

From Factory Floors to Digital Intelligence

Etronix Enabling Malaysia's
Next Manufacturing Chapter



As electronics manufacturing becomes increasingly connected, manufacturers are looking beyond individual machines to understand how software, equipment, people and production data can work together. In Malaysia, this shift is creating a growing need for practical ways to connect operations, improve visibility and make better use of information across the factory floor.

Etronix Sdn. Bhd. has been developing software solutions with this manufacturing reality in mind. Established in 2017, following more than 15 years of experience developing software for the semiconductor industry, the company identified a need among Malaysian electronics manufacturers, particularly SMEs, for local system integrators and affordable software tailored to their operations.

Based in Johor Bahru, company initially focused on Printed Circuit Board Assembly (PCBA) and Box Build Assembly (BBA). While developing its first Manufacturing Execution System (MES), the team worked closely with production teams, engineers and equipment vendors, building an understanding of manufacturing workflows from raw material storage and engineering through production, quality control and finished goods.

That hands-on experience has continued to shape the company's approach as its work has expanded. Today, its flagship xFac3 is a third-generation Manufacturing Operations Management (MOM) system that brings together equipment integration, process interlocks, AI capabilities and operational insights. Its deployment footprint now extends across Johor, Melaka, Negeri Sembilan, Selangor, Kuala Lumpur, Penang and Kedah.

This evolution reflects a broader change taking place across electronics manufacturing. As manufacturers move beyond automating individual machines, the focus is increasingly on connecting the wider operation and using production data to support real-time visibility and control.



From Machine Automation to Connected Operations

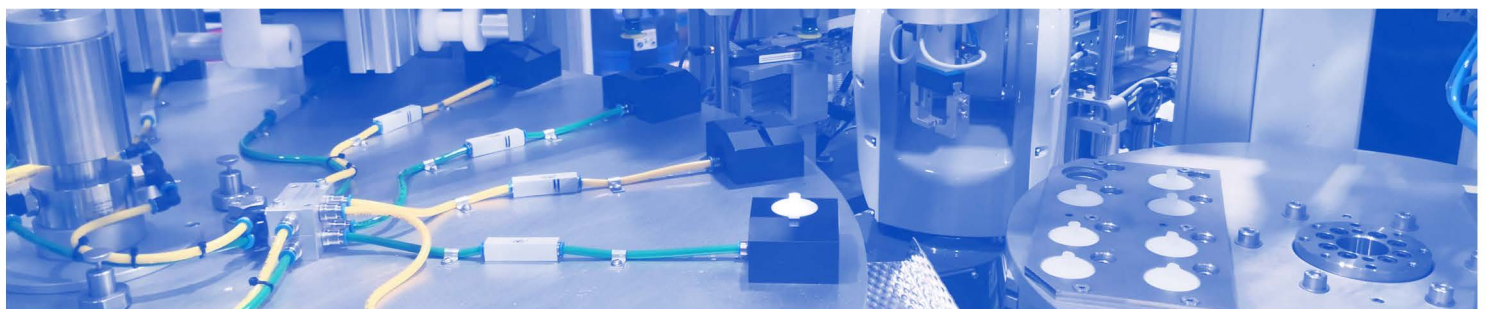
For electronics manufacturers in Malaysia, the question is now increasingly shifting from “How do we automate this machine?” to “How do we connect and control the entire manufacturing operation in real time?”

Answering that question starts with visibility across the shop floor—from the materials entering production to the processes being followed and the point at which quality issues arise. This is particularly important in high-end electronics, medical devices, aerospace and automotive manufacturing, where reliable production records and process control are essential.

In this environment, equipment integration takes on a broader role. Production data becomes more valuable when it can support decisions and control processes rather than simply record what has happened. Equipment can be connected to verify materials and process conditions, while interlocks can prevent production from moving forward until required checks are completed.

For SMEs, however, this transition has to fit within the realities of everyday production. Many manufacturers are managing a mix of newer and older equipment while balancing technology investments against immediate operational needs. Starting with practical challenges such as manual data entry, material verification, traceability or process errors can provide a manageable path towards broader digitalization.

AI is also attracting growing interest, although its effectiveness ultimately depends on reliable data and connected processes. This, in turn, brings the conversation back to the people working with these systems. As manufacturing becomes more connected, teams need to understand not only the technology and data, but also the manufacturing processes behind them.



Strengthening Capability Through Standards and Training

Technology alone cannot deliver effective manufacturing transformation. As production systems become more connected and technology-driven, teams need the manufacturing knowledge to interpret data, understand product assembly and quality requirements, and recognize how process variations can affect production outcomes.

For **Etronix**, this is where IPC workforce development programs provide a structured, standards-based foundation alongside hands-on factory experience. Combining practical knowledge with standards-based training help strengthen understanding of manufacturing requirements, quality expectations and industry terminology.





We see value in IPC programs as a complement to our internal training and on-the-job experience, helping us develop a team that can support the increasingly complex needs of electronics manufacturers. ”

Mr. Eric Lee

Principal Consultant



Connecting Through Global Electronics Association Membership

Etronix has recently joined the **Global Electronics Association**, creating an opportunity to connect its software expertise with the broader electronics manufacturing community. As a new member, the company sees value in accessing industry knowledge and resources that can support its team and customers, particularly in translating manufacturing and quality requirements into effective system monitoring, process controls and traceability records.

For Etronix, standards, workforce capability and manufacturing technology are closely connected. Through its engagement with the **Global Electronics Association** community, the company looks to learn from industry peers, strengthen its understanding of industry requirements, contribute its software expertise and support the continued development of Malaysia's electronics manufacturing capabilities.

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