

OWNING WHAT WE BUILD

TALENT



SAM FONG/THE EDGE

Surface-mount technology (SMT) lines operating in a high-volume electronics manufacturing facility

Building a future-ready tech workforce

BY GRACE YAP ERN HUI

Malaysia is moving towards realising its ambition of becoming a digital-first economy, but as artificial intelligence (AI) adoption accelerates, industry players warn that without inclusive, continuous upskilling efforts, many Malaysians risk being shut out of the very future the country is trying to build.

According to industry players, readiness is uneven across industries. While some industries are actively building their digital capabilities, others are still playing catch-up.

Based on PricewaterhouseCoopers' (PwC) 2025 Global AI Jobs Barometer report, which analysed job advertisements, the information and communication sector stands out as a front runner, indicating a strong push towards digitalisation.

In contrast, sectors such as manufacturing and construction have been slower in adopting AI. Although manufacturing saw a recent rise in AI-related job postings — from 1.4% to 2.9% between 2023 and 2024 — the sector's overall share of job postings has declined since 2021.

"This suggests that while interest in AI skills is growing, many foundational sectors still face challenges in preparing their workforce to meet the digital and AI-driven demands. The challenge now is not just creating demand for AI skills but ensuring the workforce is equipped to meet it," says Kartina Abdul Latif, workforce leader at PwC Malaysia.

According to Roshan Thiran, founder of leadership development firm Leaderonomics, some research and development centres and fintech hubs show readiness for meeting the demands. However, traditional sectors such as small and medium enterprises in the manufacturing space as well as those in government-linked companies and public limited companies are still grappling with ensuring there is basic digital literacy and data-driven mindsets.

"I have seen cases in various places where an organisation proudly shows off its new enterprise resource planning system or other 'super tech'. Yet, we see many parts of its operations and admin team still using pen and paper for various activities," says Roshan.

Frontline and middle-skilled workers are among the most vulnerable in Malaysia's digital transition, says Kartina. While their roles are evolving, many lack



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“Lifelong learning is no longer optional, but a core capability required to remain relevant and resilient in an AI-driven economy.”

Kartina, PwC Malaysia

access to the training and tools needed to keep pace with automation, platform technologies and even basic digital tools.

"This challenge is especially pronounced in sectors like construction and agriculture, where digital adoption is slower and workforce development efforts are less coordinated," she adds.

To ensure Malaysia's tech transformation is equitable and sustainable, Kartina says there must be empowerment for all workers regardless of their skill level, with the tools, training and support they need to adapt and thrive.

More importantly, the issue isn't just about job displacement; it is about job transformation. Employees risk being left behind not because their roles have disappeared, but because the skills required to perform these roles are changing rapidly. "Reskilling and upskilling must be continuous, inclusive and aligned with real industry needs. A skills-first approach is focusing on both technical and non-technical competencies, which is essential to close these gaps," says Kartina.

Rather than relying solely on qualifications or job titles, there is a need to assess and build the actual skills needed to thrive in a digital economy. In this context, qualities such as critical thinking, creativity and emotional intelligence are becoming increasingly valuable as technology automates routine work.

Human-centric skills, alongside the development of technical skills, will be critical for enabling employees to adapt and excel to meet the evolving demands of the market, Kartina adds.

Balancing hard and soft skills

Large tech companies such as Google and Meta have seen major layoffs this year. Jaffri Ibrahim, founder and CEO of Collaborative Research in Engineering, Science and Technology (CREST), acknowledges that while tech layoffs are real, their immediate impact is more significant for service-oriented roles such as those involved in documentation, knowledge management and iteration, rather than core engineering roles.

"Although engineering may eventually be affected, the impact will be less immediate," he says.

Jaffri predicts a correction in the future, where companies originally planning to hire large numbers — say 400 people — might scale down to 300, but there will still be demand for engineers to handle manufacturing, analysis and other essential functions.

He stresses that while AI can aid analysis, there are still tasks it cannot fully replace and engineering remains a crucial skillset.

However, engineering faces a perception problem because a lot of times, people — particularly those in the younger generation — may think that being an engineer is very difficult, he says. "It sounds like a lot of work. It sounds like you have to get your hands dirty."

Jaffri observes that many in the younger generation prefer the gig economy, seeing it as an easier way to earn decent money — such as becoming a Grab driver — without a need for formal quali-

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Collaboration across government, industry and education crucial

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fications. However, he warns that this approach lacks a fall-back plan in case of unexpected setbacks.

"So, what we try to do to address that is [to advocate] for stackable capabilities or micro-credentials. You can earn your wages as a Grab driver but put aside a few days a week to try to pick up some [basic technology skills]," says Jaffri.

These can later be built upon to reach intermediate or advanced levels, creating a safety net where they can pivot towards technical roles, like a technician, or even progress further at their own pace, he adds.

However, there is risk of burnout if they try to juggle studying for multiple micro-credentials at the same time, which is why Jaffri stresses the need for proper guidance. "We also need an infrastructure that allows people to try something new and for people to give young talent a chance. But of course, it should be merit-based and not because you know somebody. You are there because you are skilled, and you worked hard to get that particular skill, and you want to have a career in that area."

While gaining micro-credentials and technical skills is crucial in today's job market, formal academic degrees, though valuable, are no longer sufficient on their own. Future tech talent will also need strong soft skills to truly thrive and stand out.

