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ASIA MAGAZINE

**TCL Eyes Malaysia for
New Manufacturing Base
as South-East Asia Sales
Soar**

**Semiconductor Sector
To Benefit From Supply
Chain Focus In 13MP –
Economist**

**Armed Forces to Get
Drones and Multi-Role
Fighters By 2030**

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IN THE HOT SEAT
From Risk to Resilience:

Vincent Tang on the Future of Supply Chains in Asia



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PUBLISHER'S MESSAGE

Malaysia's journey toward Industry 4.0 continues to accelerate, driven by innovation, digitalisation, and collaboration between industry leaders and government stakeholders. One of the latest milestones is the unveiling of Malaysia's first edge AI processor – the MARS1000, a locally designed breakthrough that marks a pivotal step toward embedding artificial intelligence directly into industrial systems. This advancement not only showcases Malaysia's growing technological capability but also reinforces its position as a regional hub for smart manufacturing and digital transformation.

On behalf of Automate Asia Magazine, we would like to extend our heartfelt thank you to all exhibitors, visitors, speakers, and partners who made the Johor Industrial Fair 2025 a massive success. Held from 27–29 August 2025 at Persada Johor International Convention Centre, the event brought together thousands of professionals, innovators, and decision-makers in the manufacturing and automation sectors, proving once again that collaboration is the key to driving Industry 4.0 adoption in Malaysia and across ASEAN.

We are thrilled to announce that the next edition of the Johor Industrial Fair will take place on 19–21 August 2026 at the Austin International Convention Centre, Johor Bahru. Stay tuned for more updates and opportunities to participate in this growing industrial showcase by visiting www.johorexpo.com.

Together, let's continue to shape the future of smart manufacturing in Southeast Asia.

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Honeywell Introduces All-In-One Battery Energy Storage Automation Platform

Honeywell has introduced Honeywell Ionic Modular All-in-One, a compact, end-to-end battery energy storage system (BESS) designed for the commercial and industrial segments.

By combining flexible battery storage with Honeywell's advanced control system, Honeywell Ionic helps to optimize energy costs, absorb fluctuations in energy demand to ensure grid stability, and provide back-up power when needed.

Honeywell's Ionic Control and Energy Management system is fully integrated into the all-in-one modular BESS, providing the latest analytic tools to deliver advanced control and customization onsite.

The advanced control software also incorporates industry-standard ISA Secure 2 cybersecurity, ensuring protection for users and mitigating vulnerabilities for potential network cyber threats.

Jim Masso, president of Honeywell Process Solutions, says: "Today organizations of all sizes are under increasing pressure to use energy more effectively while simultaneously ensuring reliability and cost-effectiveness.



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The new, smaller enclosure enables it to offer a range of power storage options from 250 kWh up to 5 MWh to bring energy storage scalability to more commercial and industrial settings.

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German Firm's Senai Manufacturing Facility A Boost to State's Industrial Landscape

A GERMAN manufacturer has identified Johor's Senai Airport City for its operations, marking another milestone in the integrated development as a regional industrial hub.

SICK Malaysia managing director Suresh Kumar Somasundram said the group manufactured sensor-based industrial automation solutions and the new factory would strengthen its supply chain and operational efficiency.

"The facility is designed to enhance production capabilities, improve operational efficiency and support sustainable growth in the Asia-Pacific region.

"With its strategic location in Senai Airport City, Johor, which is close to our key markets, the new factory will play an important role in SICK's long-term success," he said in a statement.

The groundbreaking ceremony of the manufacturing facility was attended by Johor investment, trade, consumer affairs and human resources committee chairman Lee Ting Han.

In his speech, Lee said the project was more than just an expansion for SICK, but a transformation of Johor's industrial landscape.

"This ceremony reinforces Johor's standing as a preferred destination for high-value, innovation-driven industries.



"It also demonstrates the potential for international companies to grow alongside our local communities," Lee said.

He said phase one of the project, scheduled for completion next year, would see investments totalling RM280mil.

"By the final phase five, likely before 2045, total investment is expected to reach RM1bil.

"The total investment by SICK is projected to generate up to 2,500 jobs," he said.

Senai Airport City chief executive officer Gan Seng Keong said that the master-planned industrial development spanning over 1,099ha continued to attract global companies seeking strategic positioning in South-East Asia.

"The decision by a global leader like SICK to establish its advanced manufacturing hub here is a strong endorsement of our infrastructure readiness, world-class connectivity and strategic location.

"With 85% of our Free Zone land occupied, our expansion of the Free Zone from 161ha to 263ha further underscores its strategic importance," he said, adding that this would enhance competitiveness and reinforce its contribution to Johor-Singapore Special Economic Zone (JS-SEZ).



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MITI Imposes Anti-Dumping Duty on Steel Imports from China, Vietnam, Korea

The government has decided to impose a provisional anti-dumping duty on imports of certain galvanised iron or steel coil and sheet products from China, South Korea and Vietnam.

The Investment, Trade and Industry Ministry (MITI) said the decision to impose the duties, in the form of a bank guarantee and ranging from 3.86 to 57.90 per cent, was made after preliminary investigations found sufficient evidence that these imports were brought into Malaysia at dumped prices.

In a statement today, the ministry said the preliminary finding was made under Section 23 of the Countervailing and Anti-Dumping Duties Act 1993.

“As such, the government has decided to impose a provisional anti-dumping duty, in the form of a bank guarantee, equivalent to the dumping margin identified in the preliminary determination, ranging from 3.86 to 57.90 per cent on imports of the subject merchandise from China, South Korea and Vietnam, to prevent further material injury to the domestic industry during the investigation.

“The imposition of temporary anti-dumping duties will be effective for a period not exceeding 120 days, starting from July 7, 2025.

“A final determination will be made on or before Nov 3, 2025,” it added.



The Investment, Trade and Industry Ministry (MITI) said the decision to impose the duties, in the form of a bank guarantee and ranging from 3.86 to 57.90 per cent, was made after preliminary investigations found sufficient evidence that these imports were brought into Malaysia at dumped prices. - NSTP/HAIRUL ANUAR RAHIM

MITI said the government initiated the anti-dumping investigation on Feb 6 and, based on the preliminary findings, the investigation will continue.

The probe, conducted under the Countervailing and Anti-Dumping Duties Regulations 1994, was launched following a petition filed by CSC Steel Sdn Bhd.

The petitioner, representing the domestic industry producing similar goods, alleged that the products originating from China, South Korea and Vietnam were imported at prices below their respective domestic markets, causing material injury to Malaysian manufacturers.

MITI said interested parties, including importers, producers, foreign exporters and relevant associations, are invited to submit their comments or views on the preliminary determination report. Submissions must be made by July 14.

“Interested parties may obtain the non-confidential version of the Preliminary Determination report via the Trade Remedies Investigation Management (TRIMA) system at <https://traderemedies.miti.gov.my/>,” it said.

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Modest Recovery Seen in Manufacturing Sector

Business conditions in the Malaysian manufacturing sector moved closer to stabilisation at the end of the first half of 2025, according to S&P Global.

Usamah Bhatti, an economist at S&P Global Market Intelligence, said June data indicated a gradual move to stabilisation in the health of the Malaysian manufacturing sector, although operating conditions remained challenging.

Bhatti said firms recorded sustained, albeit softer, moderations in demand and production that were the mildest in four months.

“Most encouragingly, firms raised their employment levels for the first time since last September.

“That said, concerns were raised on the price front, with manufacturers recording

the steepest increase in input prices for seven months.

“In response, firms lifted their charges to the greatest extent in nearly a year in a bid to protect margins,” he said in a note.

According to the latest data released by S&P Global, the seasonally adjusted S&P Global Malaysia Manufacturing Purchasing Managers’ Index (PMI) posted 49.3 in June, up from 48.8 in May.

Coming in only marginally below the neutral 50.0 threshold, the index signalled that business conditions moved closer to stabilisation over the course of the month.

In fact, the PMI was at its highest reading since February.

The latest PMI reading suggests that the modest growth in official gross domestic

product statistics in the first quarter of 2025 was sustained into the second quarter.

The data also suggest that the expansion in manufacturing production continued throughout the second quarter.

Overall, the report suggests that optimism regarding the 12-month outlook for output improved only slightly during June.

It noted that the overall degree of optimism was modest but well below the series average.

“Firms were confident that new product launches would help stimulate sales and production, though firms highlighted concerns regarding the health of the global economy,” it added.





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TCL Eyes Malaysia for New Manufacturing Base as South-East Asia Sales Soar

TCL, a leading global technology brand, is exploring the possibility of setting up a manufacturing base in Malaysia, as part of its strategy to deepen its presence in South-East Asia and localise its global operations.

Speaking during a visit to Malaysia, TCL founder and chairman Li Dongsheng said the company had dispatched project teams multiple times in the past six months to assess local opportunities.

“We are currently studying the possibility of setting up a manufacturing base in Malaysia,” Li told StarBiz in a language exclusive interview.

“The Malaysian market is among the most competitive and developed in Asean, and it has one of the highest purchasing powers. Products made here can serve not just local consumers, but also be re-exported to other global markets.”

TCL has already established more than 10 production bases worldwide over the past two decades, including in Vietnam, Indonesia and Mexico, as part of its broader strategy to internationalise operations.

Li said its first overseas foray within this region began in Vietnam in 1999.

Last year, TCL’s revenue from South-East Asia surged by 30%. In the Malaysian market alone, the total revenue across all categories in 2024 saw a year-over-year increase of 467%.



Li: The Malaysian market is among the most competitive and developed in Asean, and it has one of the highest purchasing powers.

After more than 40 years of transformation, TCL, through TCL Industries and TCL Technology, is now focusing on three core industries: consumer electronics, display technology, and clean energy.

From a global perspective, the group earned over RM82.3bil in overseas revenue last year, making up almost half its total revenue of about RM184.9bil.

“We have transformed our business model to move beyond just exporting products to building localised industrial chains and supply networks,” said Li.

“This creates employment, tax revenue, and stronger partnerships in host countries.”

In Malaysia, TCL already operates a research and development (R&D) centre focused on high-end products, which also serves its global customer base.

“This is also one of the reasons for my visit—to look into expanding our production and manufacturing footprint here,” he added.

Li said TCL is also leveraging its partnership with the International Olympic Committee (IOC) to boost its global brand image.



As an official worldwide Olympic and Paralympic partner representing the home audiovisual equipment and home appliances category, he said TCL will supply smart and green energy-saving products—including display panels, air conditioners and AR glasses—for use in Olympic venues. Through these intelligent products, the company aspires to present an extraordinary experience for both the athletes and global audiences, allowing billions of viewers worldwide to immerse themselves in the breathtaking audiovisual feast of the Olympic event.

“This collaboration is a major milestone,” said Li.

“It will allow us to expand the global visibility of our smart technologies and reinforce our brand through one of the most recognised platforms in the world.

As a leading global technology brand with a sports gene and humanistic care, TCL consistently upholds the brand spirit of ‘Inspire Greatness’, which perfectly aligns with the Olympic ideal of pursuing excellence.”

Following on from the “Inspire Greatness” activation, TCL also expanded its partnership with Arsenal in May this year, becoming the club’s Official Global Consumer Electronics Partner.

Looking ahead, Li expressed confidence in TCL’s ability to maintain strong momentum in Southeast Asia.

“Our growth in Malaysia will continue at a very high level. I hope we can launch our first manufacturing project in Malaysia within this year.”



“To put it simply, leading a company requires keeping up with the times,” he said. “You must constantly adapt, learn, and grow. That’s the only way to build a company that can thrive in a fast-changing world.”

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Indonesian Manufacturing Slows Down as Demand Fizzles Further

Indonesian manufacturers remain pessimistic about growth prospects as softening domestic demand continued to drag on output, purchasing and employment in June, which experts have cited as signs of the declining health of the goods-producing sector.

The country's manufacturing Purchasing Managers' Index (PMI) slipped to 46.9 in June from 47.4 in May, marking its second-lowest reading since August 2021, behind April, of this year.

It was also the third consecutive month the index has remained below the 50-point threshold that separates expansion from contraction.

The decline reflected a sharper drop in new orders and production, with the fall in sales driven primarily by domestic customers.

Export orders, meanwhile, remained broadly unchanged after two straight months of contraction. "The reduction in sales was largely domestic-driven, as export sales stabilized on the month," said Usamah Bhatti, economist at S&P Global Market Intelligence, in the release published on Tuesday (July 1).

"The malaise in total new orders prompted firms to enter retrenchment mode as they sought to reduce employment levels and purchasing activity."

Firms also scaled back in hiring, with employment shrinking for the second time in three months and at the sharpest pace in nearly four years, the report noted.

Looking ahead, manufacturers grew less bullish with output expectations falling to an eight-month low and below the long-run average amid concerns over global

conditions and potential spillovers into Indonesia's industrial sector, Bhatti noted.

Manpower Minister Yassierli announced in May that 24,036 people had been laid off nationwide in the first four months of this year due to various reasons including bankruptcy, downsizing and relocation.

The figure marked an increase compared to the same period last year, given that the current figure was more than a third of the full-year tally of 77,965 people in 2024.

Said Iqbal, the chairman of the Confederation of Indonesian Trade Unions (KSPI), claimed the figure was higher, with 60,000 workers laid off in the first two months of this year alone. He attributed the discrepancy to differences in classification systems.

Signs of a slowdown in local manufacturing are also reflected in the Industry Ministry's Industrial Confidence Index (IKI), which has declined over the past three months, though it remains in expansion territory above 50.

Notably, while the PMI indicated a slight rebound in June from April's low point, the IKI dipped further to 51.84 in June, down from 51.9 in April, suggesting waning industry optimism.

Industry Ministry spokesperson Febri Hendri Antoni Arief said on Tuesday that two key factors were behind the continued contraction in the country's manufacturing activity, which are uncertainty over pro-business policies and weakening demand in both export and domestic markets, compounded by declining household purchasing power.

Furthermore, government spending on manufactured goods only began to ramp up in mid-June, he added, which also driven in part by a newly launched fiscal stimulus program tied to the school holiday season.



Workers producing noodles at a factory in Surabaya, East Java. Indonesia must double its average manufacturing growth of 4.5 per cent to become a high-income country. - AFP

The incentive package is expected to benefit food and beverage producers, as well as textile and garment manufacturers. He said many manufacturers were holding off on expansion in June while awaiting government measures aimed at protecting local industries, particularly policies that would shield the domestic market from a surge in cheap imported finished goods.

"We expect the impact of the import relaxation rollback, especially on textile products, apparel and accessories, to begin materializing in the next two months," Febri said in a statement.

Private lender Bank Permata chief economist Josua Pardede said the downtrend on manufacturing activity would be likely to persist in the short to medium term if household purchasing power and consumer confidence do not recover.

"This condition is reinforced by the decline in the business confidence index to an eight-month low, reflecting heightened uncertainty and manufacturers' concern about the economic outlook," Josua told The Jakarta Post on Tuesday.





He further warned that the sustained drop in employment signals efficiency measures in response to falling demand, and, if prolonged, could lead to structural unemployment that further weakens consumer spending, creating a vicious cycle of subdued domestic demand.

“Without significant policy intervention, such as fiscal stimulus or expansionary measures from Bank Indonesia to support purchasing power, domestic demand risks remaining weak and may weigh further on the manufacturing recovery,” Josua continued, adding that weakening demand and falling employment could ultimately derail broader national growth targets.

Despite a contracting PMI, imports grew for the fourth consecutive month to 4.14 per cent year-on-year (yoy), which

indicate stable domestic demand and preemptive inventory building, Hosianna Evalita Situmorang, an economist at private lender Bank Danamon, said in a statement on Tuesday.

Imports climbed to \$20.31 billion led by increases in capital and consumer goods, with the former surging 24.85 per cent yoy and the latter ticking up 5.28 per cent.

In contrast, imports of intermediate goods fell 1.18 per cent, in line with the continued slump in domestic manufacturing activity.

Hosianna cautioned that if the downward trend in manufacturing continues into the third quarter, it could drag the country’s economic growth below the 5 per cent threshold, especially given that the manufacturing sector accounts for

roughly 18 per cent of the country’s gross domestic product.

“A prolonged contraction in output would also weigh on non-commodity exports,” she continued, “which could ultimately erode the trade surplus.”

BPS data show that currently the national economy grew 4.87 per cent in the first quarter from a year earlier, marking the slowest pace in over three years, while also hovering below the usual 5 per cent rate the country has achieved for years.

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Vietnam, Indonesia, The Philippines Have Secured Lower Tariffs with The US - Lessons for Other ASEAN States?



Containers are stacked on a cargo ship in Jakarta on Jul 7, 2025. (Photo: AFP/Bay Ismoyo)

The trio are the first in Southeast Asia to strike trade deals with the United States, and analysts note some similarities in their gameplan.

With three Southeast Asia countries having struck trade deals with the United States, their approach offers a possible template for other countries in the region still trying to negotiate a lower tariff rate with the superpower, say analysts.

They point to some similarities in what Indonesia, Vietnam and the Philippines have done as lessons their neighbours could potentially adopt: Offering zero tariffs on US goods, buying more US products and speaking directly to President Donald Trump.

However, observers added that these factors may not apply in the same way to all Southeast Asia countries.

Furthermore, Trade and investment expert Andry Satrio Nugroho from the Institute for Development of Economics and Finance (INDEF) said that it remains unclear whether the three deals announced so far would be the best, given that other Southeast Asian countries are still negotiating with Washington.

“We still don’t know whether Vietnam and Indonesia are countries whose tariffs can be classified as much lower than those of other countries, especially in ASEAN,” he said, referring to the 10 member states of the Association of Southeast Asian Nations.

“Because there could be (better) opportunities for Thailand or Malaysia or other Southeast Asian countries.”

Still, Andry and other experts CNA spoke to said Southeast Asian countries

could look to the agreements that Vietnam, Indonesia and the Philippines each have with the US to negotiate their own favourable deals before Aug 1, the day Trump’s tariffs will take effect.

The Philippines is the latest Southeast Asian country to close a deal with the US.

Trump announced the agreement on Tue (Jul 22) and said that the US would impose a 19 per cent tariff on goods from the Philippines, just below the 20 per cent he had threatened earlier this month, but still above the 17 per cent rate set in April.

He had announced on Jul 15 that the US had struck an agreement with Southeast Asia’s biggest economy, Indonesia.

This deal placed a 19 per cent tariff on Indonesian goods entering the US, down from 32 per cent.

Two weeks previously, Trump had announced that his country and Vietnam reached an agreement under which goods from Vietnam entering the US would be subject to a 20 per cent tariff, a sharp drop from the 46 per cent announced in April.

He lauded Hanoi's willingness to charge zero per cent tariffs on US products.

"Vietnam will do something that they have never done before, give the United States of America total access to their markets for trade," said Trump on Jul 2 in a social media post.

Concessions And Agreements from The Philippines, Indonesia and Vietnam

Besides levying zero tariffs on us goods, both the Vietnam and Indonesia agreements contained a clause on transshipment, a practice involving the exports of goods originally from another country.

In Vietnam's case, transhipped goods face a 40 percent tariff, double the 20 percent

baseline rate, signalling Washington's intent to clamp down on workaround routes that have long benefitted Chinese exporters.

Trump has accused Vietnam of being used to ship Chinese products so that Beijing can avoid the high tariffs the us imposes on China, according to Andry from Indef.

However, few details are known about the agreement between Hanoi and Washington, with some media outlets reporting that Vietnam is still attempting to negotiate a better deal.

Some media reports also said that trump's announcement caught Vietnam by surprise, as it had thought the tariffs agreed upon were 11 per cent.

Like Vietnam, Indonesia will open its entire market to the US without any restrictions.

Alongside the 19 per cent tariffs on Indonesian goods coming to his country, Trump announced that the archipelago

will also purchase us\$15 billion in us energy, us\$4.5 billion in American agricultural products, and 50 Boeing jets, many of which are 777s.

If there is any transshipment from a higher tariff country exported from Indonesia, then that tariff will be added to Indonesia's current baseline tariff.

On Tuesday, The White House issued a joint statement with Indonesia saying that Indonesia has agreed to eliminate tariffs on more than 99 per cent of us goods and scrap all non-tariff barriers facing American firms.

Among other things, Indonesia has agreed to remove export restrictions on industrial commodities, including critical minerals, according to the joint statement.

It would also remove local content requirements, which require companies to use components made in Indonesia in their manufacturing processes for products entering the Archipelago.



Visitors at an Indonesian trade exhibition in Jakarta on Jul 22, 2025. (Photo: CNA/Ridhwan Siregar)



Labourers work at Hung Viet garment export factory in Hung Yen province, Vietnam on Dec 30, 2020. (File Photo: Reuters/Kham Siregar)

Indonesia also will remove recently enacted pre-shipment inspections and verifications of US exports that have posed problems for US agricultural exports and contributed to a growing US farm trade deficit, the statement said.

Negotiators for both countries would finalise the actual agreement in coming weeks, said a fact sheet issued by the White House.

Speaking at a panel discussion on Trump's tariffs in Jakarta on Wednesday, Fithra Hastiadi, a senior advisor of the Indonesian Presidential Communication Office, said the agreement is a win-win for both countries.

"We consider this a first win," said Fithra.

"But we're aiming to achieve - as the joint statement suggests - that some of our products that are not directly competing with the US, for example, nickel, coffee, cinnamon, spices, CPO (crude palm oil), other agricultural products, minerals, and also aircraft components, can be actually aimed to zero per cent."

However, Andry from INDEF and economic researcher Dandy Rafitrandi from the think tank Center for Strategic and International Studies (CSIS) are both concerned about the lifting of restrictions on critical mineral exports to the US.

Andry said this may trigger other countries to want the same, a move which Indonesia is unlikely to give, given that it is focused on its downstream industry.

For the past decade, Indonesia has tried to process its raw minerals locally to create higher-value finished products as it aims to increase economic growth.

