Twimbit AI Radar APAC

Roundup of innovative enterprise deployments and announcements

#2 **Malaysia Edition**

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Summary

This edition of **Twimbit AI Radar (APAC)** highlights Malaysia's progress in AI.

Company(s)	Deployment/Initiative
FGV	FGV Holdings Berhad is transforming its palm oil operations through the Palm Oil Mill Integrated System (POMIS), using AI and IoT to optimize efficiency and sustainability. POMIS has reduced fuel usage by 15% and improved productivity across 66 mills, supporting Malaysia's Industry 4.0 goals.
TM	Telekom Malaysia (TM) is driving digital transformation with its AI-powered RPA bot, Robin, which automates routine tasks across departments, improving efficiency and accuracy. Launched in 2022, Robin has saved over 270,000 annual hours and significantly enhanced service delivery.
PETRONAS	Petronas partners with AVEVA to use AI in supply chain optimization, reducing downtime and improving efficiency. The collaboration has resulted in cost savings and supports sustainability goals.
Sime Darby Property	Sime Darby Property uses AI to optimize energy consumption in its property developments, reducing costs. These efforts result in significant energy savings and showcase their commitment to sustainability.
KLK	KLK uses AI in its plantations for crop monitoring and yield forecasting, optimizing resources and reducing waste. The technology improves productivity while supporting sustainability in agriculture.

Introduction

Malaysia's AI trajectory shows remarkable promise, driven by government initiatives like the AI Talent Roadmap 2024-2030 and significant corporate investments. The roadmap focuses on two key goals: broadening AI literacy and accelerating the nation's digital economy. By 2026, the country aims to establish 900 AI-focused startups and develop 13,000 AI professionals to meet these ambitions.

This growth is further supported by corporate commitments, including Google's USD 2 billion investment in data center infrastructure, projected to create over 26,500 employment opportunities by 2030. These efforts position Malaysia as a regional hub for AI innovation.

Key AI applications in Malaysia span diverse sectors such as healthcare and agriculture, driving integration that strengthens the nation's competitive standing both regionally and globally. To better understand this trajectory, we examine five key use cases that illustrate the country's comprehensive approach to AI development—addressing organizational benefits, implementation feasibility, and ethical considerations.

By fostering an AI-first environment, Malaysia is advancing its technological evolution and solidifying its position as a leader in the regional digital landscape while contributing significantly to the global digital economy.

FGV Holdings Berhad: Modernizing Palm Oil Operations with POMIS

POMIS (Palm Oil Mill Integrated System) is the latest flagship initiative by FGV Holdings Berhad, a prominent leader in Malaysia's agricultural business.

Operational in 66 out of 67 FGV mills, POMIS uses advanced AI and IoT to optimise mill performance, improve plantation management and reinforce sustainability practices.

How POMIS Works

POMIS combines IoT sensors, AI-driven automation, and real-time data analytics to enhance mill efficiency and sustainability. Key features include:

- Central Motor Control (CMC) System: Monitor equipment statuses (run, stop, trip, or overload) to prevent mechanical failures and ensure seamless operations.
- Load Monitoring System: Balance conveyor loads to minimize interruptions and downtime.

POMIS can also easily automate tasks such as sterilisation, steam boiler controls, motor monitoring, and temperature regulation with minimal errors.

Beyond automation, real-time dashboards enhance supervision and decision-making, while advanced safety features improve workplace safety and energy efficiency.

Key Benefits

- Increase productivity with consistent rated mill capacities and minimise downtime with automation and optimised conveyor operations.
- Enhance cost efficiency and decision-making with better energy use and consistent, actionable insights from daily operational data for managers.
- Boost sustainability by reducing labour dependency by 5% and cutting emissions through optimised resource utilization.

How is it ranked:

FGV holding

◈ Organisational Impact	●●●● ○
⚒ Ease of Deployment	●●●◐ ○
🔒 Safety & Trustworthiness	●●●● ○

Commentary:

Driving industrial automation success across 66 mills, with a 15% reduction in boiler fuel usage and 5% decrease in labour dependency, POMIS by FGV sets an industry benchmark for others to follow. It also aligns deeply with Malaysia's Industry 4.0 vision, further driving its commitment to sustainable agriculture.

