

Smart Manufacturing at DT Hub: Leveraging Big Data for Productivity



Mr. Roberto Leone, Managing Director of NiRoTech, leads his team to expand the company's business in Hong Kong and achieve greater success.

To achieve re-industrialisation in Hong Kong, a smart production line for intelligent manufacturing is a prerequisite, and the perfect place to set up smart production lines in Hong Kong is at the DT Hub and the adjacent Advanced Manufacturing Centre (AMC) in Tseung Kwan O. NiRoTech Limited, which manufactures mechatronic systems for partners, is reaping the benefits of having set up base at the DT Hub. Its Finance Director Lewis Yip says DT Hub enables the company to make use of big data analytics to improve productivity and production transparency to meet customer needs.

Founded in 2013 with factories in Mainland China and Vietnam, NiRoTech decided to set up production lines in its home base of Hong Kong, taking advantage of the HKSAR Government's re-industrialisation initiative put forward in the Policy Address. The company's Managing Director Mr. Roberto Leone believes the move makes sense because it is easier to manage a production line and ensure quality from a close distance. Also, a smart production line doesn't require a big footprint so that it won't incur crippling rental expenses in land-scarce Hong Kong, thus ensuring a good margin to be commercially viable.

Having established productive smart production lines in Yuen Long, the NiRoTech team wants to find another compact manufacturing space equipped with logistics and digital facilities. DT Hub is the perfect fit, as it's in the heart of a cluster of data centres supported by high-speed network connectivity, which is vital for smart production lines.



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NiRoTech manages the entire supply chain, from liaising with suppliers to managing buyers' orders, through a single digital platform. Big data can help to ensure that there is no missing link to hamper production, as there are hundreds of parts and materials involved in a production line and any missing piece could disrupt the whole manufacturing process. Smart production lines could accumulate a body of big data to help the digital platform systematically schedule and maintain parts supply, as well as work out the production capacity, quotation and delivery schedule after buyers have placed an order.

Yip believes that the digital platform is vital for the company to respond to market development, as it will certainly be dealing with an increasing volume of customer enquiries about their production lines, materials used for product composition, as well as production schedules and progress. "To us, big data is for real, not just a catchphrase, and it is crucial to make use of big data to deal with mounting challenges in the future," says Yip.

NiRoTech has integrated artificial intelligence with machines to completely automate and digitise its production line – from manufacturing and assembly to quality monitoring. Each machine is enabled to record the daily production volume and incidents of faults, with built-in cameras to inspect parts before assembly to prevent faulty parts from slipping into production.



With the integration of artificial intelligence and machines, NiRoTech's production line is fully automated and digitised from manufacturing to assembly and quality monitoring.



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Yip explains that only 10 people are needed to operate a smart production line in Hong Kong, versus 38 people for a traditional one of similar scale. He recalls that the pandemic forced their mainland plants to stop production temporarily last year, and the delivery of some orders was delayed. With smart production lines that require fewer people to congregate, such a situation could be prevented.

Leone reveals that NiRoTech has established its office at DT Hub and is set to submit a proposal for setting up a production plant at AMC. The facility suits its needs, as its equipment requires high-standard building specifications for power capacity and floor loading, and there are few other facilities in Hong Kong that meet such specifications, says Yip.

Logistics is another key consideration. "It's impossible to unload a 20-foot container in Kwun Tong, which is packed with factory buildings, but here at DT Hub, we can enjoy the shared 3PL logistics facilities at AMC just across the street. It is a strategic infrastructure conducive to re-industrialisation," Yip says.

NiRoTech says that while it's helpful that the Government provides support and subsidies to industries to spearhead its re-industrialisation initiative, companies still encounter challenges, such as having to rely heavily on mainland skilled manpower and their production experience. Yip thinks this can be resolved through Hong Kong and the Greater Bay Area (GBA) cities working out mutually beneficial arrangements. "Hong Kong needs the GBA partners for their services, products and talents for various professions, whereas Hong Kong can offer its financial talents and experience to Guangdong cities in return. If the GBA cities can leverage each other's strengths, they can deliver much greater growth potential for enterprises," Yip says.