"They could ultimately protest why the US is given special privileges while other countries aren't. So, it's considered unfair in terms of trade treatment," he said.

Meanwhile, the deal with the Philippines reportedly includes a zero tariff on goods such as imported US cars.

Additionally, Marcos said the Philippines would import more soy, wheat and pharmaceutical products from the US.

The Philippines president, whom Trump described as "a very tough negotiator", said that there were still many details to be ironed out in terms of other products that could potentially be affected by the deal.

"One (percentage point) might seem like a very small concession. However, when you put it into real terms, it is a significant achievement," he said.

However, some critics called the deal "unfair", and expressed concern over the potential concessions to the US.

"(The) 19 per cent against zero (per cent) tariffs is definitely not the most fair deal between decades-old friends or allies like the United States and the Philippines," said Philippines Senator Panfilo Lacson in a statement on Wednesday.

Zero Per Cent Tariffs: Key to Negotiations?

Economic researcher Dandy from CSIS said that Vietnam, Indonesia and the Philippines held several negotiation talks with the US before reaching an agreement.

He added that the zero per cent tariff on US goods could be an example for other ASEAN countries to follow if they are looking to secure their own deals quickly.

“The key to negotiations between Indonesia, Vietnam and the US is the zero per cent tariff,” he said.

He added that the exception so far is Japan, which also struck a deal with Washington on Tuesday, but managed to get a 15 per cent tariff - lower than the three Southeast Asian countries.

Trump said the deal would include improved market access into Japan for American goods including automobiles, rice and other agricultural products.

Japanese autos, which account for more than a quarter of the country’s exports to the US, will see existing tariffs cut to 15 per cent from levies totalling 27.5 per cent previously.

Japan will keep its existing tariffs on imports of US agricultural products. The country will import more rice from the US but within the existing tariff-free quota, Japanese Prime Minister Shigeru Ishiba said.

“Japan seems to be an exception, because they’re clearly a source of investment for the United States,” said Dandy.

He added that the zero-tariff tactic is applicable to most countries in Southeast Asia, apart from Singapore, where US goods are already duty-free.

Instead, Singapore may work on other deals, such as those involving weapon purchase, he said.

But not every country may want to impose a zero tariff for the US, experts noted.

Indonesia has reached a deal with the US because it is committed to buying US products, said Andry from INDEF, and it can do so because it is a large market.

Smaller Southeast Asian countries may not be able to do this as they don’t need large quantities of (imported) products, said Andry.

However, he and Made Supriatma, a political expert and visiting research fellow at Singapore’s ISEAS-Yusof Ishak Institute, said that Indonesia’s talks to purchase 50 Boeing aircraft were already

in place during the previous Joe Biden administration, so it is not new.

“The same goes for the export of agricultural products - that was also part of Biden-era agreements. Now Trump is trying to claim them as his own,” said Made.

Manufacturing countries like Thailand may not be able to adopt the same approach of granting zero tariffs on US goods, said Andry.

He said Thailand, which faces 36 per cent of tariffs, usually imports spare parts. It does not typically import whole products, since it has a strong domestic manufacturing sector, he added.

In any case, Thai economist Somjai Phagaphasvivat said in an interview with the Bangkok Post that the Kingdom cannot offer the same kind of trade proposals to the US as Vietnam.

Thailand cannot remove tariffs on all US imports because it has free trade agreements with fewer than 20 countries, while Vietnam has more than 20, of which most set import tariffs to zero, Somjai said.



President Donald Trump greets Philippines President Ferdinand Marcos Jr., upon arrival at the White House on Jul 22, 2025, in Washington. (Photo: AP/Alex Brandon)



A woman looks at shoes at a store in Tangerang, Indonesia, on Jul 20, 2025. Indonesia is among the top countries supplying footwear to the United States. (Photo: CNA/Ridhwan Siregar)

If it has to do so, the products for which import tariffs should be reduced to zero per cent should be those that Thailand does not produce domestically or can only produce in limited quantities, he said.

Malaysia, on the other hand, is a major player in the semiconductor industry, said Dandy from CSIS, so it could offer the US something in this sector.

This could be zero tariffs for US semiconductor goods imported into Malaysia or Malaysia purchasing large quantities of US products for its semiconductor industry.

Its tariff was increased from its original 24 per cent to 25 per cent.

While other Southeast Asian countries are still negotiating, and could ultimately even end up with a better agreement than Vietnam, Indonesia and the Philippines, Dandy said, ASEAN should be more united moving forward.

It should have negotiated with the US as a group, and not individually, because as a bloc, the countries are stronger and would have more bargaining power.

Made, the visiting fellow at ISEAS-Yusof Ishak Institute, said that reaching a deal as a regional bloc will become more difficult now because individual countries are competing against each other.

This will have consequences, he said.

“ASEAN countries are bound by the Regional Comprehensive Economic Partnership (RCEP), which aims to create a shared market,” said Made.

“If competition among member states increases, this cooperation could become even harder to realise.”

Direct Negotiations with Trump

The leaders of the Philippines, Vietnam, and Indonesia all spoke directly with

Trump before an agreement was reached.

Philippines President Ferdinand Marcos Jr is in the US this week, the first visit by an ASEAN head of state since Trump took office in January, while the leaders of Vietnam and Indonesia had phone calls with Trump.

This could be key to getting a negotiation, but Andry from INDEF said that many countries must have done the same, in particular, phone calls.

“I think there are a lot of phone calls. I mean, let’s not even talk about ASEAN - 75 countries are already nervous about facing these Trump tariffs,” said Andry.

“What is important to note is ... who gets Trump’s attention, in my opinion.”

In early July, To Lam, Vietnam’s General Secretary of the Communist Party of Vietnam, had a phone call with Trump during which he reiterated an invitation for the American leader to visit Hanoi.

Meanwhile, Prabowo spoke with Trump on the phone during his foreign visits. Upon landing in Jakarta on Jul 16, Prabowo also said he will go to the US in September or October.

So, whether these phone calls matter or not - or an actual visit is even better - remains to be seen, said Dandy from CSIS.

“It’s very unpredictable. We can’t decode what formula Donald Trump has because, frankly, no one can predict it,” he said.

“But if you say the template already exists, I think it does. Indonesia has tried Vietnam’s template, and it works. So, maybe other countries can use the same template.”



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Pushing New Frontiers in Industrial Automation

Through robust technology, strategic partnerships and sustained innovation, Emerson's Asia Pacific business has supported industrial progress in the region for six decades – with Singapore at its centre.

SG60 marks a shared milestone for Singapore and global automation enterprise Emerson, which established its regional headquarters in the city-state in 1965.

Since then, the company has grown in step with the nation, using Singapore as a launchpad for regional expansion while building long-running partnerships with leading enterprises locally. Today, Emerson continues to advance technologies that support safer, smarter and more sustainable operations across essential industries.

Building Smarter Systems for A Changing World

Over the past decade, industrial companies rolling out digital transformation programmes found that much of their data was siloed and inaccessible. Rigid, standalone automation systems meant that they were unable to extract value from their digital investments.

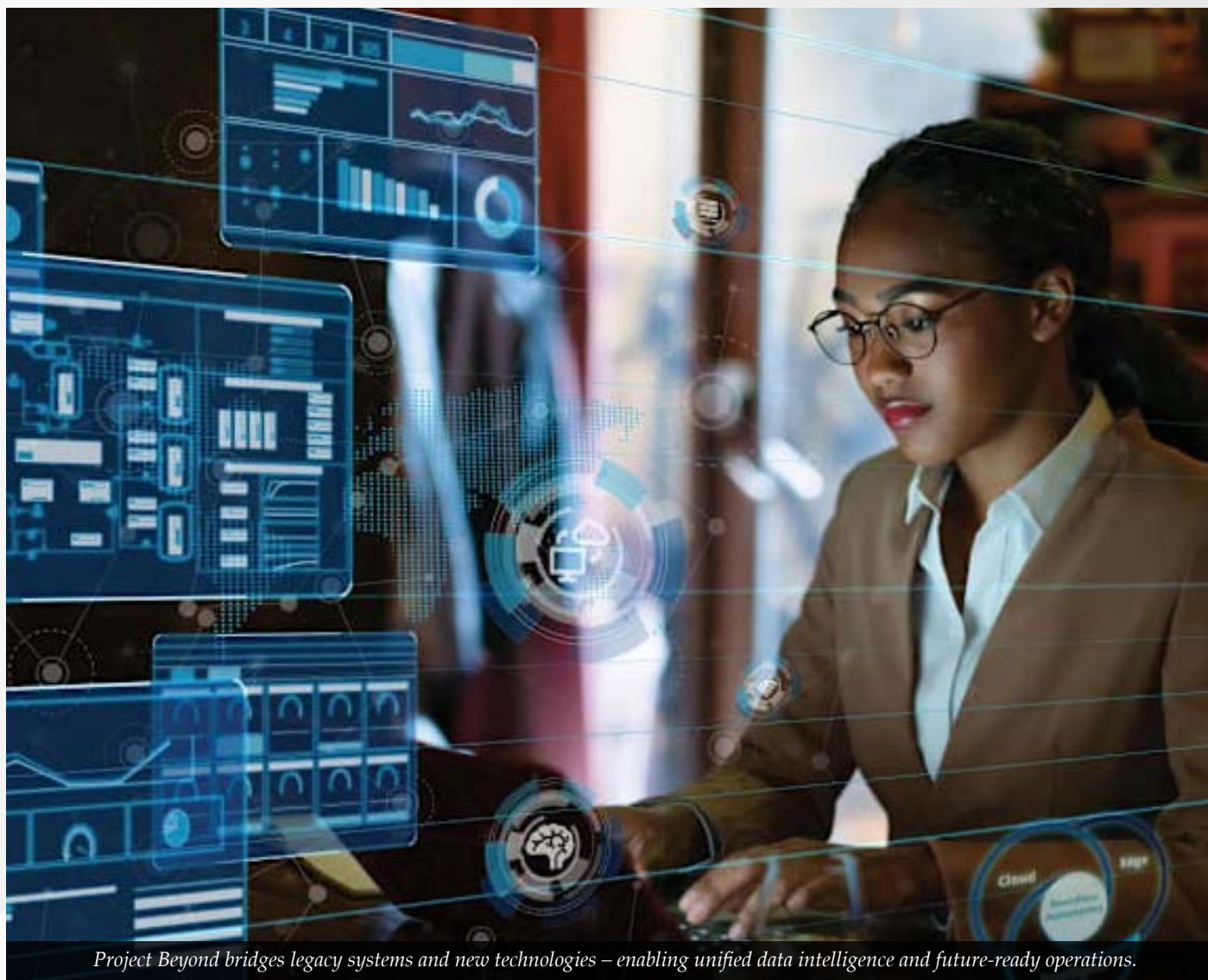
Emerson identified the need for a data-centric automation architecture to unlock siloes and enable the free flow of information across functions such as production, reliability, safety and sustainability. This idea underpins Emerson's Boundless Automation vision – a framework designed to support continuous optimisation and adapt to evolving operational needs.

To realise this vision, the company developed Project Beyond – an automation platform that integrates control, sensing and analytics to simplify how industrial data is used. It connects legacy systems with newer technologies to support unified data intelligence, advanced optimisation and autonomous operations.

“In a world where data is central to operations, strong connectivity, seamless data flow and in-depth analytics are key,” said Ms Susan Hughes, Emerson's president of Asia Pacific. “Through our Boundless Automation vision, our objective is to help customers leverage artificial intelligence (AI) more effectively – enhancing manufacturing capabilities while balancing reliability, production and sustainability goals.”



Emerson's facility at Pandan Crescent serves as its regional headquarters. Photos: Emerson



Project Beyond bridges legacy systems and new technologies – enabling unified data intelligence and future-ready operations.

As part of the platform, Emerson has developed a suite of industrial AI applications and models that aim to turn raw data into actionable insights. These are designed to help improve safety, efficiency, reliability and sustainability in mission-critical environments.

Leading The Future of Automation from Singapore

To keep pace with increasingly complex and fast-changing business environments, digital transformation needs to deliver value both now and for the future. Emerson addresses this by combining technology with close customer collaboration.

At its regional headquarters in Singapore, Emerson launched the Solutions Centre in

2017. This hub for industrial technologies provides digital transformation, industrial software and sustainability-focused solutions tailored to customer needs. Set in a plant-like environment, the centre hosts in-person and virtual sessions where teams can explore Emerson's technologies, identify operational challenges and develop solutions through hands-on workshops.

The city-state is also home to Emerson's Global Additive Manufacturing Centre, which advances the use of precision metal 3D printing in industrial applications. This is supported by facilities producing smart instrumentation, wireless sensors, digital valve controllers and transmitters.

In addition, Emerson established a Life Science Technology Transfer and Software

Research Center at its facility to support the sector's shift from manual recipe transfer processes to a digital production platform.

Its Southeast Asia Service Centre in Singapore – expanded and revamped in 2021 – has helped reduce service and line downtime by up to 80 per cent for customers using large-capacity flow metres that require regular calibration.

Strategic partnerships further support innovation and capability development. In 2019, Emerson helped launch the Energy and Chemicals Training Centre at Singapore Polytechnic to equip students and professionals with hands-on training and tools for applied innovation in the energy, chemicals and pharmaceutical sectors.



Emerson's Solutions Centre in Singapore showcases new ways of working with wireless sensors, AI, software-defined control and remote actuation.

In 2016, it signed a research collaboration agreement with Nanyang Technological University (NTU), leading to the joint creation of a centre focused on applying 3D printing to the manufacture of industrial control valves. The partnership gives NTU students exposure to commercial environments while enabling Emerson to tap into broader research networks to accelerate product development and explore emerging technologies.

Beyond its core business of industrial automation, Emerson partners with organisations across Singapore as part of its corporate social responsibility efforts. This includes supporting underprivileged communities as well as mentoring children in science.

In September, Emerson reinforced its leadership in industrial automation at the Boundless Automation Summit in Singapore. The event convened industry leaders, experts and customers to discuss a shared vision of intelligent industrial automation and sustainable operations, exploring the latest developments shaping the sector.

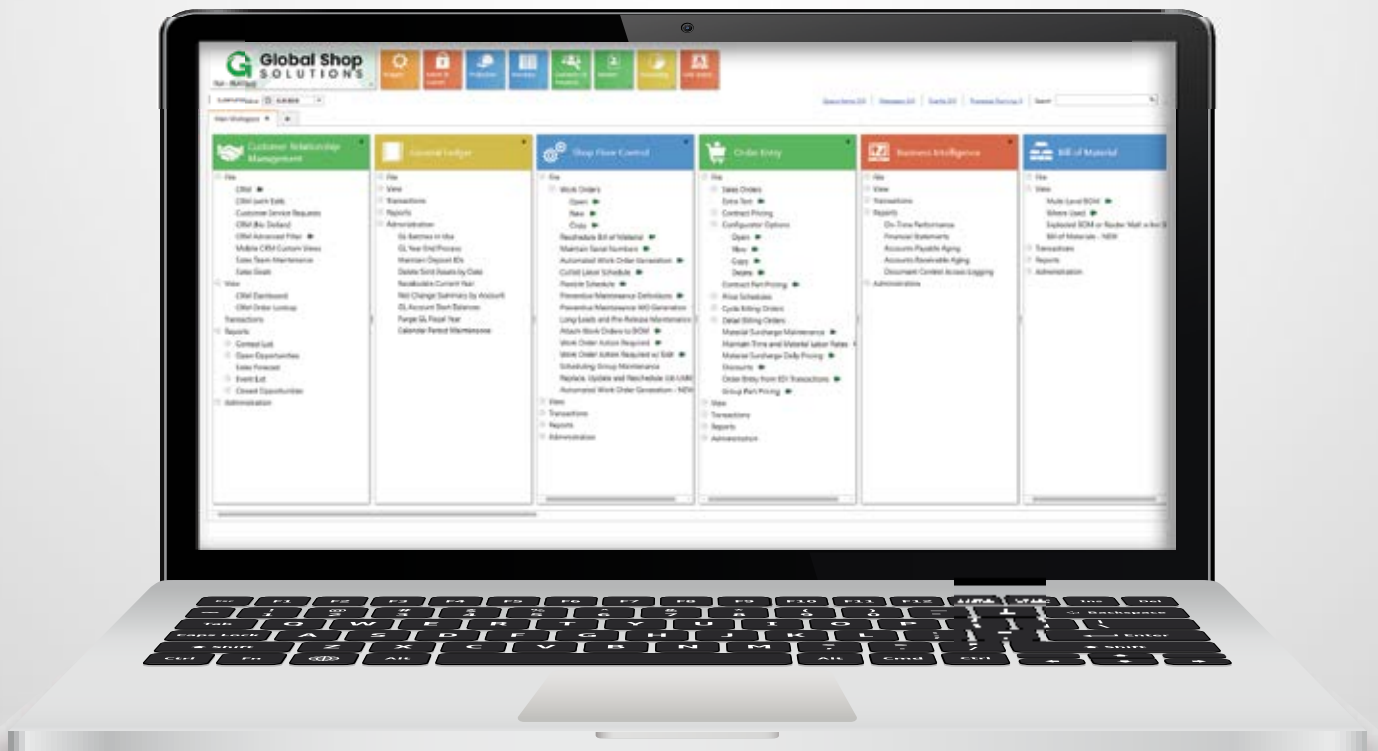
As Emerson continues to advance its Boundless Automation vision through research and collaboration, Mr William Tan, vice president and general manager of Emerson Singapore, reaffirmed its commitment to Singapore and the region.

“Emerson Singapore marks a monumental 60 years alongside the nation this year,” he said. “We recognise the significance of the Asia-Pacific region and our customers’ need for a reliable partner to help them innovate and tackle ongoing challenges.”

He added: “We will continue to support them with a robust automation portfolio that helps reduce emissions and improve sustainability. Our Greening By initiatives support the transition to cleaner energy, greater energy efficiency and less waste – drawing on industry experience and strategic partnerships.”



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Semiconductor Sector To Benefit From Supply Chain Focus In 13MP – Economist

Malaysia's semiconductor industry is poised to benefit from the upcoming 13th Malaysia Plan (13MP), as the government seeks to strengthen the country's role in the global supply chain.

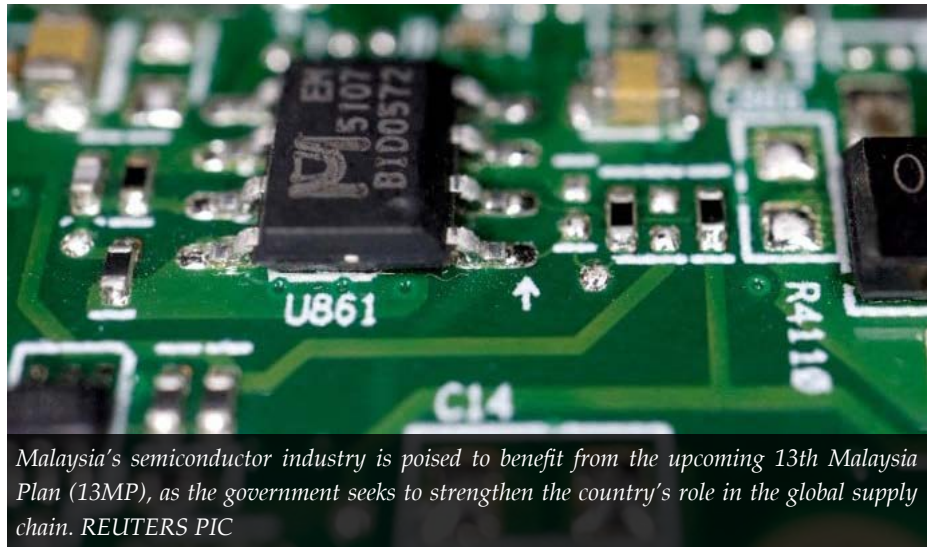
UniKL Business School economic analyst Associate Professor Dr Aimi Zulhazmi Abdul Rashid said the five-year plan comes at a pivotal time, amid shifting global trade patterns driven by geopolitical tensions and protectionist measures such as the United States' tariff policies.

"The semiconductor industry, which is the largest contributor within the manufacturing sector, is expected to spearhead Malaysia's climb up the global value chain.

"In light of current US tariff headwinds, it is critical to position Malaysian manufacturers as key global players," he told Bernama in an exclusive interview.

Aimi Zulhazmi said the 13MP should also outline clear strategies to advance Malaysia as a producer of high-end chips for artificial intelligence (AI) and advanced electronics.

He added that the plan must align with the New Industrial Master Plan (NIMP) 2030, which targets a six per cent growth in manufacturing's contribution to gross domestic product (GDP), particularly through exports.



Boosting National Competitiveness

Meanwhile, economist Dr Nungsari Ahmad Radhi said the 13MP should address ways to enhance national competitiveness by improving the productivity of both firms and workers.

"Productivity means doing things better, and doing better things – which implies adopting newer, more efficient technologies," he said.

He noted that if more local firms become globally competitive, higher-paying jobs will follow.

Nungsari stressed that development spending must prioritise education – improving the quality of teaching and the learning environment to uplift school standards.

"We have many universities, but more must be transformed into research centres that generate intellectual property in strategic fields such as semiconductors, AI and robotics," he said.

Given the limited fiscal space for development expenditure, he argued that the 13MP must focus on fundamentals.

"Public funds should go towards public goods like education. At the same time, the government can offer fiscal incentives to encourage private sector investment in digitalisation, ESG (environmental, social, and governance) and renewable energy," he added.

The 13MP is scheduled to be tabled in the Dewan Rakyat on July 31 by Prime Minister Datuk Seri Anwar Ibrahim.

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India Steps Up Defence Self-Reliance by Backing Startups and Easing Arms Procurement

India now boasts more than 1,000 defence startups, up from just a handful a decade ago.

India is ramping up domestic defence production as part of Prime Minister Narendra Modi's long-running push for self-reliance.

