

RSSC deploys IoT solution with SAP Leonardo to improve logistics, water management

The Southern African sugar cane industry has been under extended pressure due to falling global prices and escalating fuel, labour and other input costs. In addition, cheap imports stemming from a global oversupply of sugar cane has led to the closing down of many sugar cane farmers and related industries, with total production in South Africa falling from a peak in 2005 of 2.5 million tonnes to only 1.6 million tonnes in 2017.



To be better placed to meet these challenges, The Royal Swaziland Sugar Corporation (RSSC) commissioned Britehouse's expertise and SAP technologies to streamline its operations and bring agility to its business processes.

According to Rob Coombe, chief information officer at RSSC, the company was particularly interested in the possibilities of integrating IoT solutions in its daily operations. "The global sugar market is struggling in the midst of low pricing, and we are aware of the potential impact this may have on our business. We wanted to drive cost-saving measures that would help maintain production costs at global standards to enable us to compete on equal footing with our international competitors."

The discovery phase kicked off with an executive briefing in late 2017, followed by design thinking workshops in February 2018.

According to Danie Smit, pre-sales business architect at SAP Africa, RSSC identified four business cases for IoT that would improve the business on an incremental and strategic level. "The first was focused on farmland production, another on improved use of strategic water resources, the third focused on inbound logistics, and the last related to the use of machinery. The customer already had some sensors in place, but they were not integrated to the company's core business processes."

Business impact and ROI

RSSC, Britehouse and SAP hosted design thinking workshops with engineers and farmers to better understand which areas had the greatest potential for positive business impact and ROI. "Our teams deployed the sensors to SAP HANA on the SAP Leonardo platform so that all data would be integrated with the company's business data. We also chose two key strategic projects to pilot."

RSSC, Britehouse and SAP Africa also made use of SAP's Co-Innovation Lab, a global network of SAP product and innovation labs found in 16 locations worldwide. The first Co-Innovation Lab on African soil opened in South Africa in 2016.

Tshepo Mahloko, co-innovation architect in the SAP Co-Innovation Lab, explains that the Co-Innovation Lab provides SAP partners with a structured and guided global approach to produce innovative solutions with shorter time-to-market at reduced risk. "Our involvement was with the vehicle logistics scenario where working with partner Britehouse, data from sensors on trucks at RSSC was integrated to a geo-spatial information system to gain clarity over where the cane trucks are and to assess other aspects - such as driver behaviour and fuel consumption - that could affect operational efficiencies.

"We discovered during our design thinking workshops that cane haulage takes a high proportion of the farming operational spend, so there was a direct and immediate cost-benefit to improving this aspect of the production process," says Mahloko. A second project looked at how the flow of water in the two main rivers could be better utilised, and to overcome the impact of drought while building some reserves.

Optimising operational efficiencies

The vehicle logistics deployment will enable RSSC to lower the cost of transportation without sacrificing service levels. The fleet can also be optimised to reflect actual operational demands, and opportunities for the use of mixed fleets - using owned and outsourced vehicles - has given RSSC increased flexibility.

Coombe says the additional data has unlocked opportunities for a range of future business benefits. "Agriculture is by its nature a highly scientific business involving substantial analysis, thinking and agronomy. By ensuring we get the right data to the right people at the right time, we can make incremental improvements to our performance while improving our long-term sustainability and agility."

RSSC's deployment has established a foundation upon which the organisation can build an Intelligent Enterprise. "Today's most successful businesses are the ones that can integrate exponential technologies such as IoT and predictive analytics to a digital core that drives the entire enterprise's business processes. As one of the leading producers of sugar in Southern Africa, RSSC has also through this deployment empowered its ability to compete on the global stage, pointing to a bright and successful future for the organisation," added Smit.

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