

SYNTIANT

Anchoring High-Value AI and Semiconductor Capabilities in Malaysia

By bringing advanced manufacturing, engineering and AI research together in Penang, Syntiant is supporting Malaysia deepen its semiconductor capabilities and strengthen its role in the global electronics ecosystem.

Malaysia has built a strong foundation in electrical and electronics manufacturing. The next phase is about moving deeper into higher-value capabilities, from advanced automation and AI-enabled manufacturing, to R&D and specialised engineering. This requires more than production capacity alone. It requires global technology, skilled talent, local supplier readiness and the ability to anchor complex operations in Malaysia. Syntiant's expansion in Penang supports this next phase of Malaysia's semiconductor journey.



Syntiant's new manufacturing and R&D campus in Penang, officially opened in January 2026, brings together advanced manufacturing, engineering and AI research to deepen Malaysia's semiconductor capabilities.

Syntiant's Solution

Expanding Advanced Manufacturing and R&D Capacity in Penang

As a semiconductor and edge-AI technology company developing proprietary, ultra-low-power AI processors, Syntiant is supporting Malaysia's move into higher-value semiconductor and AI-enabled manufacturing activities. Through its expansion in Penang, Syntiant has acquired larger production spaces designed to accommodate the advanced machinery and automated facilities needed for high-end, complex manufacturing activities. This expansion is further strengthened by the introduction of advanced automation and global technologies. Most notably, the integration of robotic arm technology and upgraded cleanrooms for assembling sensitive microelectronics.



Concurrently, Syntiant is building long-term operational capacity by cultivating local technical expertise. Efforts to enhance workforce skills include structured training programmes, knowledge transfer of advanced industry practices, and overseas training opportunities to expose local teams to global standards.

Anchoring High-Value Technology Transfer

Khazanah's investment into Syntiant has supported the establishment of an advanced manufacturing and research and development (R&D) campus in Malaysia, more than doubling its current production floor space to 221,000 square feet. The investment also facilitated the deployment of advanced robotic automation and an expanded 52,000-square-foot cleanroom space featuring an additional Class 1K cleanroom, an ultra-sterile environment essential for assembling sensitive microelectronics. To support the new facility, Khazanah's investment has enabled Syntiant to support over 160 skilled jobs as of 2025, retaining and growing a skilled local workforce across research and engineering, supply chain management, and operational support positions. Together, these advanced facilities and specialised talent strengthen Syntiant's ability to undertake the high-end, complex manufacturing activities from Malaysia, while helping anchor higher-value semiconductor and AI capabilities locally.

Ecosystem Spillover

Strengthening Local Automation Capability

Sharing critical technical know-how and industry requirements, Syntiant partnered Vitrox to co-develop a tailored automation solution. This collaboration led to the development of a new insertion machine, fundamentally elevating Vitrox's own technical expertise and innovation capacity.

The solution has since created opportunities for Vitrox to serve broader markets, including deploying the new technology beyond Malaysia.

Anchoring Malaysia in the Global AI Semiconductor Economy

Moving forward, Syntiant intends to leverage its global R&D expertise to localise advanced Edge AI operations at its Penang facility. (Edge AI brings data processing and AI algorithms directly to local devices rather than relying on cloud networks, helping reduce latency and power consumption). This expansion aims to position Malaysia as a strategic hub for AI-enabled semiconductor manufacturing through the planned installation of new plant machinery for high-value, AI-driven production and gradual development of dedicated R&D capabilities supported by specialised engineers. Crucially, this initiative creates spillover opportunities for local SMEs and supply chain partners by generating new business opportunities in areas such as materials, tooling, and support services.

To further build expertise in semiconductor technology and elevate Malaysia's position within the global electronics ecosystem, Syntiant is collaborating with universities on R&D activities and internship programmes. These partnerships are designed to progressively strengthen the talent and research ecosystem needed to support future advanced design capabilities, including potential opportunities in Application-Specific Integrated Circuits (ASICs), a custom built microchips tailored for specialised applications such as AI. Over time, these efforts can help deepen Malaysia's semiconductor ecosystem by creating pathways for local engineers, suppliers and research partners to participate in higher-value activities. In doing so, Syntiant's presence in Penang is not only an expansion of production capacity, but a step towards building more advanced technology capabilities on in the country.

Key Impact Metrics

221,000

sq ft production floor space



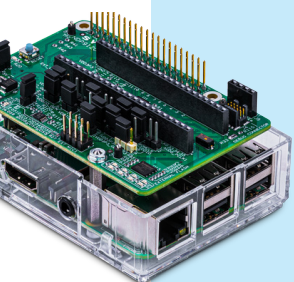
52,000

sq ft cleanroom space



168

skilled jobs supported



For more information, visit
www.syntiant.com