The nation – one of the world's top arms importers with Russia its biggest supplier – has been incentivising local startups, creating defence manufacturing hubs, and easing procurement rules amid ongoing security tensions with neighbours China and Pakistan.

In this year's budget, the country raised its defence spending by nearly 10 per cent to about US\$81 billion.

While the effort is still a work in progress, it marks a dramatic shift in India's defence posture from dependence on imports to cultivating homegrown solutions at scale, said analysts.

Push For Self-Reliance

Earlier this month, Modi said this push has given India a degree of strategic autonomy, which enabled New Delhi to plan and execute airstrikes on Pakistan as part of Operation Sindoor in May.

"Imagine if we were not self-reliant, could we have executed Operation Sindoor with such swiftness?" he added.

"We would have been plagued by worries over who might supply us, whether or not we would get the required equipment, and so on."

Despite the drive towards self-reliance, some observers pointed out the country remains dependent on Russian jets, French aircraft, and electronics from the United States and Israel – making its military operations vulnerable to vetoes and sanctions.

Retired colonel Rajneesh Singh, a research fellow at the Manohar Parrikar Institute for Defence Studies and Analyses, said gaps in radars and electronic warfare systems continue to impede the momentum of India's defence production.

Yet, New Delhi has also sought technology transfers and partnerships with foreign suppliers in an effort to close the knowledge gap.

Experts noted that India has had some success in developing advanced military technology.

For instance, its BrahMos supersonic cruise missile system has drawn interest from at least 15 countries after its use in Operation Sindoor.

India now boasts more than 1,000 defence startups, up from just a handful a decade ago.

These are central to the Modi government's ambition to diversify its suppliers and modernise domestic capabilities.

Growing Drone Ecosystem

One area India is focusing on is the rapid development of homegrown drones to strengthen defence.

Some drones are compact enough to be carried in a soldier's backpack and deployed to monitor India's vast, porous borders.

Vipul Joshi, chief financial officer of Indian drone manufacturer ideaForge, said these drones are useful for real-time intelligence and monitoring activities, including detecting infiltration attempts.

Earlier this year, the startup secured an order worth about US\$16 million



One area India is focusing on is the rapid development of homegrown drones to strengthen its defence sector.

from India's army for its hybrid mini unmanned aerial vehicle systems, under new initiatives that have made it easier for innovative local firms to supply the military.

Drones can also carry small payloads, making them suitable for missions ranging from reconnaissance to logistics support.

In recent years, the war in Ukraine and clashes along the India-Pakistan border have shown how drones can effectively challenge tanks in combat.

Military demand for unmanned aerial vehicles is taking off as they are inexpensive to build, easy to mass-produce, able to navigate difficult terrain, and eliminate risk to human operators.



One area India is focusing on is the rapid development of homegrown drones to strengthen its defence sector.

Such factors make them especially valuable for a country like India, whose borders stretch from arid deserts to icy mountain ranges, said observers.

ideaForge's Joshi highlighted that militaries are increasingly moving beyond reconnaissance drones to adopt loitering

munitions – which loiter in an area until striking a target, and logistics drones – which deliver items, as part of their arsenals.

Source: www.channelnewsasia.com

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Armed Forces to Get Drones and Multi-Role Fighters By 2030





The armed forces' transformation into a future-ready force is being carried out through the realignment of capability development plans for each service branch.

Defence Minister Datuk Seri Mohamed Khaled Nordin said that to ensure the transformation did not remain only on paper, the Defence Ministry is drawing up its Strategic Plan 2026–2030 as a systematic monitoring instrument to implement the Defence White Paper Mid-Term Review under the framework of the 13th Malaysia Plan (13MP).

“At the same time, we are aware that this transformation requires sufficient resources. Therefore, we continue to work towards achieving a defence allocation target of 1.5 per cent of Gross Domestic Product (GDP) by 2030,” he said at the launch of the Mid-Term Review of the Defence White Paper.

Khaled said the mid-term review had introduced several new strategic directions to build stronger and more resilient defence.



Among them is the continuation of reforms to transform the armed forces into a modern, respected force aligned with technological advances.

“The armed forces would be developed as a Joint Network-Centric Integrated Multi-Domain Force by 2030, capable of handling roles ranging from diplomacy and deterrence to denial and neutralisation of threats across all operational layers.

“Modernisation priorities include intelligence and situational awareness, counter-intelligence and surveillance, integrated air defence systems, long-range strike capabilities, precision-guided weapons, logistics, information operations, electronic warfare and cyber warfare,” he said.



Each branch of the armed forces has a distinct strategic plan, namely the army's Army 4NextG modernising infantry through networked and amphibious capabilities, the Royal Malaysian Navy's 15 to 5 creating versatile fleets, and the Royal Malaysian Air Force's CAP55 enhancing air power with drones, patrol aircraft and future multi-role fighters.

Khaled also said that under Phase Two of defence procurement, the ministry will acquire key assets such as the Multi-Role Support Ship (MRSS), Medium Range Air Defence (MERAD) systems and advanced air defence artillery to counter modern threats, including long-range missiles and drone incursions.

Khaled said reforms will also emphasise a "comprehensive defence" approach based on the Whole-of-Government and Whole-of-Society concept, ensuring the responsibility of defence extends beyond the armed forces alone.

"This will include strengthening the reserves, raising women's participation in the military to 15 per cent in line with the United Nations' Women, Peace and Security agenda, and enhancing civil-military cooperation programmes such as Civil-Military Cooperation (Cimic) and Jiwa Murni.

"Veterans would be further empowered, both as contributors to national defence readiness and as bridges between society and the military, with studies underway to allow their direct absorption into the reserves," he said.

On the global stage, Khaled said Malaysia will continue to uphold its neutral and non-aligned position while strengthening defence diplomacy through bilateral and multilateral cooperation, including Asean and the Five Power Defence Arrangements (FPDA).

The reforms also place strong emphasis on science, technology and the local defence industry.

The Defence Science and Technology Research Institute (STRIDE) will lead research and development, supported by the Defence Science and Technology Advisory Council, with focus on autonomous systems, robotics, advanced weaponry, electromagnetic cyber systems and aerospace technologies.

Khaled said the government will soon launch the National Defence Industry Policy (DIPN) as a strategic framework to boost self-reliance, innovation and local content in the defence sector, while building a resilient supply chain less dependent on foreign sources.



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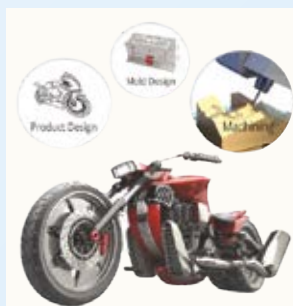
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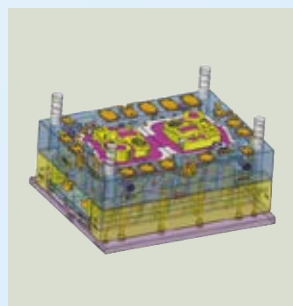
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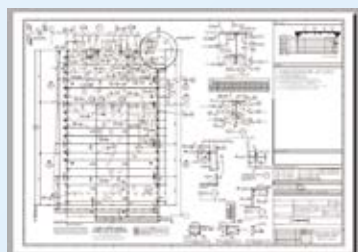
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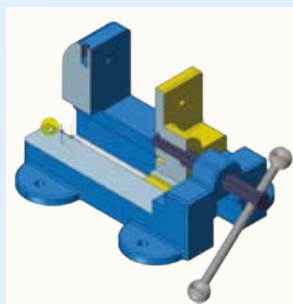
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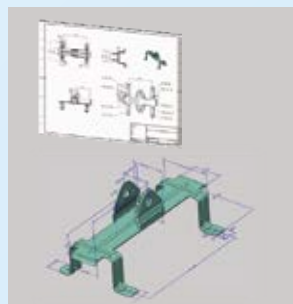
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Humanoid Robots Embodiment of China's AI Ambitions

SERVING craft beer, playing mahjong, stacking shelves and boxing, the dozens of humanoid robots at Shanghai's World AI Conference (WAIC) this weekend were embodiments of China's growing AI prowess and ambition.

The annual event is primed at showcasing China's progress in the ever-evolving field of artificial intelligence, with the government aiming to position the country as a world leader on both technology and regulation as it snaps at the United States' heels.

Opening the event on Saturday, Premier Li Qiang announced China would set up a new organisation for cooperation on AI governance, warning the benefits of development must be balanced with the risks.

But in the cavernous expo next door, the mood was giddier than concerned.

"Demand is currently very strong, whether in terms of data, scenarios, model training, or artificial construction. The overall atmosphere in all these areas

is very lively," said Yang Yifan, R&D director at Transwarp, a Shanghai-based AI platform provider.

This year's WAIC is the first since a breakthrough moment for Chinese AI this January when startup DeepSeek unveiled an AI model that performed as well as top US systems for an apparent fraction of the cost.

Organisers said the forum involved more than 800 companies, showcasing over 3,000 products – the undeniable crowd



People interact with a humanoid robot at a Fourier booth during the World Artificial Intelligence Conference in Shanghai, China July 26, 2025. REUTERS

pleasers being the humanoid robots and their raft of slightly surreal party tricks.

At one booth, a robot played drums, half a beat out of time, to Queen's "We Will Rock You" while a man in safety goggles and a security vest hyped up a giggling crowd.

Other droids, some dressed in working overalls or baseball caps, manned assembly lines, played curling with human opponents or sloppily served soft drinks from a dispenser.

While most of the machines on display were still a little jerky, the increasing sophistication year-on-year was clear to see.

The Chinese government has poured support into robotics, an area in which some experts think China might already have the upper hand over the United States.

At Hangzhou-based Unitree's stall, its G1 android – around 130 centimetres (four feet) tall, with a two-hour battery



life – kicked, pivoted and punched, keeping its balance with relative fluidity as it shadowboxed around a ring.

Ahead of the conference's opening, Unitree announced it would launch a full-size humanoid, the R1, for under US\$6,000.

Most high-tech helpers don't need hardware though.

At the expo, AI companions – in the form of middle-aged businessmen, scantily clad

women and ancient warriors – waved at people from screens, asking how their day was, while other stalls ran demos allowing visitors to create their own digital avatars.

Tech giant Baidu on Saturday announced a new generation of technology for its "digital humans" – AI agents modelled on real people, which it says are "capable of thinking, making decisions, and collaborating."



People watch a robot performing tasks at an exhibition during the World Artificial Intelligence Conference in Shanghai on July 26, 2025. AFP

The company recently ran a six-hour e-commerce broadcast hosted by the “digital human” of a well-known streamer and another avatar.

The two agents beat the human streamer’s debut sales in some categories, Baidu said.

Over 10,000 businesses are using the technology already, the department’s head Wu Chenxia told AFP.

Asked about the impact on jobs – one of the major concerns raised around widespread AI adoption – Wu insisted that AI was a tool that should be used to improve quality and save time and effort, which still required human input.

For now, few visitors to the WAIC expo seemed worried about the potential ramifications of the back-flipping dog robots they were excitedly watching.



“When it comes to China’s AI development, we have a comparatively good foundation of data and also a wealth of application scenarios,” said Transwarp’s Yang.

“There are many more opportunities for experimentation.”



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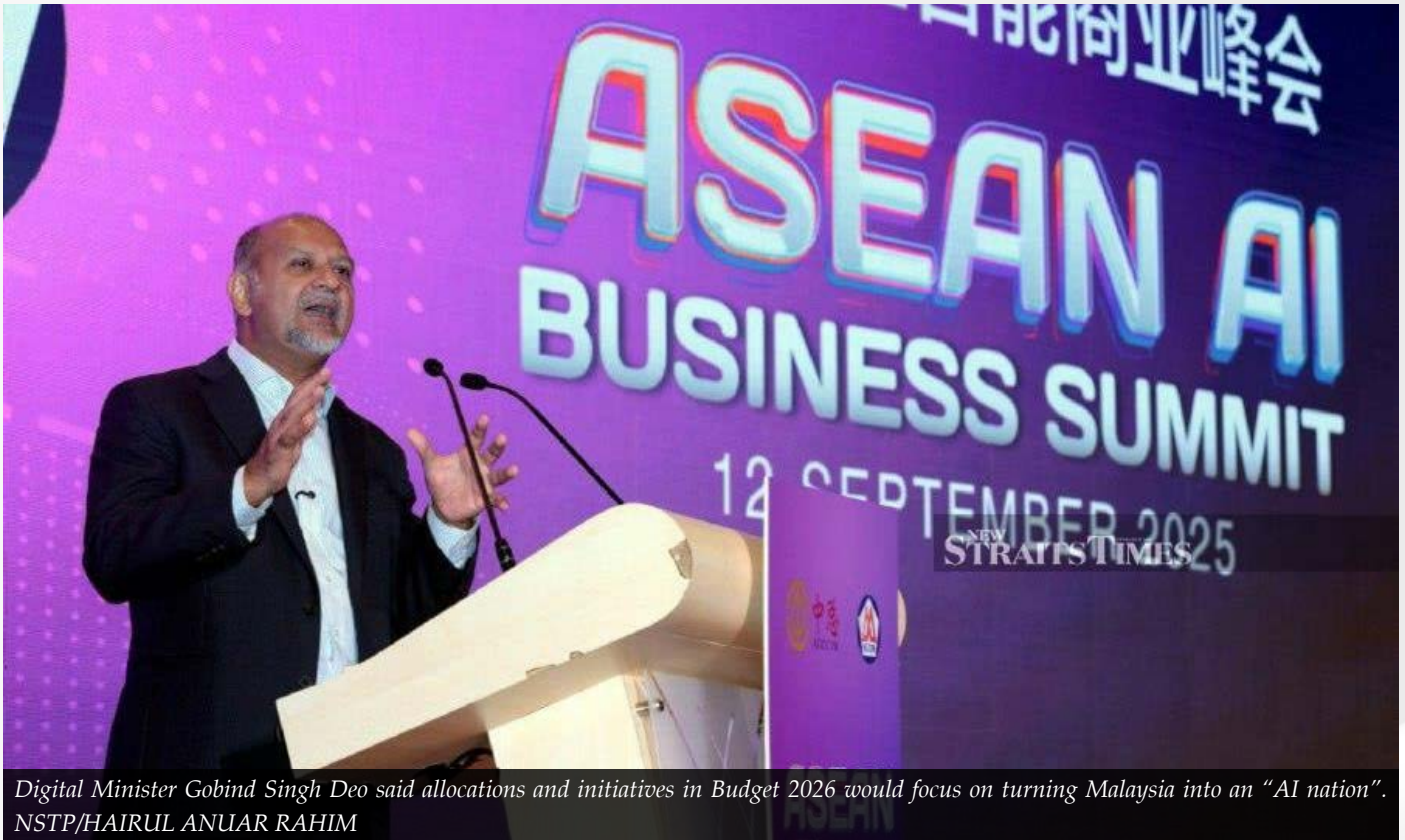
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Budget 2026 To Boost Malaysia's Digital, AI Ecosystem, Says Gobind



Digital Minister Gobind Singh Deo said allocations and initiatives in Budget 2026 would focus on turning Malaysia into an “AI nation”. NSTP/HAIRUL ANUAR RAHIM

Malaysia is strengthening its position as a nation with a robust digital and artificial intelligence (AI) ecosystem to attract new investments, including in autonomous vehicles.

Digital Minister Gobind Singh Deo said the government’s commitment would be reflected in Budget 2026, which is to be tabled on Oct 10.

“We are going to see autonomous vehicular activity expanding beyond cars,” he said, adding that this included robotics and drones.

“The idea is to start thinking about governance, so that when you have autonomous vehicle activity, there are

structures in place to ensure that it’s safe,” he said in his keynote address at the Asean Artificial Intelligence Business Summit 2025.

The minister said allocations and initiatives in Budget 2026 would focus on turning Malaysia into an “AI nation” and advancing government technology initiatives.

He said the government was in discussions with the Road Transport Department and other stakeholders about a regulatory framework and ecosystem before rolling out autonomous vehicles.

Gobind added that Malaysia was aiming to capitalise on Asean’s digital economy,

which is projected to have a combined GDP of over US\$1 trillion by 2030.

The minister said this national ambition was strengthened by Malaysia’s position within Southeast Asia, which is a “collective AI powerhouse with a rapidly expanding digital economy”.

He urged businesses to embrace rapid technological advancements to ensure Malaysia is not left behind by its global counterparts.

Gobind also said the Digital Trust and Data Security Strategy document, which addresses future technological challenges, would be launched by the end of the year.

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AI Will Replace Most Humans, But Then What?

Is technology more job augmenting or job replacing? This has been a long-standing debate. But recent academic work suggests that technology has been a net destroyer of jobs for decades.

Artificial intelligence and robotics could rapidly accelerate this trend, with significant implications for inflation, the size of government and U.S.-China relations.

Over the long arc of history, technological advances have enabled industries to emerge, as workers, released from “older” jobs by machines, have been able to transition into newer ones.

Indeed, 60% of workers today are employed in occupations that did not

exist in 1940, or 74 percent if we consider just the professional category, which added the most workers during the past eight decades.

However, recent academic research, suggests we may have reached an inflection point in the U.S., whereby technology is now destroying more jobs than it is creating.

David Autor, an economist at MIT and winner of the 2005 John Clark Bates Medal, argues that since 1980, the jobs replaced by automation have not been fully offset by new jobs created.

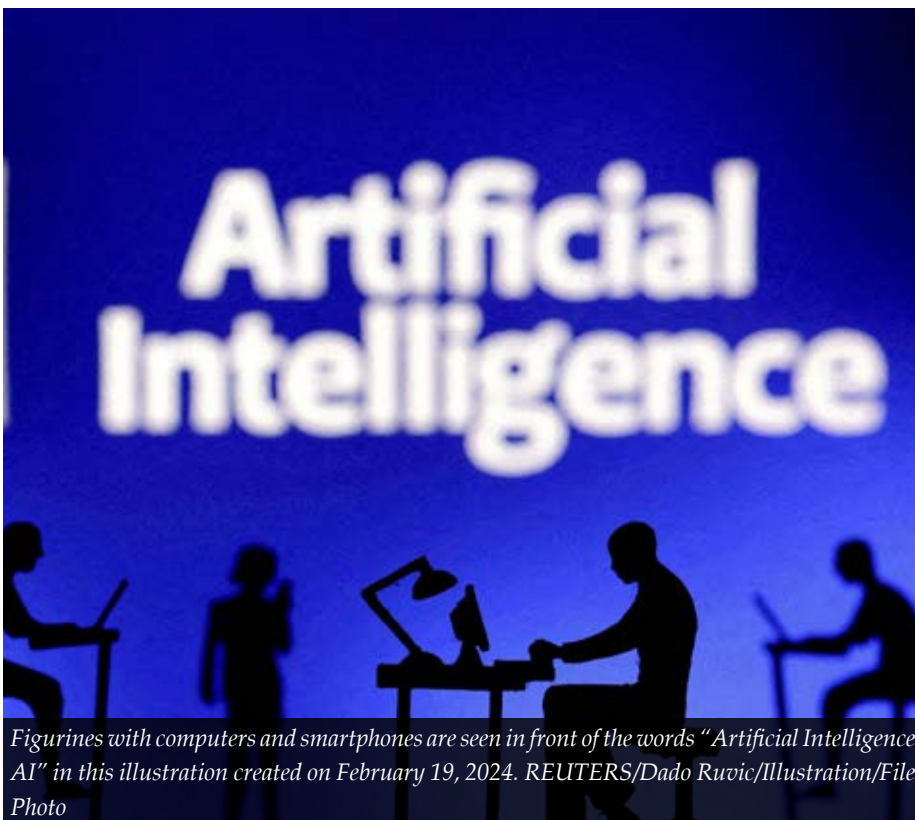
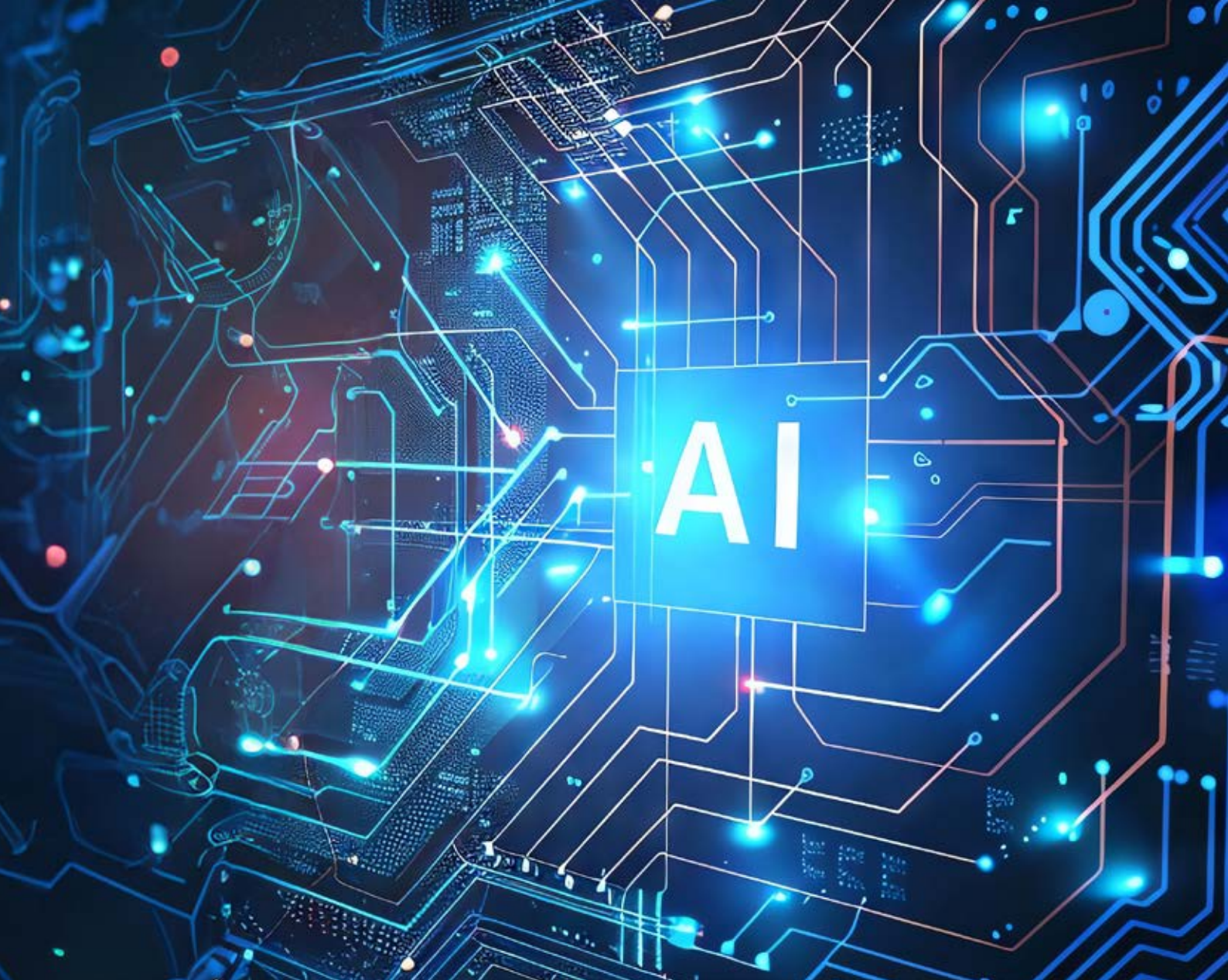
This reflects the pace of technological change and the fact that advancements are now increasingly focused on “professional,

technical, and managerial occupations,” Autor notes, rather than lower-skilled work.

