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PRESS RELEASE

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“PREPARING MALAYSIA’S ENGINEERING WORKFORCE FOR THE DIGITAL INFRASTRUCTURE ECONOMY: IEM SURVEY HIGHLIGHTS SKILLS GAPS AND SALARY COMPETITIVENESS”

KUALA LUMPUR, 9 September 2026 – A nationwide industry survey conducted by The Institution of Engineers, Malaysia (IEM) in August 2026 offers useful insights into the readiness of Malaysia’s engineering workforce to support the country’s growing digital economy.

The *IEM Engineering Impact Survey – Report on Engineering Workforce Readiness for Malaysia’s Digital Infrastructure Economy*, which gathered perspectives from 129 engineering professionals, highlights opportunities to further strengthen digital skills development, remuneration competitiveness and practical project exposure among engineers.

The survey respondents represent a highly experienced group of engineering professionals, with 82.94% having 11 or more years of engineering experience. As Malaysia continues to advance its technology ambitions towards 2030, supported by investments in data centres, semiconductors and digital infrastructure, the findings provide useful perspectives on areas where the engineering talent pipeline can be further strengthened in support of the national aspiration to develop 60,000 highly skilled engineers by 2030.

In the Malaysian context, the Digital Infrastructure Economy refers to the broader ecosystem that develops, operates and supports the infrastructure and technologies underpinning the country’s digital activities. It includes data centres, telecommunications and connectivity networks, cloud computing, cybersecurity and related digital services, together with enabling sectors such as semiconductors, advanced packaging, electrical and electronics, energy and engineering services. These interconnected industries provide the physical and technological foundation for Malaysia’s growing digital economy. As investment in data centres, artificial intelligence and advanced technologies expands, the ecosystem is also creating greater demand for multidisciplinary engineering skills and capabilities.

Digital Skills and Emerging Technology Proficiency

The survey findings indicate opportunities to further enhance engineers' proficiency in several emerging technology areas that are becoming increasingly relevant to digital infrastructure development.

Across seven emerging technology domains assessed on a scale of 1 to 5, the weighted average scores were below the "Moderate" proficiency benchmark of 3.0. Artificial Intelligence (AI) recorded the highest score at 2.90, followed by Data Analytics (2.65), Cloud Computing (2.52), Industrial Internet of Things (2.46), Cybersecurity (2.38), Automation and Robotics (2.31), and Digital Twins (2.18).

Looking towards 2030, respondents identified AI as the most essential future skill (73.64%), followed by Sustainability & ESG (36.43%), Data Analytics (33.33%), Communication (31.01%), and Semiconductor Design (6.98%).

These findings suggest that continued investment in digital and emerging technology skills could help engineers remain well-positioned to meet the evolving needs of the industry.

Workforce Preparedness and Practical Project Exposure

The survey also provides insights into engineers' level of preparedness and exposure to large-scale digital infrastructure projects.

Nearly half of the respondents (49.61%) indicated that they currently feel either "Not Prepared" or "Slightly Prepared" for large-scale digital infrastructure developments. In addition, 39.53% reported having no prior involvement in digital infrastructure projects such as data centres, smart cities or renewable energy, while 48.07% indicated relatively low confidence in independently diagnosing and resolving technical issues in automated systems.

The findings also show that 37.21% of respondents work in organisations with fewer than 50 employees. Smaller organisations may face greater resource limitations in areas such as research, digitalisation and employee upskilling.

Expanding opportunities for practical project participation, structured industry exposure and targeted professional development could therefore contribute towards strengthening workforce readiness.

Supporting Salary Competitiveness and Talent Retention

Competitive remuneration and clear career development pathways remain important considerations in attracting and retaining engineering talent.

The survey found that 63.57% of respondents disagree or strongly disagree that engineering salaries are competitive, while "Salary and Benefits" was identified as the leading factor when considering a career change (21.71%).

In relation to retention, 13.18% of respondents indicated an intention to leave their current positions, while 25.58% remained uncertain about staying. Together, these findings highlight the importance of continued attention to remuneration, professional development and career progression within the engineering profession.

These findings may also be viewed alongside broader discussions on engineering remuneration. Berita Harian's *"Jurutera Miskin"* report highlighted that 35% of junior engineers were earning below RM2,000 per month, alongside a 32.2% skill-related underemployment rate. IEM's 2025 Position Paper subsequently noted an improvement, with the proportion of junior engineers earning below RM2,000 declining to 18%. Nevertheless, remuneration remains an area that warrants continued attention to ensure that engineering careers remain attractive and sustainable.

