IoT innovation could help South African manufacturers compete internationally

According to Deloitte's Global Manufacturing Competitiveness survey, South Africa is ranked 27th in the world, down three places from 2013 and it is expected to slip further down the ranking in the next five to ten years. The rising cost of production, combined with muted investments in technology, is making it difficult for South African manufacturers to compete with their international peers.

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However, Mike Vincent, Africa industrial products and services sector leader at Deloitte believes advanced technology and the Internet of Things (IOT) can help manufacturers in South Africa and the rest of the continent be more globally competitive, streamline operations and increase productivity.

“Thanks to IoT, we have a positive outlook on the future of manufacturing in Africa, on condition that appropriate investments are made. Innovative new sensory technology in the IoT space allows manufacturing companies to monitor and analyse the manufacturing process better. This includes how the end user interacts with the products. There is an exciting opportunity now to use this business knowledge and customer insight to improve the manufacturing process and most importantly the product itself.”

IoT’s new data processing technologies and availability of analytical forecasting models monitor the entire manufacturing value chain - from concept to completion and beyond. By adding innovative IoT sensors in the operation, connectivity is improved at all levels. The business becomes inherently smarter.

For example, machines using parts manufactured and imported from different parts of the world almost completely build sophisticated cars. This is a time consuming and costly process. Now the digital supply chain is supported by advanced predictive analytics that coordinate all principal partners, countries, individual parts, thousands of suppliers and even employees in the factories.

“As this example illustrates, IoT and analytics are innovating manufacturing, improving interoperability across a large set of assets and linking machines, products, computers, people, and analytical resources into one ecosystem. IoT and analytics are creating two important buckets of value in manufacturing: growing the business and operating the existing business more efficiently.”

To reap the benefits of IoT, African entrepreneurs who want to operate on a global scale should be increasing investment in IoT infrastructure. Doing this reduces the dependency on labour intensive and time-consuming tasks and brings cost efficiencies and improved competence to the business. As a result, the business will make smarter decisions and realise better profits.

Realising efficiencies

IoT in manufacturing can help companies realise the following efficiencies:

1. Accelerate planning and pre-manufacturing – IoT and analytics can deliver insight to help companies gain a better grasp on selecting suppliers, considering risk, managing material costs, and fluctuations, potentially resulting in improved predictability and performance in the local and international market.

2. Streamline manufacturing processes – Predictive tools and machine learning allow potential problems to be identified and corrected before they occur. The value of lean manufacturing and just-in-time processes improves exponentially when intelligence obtained via IoT analytics is applied.

3. Improve post-manufacturing support and service – New levels of connectedness and the higher-level insights of IoT and analytics can help manufacturers gather information from customers effectively and improve service and support in the aftermarket. This enhanced support costs and builds long-term brand loyalty.

Vincent concludes, “Manufacturers that want to improve their competitiveness internationally should seriously consider applying IoT data processing and analytical forecasting technologies in their operations. Technology-driven manufacturing innovations are evolving rapidly, which makes analytics and IoT a trend to watch in 2016 and beyond.”