

# Is South Africa ready for smart cities?



By Paul Divali

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The concept of the 'smart city' is growing in popularity as more and more connected technologies emerge. The term has many definitions, however, at its most basic level, a smart city is one in which the municipal authority is able to properly measure and manage the various services they are delivering within their environment, in real time, and with a high level of accuracy. Utilising technology such as smart metering for electricity and water, for example, can help to facilitate this and enable the beginnings of a smart city.

As municipalities all over the world examine how they can apply such solutions, the question remains, is South Africa ready for smart cities? While technology forms an integral component of the smart city concept, it is the integration of the various technology components and solutions that deliver real value and transforms a city into a smart city. The corporate sector can play an instrumental role in assisting local government to fast-track these initiatives with their integration skills and expertise.

## Challenges to implementation of smart devices

Smart cities have the potential to deliver multiple benefits, not only to municipalities but to citizens as well. Enhancing the efficiency and management of utilities such as electricity and water could translate into improved service delivery, which means that more citizens will be able to access basic services. However, economic challenges such as the ability of citizens to afford basic services can prove to be a significant barrier to the implementation of smart cities. Prepaid meters, the precursor to smart metering solutions, are an essential technology component which is already available in many areas, but must be implemented and integrated correctly in order to be effective.



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Further to smart meters or other smart devices, the additional technology components required are a communication system to connect all of these devices to various applications in the cloud - in other words, broadband connectivity. While this has proven to be a challenge in the past, the reality is that broadband is more readily available today in many locations, either through fibre or mobile offerings. The technology and infrastructure already exist for the implementation of the basics of smart cities in South Africa. Integrating the technologies is crucial for the success of this. However, integration requires specialist skills and expertise. Corporates and local government must collaborate in order to achieve the integration that unpins smart city initiatives.

## The benefits of smart solutions to municipalities and citizens

Municipalities must also demonstrate to citizens the benefits of improved service delivery through smart solutions. For example, a smart metering solution will allow municipalities to offer basic services at different rates to different population segments, for example those subsisting on a government pension can be given electricity at a reduced rate compared to a citizen living in a large house in a wealthy suburb. Municipalities will be able to differentiate tariffs across different economic groups depending on their ability to afford the service. For consumers, this also provides a greater level of transparency, as they will be able to see exactly what they are paying for which level of service.

For municipalities, smart solutions offer a number of benefits. Prepaid meters can vastly improve revenue collection, as they ensure citizens pay for their services up front rather than in arrears. This also enables municipalities to detect revenue leakage throughout the system - local governments can easily see how much electricity they are purchasing, how much is being used, and how much is being paid for. The same can be done for water. In addition, smart technology can be extended to include things like flow meters, which will be able to detect physical leaks on the pipes.

## Smart cities are the future

Armed with the information provided by smart metering solutions, municipalities will also be able to conduct analytics to identify trends. Accurate data on service utilisation enables local governments to better plan for future demand and improve the delivery of basic services. Demand for electricity can be predicted ahead of time to minimise disruption, the need for water infrastructure upgrading can be proactively determined, transport services can be planned better and many more benefits can be accrued. This benefit is then passed down to the citizen in the form of more effective service delivery.

Smart cities are the future, and they offer numerous benefits for all parties concerned. However, ultimately it is a combination of integrating the many disparate solutions and creating a communications platform that will determine the success of any initiative. Corporates that have the necessary integration skills can assist greatly in successful smart city initiatives.

In addition, without buy-in from the citizens, any venture will inevitably fail. The challenge in South Africa is not the technology, but finding the right way to implement it and integrate with the right partner and to ensure citizens realise and understand the benefits it provides.

## ABOUT PAUL DIVALL

Paul holds a B.Sc in Electronic Engineering from the University of Natal and a Masters in Business Administration (MBA) from the University of Pretoria, as well as completing the Programme in Business Communication from the University of South Africa Centre for Business Management. He has more than two decades of experience in the telecommunications and technology space.

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