He finds that machines that are more powerful than an average human (e.g., a tractor) are typically labour-augmenting and productivity-enhancing, while machines that are also smarter than the average human tend to be labour-substituting.

And AI is on pace to be a lot smarter than most humans.

While forms of AI have been around since the 1940s, the immense computing power resulting from advances in semiconductor technologies has now allowed machines to attain multidimensional intelligence.



Figurines with computers and smartphones are seen in front of the words “Artificial Intelligence AI” in this illustration created on February 19, 2024. REUTERS/Dado Ruvic/Illustration/File Photo

It is therefore reasonable to assume that many workers are going to be replaced by automation in the coming decades, even if the best AI is never as creative or imaginative as the smartest humans. In fact, a 2019 OECE report and a 2018 paper by PriceWaterhouseCoopers argue that some 15-30% of all jobs in developed markets are at risk of being automated.

IMPLICATIONS

If AI does turn out to be a net job destroyer, what are some of the biggest implications?

First, it's likely to be deflationary. High and rising unemployment resulting from ever cheaper and more capable machines should, in theory, lead to structural



deflation, as technologies that can rapidly augment the supply of goods and services should reduce demand if they cause massive job losses.

Next, the U.S. government will probably get even bigger. In a mass unemployment scenario, the government would likely be compelled to step in to facilitate income and wealth transfers from the owners of robots and tech businesses to the unemployed workers.

And which countries will come out on top? The economic winners and losers in the years ahead will likely be determined by who can best create and utilize technology.

The U.S. and China, both dominant in cerebral technologies, therefore appear well positioned to thrive in this environment. These economic and technology superpowers have adopted muscular industrial policies, while Europe – the other big regional power – has not yet done so.

What this also suggests is that, even if the trade war between the U.S. and China is short, the tech war between these two

countries could be protracted – and ultimately much more consequential.

The tech war, unlike the trade war, is dynamic, meaning it's not about challenging the static comparative advantages of nations, but rather continually evolving and advancing.

Investors would be wise to keep this distinction in mind, as the dynamic aspect of the tech war is apt to become much more important than, say, whether Vietnam is allowed to sell cheap running shoes in the U.S.

EXPONENTIAL CHANGE

My views here are admittedly speculative. But the arguments for why AI and robotics could ultimately be labour-creating are as well.

Furthermore, these arguments are often obscured by sloppy references to labour productivity, which is a simple ratio between output and labour input.

When calculating this, there is often little explanation of what part of the output should be attributed to the labour

input. For example, should subway train drivers account for the value of the entire subway system? Projections based on such questionable assumptions should be viewed cautiously.

Finally, it's also true that populations in many developed markets are aging, so the heavy use of automation could simply offset the shrinkage in the labour force, something we're already seeing in Japan and South Korea.

But aging, like natural evolution in general, is gradual, while computational and technological evolution accelerates at an exponential pace. Because of the convexity in technological advances, it's hard not to bet on technology rather than workers.

The views expressed here are those of Stephen Jen, the CEO and co-CIO of Eurizon SLJ asset management

The above comments and opinions in the article are the author's own own and do not necessarily represent Automate Asia Magazine's view

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Virtual Reality Therapy 'Helps Cut Chronic Pain'

A hospital in Devon has been demonstrating new technology which is helping patients manage long-term chronic pain in a different way from medication alone.

The virtual reality (VR) immersive therapy at Torbay Hospital involved patients stepping into another world and moving in ways where they were not concentrating on the pain, staff said.

The Torbay and South Devon NHS Foundation Trust has been offering the therapy to patients as an eight-week course.

Some patients who had been using the VR system by Cureo said they had seen in improvement in the way they moved and had reduced their pain medication.

Physiotherapist Phillippa Newton-Cross, the service lead for the pain rehabilitation team, said: "Working with pain is like trying to work with a central nervous system that is on high alert and hot-wired and alarmed all the time.

"It's really difficult to move when you are like that."



Stuart Spray, here using the VR equipment at Torbay Hospital, says he is feeling a lot healthier than he did before

"Learning these smooth calming skills allows you to work with your pain system less in a high alert fight-or-flight response.

"That's enough that you'll find that they [patients] can then manage to do better with conventional exercise."

The team was awarded £29,000 from the NHS trust's League of Friends to support a clinical rehabilitation pathway using virtual reality technology.

David Malpas is a patient with progressive myopathy who has problems moving his neck. He has completed an eight-week programme of therapy sessions.

He said: "It enabled me to move my body in different ways that I didn't know how to.

"I can't look left and right because of my neck being so pinned up and the pain.

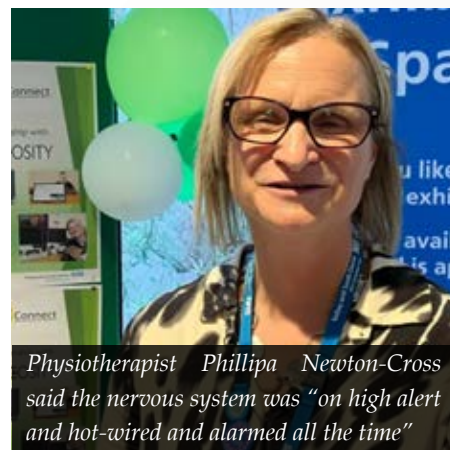
"They managed to work out some different muscles in my body that I can use. So I can turn my body left and turn my body right.

His wife Claire said: "When we first started, I thought: 'It's not going to do much.'

"But, after eight weeks and the input from all of the staff at the unit, the progression to moving more easily was astounding.

"I couldn't believe what I was seeing."

Stuart Spray has chronic pain and has been taking painkillers for 23 years, ending up on the highest dose of codeine that could be prescribed.



Physiotherapist Phillippa Newton-Cross said the nervous system was "on high alert and hot-wired and alarmed all the time"

Since attending the sessions, he said he had stopped taking codeine and was feeling a lot healthier than before.

He said: "My mind has to be occupied; that's the way am, I have to be analysing constantly.

"When I put one of these headsets on, I just disappear. I'm more concerned about me now than solving the problem.

I came off codeine three months ago completely."

Since its introduction, 50 patients have used the system in south Devon.

This particular software has been available in other countries since 2017, but Torbay's pain team is understood to be the first to use it in the UK.



Patient David Malpas and his wife Claire at Torbay Hospital



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3D Printing Firms Call for Clearer Regulations as More Clients Ask for Illegal Gun, Vape Parts

While the companies have rejected such requests, they say it is becoming harder to spot which designs could be against the law.

In the past five years, 3D printing firm co-founder Hardik Dobariya has rejected requests for about 25 prints related to gun parts.

Most of these orders have come in within the past year, mostly from Singapore and Australia.

“We had this one particular user – they separated their gun into 200 subcomponents and uploaded them separately, some via email, some directly to our platform,” Dobariya told CNA.

His company, Factorem, is not alone.

Six out of eight 3D printing firms based in Singapore that CNA spoke to reported receiving requests to produce what they suspect are parts for guns and, increasingly, vapes.

While most firms said they keep up to date with the laws on their own, some are calling for clearer regulations, such as requiring customers to declare that their prints are compliant and catch illegal designs before they are made.

3D printing, also known as additive manufacturing, allows people to create objects by using product designs and blueprints that can be found online.

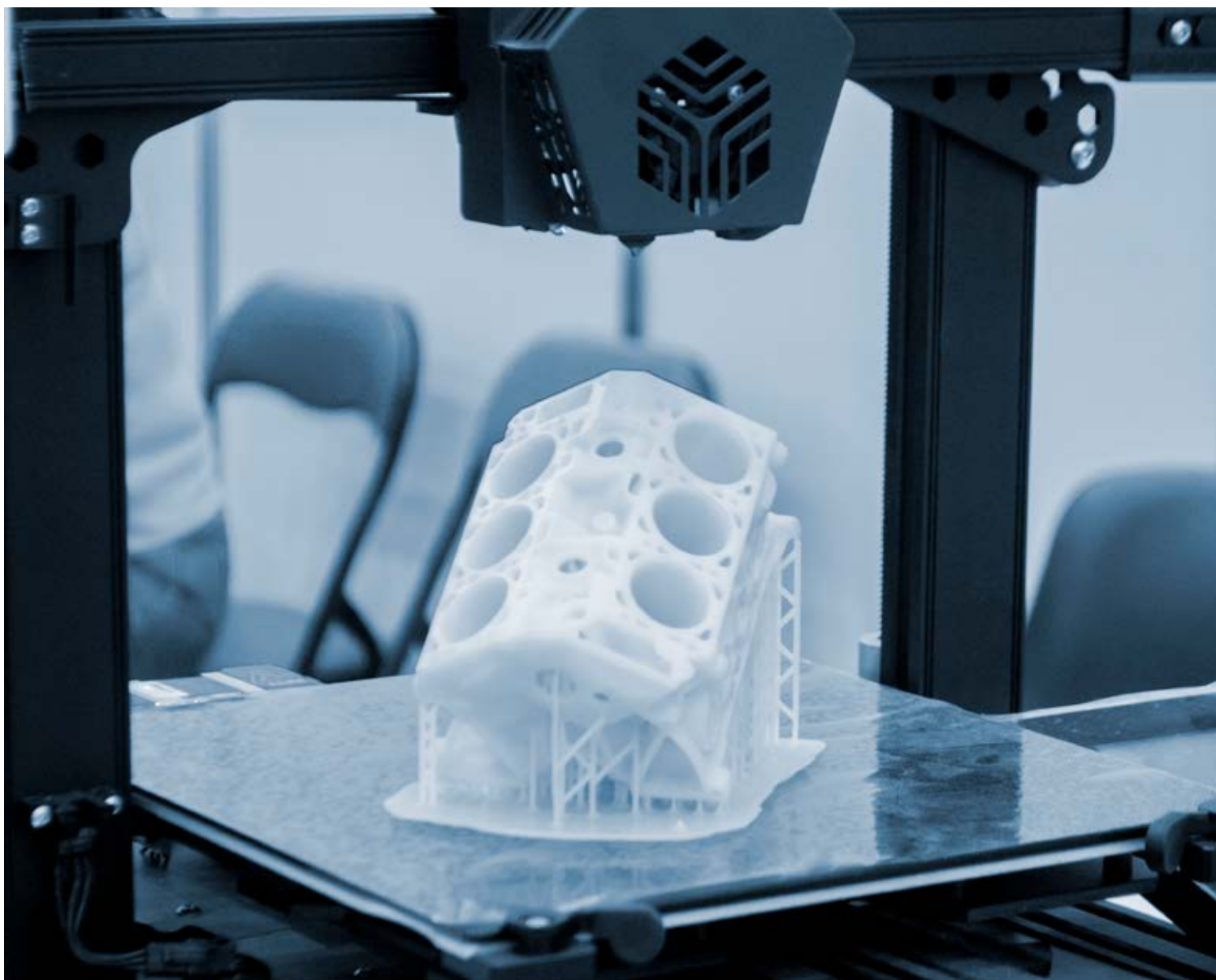
Due Diligence Needed

Another 3D printing company, Zelta3D, said it conducts due diligence in deciding whether to accept a design or not.

“We search (each) file name to see if it tallies with any weapon product name or like any weapon that can be sourced online,” said Zelta3D’s operation manager David Wong, adding that the firm has seen a drop in requests for prints related to gun parts due to recent tougher legislation.

“Some of (the design requests) would look like a gun barrel or a handle with a trigger that could potentially be a firearm, for example,” he noted.





Dobariya said his firm has also received a request for 3D-printed gun parts from Australia, where someone wanted to manufacture a gun to shoot animals in their backyard.

Other firms said they have been getting more requests for vape parts, like accessories or pod concealers. This comes as the authorities in Singapore have stepped up enforcement on vaping, including Kpods – vapes that are laced with chemicals or drugs.

One company, 3D Aura, has seen a 50 per cent increase in these requests this year compared with last year.

Another company, 3D Generation, said it got three enquiries from the European

Union region over the last few years for what it suspected were vape or vape-like parts.

When the firm asked what the parts were for, the requesters declined to elaborate beyond providing the 3D model files.

Harder to Spot Illegal Requests

In response to CNA's queries, the Singapore Police Force noted recent legislation that came into force last month.

Under the Guns, Explosives and Weapons Control Act, it is illegal to possess 3D-printed guns and its parts, as well as blueprints for the manufacturing of guns or gun parts.

Lawyer Danny Quah said that apart from abiding by the law, there are other ways for firms to protect themselves.

“The prudent thing for firms generally would be to destroy (blueprints for the printed parts) ... And if they, for some reason, not only have the digital components but physical blueprints themselves, they should surrender them to the police,” added the director of CHP Law.

However, 3D printing firms said it is becoming harder to spot requests for parts that could eventually be used to make something illegal.

3D PRINTING



An object being made with a 3D printer.



A worker handling a 3D-printed object.

For vapes, some said it can be difficult to flag suspicious requests to the authorities as some parts could be mistaken as plastic components.

The usual requests are for accessories like vape cases or those used to conceal vapes, possibly to bypass import restrictions.

Artificial intelligence has also made it simpler for people to generate designs, said Factorem's Dobariya.

"You can create a 3D model of a gun that's this many millimeters long, and

can achieve this functionality, and the AI will produce it for you. So I think it's getting easier and easier to get the designs required," he added.

Even so, companies said they are stepping up safeguards to clamp down on such requests, with at least one saying it had filed a digital police report. Some are also increasing oversight over their print jobs.

"When the platform detects that there are gun-like components, there's human intervention required," said Dobariya.

"Our algorithm stops them, requires our team to come in to take a look whether this is a legitimate inquiry and what the purpose of this is."

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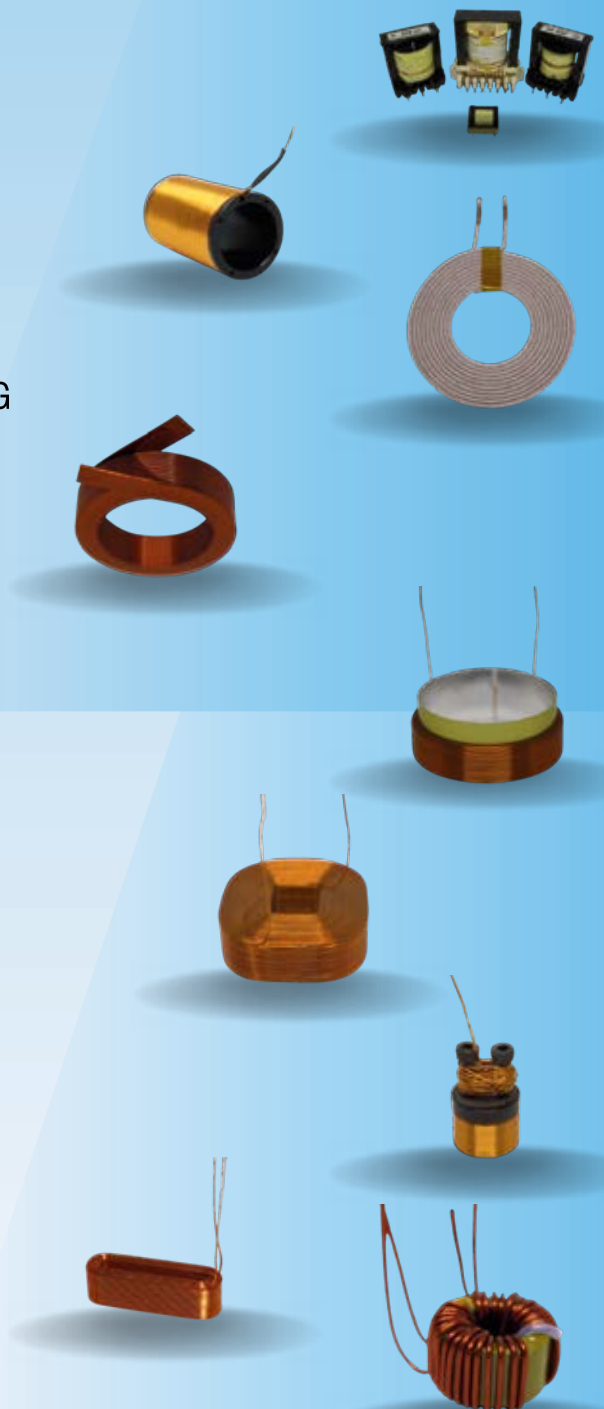
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AI, Supply Chain, and Sustainability: Malaysia's Turning Point for Machinery & Engineering

By

Ir. Ts. Prof. Dr Tan Chee Fai

Vice President (Technology), Malaysia Association of Sustainable Supply Chain & Innovation (MASSCI)

Deputy Vice-Chancellor, Kuala Lumpur University of Science & Technology (KLUST)

Malaysia's Machinery & Engineering (M&E) sector sits at a pivotal junction. Relative to neighbours, Malaysia already has industrial infrastructure, trade networks, a skilled (though aging) workforce, and strong institutional frameworks (MIDA, MDEC, agencies) — but many firms remain in “digitisation lite” mode, and global demands (e.g. carbon border taxes, resiliency) are rising fast.

To transform from traditional engineering outfits to future-capable industrial champions, Malaysia's M&E firms must integrate technology such as automation, AI and robotics, supply chain resilience, and sustainability as a unified strategic stack. The government's industrial policies—especially the New Industrial Master Plan 2030 (NIMP 2030)

and the legacy of Industry4WRD—give some runway. But success will require realistic alignment with local constraints: capital access, workforce readiness, scale economics, regulatory clarity, and international compliance.

The question is not whether change will come, but whether Malaysia's M&E sector can embed AI, supply chain resilience, and sustainability into one integrated industrial playbook—before global competitors capture the value.

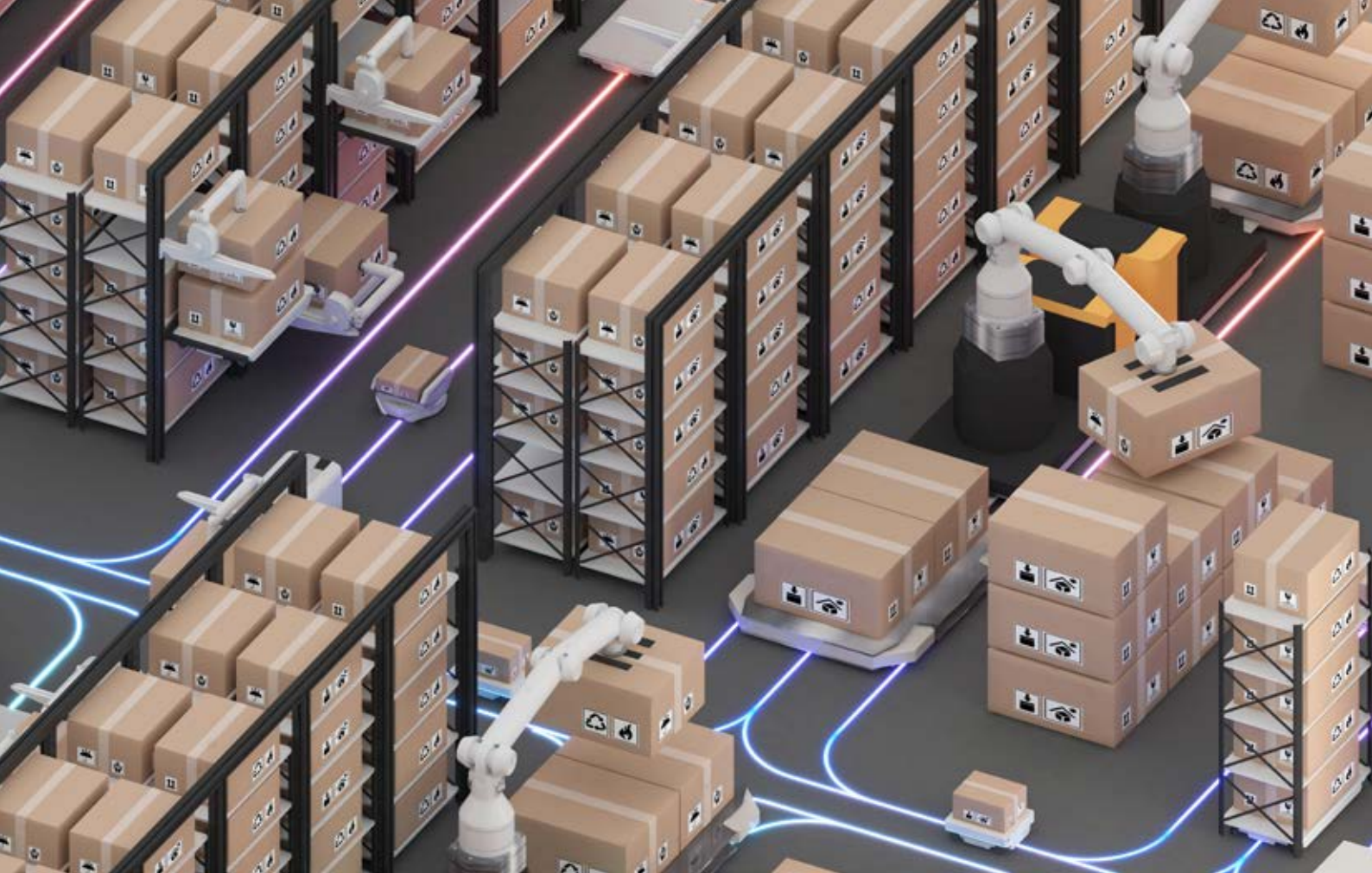
CURRENT STATE: MALAYSIA'S M&E & DIGITAL BASELINE

Policy and institutional momentum:

Under the New Industrial Master Plan (NIMP) 2030, the machinery and

equipment (M&E) industry has been identified as a core sector, with the sectoral plan emphasising the need to capitalise on emerging global trends, address supply chain disruptions, embrace digitalisation, and integrate ESG considerations. Complementing this, Malaysia's domestic digital push—including the MyDIGITAL initiative, cloud infrastructure expansion, and rapid growth of data centres—creates a strong foundation for industrial AI deployment. On the automation front, the Malaysian Investment Development Authority (MIDA) highlights that local manufacturer are increasingly adopting IoT, AI, and robotics to develop interconnected, intelligent systems that optimise resources and drive efficiency. To accelerate this transition, the government has introduced targeted incentive schemes such as the Smart Factory





Transformation Programme and the M&E Digital Transformation Programme, both designed to encourage greater adoption of Industry 4.0 technologies across the sector.