Telekom Malaysia: RPA Transformation with Robin

Launched in 2022, Robin is an AI-powered bot that uses predefined rules and workflows to automate repetitive tasks across customer service, finance, HR, procurement, and network monitoring.

These tasks include payroll reconciliation, invoice processing, customer ticket creation, and network alarm monitoring.

Key Benefits

Aside from handling routine tasks, Robin's true value lies in its ability to maximise its AI capabilities to manage complex exceptions. These include:

- Correcting errors in call data records to ensure both high speed and accuracy.
- Reducing payroll reconciliation time from 3.5 hours to under 20 minutes.

Impact on TM

By the end of 2022, Robin had successfully:

- Automated over 70 processes and saved more than 270,000 annual hours (work-time of 91 full-time employees).
- Improved cost savings significantly by up to RM8 million annually, including RM2.7 million in outsourcing costs.
- Reduced call data record error resolution by 90%.

Beyond cost and efficiency, Robin empowers employees to focus on higher-value work. To support this shift, TM offered training programs to help staff members become RPA-certified.

Robin's deployment has transformed TM's operations by driving faster service delivery, reducing manual errors, and optimizing costs. By automating routine tasks, employees were freed to focus on more complex customer issues, improving the overall customer experience. The initiative has not only delivered operational improvements but also fostered a culture of innovation, empowering employees and positioning TM as a leader in Malaysia's digital transformation. Robin

exemplifies the power of AI-driven automation in enhancing business operations, delivering tangible results in both efficiency and cost savings

How is it ranked:

Telekom Malaysia

◈ **Organisational Impact** ●●●●◑

✕ **Ease of Deployment** ●●●● ○

🔒 **Safety & Trustworthiness** ●●●● ○
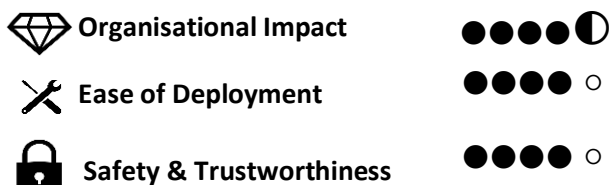
Commentary:

On top of saving 270,000 annual work-time hours and RM 8 million in costs, Robin has fostered a culture of innovation in TM. By using AI to its fullest, Robin showcases how TM continues to be positioned as one of Malaysia's key leaders in digital transformation.

PETRONAS and AVEVA: A Partnership Powering Smarter Supply Chains

Focused on efficiency, resilience and sustainability, PETRONAS entered a Memorandum of Understanding with AVEVA to leverage the **AVEVA Unified Supply Chain platform** and the **AVEVA Predictive Analytics tool**.

How the AVEVA Unified Supply Chain platform Works

As a cloud-based system, this platform is designed to optimise every aspect of the supply chain operation. It achieves this by integrating real-time data from diverse sources. The result?

- Precise crude oil evaluation, refined optimization, and higher-quality logistics planning.
- Reduced evaluation times for faster and more accurate decision-making
- Improved resource allocation reduces inefficiencies and improves overall profit margins.

How the AVEVA Predictive Analytics tool Works

To ensure supply chain reliability, PETRONAS deployed this tool across 10 plants to monitor 150 equipment trains in real-time. So, how does the tool work?

- Detects anomalies in equipment performance, prescribing corrective actions using integrated Failure Mode and Effects Analysis (FMEA)

- Identifies potential issues early to prevent equipment failures, manual investigations

Aside from the standout result of accelerating overall decision-making capabilities, the results have been tangible – PETRONAS saved USD 17.4 million (RM 73.1 million) in maintenance costs.Traditionally, crude oil evaluation was a complex and time-consuming process, but AVEVA's AI-powered analytics have drastically reduced evaluation times, allowing Petronas to make faster and more accurate decisions. Additionally, the platform enhances refining processes by optimizing resource allocation, reducing inefficiencies, and improving overall profit margins.

