Towards the African smart city

Globally, the pressure is on for cities to become "smart". There is a strong need to invest in information communication technology and socio-economic development, while still effectively managing budgets and scarce natural resources.

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All of this is with the intention to provide quality working and living conditions for citizens. The essence of tl cities of the future, however, lies in their infrastructure.

"There's no denying that there is a direct correlation between sufficient infrastructure and economic growth said Richard Matchett, divisional director of WSP Civil and Structural Engineers. "This is especially relevar in the African context, where mobility plays an essential role in the economic livelihood of so many people and transportation - in particular - for both people and goods or services is the key to unlocking the real potential of any major town or city."

Traditionally, urbanisation has occurred around developments in primary transport infrastructure - including ports, rail and major roads - which are generally designed and positioned in support of major industry developments and the primary movement of goods and services. However, Matchett noted that city planne in Africa must not neglect the supporting infrastructure networks in their long-term visions and planning, too

"City planners need to scope their vision and planned projects beyond just those key economic factors an in their infrastructure planning, start to build with a sense of 'societal resilience' in mind. It is this resilience that will build economies. In reality, without the ability to commute between work and home using safe and reliable transport infrastructure, the economic growth of a city will be stifled."

A well-maintained infrastructure network

Added to this, a well-maintained infrastructure network that is also sustainable provides the cornerstone tha many other development activities will revolve around. "As an example, research shows that two-thirds of South Africa's population are living in urban areas. Cities are beholden to the transportation network to unlo development potential. Even commuters using private vehicles are frustrated as a result of increased congestion that significantly adds to their travelling time and cost," said Matchett.

Being proactive and adopting preventative maintenance strategies might seem logical, but time, capacity and budget constraints often restrict municipalities to be reactionary when it comes to infrastructure and transport networks.

Part of creating this more balanced environment means that cities need to embrace all the technological innovations available. In fact, African cities have the opportunity to start with the latest technology, bypassi older and more well-established cities elsewhere in the world.

Necessity of Wi-Fi connectivity

Michael Fletcher, Sales Director of Ruckus Wireless sub-Saharan Africa, believes this push towards technology adoption means Wi-Fi connectivity is becoming more of a necessity. "Wi-Fi has an increasingl important role to play in future cities - as certainly while infrastructure will be the foundation, services and connectivity will be the building blocks and driver for economic development in the digital age."

Ubiquitous mobile communications demand ubiquitous connectivity. Tens of billions of devices and syste are connecting in the Internet of Things, bringing revolutionary changes to businesses and cities. "Future cities will be run on connectivity, using data and analytics to improve service delivery, improve traffic flows, monitor electricity and water use for sustainability and driving building and office efficiencies to name but a few - but all elements that require access to connectivity - of which Wi-Fi will be a key component alongsid 3G, LTE and municipal fibre networks."

Driven by mobility

For a continent driven by mobility, Wi-Fi presents a significant opportunity to aid in the socio-economic development of people - particularly as it provides a cost-effective access solution to high-density areas, such as those found in cities. As urbanisation increases, high-density areas will become more prevalent.

Fletcher cited the example of Kenya and Ghana, which are heavily investing in building pre-planned technology hubs that have the capacity to be involved in the smart cities of the future.

"While this might not be the silver bullet to solve all problems, it certainly contributes to creating a sustainal environment that provides people with significant value-added benefits," added Fletcher. Coupled with infrastructure development, Wi-Fi offers the means to a more competitive marketplace that will further catapult the city beyond that of its competitors.

"Irrespective of the route taken to becoming a smart city, it is imperative for those in Africa to harness the innovation and opportunities at their disposal. Ultimately, this will contribute towards the natural evolution of becoming a smart city," concluded Fletcher.