Capability pockets and success stories

A home-grown Malaysian firm has emerged as a leading example in the sector, specialising in machine vision, embedded solutions, and integrated Industry 4.0 manufacturing intelligence. At the same time, regional hubs are taking shape in Penang and Perak, where MoUs and investments are driving the establishment of smart manufacturing and agricultural machinery hubs that link technology development, production, and human capital. Research highlights that Malaysia's manufacturing sector stands to be one of the top beneficiaries of generative AI adoption, with the potential to unlock USD 113.4 billion in productive capacity at the national level, nearly half of which could come from manufacturing alone.

Yet, despite these promising opportunities, many Malaysian manufacturers remain in the early stages of digital transformation, where progress is still heavily influenced by factors such as organisational culture, resource availability, change management capability, and employee attitudes.

Sustainability and supply chain practices

Practices such as environmental purchasing and sustainable packaging have been empirically proven to enhance economic, social, and operational performance within Malaysian manufacturing firms. A recent study on Industry 4.0 adoption in post-COVID Malaysia further reveals that digital tools can significantly reduce energy waste, material loss, and process inefficiencies, but only when these technologies are strategically aligned with organisational objectives. In reality, however, the adoption of sustainable supply chain practices across Malaysian manufacturers remains uneven, with many companies

still viewing ESG primarily as a compliance requirement or marketing exercise rather than embedding it as a core design and operational principle.

THE OPPORTUNITY WINDOW: WHAT MALAYSIA'S M&E SECTOR CAN ACHIEVE

When Malaysia's M&E firms combine AI, supply chain sophistication, and sustainability, several strategic outcomes become realistic even in the local context:

1. Differentiation in export markets

Many Malaysia M&E firms currently compete on cost. But buyers in the EU, US, Japan, and Australia increasingly demand carbon transparency, modular upgrades, digital service add-ons, and resilience. Firms that can supply "smart, low-carbon, serviceable" machines will command premium margins and longer contracts.



2. Strengthened resilience to disruptions

Malaysia is vulnerable to external shock such as shipping delays from congested ports, geopolitical tensions, commodity price swings. Pre-emptive scenario modelling (using AI + digital twin of supply chain) reduces risk and working capital. Supply chain orchestration can turn Malaysia into a more stable regional hub.

3. Operational cost reduction and yield improvement

Through AI-enabled quality and predictive maintenance, M&E firms can reduce downtime, scrap, and energy costs. In Malaysia's context, where electricity prices, labor costs, and material waste are meaningful, even modest gains (2–5 %) can improve competitiveness.

4. Governance legitimacy and regulatory readiness

As carbon border adjustment mechanisms (like EU's CBAM) become stricter, Malaysian exporters will need verified emissions accounting. Having governance and traceable data systems

in place gives a "license to export" edge, especially for heavy machinery and components with steel, motor, or electronic content.

5. Domestic growth synergies

Malaysian government and utilities are promoting decarbonisation and clean industry. Domestic demand will increase for efficient, low-carbon machinery, electrification solutions, retrofitting of legacy plants, and smart systems. M&E firms that co-develop with local industries can capture this market before competitors abroad.

REAL CONSTRAINTS & RISKS: WHAT MAKES MALAYSIA UNIQUE

To make this vision credible, one must confront Malaysia-specific barriers:

1. Capital intensity & risk aversion

Many M&E firms are SMEs with thin margins. Large CAPEX for sensors, AI platforms, software, cloud, and integration is often prohibitive. Government grants help, but scaling is often stalled at pilot projects.

2. Skilled AI / data talent shortage

Malaysia has technical universities and R&D institutes, but the pool of industrial AI/data engineers is small. Upfront training and retaining talent are a deep challenge.

3. Change culture inertia

A common refrain from studies is that culture, mindset, and leadership are bigger barriers than technology. Integrating new practices across engineers, production staff, and procurement teams is nontrivial.

4. Data fragmentation, legacy systems & interoperability

Many plants still run legacy PLCs, on-prem legacy MES/ERP, proprietary vendor silos. Stitching this into a reliable AI pipeline is a major technical effort—not just plug-and-play.

5. Regulatory ambiguity & standards gap

While Malaysia has national AI governance guidelines, industrial and safety standards specific to AI in

machinery, emissions accounting, or supply chain traceability are still evolving. Buyers across regions may demand external certifications (ISO, third-party audits).

6. Energy and resource pressure

As data center and cloud demand surges, Malaysian authorities may impose premiums on power or water usage in industrial zones. Indeed, technology firms building data centres in Malaysia are being told to pay a “premium for energy” to discourage environmental stress.

7. Global supply-chain risk & chip access

Malaysia is part of the electronics/semiconductor supply chain, but for cutting-edge AI chips, dependency on global supply is risky. Recent commentary warns Malaysia must diversify AI chip suppliers and vet transit to avoid disruptions.

A Malaysia-Tailored Playbook (2025–2028)

To make progress in the real Malaysian context, M&E firms can follow a staged, risk-aware roadmap:

Stage 1 (0–9 months): Foundation & “quick win” pilot

Select 2–3 use cases with clear line owners: e.g. predictive maintenance on the highest down-time machine, computer vision inspection on high-value parts, or demand forecasting for spare parts.

- Establish an industrial data backbone: build a secure cloud landing zone (or hybrid) and connect historian/PLC, MES, ERP, and supplier portals.
- Adopt lightweight MLOps: even open source frameworks (MLflow, Kubeflow) to manage model versioning, drift detection, rollback.
- Embedding governance: define training, validation, human-in-loop

thresholds, audit trail. Publish a customer transparency note.

- Capitalize on government support: apply for incentives via MIDA, SME Corp, or regional schemes tied to Industry4WRD / NIMP.

Stage 2 (9–24 months): Scale & integrate

- Scale new use cases using the same patterns (data, pipelines, ROI templates).
- Integrate demand sensing + supply risk modules: ingest supplier disclosures, indices, news, and build lightweight supplier risk scoring.
- Carbon accounting integration: develop cradle-to-gate emissions models for key product lines; link this with quoting/configurator tools so sales engineers can present “performance + carbon” options.
- Embed AI assistants & frontline tools: in maintenance systems, routing work orders, recommending next actions. Supplement training with on-tool coaching.





- Forge ecosystem partnerships: link with Malaysian tech providers, universities, and R&D agencies (e.g. MIMOS) to co-develop modules, accelerate trust, reduce cost.

boards, model audits, supplier ESG improvement roadmaps.

What Success Looks Like in Malaysia, by 2028

and industrial users are becoming early adopters of green machines, enabling M&E firms to convert domestic projects into showcase references that strengthen their export competitiveness.

Stage 3 (24–48 months): Compete & differentiate

- Offer AI-enabled service contracts: e.g. outcome-based uptime guarantees, remote diagnostics, and upgrade paths with emissions caps.
- Export edge analytics / AI modules to neighboring countries (Indonesia, Thailand, Vietnam) using Malaysian frameworks and cost advantage.
- Document and certify carbon footprints and traceable supply chain data for export markets (EU, US).
- Apply for sustainability / green labels / ISO / eco-certs to strengthen market perception.
- Institutionalise continuous improvement governance: internal AI review

A mid-sized Malaysian machinery firm now routinely ships machines equipped with built-in sensors, remote analytics, and optional carbon-efficient design packages, while supply chains are dynamically managed so that when a raw steel supplier signals price or risk, the system immediately suggests alternative vendors or adjusts safety stock. Machines in operation continuously report usage, energy consumption, and anomaly alerts, feeding this data back into design and servicing cycles to drive continuous improvement. As a result, Malaysian M&E groups are no longer competing for global OEM contracts solely as manufacturers but as solution providers offering combined digital and sustainability value. At the same time, local plants, utilities,

Ir. Ts. Prof. Dr. Tan Chee Fai is the Vice President of Technology at Malaysia Association of Sustainable Supply Chains & Innovation (MASSCI) and The Deputy Vice-Chancellor of Kuala Lumpur University of Science & Technology (KLUST). He is an internationally recognized expert in smart manufacturing, digital transformation, AI, and robotics. Prof. Tan also serves as Chair of the ASEAN Engineering Inspector for Mechanical & Manufacturing and contributes to ISO/IEC and WFEO initiatives on engineering innovation and sustainability.

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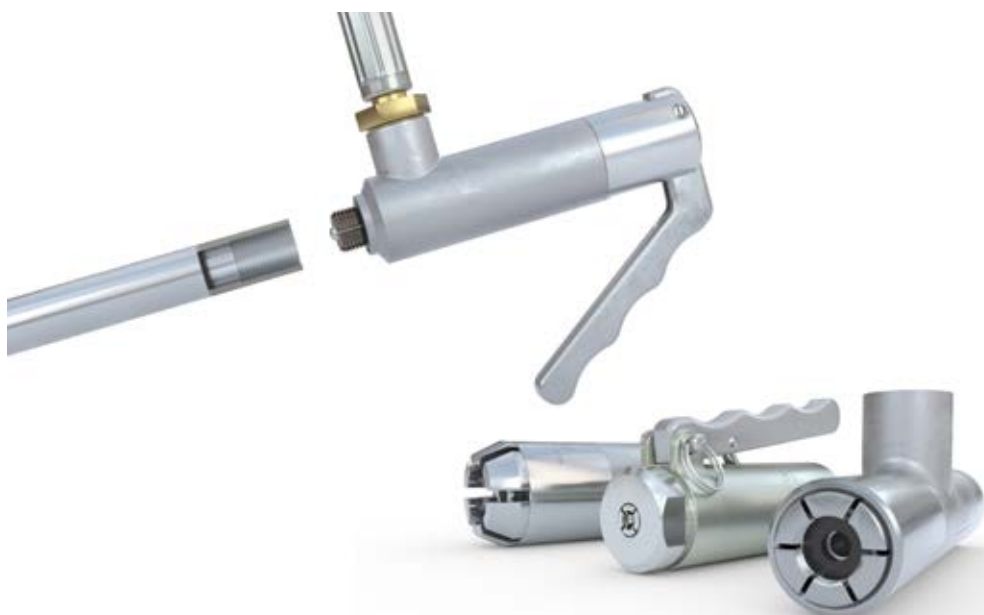


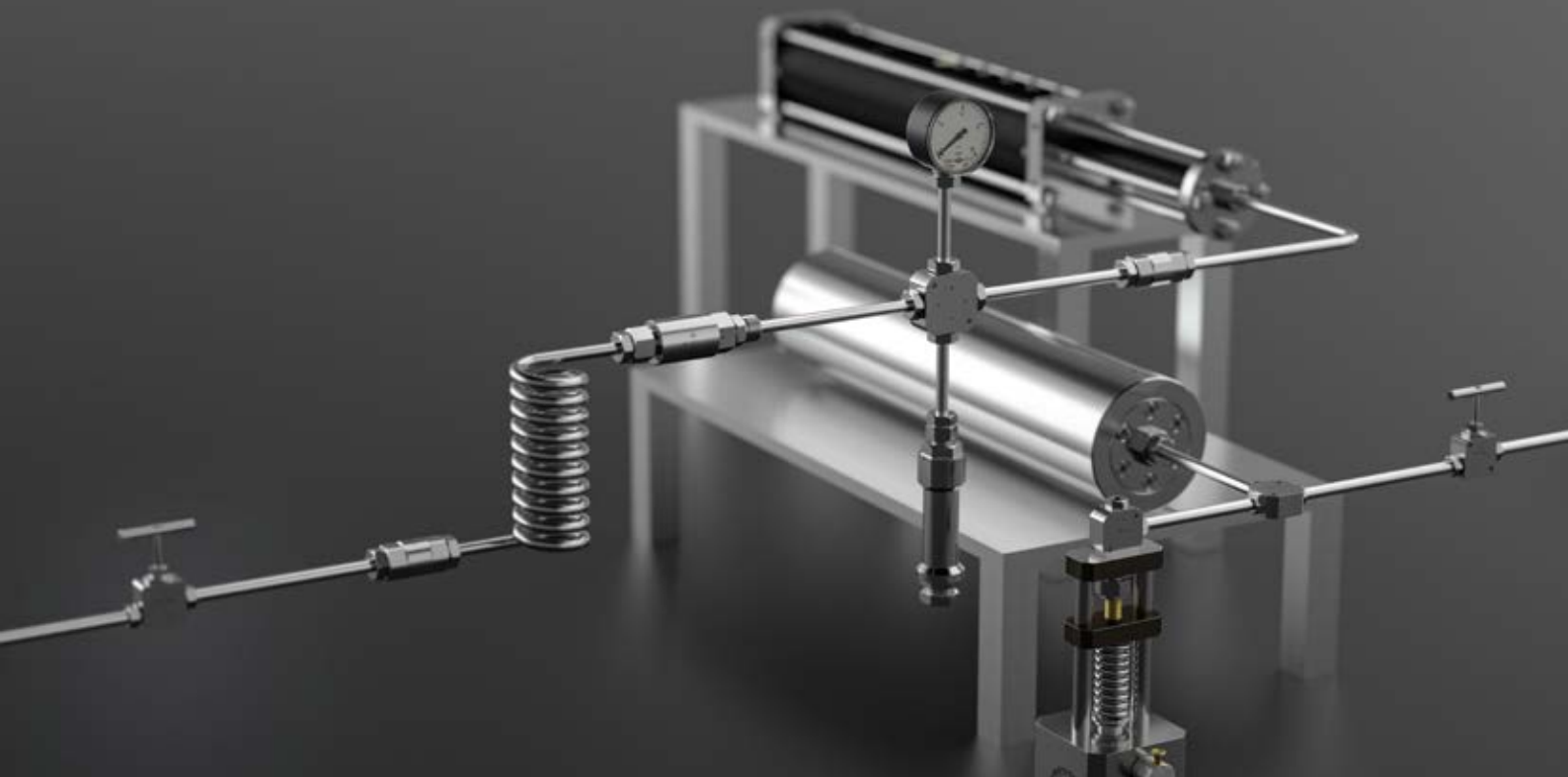
WEH Quick Connector in action: Providing a fast, secure, and leak-tight connection for industrial testing applications.

WEH Showcases Innovative Connection Solutions at METALEX in Bangkok

At this year's METALEX in Bangkok, WEH will present its wide range of innovative and reliable connection solutions for industrial applications. Whether for leak testing, filling, or high-pressure applications, WEH provides both standardized and customized solutions that boost productivity and ensure maximum safety.

With over 50 years of experience, WEH has established itself as a global leader in connection and fluid technology. At METALEX, WEH will demonstrate how its solutions simplify processes, increase efficiency, and set new benchmarks in industrial safety.





baromax high-pressure components – Secure and durable fittings, pipelines, valves, vessels, etc. for pressures up to 10,000 bar.

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Traditional screw connections are time-consuming and error-prone. The WEH® Quick Connectors offer a smarter alternative: thanks to the pioneering jaw locking mechanism, they establish a pressure-tight connection within seconds – without the need for additional sealing elements.

Widely used in pneumatic and hydraulic testing, the connectors have become the standard in automated testing and integrate seamlessly into quality assurance processes. With modular systems, WEH supports manual, semi-automated, and fully automated testing.

From pressure testing and component filling to vacuum and leak testing – with WEH® Quick Connectors, customers benefit from future-ready connection technology that delivers precision, safety, and efficiency.



WEH Leak Test Connectors for pressure-tight connections in seconds to threads, tubes, beads, etc.



Ultra High-Pressure Technology up to 10,000 bar

For applications under extreme conditions, WEH delivers safe and durable solutions with its baromax components designed for pressures up to 10,000 bar. Industries such as mechanical engineering, petrochemicals, mining, and research rely on WEH high-pressure components for critical applications including hydroforming, isostatic presses, water jet cutting, high-pressure food processing, and leak testing.

WEH® Check Valves – Reliable System Protection

WEH also offers a comprehensive range of **check valves** for optimal flow control in gas and fluid systems. Available in stainless steel for highly demanding environments, as well

as cost-efficient versions in steel or brass, WEH® check valves provide longlasting, reliable performance across industries.

Visit WEH at METALEX Bangkok in the German Pavilion, Hall 99 at Booth AQ04 and experience first-hand what's possible with WEH.

About WEH

Headquartered in Illertissen - at home in the world. This sentence already contains a large part of what defines the company WEH: A good mix of tradition and modernity - grounded and visionary.

For more than 50 years, WEH has been the expert in safe connections. Quick connectors with the WEH® Jaw locking mechanism were the first product range. The connectors create a pressure-tight connection simply and in just seconds. For

more than 35 years, WEH has also been a leader in alternative refueling technology in the fields of hydrogen and natural gas

Founded in Illertissen, Bavaria, WEH is internationally active with more than 40 sales and trading partners in over 60 countries

The medium-sized company is a global player with quality ,Made in Germany. From the initial idea, through design, production, shipping, and service, everything takes place at the location in Illertissen.

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Automation in the Crane and Materials Handling Industry

Industry Trends and Automation

What specific automation technologies are currently being adopted in the crane and materials handling industry by igus?

Igus is actively introducing various automation technologies to the crane and materials handling industry.

1. Robotics and Automated Systems

Igus offers automation solutions like the robolink® modular robotic arms, which can be integrated into materials handling processes for tasks such as sorting, packaging, or assembly.

Our solutions are lightweight, low maintenance, and designed for cost-effective automation.

2. Smart Plastics with Condition Monitoring

Igus integrates *i.Sense* and *i.Cee* systems for predictive maintenance. These systems monitor the wear and condition of energy chains, cables, and bearings in cranes and handling machinery, minimizing downtime by signaling when replacements or maintenance are needed.

3. Energy Chain Systems for Cable Management:

Igus energy chains (e-chains®) are widely used in cranes, ensuring efficient cable guidance even in challenging environments. These systems can handle dynamic motion, extreme loads, and long travel distances, making them ideal for the high demands of crane automation.

They also are made from lubrication free, low-maintenance materials, improving reliability in automated operations.

4. Gantries and Linear Motion Systems:

Igus offers linear actuators, modular drylin® gantries, and motion systems that are increasingly adopted for automatic movement and positioning tasks within materials handling centers. These are specially designed for quiet, precise, and maintenance-free operation, ideal for conveyor systems and robotics integration.

5. Lubrication free Bearings and Components:

Igus provides high-performance polymer bushings and bearings that eliminate the need for external lubrication, reducing maintenance time and costs. These

components are critical in automated crane systems as they improve efficiency in pivoting movements.

6. Autonomous Cable Reeling Systems:

For cranes with long travel distances, igus has developed autonomous cable carriers and reels designed for power and data transmission. These systems ensure minimal resistance and wear during automated crane movement.

7. Custom Automation Solutions with Lightweight Components:

Igus specializes in creating customized automation systems using lightweight polymer materials. This is beneficial in crane and materials handling operations where weight reduction aids in improving energy efficiency and speed.



Plain bearings without lubrication extend maintenance intervals



Do without additional lubricants and use individually customised plain bearings. Predictable service life and high resilience increase reliability.



No lubrication



Dirt-resistant



For high loads



Vibration dampening



Corrosion-free



UV-resistant and weatherproof



48-49

igus® zero-lubricants plain bearings, barstock and plates for crane industry

traditional roles in workplace safety could be improved, e.g. by removing workers from hazardous environments.

There is an increased need for technicians, engineers, and analysts to operate, maintain, and program automated systems, such as IoT-enabled predictive maintenance tools and robotics. Workers must develop skills in mechatronics, programming, and system integration.

As automation replaces certain roles, companies must invest in training employees for specialized positions like system maintenance, automation design, and software development.

Benefits and Challenges

Can you provide a detailed example of a project where automation led to a significant reduction in operational costs?

Industry 4.0 application examples & customer references with smart plastics

What are the most common misconceptions about automation in the crane and materials handling industry?

