) and organisational structures

that support innovation and collaboration not just within the view of local governments driving smart urbanism, but more broadly as vehicles of urban governance. A failure for African cities to do this will likely mean that smart city development on the continent will continue to be dictated by technology in disjointed interventions that fail to instil any meaningful strides to address the structural issues central to many of the inequities and injustices that make life so challenging for many African city dwellers.

The first two reports of the URERU smart city research series is out now and can be accessed on the [Unit's website](#). The final two instalments will be released towards the end of the year. **A+**

