**Econ 4.0**

BY RAJU CHELLAM

Top 10 tech tips for 2025

Here's a nerdy story for the new year: A group of engineers are working on a groundbreaking new gadget. "I've designed a circuit that will never fail," the electrical engineer says. "I've built a prototype that's indestructible," the mechanical engineer adds. "I've written code that's completely bug-free," the software engineer chimes in. They power up their creation. It immediately sparks, smokes and falls apart. The engineers look at each other in shock. "This is a terrible outcome," one engineer sighs in disbelief. "What's the moral of the story? If at first you don't succeed, destroy all evidence that you tried."

If that joke made you wink, these statistics should make you think: Global spending on technologies that enable or support artificial intelligence (AI) is set to surpass US$749 billion by 2028, estimates International Data Corp (IDC). Up to 67% of the projected US$227 billion (RM1 trillion) in AI spending in 2025 will come from enterprises embedding intelligence into their core business operations, surpassing investments in cloud and digital service providers.

"In the evolving landscape of AI, the future hinges on our ability to not just experiment, but to strategically pivot — transforming experimentation into sustainable innovation," says Rick Villars, IDC's group vice-president of worldwide research. "As we embrace AI, we need to prioritise relevance, urgency and resourcefulness to forge resilient enterprises that thrive in a data-driven world."

So how can companies effectively leverage tech? Here are the top 10 tips for organisations, in alphabetical order:
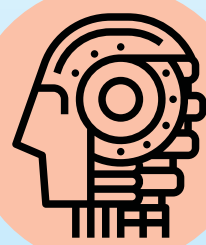
1 **Activate agentic AI**: Agentic AI refers to autonomous systems capable of independently planning and executing actions to achieve user-defined goals. These systems operate with a high degree of autonomy, making decisions and taking actions without continuous human oversight. This capability can help organisations boost productivity and efficiency by delegating complex tasks to AI systems that can adapt and respond to real-time changes. For example, in education, personalised learning platforms and AI tutors can provide real-time feedback, assist with coursework and adjust lesson plans based on student progress. In marketing, automated campaign management systems could adjust bids, allocate budgets and target new audiences using live data. Customer-focused bots could deliver personalised messages to drive conversions.
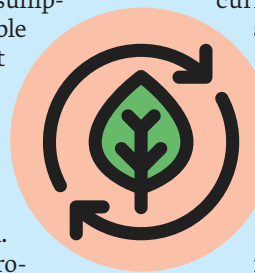
2 **Benefit the business**: Nearly 60% of organisations in the Asia-Pacific region hope to realise the benefits of their AI investments within two to five years and only 11% expect immediate returns within the next two years, according to a study commissioned by IBM and conducted by a Singapore-based digital research firm, Ecosystm. "The focus of AI investments is shifting beyond employee productivity and customer experience towards broader strategic goals such as innovation and impact on company financials," says Sash Mukherjee, Ecosystm's vice-president. "Traditional ROI (return on investment) metrics struggle with AI's long-term, intangible benefits and high upfront costs. While proofs of concept (PoCs) validate feasibility, they often overlook scaling complexities and true costs. A holistic costing strategy involving business, tech, data and finance teams would be ideal to factor in hardware, software and staff expenses throughout the project lifecycle."
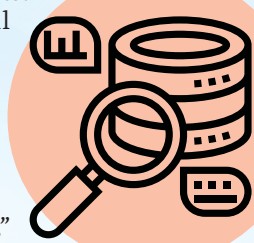
3 **Create cyber and cloud resiliency**: High visibility ransomware disruptions continue to make cyber-recovery and cyber-resiliency top agenda items for many enterprise IT teams. An organisation's inability to adapt to changing threats and the expanded use of AI will hinder its capacity to meet AI-influenced business outcome expectations. "Organisations that successfully modernise their cloud architectures will benefit from improved ROI, more cost-effective, operationally efficient and sustainable IT outcomes and better workload and application performance," IDC advises. "In 2025, CIOs (chief information officers) will focus on documenting the extent of overall AI use, moving from AI experimentation to monetisation. Laying a sound foundation to automatically measure and optimise AI-enabled apps will be vital to overcome IT modernisation hurdles."

4 **Denote data as a product**: Global spend on AI-supporting tech will reach US$337 billion this year, says IDC. The adoption of data-as-a-product architecture can reduce data silos and inefficiencies in large enterprises. This approach could standardise data production and consumption, making processes repeatable and outcomes more consistent and reliable. Over the past 18 months, companies have engaged in extensive experimentation with AI. In 2025, we could expect a shift from experimentation to reinvention. This will be driven by the introduction of AI agents, advancements in data, infrastructure and cloud tech to deliver scalable solutions. However, several factors could hinder the success of generative AI (Gen AI) implementations, such as developer shortages, high costs, inadequate infrastructure performance and poor coordination between IT and line-of-business teams. About a third of organisations may reconsider their Gen AI investments if these barriers are not addressed in alignment with business strategy, IDC warns.