Common misconceptions about automation in the crane and materials handling industry from a company perspective usually involve automation being too expensive. While initial costs may seem high, long-term savings are offset by reduced downtime, lower maintenance, and increased productivity. ROI is typically achieved in a few years.

Another common misconception is that maintenance becomes more complex. Predictive tools like igus' *i.Sense* simplify maintenance, minimizing downtime and preventing costly breakdowns.

8. Collaborative Systems Integration:

igus is actively collaborating with manufacturers and integrators in the crane and materials handling sectors to offer solutions that are compatible with Industry 4.0 and IoT-enabled systems.

Overall, igus's focus on maintenance-free, durable, and lightweight polymer solutions aligns perfectly with the increasing demand for automation and smart systems in the crane and materials handling industry. Our innovations are transforming traditional operations

into highly efficient and cost-effective automated systems.

How has the adoption of automation impacted labor requirements and workforce skills in this industry?

One of our slogans for our low-cost automation products is "If you hate it – automate it!" – the adoption of automation in the crane and materials handling industry has significantly minimized the need for repetitive, labor-intensive tasks. By handling processes more efficiently and safely, reducing the demand for



igus and Automation

What roles do igus products play in enhancing the precision and reliability of crane systems?

igus products play a vital role in improving the precision and reliability of crane systems through their tribologically optimized polymer-based solutions. Energy chains (e-chains®) ensure smooth and safe cable management, reducing tangling, vibration, and wear during crane operations. Made from durable polymers, these chains resist extreme weather conditions, UV exposure, and heavy loads, ensuring consistent power and data transfer over long periods with minimal maintenance.

Some even fear that automation may reduce control when quite frankly the opposite is true. Operators not only maintain control, but with dashboards and monitoring tools they can gain deeper insights and improve decision-making.

Somewhat connected to the cost aspect is the notion that automation is only for large companies. While this of course holds some truth, igus provides scalable, modular solutions with our Low-Cost Automation product line.

Some even think that automation is all about the improvement of speed, while it is really a holistic approach to overall efficiency. It enhances safety, energy efficiency, cost management, and operational data insights.

How do you address concerns related to the reliability and maintenance of automated systems?

Our system **Superwise**, for example, simplifies and automates maintenance through advanced monitoring and predictive maintenance technologies that enhance equipment reliability and

reduce downtime. While the specifics of Superwise's solutions may vary depending on the application, the following key principles illustrate how it addresses concerns related to automated processes.

Superwise integrates sensors into machines and systems to continuously monitor critical parameters like temperature, vibration, pressure, and wear. These sensors provide a constant stream of data, enabling automated tracking of machine conditions without the need for manual checks.

Superwise can analyze collected data to predict potential failures before they occur, by detecting anomalies and identifying trends in equipment performance. The system can automatically flag components showing signs of wear or decline. This enables maintenance to be scheduled proactively, preventing costly breakdowns and unplanned downtime.

Superwise can even be set up to order the replacement parts needed automatically so that they are available hassle free when needed.

As outlined before, our smart plastics enhance precision and reliability as well. Smart plastics currently include products like **I. Sense e-chain systems**, **Chainflex® smart cables**, **iglidur® bearings with sensors**, **drylin® linear systems**, and predictive maintenance modules like **i.Cee**. Each is designed to work independently or as part of a complete Industry 4.0 setup, enabling real-time monitoring and predictive maintenance that improves efficiency, reduces downtime, and prolongs operational lifespan.

How does igus ensure the compatibility of its products with existing automation technologies?

igus ensures the compatibility of its products with existing automation technologies through a combination of modular design, standardized interfaces, and advanced engineering innovations. By focusing on user-friendly integration and adaptability, igus makes products that seamlessly work with a wide range of automated systems and industrial setups.

Future Outlook

What emerging technologies do you believe will have the most significant impact on automation in the next 5-10 years?

Emerging technologies such as **smart sensors for predictive maintenance**, **artificial intelligence (AI)**, and the **Industrial Internet of Things (IIoT)** are poised to have the most significant impact on automation in the next 5-10 years.

These technologies are reshaping the way industries approach efficiency, reliability, and scalability in automated systems.

How is igus preparing for the integration of AI and machine learning into its automation solutions?

igus is strategically developing smart products that generate high-quality data for AI analysis, while working on proprietary AI solutions not only for our predictive maintenance systems. Of

course, igus simultaneously invests in partnerships to align its products with AI-powered automation ecosystems.

Through these efforts, igus is not only preparing for the future of automation but is actively shaping it. With AI capabilities driving predictive maintenance, adaptability, and operational efficiency, igus is set to lead the integration of intelligent automation technologies across industries.

What are the potential environmental benefits of increased automation in the crane and materials handling industry?

Increased automation in the crane and materials handling industry offers a range of **environmental benefits**, stemming from improved energy efficiency, reduced waste, and optimized resource utilization. By integrating advanced technologies such as **AI-driven systems**, **IoT-enabled monitoring**, and **smart sensors**, automated solutions contribute not only to operational efficiency but also to more sustainable practices.

Closing Thoughts

How does igus plan to support its customers in navigating the transition to more automated systems?

igus is committed to supporting its customers in navigating the transition to more automated systems by providing tailored solutions, comprehensive resources, and ongoing collaboration to ensure a smooth and effective integration of automation technologies. Whether in manufacturing, logistics, crane operation, or materials handling, igus focuses on empowering customers with reliable, cost-effective, and scalable automation tools.



Engineered for cranes – guide trough, floating moving end, rotating energy supply system and strain relief.

Quantum Computing May Sound Like Science Fiction but Here's Why We Need to Take It Seriously

It may take up to two decades before quantum computing's potential is realised, but countries and corporations are investing heavily in this potentially game-changing technology so that they can be ahead of the pack.

In a highly secure lab in the United States, at technology company IBM's research facility just outside of New York City, a cryogenic refrigerator hums away, keeping temperatures ultra-cold – icier than the depths of outer space.

Also known as a dilution refrigerator, it keeps temperatures plunged near absolute zero (-273.15°C). The tangle of cylindrical vessels and wires safeguards other complex parts that make up an extremely temperature-sensitive piece of technology at its heart.

A growing number of scientists believe these components may well represent the future of computing, technology more broadly, and even society itself.

A similar device that, like its IBM counterpart, looks like something straight out of a science fiction movie also sits at a Google research lab in Santa Barbara, California.

Both of these are quantum computers, devices that some people believe will enable breakthroughs such as the discovery of new materials, cures to diseases and more powerful artificial intelligence (AI).

So far, given the cost and technology required, there are only an estimated 100 to 200 quantum computers globally,

though not all are operational or harness the full potential capabilities of quantum.

Some countries such as China and the US are investing heavily in quantum technology, hoping to be among the first to harness its immense potential. Among the different quantum technologies is quantum computing, which experts say has the greatest potential.

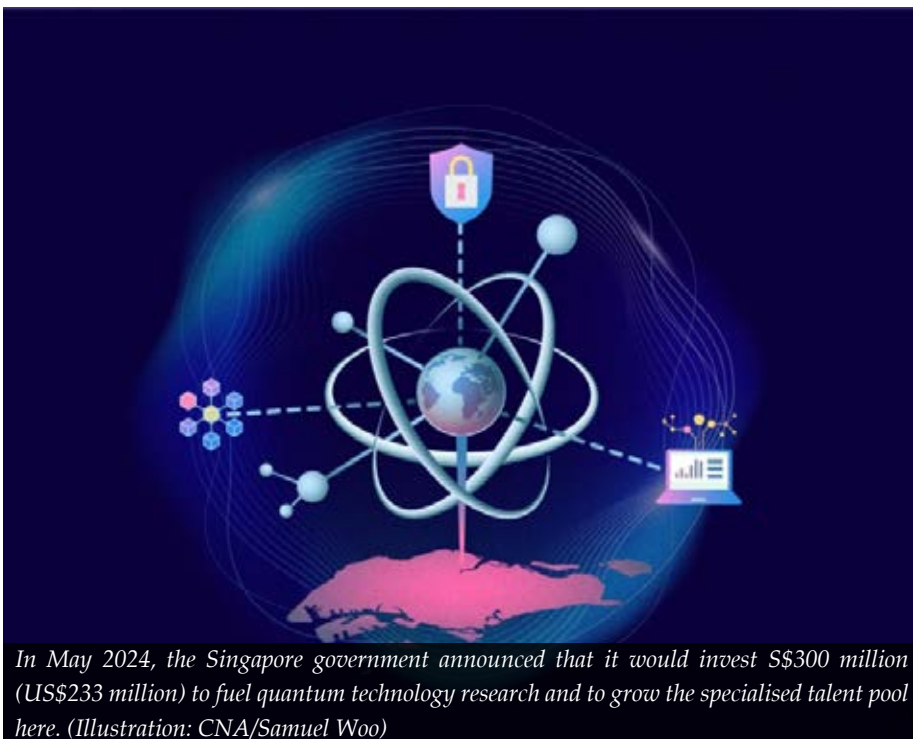
Singapore is making strides in this field, too. In his National Day Rally speech on Aug 17, Prime Minister Lawrence Wong cited quantum computing as an example of the nation's long-term commitment to frontier research.

"It is a completely new way of processing information, with the potential to transform many industries," he said. "It is still early days, but we may see breakthroughs 10 or 20 years from now."

Mr Wong's speech hinted at the burgeoning industry that some experts believe could be as valuable as the global semiconductor industry in the future.

In May 2024, the government announced the National Quantum Strategy, an investment of S\$300 million (US\$233 million) to fuel quantum technology research in Singapore, as well as to grow the specialised talent pool here. This is on top of the S\$400 million poured into quantum technology by the National Research Foundation since 2002.

A study by consultancy firm McKinsey found that quantum computing would



In May 2024, the Singapore government announced that it would invest S\$300 million (US\$233 million) to fuel quantum technology research and to grow the specialised talent pool here. (Illustration: CNA/Samuel Woo)

grow from a revenue of US\$4 billion (\$5.1 billion) in 2024 to as much as US\$72 billion in 2035. The total quantum technologies industry is projected to be worth as much as US\$97 billion in a decade's time.

Along with the opportunities that quantum computing brings, experts warned of risks for Singapore if it does not invest in the technology, especially when it comes to cybersecurity and defence systems.

CNA TODAY unpacks what quantum computing is, why Singapore is making significant investments in it and what is at stake if the nation falls behind in this cutting-edge field.

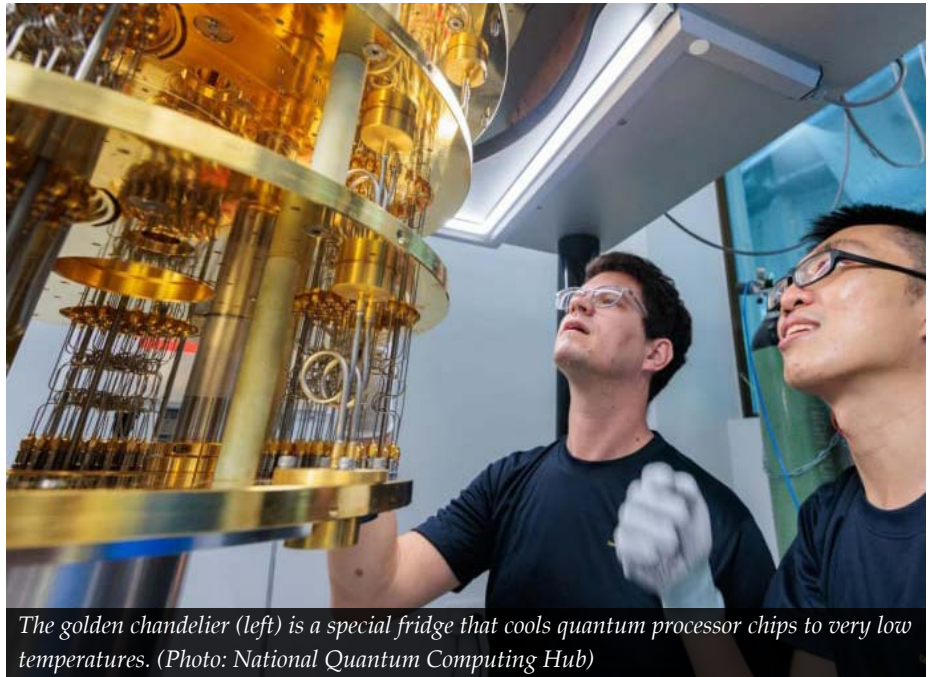
Quantum Computing: More Than Science Fiction

For fans of science fiction and superhero movies, the word “quantum” is familiar. Think of the quantum realm in Marvel's Ant-Man, or quantum time travel in Avengers: Endgame.

Though these are just comic-book fantasies more akin to magic, real quantum technologies are being developed globally.

These technologies are based on quantum mechanics — a well-defined framework in physics grounded in mathematical equations — and have several practical applications. This includes quantum communication, quantum computing and quantum sensing.

Mr James Wilson, a partner in the technology consulting practice at consultancy firm KPMG in Singapore, said: “Over the past decade, advances in the field have already demonstrated its potential. For example, quantum computers can tackle highly complex mathematical problems that are inefficient for classical systems.”



The golden chandelier (left) is a special fridge that cools quantum processor chips to very low temperatures. (Photo: National Quantum Computing Hub)

So, how do they work?

Unlike regular computers, which run on binary code – ones and zeroes – quantum computers run on quantum bits, also known as qubits.

Dr Su Yi, lead principal investigator at the National Quantum Computing Hub, said: “Think of a regular computer bit as a simple light switch: it's either on (1) or off (0). A quantum bit, or qubit, is like a special kind of switch that has a probability of being both on and off at the same time.

“This ability, known as superposition, enables qubits to explore a vast number of possibilities simultaneously.”

When these qubits are connected with each other – a phenomenon known as entanglement – their power grows exponentially.

“We can access this power to speed up certain kinds of computations,” Dr Su said. He is also the executive director of the Institute of High-Performance Computing at the Agency for Science, Technology and Research (A*STAR).

Take the example of solving a maze. A regular computer would try each possible path one by one until it escapes the maze.

A quantum computer, on the other hand, could explore multiple paths at the same time, solving the maze far more quickly.

Dr Miles Upton, the general manager for Asia Pacific at consultancy firm Cambridge Consultants, said: “This capability allows quantum computers to tackle highly complex problems, such as simulating molecules or optimising complex systems that are nearly impossible for even today's supercomputers.”

What are the prospects of buying one of these super-smart computers for the home office any time soon?

Almost zero, experts said. They unanimously agreed that it is unlikely that quantum computers will end up in the hands of everyday people.

“The biggest challenge is that qubits are extremely fragile. They can lose their state if disturbed by the smallest environmental factor,” Dr Upton said.

Current quantum computers must be kept at those extremely low temperatures to function.

“Most people will never own or operate a quantum computer in their home or office. Instead, quantum computing will be accessed through the cloud, much like AI tools today,” Dr Upton added.

“Big providers and specialised labs will operate the hardware, while businesses, researchers and even individuals will access quantum capabilities remotely.”

New Drugs, Better Ways to Invest

With such tremendous computing power, quantum computing offers several opportunities for industries across the board.

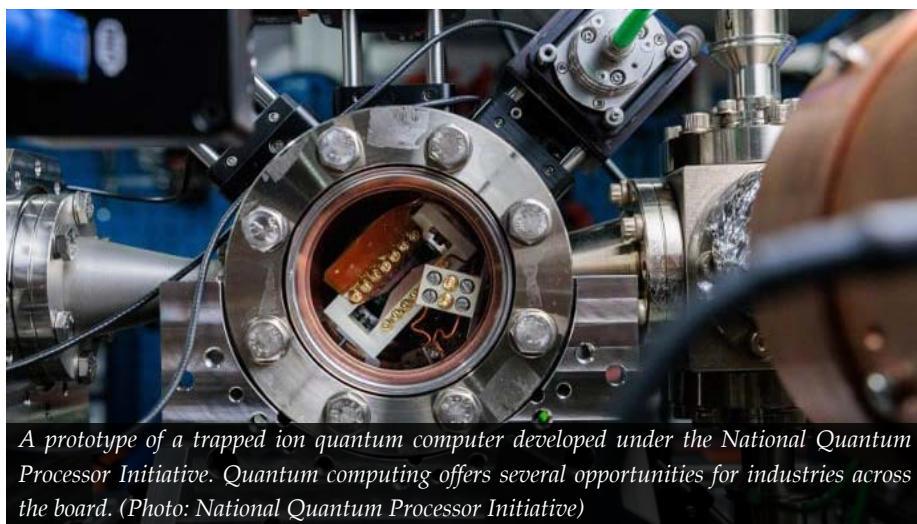
For example, its use could add momentum to another technological advancement that is already having an impact on the way we work and live: AI.

Mr Shanmuga Sunthar Muniandy, director of architecture and chief evangelist for Asia Pacific at data management provider Denodo, said: “It can accelerate the training of complex models with massive datasets.

“This could transform fields like healthcare, (allowing) for earlier and more accurate disease detection, or even finance, where quantum algorithms could improve risk modelling and portfolio optimisation.”

Beyond that, quantum computers could simulate molecular interactions, speeding up drug discovery and development, he added.

In the field of supply and logistics chains, quantum computers could further optimise complex rerouting and inventory



A prototype of a trapped ion quantum computer developed under the National Quantum Processor Initiative. Quantum computing offers several opportunities for industries across the board. (Photo: National Quantum Processor Initiative)

management faster than existing systems. Market fluctuations, demand shifts and supplier disruptions could also potentially be predicted using quantum computing.

The technology could also help make progress in tackling some of humanity’s greatest challenges.

Quantum computers could improve climate modelling, enabling scientists to simulate climate systems more accurately and advance environmental research, Mr Shanmuga said.

These and other benefits will indirectly have an impact on most people, Dr Su said. “Better products, cleaner energy and more effective medicines, all developed faster than ever before.”

He added: “For Singapore, these breakthroughs could strengthen key sectors such as healthcare, energy and advanced manufacturing, keeping us competitive in a future where knowledge and innovation drive growth.”

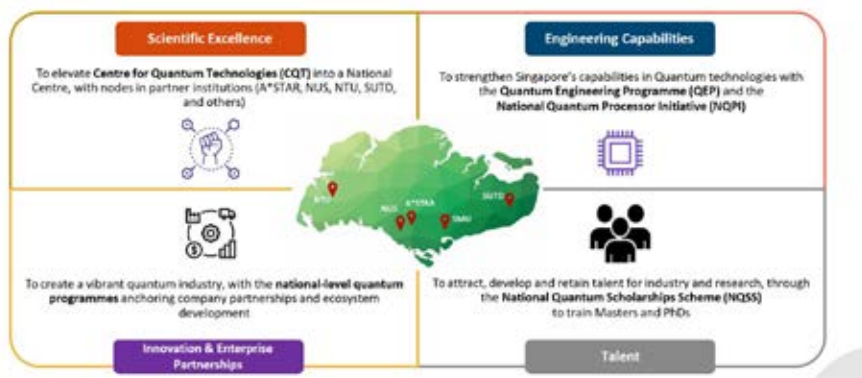
There are also potential benefits for Singapore’s Home Team, senior scientist Wong Swee Liang said.

Dr Wong is part of the Disruptive Technologies Office with HTX (Home Team Science and Technology Agency), which explores frontier science and emerging technologies for opportunities and threats to Singapore’s safety and security.



Mr Heng Swee Keat, then Singapore’s deputy prime minister, announcing the National Quantum Strategy in 2024. (Photo: National Quantum Office)

Four strategic thrusts under the National Quantum Strategy



National Quantum Office's four strategic thrusts under the National Quantum Strategy. (Infographic: National Quantum Office)

One potential application of quantum computing is analysing hazardous substances.

"We could use quantum simulations powered by quantum computers to better understand chemical, biological or toxic agents.

"This would help first responders quickly identify threats and determine the safest ways to mitigate them," Dr Wong said.

Besides that, quantum computing could optimise resource deployment and emergency response routes.

"Quantum computing-enabled simulations of new materials could also help HTX design better protective gear or sensors for first responders in the Home Team, potentially reducing development lead times for lifesaving equipment," he added.

Singapore's Quantum Efforts

Professor Lam Ping Koy, chief quantum scientist at A*STAR and programme director of A*STAR's Quantum Innovation Centre, said that numerous countries are already investing in quantum technologies such as quantum computing.

However, the extent of investment and scope of ambition vary widely.

"Some nations, like China and the US, lead with multi-billion-dollar programmes, while others focus on developing niche strengths."

Singapore's National Quantum Strategy focuses on four thrusts: advancing scientific excellence, building critical engineering capabilities, fostering a vibrant innovation and enterprise ecosystem and nurturing a pipeline of deep tech talent.

Spearheading the strategy is the National Quantum Office (NQO), a national platform hosted by A*STAR that was established in 2022.

Through this office, Singapore aims to "strengthen its long-term competitiveness and position itself as a future-ready hub for quantum technologies," NQO's executive director Ling Keok Tong said.

Mr Ling also said that Singapore has made "strong progress" under the strategy.

"Through national programmes coordinated by NQO, we are translating

research into applications, anchoring partnerships with global leaders, and creating early pathways for industry adoption."

Among the country's long list of efforts to establish Singapore as a leading hub for quantum technologies is growing the talent pool of quantum experts through a scholarship scheme launched in August 2024.

The National Quantum Scholarships Scheme has awarded 20 PhD scholarships so far and aims to award 100 by 2030.

Today, Singapore's quantum ecosystem comprises more than 300 researchers, said Mr Ling.

There are also efforts to attract global startups and nurture homegrown startups in the quantum space.

Ms Sophia Ng, the executive director for Startup Ecosystem at statutory board Enterprise Singapore, said that there are several initiatives to help achieve this goal. One is partnering with Singapore deep tech venture capitalists such as Eleve8 and Origgin to invest in quantum startups through its Startup SG Equity programme.

