

From chip tools to chipmaker: Mi Technovation moves up the value chain

BY JOHN LAU

For more than two decades, Mi Technovation (MI) (KX-MI) has been quietly building its expertise in advanced semiconductor packaging in the global semiconductor industry.

The company's die sorting and inspection machines command a market share of more than 75% among Taiwan's advanced semiconductor packaging and test (OSAT) service providers worldwide. Its high-performance solder ball materials have become an integral component in advanced semiconductor packaging, used by some of the world's largest foundries and OSAT companies.

These two businesses have transformed the Penang-based group into one of Malaysia's most successful semiconductor equipment companies. To its founder and group CEO Oh Kiang Jing believes that the company's biggest achievements are yet to come.

Rather than merely defending its leadership position in semiconductor equipment, he is embarking on an ambitious reinvention – transforming MI from an equipment manufacturer into a diversified semiconductor technology group involved in advanced materials, silicon carbide (SiC) power semiconductors and electric powertrain systems.

It is at 31 years of age, a mechanical engineer by training, that Oh, a mechanical engineer with 21 years of experience in the semiconductor industry, has spent years planning. “The equipment and materials businesses are already able to run independently. My focus is on identifying the next businesses that will define MI over the next decade,” he tells the *Edge*.

The group's existing broad product range led to the semiconductor capital expenditure (capex) cycle through its equipment division. But Oh wants its proprietary technology products to gradually become key contributors to its company's overall revenue. “The equipment and materials businesses are already able to run independently. My focus is on identifying the next businesses that will define MI over the next decade,” he tells the *Edge*.

To achieve that, MI has reorganised itself around four strategic pillars – the semiconductor equipment business unit (SEBU), semiconductor materials business unit (SMBU), semiconductor technology business unit (STBU) and vehicle technology business unit (VTBU). The latter two were recently carved out of its semiconductor solutions business unit (SSBU), under engineering management's leadership.

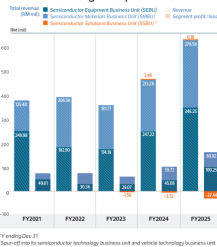
Together, the four pillars make up what Oh describes as MI's “diversified semiconductor technology group” – a group that will move from an equipment supplier to a globally recognised semiconductor technology player.

Moving up the value chain into silicon carbide wafers

The centerpiece of MI's transformation into STBU: Unlike its traditional equipment business, which supplies manufacturing tools to chipmakers, the business unit aims to develop and commercialise semiconductor devices of its own design and design.

The first two generations of silicon carbide MOSFETs (metal-oxide-semiconductor field-effect transistors) – dubbed Yusei 1 and Yusei 2, and named after Yusei's MI's mascot brand – are being developed in Taiwan. Meanwhile, its engineers are

Mi Technovation's segmental performance



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*Scale up in its semiconductor technology business unit and vehicle technology business unit.

already expanding on a third-generation platform based on 4in wafers, which is expected to be developed in collaboration with Singapore's Agency for Science, Technology and Research.

At MOSFET is a semiconductor device primarily used in its equipment and materials businesses. It is an electronic switch to amplify or control the flow of electricity.

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Several customers in Taiwan and China

are already evaluating the devices while MI's VTBU is expected to become one of its earliest internet customers.

“We customer comes everything else, they don't see it in phases. But when you picture that across many mining operators, the opportunity becomes very large,” says Oh.

MI is targeting annual revenue of US\$200 million by 2025 for VTBU, which is equivalent to about 10% of the company's annual revenue, a relatively modest volume compared with the addressable market that manufacturing firms in the region.

Following the ecosystem MI's operations are increasingly regional as it expands beyond equipment manufacturing. Its research and development now takes place in Taiwan, Singapore, China and Malaysia, reflecting management's belief that semiconductor innovation is ultimately driven by access to specialised talent and mature supply chains close to the factory.

“If we don't have the people or supply chain, we go where they already exist,” says Oh.

China, in particular, often attracts attention because of the scale of its manufacturing.

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Mi Technovation



Our entry point doesn't need to be the most advanced product. Once customers validate our technology, we can continue improving generation after generation.” – Oh

“In China, a prototype may take three months. In Malaysia, it could take a year because you don't have the ecosystem,” he explains.