5 **Embrace empathy**: In 2023, leaders were talking efficiency. It's a mistake to assume that being efficient means tuning out emotionally and trying to disconnect from people so you can work them harder. When people feel connected to their colleagues and their leaders, they work harder, faster and more creatively. "Employees who believe their organisations — and especially their managers — are empathetic, tend to call in sick with stress-related illnesses less often," Jamil Zaki, a research psychologist at Stanford University and author of *The War for Kindness: Building Empathy in a Fractured World*, said in a McKinsey interview. "They report less burnout. They report better mental health and morale and a greater intent to stay at their organisations. People who feel empathised with also tend to innovate more and take creative risks."

6 **Fear artificial empathy**: Large language models (LLMs) can simulate empathy, but this raises concerns. There is an emotional valley where the appearance of empathy might replace the actual experience. "It almost seems like empty social calories," Jamil notes. "LLMs can already produce artificial empathy pretty well without knowing anything about us as individuals. They're trained on general data from the internet. But soon people will release their own data to a personalised LLM that will become an artificial friend, and it will read all the emails and social media posts you've ever written. The level of artificial empathy those models will be able to produce honestly frightens me a little bit because I wonder whether it will feel so real that people will withdraw more from one another."
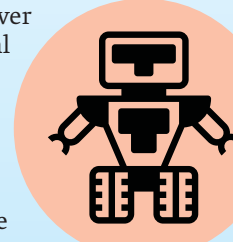
7 **Go green**: Current green computing techniques include optimising application architecture, code and algorithms to reduce energy consumption, adopting more efficient hardware and using greener power sources. In the future, advanced techniques and novel computing platforms that are currently in research might become available. High-energy computations, such as AI, optimisation and simulation, are targets for emerging technologies like neuromorphic, optical and quantum computing. Gartner predicts these technologies will provide energy-efficient hardware options within the next five to 10 years. In the meantime, consider these strategies: Use better measurement tools, contract with green cloud providers, shift workloads to green cloud regions, run systems when local energy supply has lower carbon intensity, retire and replace in-house hardware with more efficient systems, and monitor and pilot emerging technologies.

8 **Harp on human centricity**: In 2025, organisations could transition from merely adopting AI tools to leveraging them for human-centred innovation. While productivity tools have been a major focus, the future lies in using AI to enhance human experiences and capabilities. For employees, AI will augment roles, automate routine tasks and unlock new opportunities for creativity and innovation. "In 2024, there was a promise to enhance customer experiences by integrating Gen AI and advanced customer intelligence into these interactions," notes the IBM-Ecosystm study. "Moving forward, human-centred AI design will be paramount. By prioritising empathy and engagement, organisations could foster stronger customer relationships and brand loyalty. AI solutions should be tailored to meet specific customer needs and preferences, thereby delivering personalised experiences that drive satisfaction."

9 **Invest in education**: Organisations should prioritise employee education and training to ensure a smooth transition to an AI-powered workplace, says Ecosystm's Sash. In Malaysia, the key drivers of AI adoption include skills shortages, the need to reduce costs and automate key processes, and competitive pressure. In 2025, the primary focus of AI investments in Malaysia will be to improve customer experience, sales automation, customer lifecycle management, and back-office business process automation. Challenges will be on data accessibility, lack of a clear AI strategy and limited AI skills and expertise. In Singapore, key drivers of AI adoption are competitive pressures, environmental concerns and the need to cut costs. Key challenges in Singapore would be limited defined use cases, insufficient AI skills and expertise, and inadequate governance of AI models.

10 **Justify polyfunctional robots**: As a 2025 top tech trend, polyfunctional robots are starting to fulfil a multifunctional vision. "These versatile robots have a form factor and intelligent software that allows them to execute more than one task," Gartner says. "They're becoming flexible enough to learn to complete new tasks that were not part of their original design or programming." With the evolution of polyfunctional robots, businesses can increase the value these machines deliver. Over the next 24 months, simplified deployment — with no custom programming or bolt-down infrastructure — could boost the business adoption of polyfunctional robots. It is likely that companies may deploy a handful of robots (or even a single robot), then scale up as they see benefit or in response to production demands.

Since we started with one nerdy engineering anecdote, let's end with another: Three engineers are driving to a conference when their car suddenly breaks down. "Must be a problem with the engine," the mechanical engineer says. "I think it must be an issue with the wiring," the electrical engineer adds. "Let's all get out of the car and get back in and reboot the engine," the software engineer chimes in. They try that and miraculously the car starts moving again. Just as they're celebrating their success, they realise they're heading straight into oncoming traffic. "Oh no!" shrieks an engineer. "I guess if everything is coming your way, you're in the wrong lane!" **E**

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