Singapore is primed to forge ahead in this field, being home to more than 4,500 tech startups, more than 500 venture capitalists and 220 accelerators and venture builders, she added.

Furthermore, Singapore is one of the fastest-growing startup ecosystems worldwide, having climbed 12 places since 2020 to rank fourth in the 2025 Global Startup Ecosystem Index by Startup Blink, a global startup research platform.

Ms Ng from Enterprise Singapore said that beyond supporting the growth of quantum startups, the agency is focusing



Dr Joe Fitzsimons, Horizon Quantum's chief executive officer, said that the company has developed its own programming languages and compilers, and has already run them on existing quantum computers. (Photo: CNA/Alyssa Tan)

its efforts on bringing quantum technologies closer to industry and building awareness among businesses and end-users.

One example is the Singapore Week of Innovation and Technology, its flagship conference that brings together researchers, corporates, investors and startups from around the world to look into deep tech, including quantum technologies. This year's edition will be held from Oct 29 to 31.

Separately, the Infocomm Media Development Authority (IMDA) launched the National Quantum-Safe Network Plus in June 2023 to enhance the resilience and security of businesses in Singapore's digital economy.

Among IMDA's efforts is protecting Singapore from the risks of quantum computers. This includes cybersecurity concerns since quantum computers could, in the future, decrypt existing encryption protections today.

"This positions Singapore among the first countries to integrate such

technologies and ensures our enterprises can securely connect with global markets as other cities roll out their own quantum-safe networks," Dr Ong Chen Hui, who is IMDA's assistant chief executive of its BizTech Group, said.

"Our vision is to eventually integrate Singapore's secure network with similar networks that other countries are building, creating a worldwide system of quantum-safe internet connections.

"This would enable businesses to future-proof communications for industries where data integrity is critical, such as financial, healthcare and legal."

It is not just the Singapore government that is investing in frontier technology. Large corporations here are also doing so.

Singtel is one such company, having invested in quantum-safe technologies since 2022. The telco also launched Southeast Asia's first quantum-safe network with ID Quantique.

The service supports organisations in key industries such as homeland security and

finance to adopt quantum technologies, Singtel's chief executive officer Ng Tian Chong said.

"We encourage all enterprises to start learning and trialling the technology, so they are ready to adopt quantum-safe solutions to protect their critical assets," he added.

Similarly, OCBC developed a quantum roadmap in 2021 to advance its technological capabilities and stay at the forefront of innovation.

The bank is collaborating with the National University of Singapore, Nanyang Technological University and Singapore Management University to assess the suitability of applying quantum technology to key banking operations, among other initiatives.

It is also one of the first to train employees in quantum technology and aims to train more than 100 employees at an intermediate proficiency level by 2026.

As of the end of 2024, around 50 employees had been trained and they possessed at least intermediate proficiency in quantum technology, OCBC said last month.

Mr Wilson from KPMG said: "Singapore is not merely experimenting, it is positioning itself as a quantum hub for Asia and beyond.

"The government recognises quantum computing's transformative potential across sectors like biotech, finance and national security, and is backing that vision with robust policy frameworks, strategic partnerships and funding."

Early Days, But Not Just Empty Hype

In an office at One-North, a group of

quantum experts type furiously on their computers. The office walls – painted with whiteboard paint – are filled with calculations and code that most people would find hard to comprehend.

In one room, a group of experts are deep in discussion with colleagues based in Dublin, Ireland, filling up their notebooks with more formulae and code as the meeting progresses.

They all share a common goal: to create software that will allow developers to use quantum computers easily, allowing them to tackle real-world problems.

They are part of Horizon Quantum, a startup founded in Singapore with an office in Dublin.

Dr Joe Fitzsimons, the startup's chief executive officer, told CNA TODAY that the company has developed its own programming languages and compilers, and has already run them on existing quantum computers.

"As we push the limits of what is possible within quantum programming, we are starting to see the elements of a first true quantum operating system, analogous to the Linux or Windows kernels, emerging from our work."

His company is part of a growing number of startups in Singapore's quantum technologies startup scene.

Like many other startup founders who spoke to CNA TODAY, Dr Fitzsimons acknowledged that quantum computing and quantum technologies are still at an early stage, but said that now is the best time to join the industry.

His view is that quantum computing has the potential to make a significant impact on the world just as mainstream computers have.

"However, it has taken more than 80 years to go from the very first computers to the advances in generative AI we see today — advances that would not be possible without 80 years of computer hardware development.

"Quantum computing is very similar ... It will certainly take time for the real impact of the technology to be felt."

That said, there are some challenges to tackle in the meantime.

"Quantum computing is powerful, but fragile. It holds immense promise, but it's still a delicate beast. Among the key hurdles in quantum computing research are the challenges of stabilising qubits, scaling quantum systems and developing robust software frameworks," Mr Wilson from KPMG said.

Since qubits are extremely sensitive to their environment, including heat, this limits their duration and reliability.

"Building quantum machines with enough qubits that can interact reliably, while keeping error rates low, is no small feat," Mr Wilson said.

"The hardware itself is complex and costly, often requiring ultra-low temperatures just to keep the qubits stable."

Mr Shanmuga from data management firm Denodo said that quantum computers are expensive and complex to build. Specialised talent in the field also remains in short supply.

Quantum computers also consume a large amount of energy and their production requires the extraction of specialised materials to build their components.

"Looking at the potential impact of

quantum computer systems' energy consumption requirements, conscious decisions need to be made to balance it with efficient, renewable and clean energy-based power management systems," he added.

Given the many hurdles, the opportunities that quantum computing could yield have yet to materialise as the technology is still in its infancy.

However, experts emphasised that it is not simply another passing tech fad such as the metaverse.

For one thing, quantum computers already exist and there have been major improvements in accuracy and stability over the past five years, Dr Upton from Cambridge Consultants noted.

Mr Shanmuga said: "The pace of progress in recent years, from rapid technological innovations to promising application testing, suggests that quantum computing may become a practical reality much sooner than expected."

This could happen within the next decade at the earliest.

He also observed "strong global investment momentum" from several players, including tech giants such as IBM and Google, as well as quantum specialists. Government-backed initiatives in key markets, including China, Europe, Japan, Singapore and the US, are expected to drive progress further.

The Risk of Not Taking Quantum Computing Seriously

Not investing in quantum technologies and quantum computing could also pose a risk for Singapore, especially in the cybersecurity space.

At Singapore-based startups pQCee

and SpeQtral, the race is on to develop quantum-safe technologies to protect private and sensitive data.

Today, most digital information is protected through encryption, often generated using mathematical problems such as factorisation and logarithms.

However, quantum computers, if sufficiently powerful, could solve those problems quickly, cracking most of today's encryption and exposing classified or personal data.

The bigger concern? That threat actors are already preparing to use this powerful technology to wreak havoc.

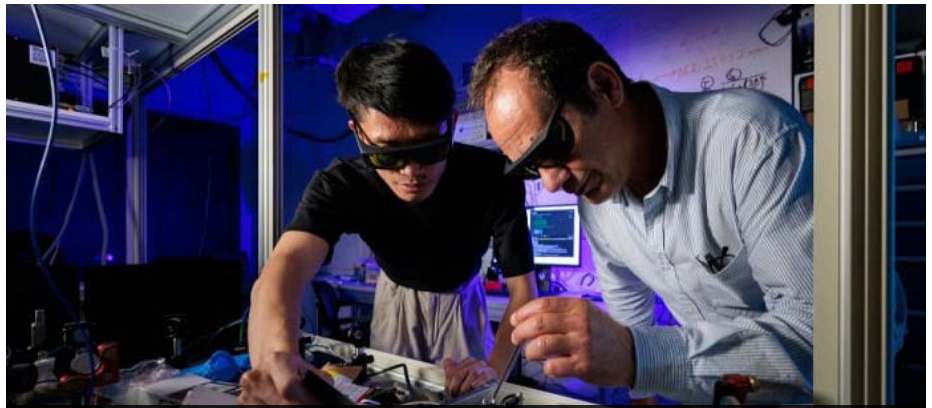
Mr Lum Chune Yang, co-founder and CEO of SpeQtral, said: "The issue is that bad actors have adopted a 'harvest now, decrypt later' approach ... collecting encrypted data now in hopes of cracking it once quantum computers become more advanced."

This is why his firm focuses on quantum key distribution – using quantum light sources and satellites to distribute encryption keys securely.

"The everyday person is likely not too concerned about their data. But when it comes to critical infrastructure, financial institutions, defence industries and governments, such quantum-safe technology is critical today."

Agreeing, Dr Tan Teik Guan, CEO and co-founder of pQCee, said that it is important to build products and solutions to defend against quantum computers before the threats they might bring become a reality.

His startup works on post-quantum cybersecurity, developing encryption methods such as post-quantum cryptography.



The National Quantum Processor Initiative's neutral atom array team building an experimental set-up required to trap and manipulate individual caesium atoms. The team will run quantum gates and qubit operations with the ultra-cold atoms to test and benchmark a quantum processor. (Photo: National Quantum Processor Initiative)

In other words, his firm is creating encryption that is safe from being solved through the use of quantum computing.

These quantum-safe technologies are to mitigate the cybersecurity risk quantum computers pose, such as the ability to crack existing encryption methods.

"The threats quantum computing poses are very real today ... There's a lot of potential, but there's also a need to protect against it early and be one step ahead."

Beyond that, Mr Ling from the National Quantum Office said that Singapore's long-term competitiveness depends on building capabilities in technologies "that will shape the future".

"Quantum has the potential to transform industries such as finance, healthcare and logistics. These are areas that are critical to our economy and society.

"For a small nation, a clear and coordinated strategy ensures that we focus resources on areas where Singapore can build unique strengths and global relevance."

The country's small size would allow it to move quickly, align stakeholders and build a tightly connected quantum technologies ecosystem, Mr Ling added.

"By combining this agility with strong international partnerships, Singapore is creating a leading environment for innovation and adoption. This positions us as a competitive and reliable partner in the global quantum ecosystem."

Likening Singapore's investments in quantum technologies today to its early investments in the internet in the 1980s, Dr Su from the National Quantum Computing Hub said that the country has always taken a long-term approach.

"Instead of chasing quick wins, we are investing in the capabilities, infrastructure and talent needed to be ready when the technology matures," he added.

"With quantum computing, we are laying the foundation today through research programmes, infrastructure and scholarships to train the next generation, so that Singapore is ready to capture its benefits when the time comes."

Dr Fitzsimons from Horizon Quantum said: "To me, it feels as if working on quantum computing today is like working on personal computing in the 1970s and '80s, or computing in the '50s and '60s.

"The technology has not fully proven itself yet, but that only increases the importance of today's work."

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EPICOR

From Risk to Resilience: Vincent Tang on the Future of Supply Chains in Asia



Vincent Tang
Vice President, Asia

1. You've been with Epicor for over two decades, growing with the company across various roles. What have been some of the most defining moments in your journey – and how have they shaped your leadership approach?

Joining Epicor in 1999, I have had the privilege of witnessing and contributing to the company's transformation from a modest regional vendor to a global ERP leader. Back then, we were generating around \$150 million in revenue and ranked 13th in Europe. Today, Epicor is the fifth-largest ERP provider globally, with revenues surpassing \$1.2 billion. This growth has been nothing short of remarkable, and being part of this journey for over 26 years has deeply influenced my leadership style.

Over the years, I have worn many hats — from Territory Manager through to my current role as Vice President for Asia. A particularly defining chapter was leading the expansion of our Asian footprint. We grew from three offices to 14 across the region, and in Southeast Asia alone, we have tripled the business in the past seven years. These milestones weren't just commercial wins; they reinforced the importance of regional empowerment and local market insight. I have learned that effective leadership here is rooted in adaptability, trust in local teams, and a clear global vision. It's about fostering innovation on the ground while staying closely connected to our customers' evolving needs. That's the essence of how I lead with a regional lens and a customer-first mindset.

2. Epicor's presence in Asia has expanded significantly under your leadership. What were the key drivers behind this growth, and how did you navigate challenges across such a diverse region?

Asia is now Epicor's second-largest contributor to revenue globally, behind only the US. The region has been at the centre of a major supply chain realignment over the past decade. The "China plus one" strategy, where global manufacturers diversify their production beyond China, has fuelled growth in Southeast Asia, positioning countries like Malaysia, Vietnam, and Indonesia

as strategic manufacturing hubs. Epicor has been well-placed to support this shift with our deep industry expertise and manufacturing-focused ERP solutions.

Our cloud business in Asia exemplifies this momentum. Last year alone, we saw a 99% year-over-year increase in cloud adoption. This is a clear indication that regional companies are prioritising scalability, modernisation, and digital agility.

Of course, operating across such a diverse region brings its own complexities. Every market has unique legal systems, business cultures, and digital maturity levels. Our approach has always been local-first. We ensure we have the right people on the ground who understand each market intimately. While our international HQ is in the UK, we have designed our Asia operations to be regionally autonomous, backed by strong leadership and support. This balance has been key to sustaining our growth in Asia.





3. What are the biggest supply chain risks currently impacting businesses in Malaysia and the broader Asia Pacific region?

The Asia Pacific region is undergoing one of the most significant supply chain transformations. Geopolitical shifts, trade tensions, and increased regulatory scrutiny are driving profound change in how and where companies manufacture.

For Malaysia specifically, the return of US protectionist policies poses a tangible risk. With the US now imposing tariffs of up to 24% on Malaysian exports, and even higher rates on other ASEAN countries, manufacturers in sectors like electronics, auto parts, and precision engineering are under pressure. While Southeast Asia has benefitted from companies relocating operations away from China, the new tariffs are introducing fresh uncertainty and could reshape previously optimistic trajectories.

Many supply chains still lack the visibility and agility needed to navigate such turbulence. Surprisingly, many firms still rely on outdated tools like spreadsheets to manage complex supplier ecosystems. That's no longer viable. The future of supply chain management lies in AI-driven, cloud-based systems that offer real-time insight and coordination across suppliers, production, and logistics.

But the shift isn't purely technological. Businesses must also invest in their people. As AI and automation redefine job roles, upskilling the workforce becomes critical. To remain resilient, companies in Malaysia and beyond need to diversify suppliers, tap into regional free trade agreements, embed analytics into planning, and cultivate talent capable of managing digital ecosystems. The supply chain of the future will be autonomous, intelligence-led, and people-centric — and those who act now will be best positioned to lead.

4. How can technologies like advanced supply chain traceability help businesses address these risks and build operational resilience?

With the current volatile trade and geopolitical environment, resilience is no longer a luxury — it's a necessity. Technologies like AI-powered traceability and advanced analytics are game-changers, allowing businesses to respond swiftly to disruption, whether that's due to new tariffs, environmental challenges, or sudden shifts in demand.

Advanced supply chain traceability gives businesses real-time visibility into goods in transit, supplier performance, and inventory levels. With predictive analytics layered in, companies can proactively identify bottlenecks and

mitigate risks before they escalate. This is especially vital as supply chains become more decentralised, spanning locations like Vietnam, Malaysia, and Indonesia. In these distributed networks, transparency is key to maintaining both efficiency and trust.

ERP systems play a central role in this transformation. They bring together production, procurement, logistics, and finance into a single platform, and this helps manufacturers make faster, data-driven decisions. And as sustainability becomes a core priority, traceability also supports compliance and accountability across greener, more circular supply chains.

In fact, 43% of Asia-Pacific CEOs are now investing in supply chain transformation, with Malaysia and China leading the way at over 50%. These leaders understand that digital traceability is essential not just for operational continuity but for building long-term competitive advantage.

5. Cloud-based ERP solutions are gaining traction. From your experience, how can they support companies in staying agile and adapting to constant change?

Cloud-based ERP systems are fast becoming the foundation of operational agility. One of their greatest advantages is the ability to scale in real time — allowing companies to adjust resources up or down in response to market fluctuations without heavy capital investment. This flexibility is vital for manufacturers dealing with unpredictable demand or cost pressures from new tariffs. In fact, 95% of businesses report improved processes after implementing ERP systems. And with the ERP software market in Southeast Asia projected to grow from USD 0.7 billion in 2023 to USD 1.2 billion by 2032, it's evident that businesses across the region are recognising this value and investing accordingly.

IN THE HOT SEAT

Accessibility is another game-changer. With cloud ERP, teams can access critical systems securely from anywhere, which improves collaboration across distributed operations and ensures business continuity — even during disruptions. This was particularly evident during the pandemic, and it remains equally relevant amidst current geopolitical developments.

Cloud platforms further enhance security and resilience. Built-in disaster recovery and automatic updates mean businesses benefit from the latest features and compliance standards without having to manage upgrades manually. Plus, moving to a subscription-based model shifts IT spending from capital to operational expenditure, giving CFOs more predictable budgeting and reduced overheads.

At Epicor, we have seen tremendous traction. In FY24, we recorded a 42% year-on-year increase in SaaS cloud revenue, with 80% of new customers opting for subscription-based solutions. This shift reflects a broader recognition that cloud ERP is not just a tool for modernisation — it's a strategic enabler of growth and resilience in a rapidly evolving world.

6. Can you share a real-world example of how Epicor has supported a Malaysian company in gaining supply chain visibility — and what outcomes they achieved?

A great example is our partnership with Plassein Industry Sdn Bhd, a Malaysian manufacturer specialising in plastic injection moulding. They supply both OEM and aftermarket markets and operate primarily on a make-to-order basis. This meant they faced constant challenges around lean inventory, fluctuating demand, and complex sourcing.

Plassein had never implemented an ERP system before. They chose Epicor and leveraged our FastTrack deployment methodology, which focuses on rapid implementation and delivering value quickly. This approach enabled them to digitalise operations efficiently with minimal disruption to their existing workflows.

The impact was immediate and measurable. With Epicor ERP in place, Plassein gained full visibility over planning, inventory, and production processes. They could better align lead



times, optimise sourcing strategies, and reduce overall supply chain costs. Most importantly, the system empowered them to respond more dynamically to customer needs, while maintaining operational efficiency and cost control.

This is just one of many examples across Southeast Asia where Epicor has helped manufacturers modernise their operations. Whether it's boosting productivity, enhancing traceability, or supporting compliance, we're proud to be enabling the region's transition to smarter, more resilient manufacturing.

7. You've emphasised the importance of coaching and team development. How do you build strong teams and foster collaboration across different markets and cultures?

I believe great teams don't happen by accident - they're built over time. One of my key priorities as a leader is to ensure that every individual understands not only *what* is expected of them, but *why* their role matters to the bigger picture. When people are aligned with the mission and feel supported, they bring their best selves to the table.





At Epicor, collaboration is woven into our culture. We operate across diverse markets and cultures, so fostering open communication and mutual respect is essential. I focus on creating an environment where people feel safe to contribute ideas, challenge assumptions, and grow professionally. Strong teams aren't built by trying to find perfect individuals, but by combining strengths in a way that elevates collective performance — where one plus one truly becomes greater than two.

Coaching plays a central role in this process. I encourage autonomy while removing barriers that may hold people back. It's about unlocking potential — not through micromanagement, but through trust and empowerment. When people are clear on the purpose behind their work and are given room to thrive, collaboration becomes second nature, regardless of geography or background.



8. With your background in both technology and business, how do you see tech leaders balancing innovation with practical business needs in today's market?

Businesses are investing in innovation with a focus on tangible returns and business resilience. IDC forecasts that ICT spending in Asia Pacific will reach USD \$1.4 trillion by 2025, and much of that is being channelled into solutions that boost efficiency, improve customer experiences, and enhance resilience in uncertain times.

At Epicor, this balance between innovation and practicality is at the heart of our approach. Our vertical focus remains consistent globally, but we adapt our solutions to reflect local priorities. For instance, in Malaysia, we worked closely with regulators and partners to address new e-invoicing mandates, embedding local compliance functionality directly into our ERP platform. This is part of our Country-Specific Functionality (CSF), which ensures our customers stay competitive while meeting regional requirements.

We also see this in how businesses approach ERP investments. Many of our customers are upgrading from legacy or local systems as they scale, seeking more robust features without the high costs associated with Tier 1 platforms. In fact, some larger organisations are stepping away from overly complex systems that no

longer align with their operational needs. What they seek is flexibility, relevance, and a clear return on investment.

Ultimately, it's about making smart choices such as selecting technologies that are adaptable, scalable, and aligned with real business outcomes. Innovation for its own sake isn't enough. It needs to serve a clear purpose, and that's where today's tech leaders are placing their focus.

9. As the world faces growing economic uncertainties, what challenges do you foresee for Epicor in the Asia Pacific region — and how are you preparing the company to meet these challenges head-on?

The economic landscape in Asia Pacific is complex and constantly shifting. Manufacturers, in particular, are facing pressure to deliver more with fewer resources — managing rising costs, supply chain disruptions, and labour shortages, all while remaining competitive.

For Epicor, one of the key challenges is supporting our customers as they embrace digital transformation under these conditions. Many are looking to modernise quickly — integrating AI, automation, and connected systems to increase agility and reduce risk. But rapid adoption must also be strategic. Our role is to help them match technology with tangible outcomes, ensuring that investments translate into real operational gains.

We're tackling this in several ways. First, we continue to invest in industry-specific innovation that aligns with our customers' unique needs. Second, we're building strong local partnerships and expanding support networks across the region to ensure we stay close to our markets. And finally, we're focused on enabling our customers to scale with confidence.

How China's Manufacturing Hub Spins a New Yarn to Become a Tech Powerhouse



Start-ups rise fast where traditional manufacturing once ruled – powering Beijing's innovation and self-reliance push. — SCMP

In Suzhou, eastern China's Jiangsu province, the start-up Magic Lab specialises in full-sized humanoid robots designed to interact with people and work in factories – just one example of the Yangtze River Delta region's transformation into a national innovation hub.