Rather than viewing China as a permanent manufacturing hub, MI sees it as a place to accelerate learning. Once product architecture, patents and intellectual property have been established, production can ultimately be located wherever it makes the most commercial sense.

“The important thing is not where you make it, but that you own the technology,” says Oh.

That philosophy underpins MI's anchored strategy of becoming a regional leader in semiconductor equipment rather than one of the world's top semiconductor equipment manufacturers.

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Unlike semiconductor equipment, which can be commercialised relatively quickly, semiconductor devices must go through multiple design iterations, wafer fabrication runs and lengthy qualification programmes before customers are willing to incorporate them into mission-critical applications.

“At the beginning, you fail, full-scale test and test again. That cycle costs a lot of money. But once you have a successful product, future investments become much cheaper,” he says.

The long-term economics of the business justifies the upfront investment. Once production reaches commercial scale, silicon carbide devices are expected to deliver gross margins of at least 60%, broadly in line with those of established fabless semiconductor companies. As development opening up tips off and production ramp up, the business is expected to move from investment mode to earnings generation.

Looking further ahead, Oh sees STBU becoming MI's next major earnings pillar. His target is ambitious: annual revenue of about US\$500 million (RM2 billion) between 2020 and 2024 from the semiconductor division alone. For perspective, the target is more than three times the group's revenue of RM200 million in FY2025, when it posted a net profit of RM85.8 million.

A transformative acquisition While investors have been paying close attention to the semiconductor unit, the biggest success story has come from a Malaysian-linked company.

At the time, some questioned the rationale for the venture into semiconductor materials when MI was better known for its equipment and test services.

Five years on, the investment appears to have paid off handsomely. Accurus' revenue more than doubled to RM200 million in 2025 from RM125.4 million in 2021 while its operating profit rose to RM40 million from RM24.6 million.

The performance has transformed the materials division into one of MI's fastest-growing and most profitable businesses. It is expected to become a key driver of the group's strategic foothold in one of the semiconductor industry's fastest-growing niches.

Unlike the equipment business, the materials division's target growth is more modest. The recurring revenue also comes from a smaller customer base.

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chip with our materials, while our materials are developed with a deep understanding of how the equipment works,” says Oh.

The combination has become increasingly valuable as semiconductor integration grows more sophisticated. Advanced packaging technologies such as wafer-level packaging, fan-out packaging and 3D integration require demanding material specifications, an area where MI's expertise in both equipment and materials is a competitive advantage.

At the materials business, MI's revenue is expected to grow at a measured pace of between 15% and 20% annually, while a steady earnings profile grows its consumable nature. Unlike equipment sales, which are largely driven by customers' capex cycles, solder materials generate recurring demand as semiconductor production volumes increase.

Oh describes the period from 2024 to 2026 as the company's “planting” years, when the group invests aggressively. The following decade, from 2027 to 2028, will be the time to harvest the returns.

It is an ambitious vision that mirrors the transformation he has already overseen. Since listing on Bursa Malaysia in 2018, MI's revenue has nearly quadrupled to RM200 million in FY2025, with the unit also netting more than double to RM40 million in FY2025.

Oh remains confident that MI's growth trajectory is sustainable. “The group's top 30 shareholders include a number of institutional investors such as Hong Leong Asset Management, KAF Investment Partners, the Employees Provident Fund and the Singapore Investment Corporation. The group's top 30 shareholders include a number of institutional investors such as Hong Leong Asset Management, KAF Investment Partners, the Employees Provident Fund and the Singapore Investment Corporation.”

MI's share price touched an all-time high of RM8.08 on June 4 before settling at RM6.48 last Thursday. The unit's market capitalisation of RM2.6 billion, the highest since its listing in 2018, reflects its strong performance. MI's share price touched an all-time high of RM8.08 on June 4 before settling at RM6.48 last Thursday. The unit's market capitalisation of RM2.6 billion, the highest since its listing in 2018, reflects its strong performance.

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“The AI cycle will slow one day. Every technology cycle does. But before supply and demand reach balance, the industry still needs to build capacity,” he says.

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