Against these workforce imperatives, MIDA Chief Executive Officer Datuk Sikh Shamsul Ibrahim Sikh Abdul Majid highlighted the importance of aligning technology adoption with talent development, raising a key question for Malaysia's evolving technology landscape: *"How do we move faster, together, on talent?"*

The survey further found that 54.26% of respondents do not currently believe Malaysia is on track to develop sufficient engineering talent to support its 2030 technology goals. This finding presents an opportunity for stakeholders to work collectively towards strengthening the engineering talent ecosystem.

Recommendations for Workforce Capability and Career Sustainability

Drawing from 77 qualitative open-ended responses, IEM has identified four broad strategic areas that could support the continued development of Malaysia's engineering ecosystem:

1. **Modernising Engineering Education** – Encouraging universities to continuously update curricula to incorporate areas such as AI, cybersecurity and data analytics, while expanding students' exposure to practical industry projects and strengthening university-industry collaboration.
2. **Practical, Skills-Based Professional Development** – Enhancing Continuing Professional Development (CPD) through more hands-on and assessment-based learning opportunities, including microcredentials involving AI prototypes, Building Information Modelling (BIM), Digital Twin applications and cybersecurity risk assessments.
3. **Strengthening Economic Sustainability** – Encouraging continued review of scales of fees in government procurement and man-month remuneration rates, while supporting appropriate frameworks such as the Progressive Salary Policy to help ensure compensation reflects professional responsibilities, competencies and expertise.

4. **Building Local Capability and Leadership** – Creating greater opportunities for local engineering firms to participate meaningfully in major infrastructure projects, facilitating structured knowledge transfer from international partners, and strengthening engineers' ability to provide independent professional advice in support of public safety and national development.

Moving Forward Through Collaboration

IEM believes that the survey findings provide a constructive basis for continued dialogue and collaboration among government agencies, industry stakeholders, academia and professional bodies.

As Malaysia continues its digital transformation, strengthening the engineering workforce will require a shared and sustained effort. Greater investment in practical digital upskilling, competitive career pathways and meaningful project exposure can help equip Malaysian engineers with the capabilities and experience required to support the country's evolving technological and infrastructure needs.

Through closer collaboration across the engineering ecosystem, Malaysia can continue to develop a capable, adaptable and resilient engineering workforce that contributes meaningfully to the nation's digital and economic aspirations towards 2030.

*For further information on this Press Release or
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About the IEM

The Institution of Engineers, Malaysia (IEM) is a professional learned society organisation established to promote the science and profession of engineering in any of its disciplines and to facilitate the exchange of information and ideas related to engineering. Founded in 1959 and with a membership of over 45,000 today, IEM constitutes one of the largest professional organisations in the country. Amongst its many roles, the Institution plays an active part in supporting various sustainable socio-economic development of the country and in nation building. It represents the aspirations of its members, acts in the best interests of the public of whom its members serve whilst upholding the standing and image of the profession.



THE READINESS CHALLENGE

ENGINEERING WORKFORCE READINESS FOR MALAYSIA'S DIGITAL INFRASTRUCTURE ECONOMY

IEM SURVEY OF 129 EXPERIENCED ENGINEERS REVEALS SIGNIFICANT READINESS GAP. LOW PROFICIENCY AND UNCOMPETITIVE SALARIES THREATEN 2030 GOAL OF 60,000 SKILLED ENGINEERS.

STRATEGIC ROADMAP TO 2030

63.57%

SEE SALARIES AS UNCOMPETITIVE

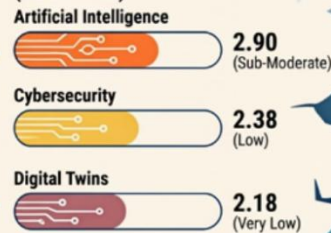
Remuneration is the primary driver for engineers considering leaving the profession or country.

49.61%

FEEL UNPREPARED FOR DIGITAL INFRASTRUCTURE

Nearly half of respondents lack confidence for large-scale projects like data centers.

LOW PROFICIENCY LEVELS (SCORE 1-5)



38.76%

ATTRITION RISK

Over a third of the workforce is unsure about staying or intends to leave.



AI IDENTIFIED AS TOP FUTURE SKILL

73.64% of engineers recognize AI as the most critical skill for future success.



TRANSITION TO PRACTICAL MICROCREDENTIALS

Shift from awareness-based webinars to assessed, hands on digital applications and prototyping.



STRENGTHENING ECONOMIC SUSTAINABILITY

Reviewing government procurement fee scales to ensure remuneration reflects professional expertise.