"More than 90 per cent of the components, including critical parts like torque motor joints, actuators, control units and dexterous robotic hands, are developed in-house and locally manufactured," said Wu Changzheng, the company's president and a graduate of Shanghai Jiao Tong University. "The other 10 per cent is in central processing units (CPUs)."

Magic Lab is one of thousands of cutting-edge ventures reshaping Jiangsu and neighbouring Zhejiang province. Once known for producing textiles, chemicals and machinery, the Yangtze River Delta is now home to a new generation of firms

developing technologies critical to China's future.

The start-up has developed a general-purpose AI model that integrates sensing, navigation and movement control, enabling its humanoid robots to quickly adapt to tasks and cooperate in real-world environments.

According to Wu, the local government has fostered a supportive environment through tax incentives, industrial estates and other measures, providing the company with a solid foundation. Most of its funding comes from private sources, with the firm largely driving its own research and development.

One of the main factors attracting MagicLab to Jiangsu is its mature manufacturing base — particularly in next-generation information technology, high-end equipment, new materials and other advanced sectors. This offers quick access to upstream and downstream

support and helps reduce supply chain costs, according to the company.

Based in the same city as appliance unicorn Dreame Technology – one of Magic Lab's investors – Wu's team has deployed its humanoid robots on the partner's factory floor to gather real-world data and explore multi-robot coordination, a field still in its infancy in China.

The transformation underway in the Yangtze River Delta builds on a decades-long industrial base. After China launched reform and opening-up, entrepreneurs in the lower reaches of the eastern coastal region quickly set up private factories, turning it into one of the country's first manufacturing hubs.

For years, cities like Yiwu, known for small commodities, and Kunshan, a major hub for electronic components, symbolised Zhejiang and Jiangsu's traditional industrial strengths.





But that image is rapidly changing. The Yangtze River Delta now stands at the forefront of China's drive for "high-quality growth". Building on its strengths, the region has emerged as a hub of innovation amid a national push for technological self-sufficiency.

Long powered by industrial output, vibrant private economies and close proximity to China's financial hub Shanghai, both Jiangsu and Zhejiang consistently rank among the country's top five provincial economies in terms of GDP.

Jiangsu, in particular, has held the number two spot for decades, behind only Guangdong province – with the gap narrowing each year.

In 2024, the combined GDP of the two provinces in the Yangtze River Delta reached 22.7 trillion yuan (US\$3.15

trillion), rivalling that of the United Kingdom.

While Chinese policymakers have talked about technological independence and innovation since the early 2000s, terms like "chokepoint technologies" and "self-reliance" gained wider traction during US President Donald Trump's first term – when Sino-US tech tensions intensified.

In 2018, President Xi Jinping elevated the Yangtze River Delta's regional development to a national strategy. A year later, China's State Council released a blueprint to turn the area into an innovation hub by 2025, targeting mid-to-high-end industrial upgrades in IT, biotech, green energy, intelligent transport and other advanced sectors.

The push has accelerated since late 2023, when Xi urged the country to embrace "new quality productive forces" – a

growth model centred on technological breakthroughs and industrial upgrades. Economic powerhouses like Jiangsu and Zhejiang have been tasked with spearheading the transition, shining a spotlight on the Yangtze River Delta's reputation as a "land of plenty".

Hangzhou, Zhejiang's capital, has emerged as China's newest "Silicon Valley" thanks to the rise of its "six little dragons" – home-grown innovators including AI start-up DeepSeek, humanoid robotics makers Unitree and Deep Robotics, video game studio Game Science, brain-machine interface innovator BrainCo and 3D interior design software developer Manycore.

Meanwhile, Jiangsu leads the country with 2,163 national-level "little giant" firms – specialised small and medium-sized enterprises (SMEs) known for their technological innovation and influence



in strategic supply chains. That number surpassed Guangdong's 1,984 and Zhejiang's 1,805, according to the most recent official data from 2024.

Guo Shan, a Shanghai-based partner at the advisory firm Hutong Research, said one major advantage setting the two provinces apart is the talent pipeline from leading universities that excel in engineering and applied sciences – such as Zhejiang University, Nanjing University and Shanghai Jiao Tong University.

The provinces also benefit from the presence of major tech firms like Alibaba, vibrant private sectors and supportive, business-friendly local governments, she added. Alibaba is the owner of the South China Morning Post.

“They enjoy less central policy support and less foreign interest than Beijing, Shanghai or Shenzhen, but this also

leaves more room for local governments to pilot new ideas and for local small and medium-sized enterprises to grow.”

“The lower living expenses in these provinces have also made them more affordable for start-ups like the six little dragons or small giants.”

Take Suzhou as an example. Just 20 minutes from Shanghai by high-speed rail – a journey that used to take about two hours by conventional train – the city previously benefited from the “Sunday engineer” effect, with experts travelling from Shanghai on weekends to help upgrade local factories.

“Suzhou now is becoming an all-rounder,” said Zhang Bin, deputy director of the Service Division at Suzhou Science and Technology Bureau, noting the city's business environment, industrial foundations and quality of life.

Compared to metropolises such as Beijing, Shanghai and Shenzhen, Suzhou has lower living costs and a greener environment. With a strong manufacturing base, a thriving private economy and a strategic location in the Yangtze River Delta, it also offers abundant job opportunities and fertile ground for talent to thrive. Promising careers and quality of life go hand in hand, Zhang said.

In Zhejiang, both officials and businesses credit the province's thriving innovation culture to its early embrace of market reforms – and, more importantly, to an effective government-business relationship.

“Dating back to the planned economy era, Zhejiang received limited state investment due to its lack of natural resources. As a result, the province had little choice but to pursue development



through innovation,” said Xu Wenguang, executive vice governor of the province, in a press conference on June 12.

“When it comes to fostering technological progress, I’ve always believed Zhejiang’s greatest strength lies in its overall ecosystem – the government focuses on creating a favourable environment, while companies focus on creating value,” Xu said.

“Zhejiang has cultivated a particularly effective relationship between the government and the market, which has laid fertile ground for innovation and entrepreneurship.”

Wang Hengli, communications director at Tianneng, a new energy company based in Huzhou, Zhejiang, said local authorities generally refrain from unnecessary intervention, allow companies room to operate and respect entrepreneurship.

“Every year, on the first working day after the Lunar New Year, local officials visit companies in the region. It may seem symbolic, but I think it reflects their recognition of our contributions and their pro-business attitude,” Wang said.

Founded in the late 20th century as a lead-acid battery maker for scooters, Tianneng has turned its focus to lithium batteries and energy storage systems in recent years. With a fully automated production line and a research team of over 100 PhDs, the firm has developed models capable of operating at minus 70 degrees Celsius (minus 94 degrees Fahrenheit).

According to its 2024 annual report, Tianneng plans to invest over one billion yuan in R&D for advanced energy storage and hydrogen fuel cell systems.

Despite the national push for new energy, Wang said the company retains full autonomy over innovation and strategy.

“In Zhejiang, the boundary between government and enterprise is clearly defined.”

But even with a thriving tech ecosystem and emerging companies, the region still faces persistent challenges.

Wu Gang, deputy director of the Nanjing Municipal Bureau of Industry and Information Technology, said funding had been one of the biggest obstacles in recent years.



“The fundraising environment is not particularly favourable at the moment,” Wu said. “But local governments are increasingly recognising the importance of guiding funds, while private capital is actively seeking promising sectors.”

“Rather than offering direct subsidies, local governments are co-investing to signal policy support and bolster confidence in strategic industries.”

With limited fiscal budgets, which also need to fund public services, local authorities act more as facilitators – building platforms and linking enterprises with capital to spur innovation, Zhang said.

Guo also pointed to the lack of predictable exit channels for private equity and venture capital, as well as an underdeveloped capital market for

pricing technologies and managing risks – top concerns for foreign investors looking to benefit from China’s innovation-led growth.

Commercialising domestic technologies also poses a challenge, requiring cooperation with globally competitive firms and the export of original, high-end Chinese tech – both still in their infancy, she said.



“To close these gaps, local governments and enterprises may consider taking a global perspective in developing these technologies. Both could more actively seek collaboration with foreign institutes for research and commercialisation opportunities.”

While central policies largely shape exit channels, she urged local governments to adopt a more flexible approach towards investors, offering greater leeway “in defining the terms of investment, returns and exit options – and even facilitating mergers and acquisitions”.

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How 3 Top Manufacturers Simplify Multiple Plant Operations

In today's fast-moving manufacturing environment, the ability to capture real-time data in all areas of the business is vital for maintaining long-term success. When manufacturers conduct business with separate systems, data ends up in silos and information can't flow in an efficient manner, preventing smooth coordination of data between people and departments.

This is especially true for manufacturing businesses that operate in more than one location or have subsidiaries that manufacture parts for the parent company. If you manufacture products in different locations, you probably know how difficult it is to get a complete and accurate picture of the business as a whole. Disparate systems make it hard to implement standard processes throughout the organization, and important data often gets lost or misplaced, causing productivity and profitability to suffer.

There is a solution. It's called enterprise resource planning (ERP) software, and it manages multiple manufacturing plants in different locations as if they were one.

How ERP Integrates Multiple Locations

ERP software provides a powerful tool for organizing and managing virtually every aspect of a manufacturing business, from planning, production, purchasing, inventory and quality control to finance, sales, marketing, customer relations, and human resources. Or, as we say it in business, from quote to cash. Importantly, it does all this in one integrated system that provides instant access to real-time



data throughout the organization, for complete visibility into all shop floor and back-room processes.

Initially, ERP was designed to manage one manufacturing entity per system. However, as the technology improved, ERP providers and manufacturers began to see the value in managing multiple locations in one system. Implementing this approach involved setting up one ERP server at the main production site and installing remote desktop servers in other locations. This network made it possible to share data among all locations and enable remote employees to log in and perform work in the ERP system. Implementation took longer than usual and purchasing the servers and other equipment increased costs. However, having all the data in one system instead

of unrelated platforms created significant increases in communications, efficiency and productivity.

Fast forward a decade or two and now there's a better way to bring multiple locations under one ERP umbrella – cloud computing. This process of managing applications, data storage and computer services via the internet makes it simpler and more cost-effective to integrate multiple plants into one ERP system. Each location is set up as a separate business in the ERP system, with its own inventory, workcenters, jobs, accounting, and everything else. A non-production company is set up to consolidate and print the financials for each business, and a comprehensive statement is produced for the business as a whole.

Cloud ERP is available in two configurations – outsourcing the ERP software to a thirdparty cloud services provider rather than owning it or owning the software to have more control over the system. (See the blog Advantages of Cloud ERP for Manufacturers to learn more about this fast-growing technology.)

Many providers offer a built-in cloud solution with their ERP system. For Global Shop Solutions, you only need to implement one ERP server at your primary location and you can run it from anywhere you have an internet connection. It's the easiest and most cost-effective way to provide complete visibility throughout multiple businesses, and it enables standardization of workflows, production processes, company policies, rules and guidelines for virtually every activity in your enterprise.

Success Stories Display the Flexibility of ERP

One of ERP's most valuable assets is having the versatility and flexibility to meet the needs of diverse types of manufacturers. Here are three very different businesses who have transformed their manufacturing by managing separate locations in one ERP system.

1. Seeing the Business as a Whole and in Separate Piece

Pieces Impact Converting Systems & Solutions consists of a family of eight companies that design and manufacture a variety of tools, dies, and systems to meet their customers' needs. It started out with four distinct businesses in separate locations. The main plant operated on ERP while the other three struggled with outdated platforms.

Consolidating all four businesses on one ERP platform created an unprecedented level of data visibility at each Impact location, resulting in much-needed improvements in production processes and decision-making. The ability to look at the business as a whole and in separate pieces made everything simpler, enabling better planning and succeeded in consolidating and standardizing processes between the businesses.

Impact's ERP system has handled growing from four to eight businesses with ease. All eight locations have access to real-time data, allowing them to greatly improve efficiency by quickly identifying and resolving shop floor bottlenecks that could impact some of the other businesses. Each location can now accurately apply labor and materials to a job for a better understanding of jobs costs. Perhaps most important, the business now has one common chart of accounts across all companies – all in one system.

2. Tracking Costs Across Multiple Business Unit

RK Mechanical operates seven different business units that work together to provide construction, manufacturing, fabrication and building service solutions. Each unit has its own management structure, and all engage in frequent intershop transactions. With RK Mechanical simultaneously working on hundreds of work orders at its various locations, job costs were hard to track with a high degree of accuracy.

Implementing ERP turned that around quickly by integrating data from dozens of different sources into one system and processing it in a standardized manner. RK Mechanical now tracks precise costs for all jobs in all locations. It also tracks interactions between shops, automatically processes payroll, and makes business decisions with data that previously wasn't available.





Company-wide access to integrated data in one system increased efficiency in many areas. Most scheduling is now completed in half the time it used to require. Data retrieval is 400% faster. Inventory carrying costs declined 30%, on-time delivery rates improved 50%, and sales increased 20%. Even creating reports is more efficient. RK Mechanical's standard weekly steel unit productivity report used to take four hours to produce. They now produce tailored reports in less than an hour.

3. Eight Locations, 14 Product Lines, One System

If you think operating a regular commercial manufacturing business is tough, imagine operating a state corrections business that produces 500 different products and services at seven different locations, with all being managed in one system.

Alabama Correctional Industries (ACI) manufactures furniture and supplies for state departments, institutions, and political sub-divisions to provide work

training for Department of Correction inmates. As a self-sufficient business ACI must maintain some level of profit in order to replace equipment and expand into new areas – a difficult task when working with a diverse array of old, clunky business management platforms. When ACI received state permission to implement ERP software, it selected a system capable of setting up different companies in one system.

Each location runs a different business, but all production data and costs are tracked in ACI's ERP system. This makes it easy to see the individual picture at each company and easily consolidate each company's financials to see the big picture. ACI now has up-to-date information on every aspect of production from job status, inventory levels and on-time deliveries to sales and accounting, spurring dramatic improvements in job costing.

Costs can be allocated faster and more accurately at the shop level. Managers know which jobs are in production at each shop. They can easily see inventory levels.

And the precise account reports produced by the ERP system provide better visibility of accounts receivables and customer payment rates. Managers are more aware of how much they're spending and whether they're pricing products at the right price points. Whether you operate one production plant or several, ERP simplifies processes, streamlines your workload, and lowers the total cost of ownership.

ABOUT THE AUTHOR

Adam Grabowski is the Director of Marketing at Global Shop Solutions. He is responsible for translating the company's business objectives into successful brand, marketing, and communication strategies to drive awareness, revenue, and loyalty.

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1st ASEAN–China AI Convention 2025 (ACAI2025)

The inaugural 1st ASEAN–China AI Convention 2025 (ACAI2025) was held on 11-12 September 2025 at the Kuala Lumpur Convention Centre (KLCC), bringing together policymakers, engineers, industry leaders and scholars from across ASEAN and China under the theme “Smart, Inclusivity, Sustainability: Advancing Regional Innovation with AI.” The hybrid event drew over 1600 participants on-site and online.

Officiating the Opening Ceremony, YB Puan Teo Nie Ching, Deputy Minister of Communications Malaysia say that the convention embodies the spirit of Malaysia theme “Inclusivity and Sustainability” as ASEAN Chair in 2025 — uniting policymakers, engineers, academics, industry leaders, and young talents to chart the way forward for digital transformation in our region.

She underscored that AI progress depends on reliable digital connectivity.

Without reliable internet, without equitable access to digital tools, no society can fully benefit from AI or any advanced technology. That is why Malaysia’s priority is to strengthen digital infrastructure and narrow the digital divide, so that every community, urban or rural, can take part in this era of innovation.

She noted Malaysia presently has achieved 98.82% 4G coverage in

populated areas and 82.4% 5G coverage, with a target of 98% nationwide 5G by 2030 including rural and industrial areas. Through JENDELA Phase 2, Malaysia government is designing additional solutions to expand high-speed internet access to every corner of the country. “This connectivity backbone will allow AI and other digital innovations to flourish” she said.



HE Zheng Xuefang -Chargé d'Affaires, Embassy of the People's Republic of China in Malaysia during his speech highlighted that China is committed to deepening ASEAN- China cooperation in AI and digital transformation to ensure that technology serves humanity, strengthens trust, and advances inclusive prosperity. China and ASEAN share natural strengths and complementary advantages in which China's rapid progress in digital innovation and infrastructure, combined with ASEAN's dynamic growth, youthful population, and vibrant industries, could create immense opportunities to build a regional AI ecosystem that is innovative, inclusive, and trusted. "In the new "Golden 50 Years for China-Malaysia relations, it is hoped that the two countries would continue to deliver on the important consensus on building a high-level strategic China-Malaysia community with a shared future" he said.

Key highlights of the Convention

- ASEAN-China Engineering & Technology Innovation Awards recognised two companies and six individual leaders for excellence in

AI and engineering innovation. YB Tan Kok Wai, Member of Parliament for Cheras, received the Outstanding Contribution Award for Strengthening Bilateral Relations.

- MOUs Signing was held between 10 partner industries and organisations to deepen collaboration in AI and related areas.
- Launch of the AI Awareness Certification Programme to upskill engineers and professionals in AI fundamentals, practical applications and responsible governance.

The Organising Chair Ir. Prof. Dr Tan Chee Fai stated that this convention marks an important starting point for ASEAN and China to co-create the future of artificial intelligence. Through deep engagement among engineers, scholars, entrepreneurs, and policymakers, regional cooperation will move from ideas to implementation, enabling AI to serve economic prosperity, social well-being, and sustainable development. This convention is not merely an academic-industry exchange; it is a platform for jointly charting a new regional blueprint.

Wisdom is the direction, inclusiveness is the attitude, and sustainability is the responsibility. Through AI cooperation, ASEAN and China will work together to create a future that is trustworthy, shared, and win-win.

Why this Convention Matters Now

Malaysia is the 2025 ASEAN Chair, steering the region's digital agenda with a focus on the ASEAN Digital Economy Framework Agreement (DEFA)—a landmark pact expected to unlock greater cross-border digital trade, data flows, and interoperability across ASEAN. The Chair's early 2025 statements reaffirmed the push for a "comprehensive, high-quality and forward-looking" DEFA, signalling concrete momentum for the region's digital single market aspirations.

On the home front, Malaysia is strengthening the "connectivity backbone" that underpins inclusive AI: 4G now covers 98.82% of populated areas and 5G covers 82.4%, with rural upgrades advancing under JENDELA Phase 2. These figures—validated in August and



FORUM 1 ENGINEERING HUMAN CAPITAL DEVELOPMENT IN AI

Moderator



Prof. Datin Lorela Chia
Founding President
Malaysia Association
Sustainable Supply Chain
Innovation (MASCCI)
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Mr. Tiong Koon Hock
Chairman
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Productivity Centre
Production



Ts. Teng Chee Kien
President
Technical Association
Malaysia (TAM)



Prof. Patricia Chun
Managing Partner
Chung Chambers



September 2025—position Malaysia to scale AI adoption nationwide, including in industry clusters and secondary cities.

At the same time, the region's digital engine continues to accelerate. The e-Conomy SEA 2024 study reported double-digit growth across Southeast Asia's digital economy (GMV US\$263B, +15% YoY; revenues US\$89B, +14% YoY),

reinforcing why standards, governance, and talent pipelines are urgently needed to capture the next wave of AI-enabled productivity.

Governance and Standards: From Principles to Practice

Malaysia's national approach is coalescing around trusted AI. The

country launched the National AI Office (Dec 2024) to drive policy, regulation, and a 2026–2030 AI action plan, while aligning investments and ethics across ministries and agencies. UNESCO and official portals note Malaysia's AI Roadmap (2021–2025) and National AI Governance & Ethics Guidelines (2024), strengthening reliability, inclusiveness, and accountability in AI deployment.



On the global stage, China's proposal to establish a World AI Cooperation Organization (WAICO)—announced at the World AI Conference (Shanghai) on July 26, 2025—aims to provide a multilateral platform for inclusive, secure, and development-oriented AI cooperation. The proposal underscores the need for interoperability in governance and technical standards—an area where ASEAN–China cooperation can translate quickly into pilots and reference implementations.

Investment Signals: Data Centers, Cloud, and AI Hubs

Malaysia is emerging as a regional data-center and AI hub, catalysed by major announcements from global tech firms. In 2024–2025, ByteDance unveiled a RM10 billion (≈US\$2.1b) plan for an AI hub and expanded data-center footprint in Johor, alongside multi-billion-dollar commitments by Google and Microsoft for cloud and AI infrastructure. These moves strengthen compute availability and enterprise readiness—critical prerequisites for scaling AI across manufacturing, services, and the public sector.

Concurrently, Malaysia has tightened export-control compliance around advanced AI chips to protect the integrity of supply chains and ensure alignment

with international norms—another signal of the country's intent to build a trusted, rules-based digital and AI economy.

From Dialogue to Delivery: What's Next

The convention's outcomes—MoUs, Innovation Awards, and AI Awareness Certification—are well-timed to convert policy momentum into talent, standards, and real-economy use cases that raise productivity across ASEAN. With DEFA advancing, WAICO under discussion, and Malaysia's connectivity and governance frameworks maturing, ASEAN and China have a narrow but powerful window (2025–2030) to move from pilots to scalable, interoperable AI systems that serve industry competitiveness, public trust, and sustainable development.

The ACAI 2025 organising committee extends its deepest appreciation to all speakers, partners, and participants. Special recognition also goes to CIS Network Sdn Bhd, whose close partnership with IEM was vital in ensuring the successful execution of these events. Above all, the organisers extend heartfelt thanks to the sponsors whose contributions underscored the spirit of industry support and collaboration: Automate Asia Magazine, Machinery & Engineering Industries Federation (MEIF), Malaysia Association of Automation Technology (MATA), Malaysia Automotive Robotics & IoT Institute (MARII), ASEAN Federation of Engineering Organisations (AFEO), Intrinsic SEA, Monitor ERP, MSM International Ltd, and X-Miles.



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