"As rapid macro trends and internal organisational changes continue to reshape industries, individuals and organisations must embrace a mindset of unlearning, relearning and continuous learning. Life-long learning is no longer optional, but a core capability required to remain relevant and resilient in an AI-driven economy," says Kartina.

Roshan points out that collaboration, adaptability and curiosity are the key elements that make high-performing agile teams work. "The most valuable employee today is not the one with the deepest technical skill, but the one who can bridge worlds, who can translate a customer's need into a technical requirement, who is curious enough to ask 'why' before building the 'what', and who is adaptable enough to pivot when customer feedback demands it."

Industry players serve a crucial role in reshaping Malaysia's curriculum and training systems to meet the demands of an AI-driven economy. As skill requirements evolve rapidly, traditional academic cycles and static workforce models are struggling to keep pace.

"Malaysia must transition from centralised, classroom-based training to flexible, site-specific and hands-on learning," says Kartina.

At Leaderonomics, preparing the youth for hybrid roles isn't just an economic necessity but a responsibility to the next generation. Roshan says the firm does this through a deeply integrated, hands-on approach, particularly within its Making a Difference (MAD) Clubs.

"Our approach is to start this in schools and community hubs with project-based learning. But here's the key difference: we give every student a 'real client' challenge. We don't ask students in our MAD Clubs to simulate a project; we connect them with local communities to solve actual problems," Roshan explains.

This could be designing a simple app for a local farmer to track their produce or building a social media campaign for a small charity that needs to raise funds.

"Doing the project is only half the battle. In a hybrid world, you must be able to communicate your ideas, give and receive

feedback, and collaborate effectively with a diverse team," says Roshan.

Leaderonomics' model pairs every project with peer coaching circles. Within its MAD Clubs, as teams work on their real-client challenges, they regularly present their progress and are trained to act as coaches.

"Finally, we need to lift our children's aspirations. We need to teach them not just to be competent employees, but to be audacious dreamers and creators. This is the work we do through our incubator programmes," says Roshan.

Creating a real impact

Perhaps the main challenge with tech adoption and upskilling talent is translating that momentum into meaningful workforce transformation. Kartina says most companies have already embedded upskilling and reskilling into their strategic roadmaps. However, the challenge now lies in execution and turning intent into impact.

"Technology is evolving faster than many workforce strategies can keep up. Without frameworks built for the pace of AI, companies risk falling behind in aligning talent with tools. To realise the full potential of digital transformation, organisations must treat human capital as a strategic enabler in embedding agile, future-ready workforce plans at the heart of business strategy," says Kartina.

She explains that such plans must be dynamic, with regular reviews and adaptations — echoing the necessity for today's workforce to remain flexible and continuously upskilled. "In an era where tomorrow's technology can render today's frameworks obsolete, an agile approach instead of a one-size-fits-all approach to workforce strategy is imperative. Only then can organisations navigate the complexities to change."

Roshan often sees companies buying the latest automation tools while expecting their staff to "figure it out".

"It's like handing a toddler a power drill — lots of noise, questionable results and potential for pain. Real tech adoption means coupling every licence purchase with a learning road map such as role-based training, mentoring circles and in-



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Jaffri, CREST

SUHAMINI YUSUF / THE EDGE



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Roshan, Leaderonomics

LOW YEN YEING / THE EDGE



A worker carefully operating machinery to ensure accuracy and quality in production

SAM FONG / THE EDGE

centives for digital champions," he says.

He explains that role-based training cannot be just a one-off webinar, but a continuous learning journey tailored to how different roles will use the technology. Furthermore, identifying and empowering early adopters to become internal coaches and mentors is important as peer-to-peer learning is extremely beneficial, he stresses.

"Companies will benefit from creating sandbox environments where employees can experiment, fail and learn without fear of breaking the 'live' system. Senior leaders must be the first to be seen fumbling with the new tools, asking questions and sharing their own learning journeys to model vulnerability," says Roshan.

A key misconception is that future-proofing the workforce is mainly about deploying new technologies, rather than developing the human capabilities needed to use them effectively, says Kartina.

She sees many companies that still treat AI as a tool for efficiency, overlooking its potential to enhance human expertise and unlock new forms of value. "Moreover, many still view implementation as the final step, rather than the beginning of a continuous journey. In reality, technology evolves rapidly, even post-deployment, requiring ongoing adaptation, enhancement and learning."

Roshan says digital transformation is a culture project and every single leader must own it. He explains that when transformation is treated solely as an IT project, it is doomed to fail from the outset and becomes siloed, with other parts of the business perceiving it as "that tech thing" and resisting change.

"We are doing quite well with regard to securing the attention and investments. We have to work hard to prepare the workforce to meet those plans but the entire scene is changing now with tariffs very hot in discussion again. The question is, how do we work around that to be able to be above that situation?" says Jaffri.

To truly build a future-ready tech workforce, collaboration across government, industry and education is crucial.

"In the light of the geopolitical war, in terms of trying to be dominant in the technology space, Malaysia is positioning itself as a neutral economy that will accept investments from both sides and we want to work with everybody," says Jaffri.

Despite the risks and challenges that come with doing so, he opines that working with everyone will give Malaysia a unique advantage as a trusted partner that contributes meaningfully back to society. ■