

# Powering digital systems for power stations

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Much of the globe's infrastructure is controlled digitally via Supervisory Control and Data Acquisition (SCADA) systems, and South Africa's own power utility, Eskom, which supplies almost 95% of the country's electricity, is no exception. The parastatal recently signed a multimillion dollar deal with Ventyx, a leading industrial enterprise software company.

Under this USD7 million deal, Ventyx will provide Eskom with two significant software licence agreements to improve the utility's real-time network monitoring and control of operations. It will reportedly be the largest implementation of Ventyx's SCADA and distribution management systems (DMS) in Africa.

## Ageing infrastructure

These systems have been designed especially to help improve the processes, equipment reliability and performance within power generation, transmission and distribution operations, and will, therefore, be critical to ensure the smooth running of many of South Africa's power stations, where the ageing infrastructure has been causing regular unplanned electricity outages across the country.

An intricate software system that is so critical to the operations of the country's power stations requires a lot of bandwidth and a stable, fast and reliable network to function. The problem is that, as many of the country's power stations are coal burning, they are located in the harsh terrain near the country's coalfields and mines where it is costly to install infrastructure required to set up the broadband and voice services that are needed for running such digital systems.

Skywire, a company that provides both fixed-line and point-to-point wireless broadband and voice services to South African businesses of all sizes, may hold the solution for such challenges.

What gives Skywire an even wider reach is that, although we integrate with Telkom's network, we offer services on our own infrastructure as well, and we can also facilitate the provision of new infrastructure from a number of alternate network access providers. This allows Skywire to deploy in even the most remote areas where we provide our customers with point-to-point connectivity for data and voice networks via secure and dedicated circuits with minimum latency and full and true redundancy.

Skywire already counts a number of local mines among their clientele and it was also the first provider to deploy at Eskom's Kusile power station, which is currently under construction in Mpumalanga. Upon its completion - expected to be in 2018, with the first unit expected to be operational by 2014 - Kusile is slated to become the world's largest coal-fired power plant, and once fully operational, will generate 4 800MW of power.

## Wet flue gas desulphurisation

Kusile will be the first South African power generating facility to incorporate wet flue gas desulphurisation (FGD), the current, state-of-the-art technology used to remove oxides of sulphur (S<sub>ox</sub>) such as sulphur dioxide (SO<sub>2</sub>) from the exhaust flue gases in coal-or oil-burning power plants for pollution abatement to comply with international air quality standards.

Skywire's network is already being put to good use by affiliates at Kusile. Much of the technology used by power plants these days, such as FGD at Kusile, is controlled and monitored via computer. There are optimisation software systems that can be employed by power plant operators to help monitor FGD systems and keep tabs on SO<sub>sub>2</sub> compliance. The software portal, which they will be able to access via a secure Internet connection, will allow designated personnel to monitor plant process graphics in real time and thereby keep a close eye on SO<sub>sub>2</sub> compliance, even when they are not on site.

## ABOUT THE AUTHOR

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