

Expanding the Hi-tech Ecosystem in Penang for a New Era

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The ViTrox Campus 2.0 at the Batu Kawan Industrial Park. Photo by: ViTrox Corporation.

OVER THE PAST 20 years, ViTrox has established itself as a global technology company that is “powered in Penang and in Malaysia”, growing to reach a market capitalisation of RM10b in 2021 since its humble beginnings when it operated from a rented premises in Sungai Dua.

In 2021, ViTrox was awarded "Company of the Year" by The Edge Billion Ringgit Club, with accolades ranging from its inclusion in the FTSE4Good Index Series by FTSE Russell in December 2021 and ranked the highest four-star by ESG rating among public-listed companies in FTSE4Good Bursa Malaysia Emas, to having featured in Forbes Asia 200 Best Under A Billion for the years 2011, 2015, 2017, 2019 and 2021 respectively.



President and CEO of ViTrox Corporation, Chu Jenn Weng. Photo by: ViTrox Corporation.

As one of the largest automated test equipment (ATE) companies in Malaysia, ViTrox’s core business segments of Machine Vision System and Automated Board Inspection are in the semiconductor back-end and electronics assemblies sectors. In fact, the company offers the world’s fastest 3D in-line X-Ray inspection equipment for the electronics assemblies and the SMT industry.

“Our vision is to be the world’s most trusted technology company. We aim to contribute to the advancement of society and to the wellbeing of humankind through compassionate innovation,” says co-founder Chu Jenn Weng, who is also president and CEO of ViTrox Corporation. ViTrox currently has a staff strength of around 850.

Mapping Out a 10-year Expansion Masterplan

In June 2021, ViTrox acquired an additional 21.03-acre parcel of land at the Batu Kawan Industrial Park (BKIP). This sits adjacent to its current campus, the ViTrox Campus 2.0 that measures 450,000 sq ft. The acquisition is part of the company's 10-year expansion masterplan, one that is centred around the idea of building a local high-technology ecosystem at the BKIP based on collaborative efforts between the private sector, the government and institutions of higher learning.

This ecosystem will include a high-tech automation, robotic and AI innovation park, the ViTrox's Innovation Park comprising large local companies (LLCs) with advanced manufacturing facilities, tech startups, as well as an institute of technologies for which ViTrox envisions as a centre of excellence for engineers and scientists to carry out meaningful research and development (R&D) and for activities geared towards innovation and technological breakthroughs. As well as attending lectures, a pool of 3,000-4,000 talents is to work alongside engineers in solving real-world engineering problems, and to improve the talent shortage especially in engineering and the computer sciences, where there is evidently a mismatch between the training and skills acquired by graduates, and industry requirements. Many local industries have had their operation and expansion plans hampered because of this.

The ViTrox Innovation Park is expected to accelerate the creation of the first smart manufacturing and technology equipment ecosystem in Malaysia, one that supports "Design in Malaysia" brands that are spearheaded by innovative, forward-thinking and self-sufficient local industries and the wider tech community.

Cultivating Innovation and Development in the Local Ecosystem

The culture of innovation and R&D is very much ingrained in ViTrox's ethos. In the financial year 2020 alone, it launched more than 10 new or enhanced vision inspection handlers and systems, and embedded electronics systems. Also introduced was ViTrox's V-ONE Industrial 4.0 Software Platform to collect various real-time data with fully flexible visualisation drill-down charts and a flexible dashboard to provide meaningful analytics to users on a real-time basis.



ViTrox's Wafer Vision Inspection Handler Wi8 i is used for robust algorithm inspection and sophisticated hardware design. Photo by: ViTrox Corporation.



Advanced Robotic Vision (ARV) is used to eliminate harmful coating on humans with reliable and repeatable inspection results. Photo by: ViTrox Corporation.

Various investments in developing better digital infrastructure, e.g. upgrading internet speed, data centre and core processes online allowed the company to efficiently navigate through Covid and the numerous lockdowns that followed. Using V-ONE, data analysis and monitoring of the machines' conditions became easy tasks, as was remotely troubleshooting them when needed. At critical manufacturing areas, IoT devices were introduced for monitoring the overall environment.

Chu is of the view that amid the US-China trade war, Malaysia should do more to strengthen and promote the capabilities of its local companies to foreign multinationals, e.g. in outsourcing their manufacturing and services to Malaysian companies. "This will help to advance the velocity of growth for local technology companies in emulating the industrial and economic success stories of China, Taiwan, Korea and Japan. Malaysia's local technology companies in the outsourced semiconductor assembly and test (OSAT), ATE and automation segments, among others, are well recognised globally."

ViTrox's role as one of the three LLC locomotive companies in the Penang Automation Cluster (PAC) also spotlights the company's commitment to augmentation of the local semiconductor, electrical & electronics (E&E) and automation ecosystem. Through synergistic collaboration within PAC, the company has pursued its long-term strategy to build a more robust supply chain ecosystem that can provide a wider range of high-end automated inspection equipment and smart automated equipment in support of various industries globally. Despite the supply chain upset of 2020-2021, the synergies within PAC helped ViTrox reduce the impact of raw material shortages and disruptions.



ViTrox's latest TR3000i Tray-to-Tape & Reel Vision Inspection Handler is a new generation of machine vision inspection solutions to support emerging industries such as 5G, IoT, automotive and Industry 4.0. Photo by: ViTrox Corporation.

Looking Ahead

"Covid has accelerated digital adoption and transformation by an estimated four to seven years," says Chu, adding that he expects many of these changes to remain.

Demand for semiconductor component-related supplies, inspection equipment and solutions will remain resilient and sustainable in the long-term, driven by electric vehicle, autonomous driving, high-performing computing, e-commerce, 5G /6 G revolution and post-Covid recovery. According to the industry association SEMI, the semiconductor equipment market was projected to record a growth of 45% in 2021, followed by a further 11% to reach USD114bil in 2022.

ViTrox's vision in building a holistic technological ecosystem in Penang and in Malaysia is reflective of the company's hopes for greater efforts by all stakeholders towards talent upgrading in the country.

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