How is it ranked:

Petronas

◈	**Organisational Impact**	●●●●◑
✖	**Ease of Deployment**	●●●●◑
🔒	**Safety & Trustworthiness**	●●●● ●
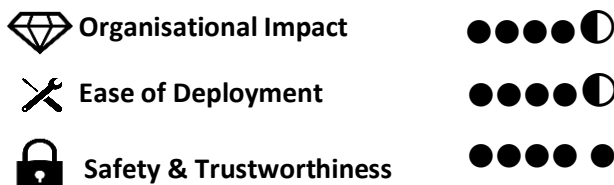
Commentary

Petronas's implementation of AVEVA's AI platform has revolutionized its supply chain management, delivering measurable impacts across operations. The predictive analytics deployment across 150 equipment trains generated RM73.1 million in maintenance savings, demonstrating significant cost efficiency. The real-time monitoring capabilities have streamlined crude oil evaluation and optimized refining processes.

Their systematic integration of AI solutions closely aligns with global energy industry standards while maintaining robust safety protocols. The platform's ability to manage complex supply chain operations and achieve notable cost reductions demonstrates exceptional operational excellence. In unison, these factors position Petronas as a leader in AI-driven energy resource management.

Sime Darby Property: Saving Energy Use with AI

Sime Darby Property's AI-Powered Energy Management solution is centred on one key goal – revolutionising Malaysia's real estate sector across its residential and commercial developments.

How it works

1. **Real-Time Monitoring and Predictive Analytics**: AI collects and analyzes utility data to forecast consumption patterns, such as peak electricity demand during hot afternoons or high water usage based on seasonal trends.

2. **Dynamic Optimization**: Adjust energy use in real-time to manage HVAC, lighting, and peak load distribution based on occupancy and weather. Integration with renewable energy sources like solar panels further enhances efficiency by storing and redistributing surplus energy.

3. **Automated Decision-Making**: AI autonomously reduces waste by turning off unused systems and optimizing energy settings, ensuring comfort while minimizing resource consumption.

Achieving up to 20% energy savings has led to lower utility bills, operational costs, carbon emissions, and improved sustainability. Sime Darby's Property AI initiative has also enhanced user experience with personalised comfort for residential and commercial spaces.

How is it ranked

Sime darby's property

◈ **Organisational Impact** ●●●●○

⚒ **Ease of Deployment** ●●●●◑

🔒 **Safety & Trustworthiness** ●●●●○
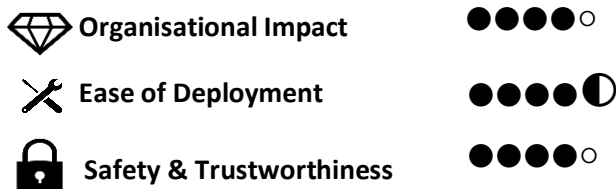
Commentary

Sime Darby Property's AI-powered energy management system has transformed urban development operations, achieving concrete results in sustainability metrics. By combining predictive analytics, real-time optimisation and renewable energy integration, Sime Darby has enhanced operational efficiency and resident satisfaction, setting new standards for sustainable urban development. The 20% reduction in energy consumption highlights substantial resource optimization. Their real-time monitoring and predictive analytics capabilities have enhanced both operational efficiency and resident satisfaction levels.

KLK's AI Revolution: Transforming Agriculture for Sustainability

Kuala Lumpur Kepong Berhad (KLK), one of Malaysia's leading plantation companies, has embraced artificial intelligence (AI) to revolutionise its oil palm and rubber cultivation operations.

Leveraging AI-driven solutions, KLK aims to enhance productivity, sustainability, and operational efficiency. Key applications include:

- **Precision agriculture**: Drones and remote sensing technologies provide real-time data for plantation health monitoring and water stress detection.
- **AI-powered predictive analytics:** Support yield forecasting and planting schedules with historical and real-time data to optimise operational planning.
- **Smart irrigation:** Use IoT sensors and AI to monitor soil moisture and weather conditions, conserving water while ensuring ideal crop growth conditions.

Key benefits

While specific results from KLK's AI initiatives remain undisclosed, global data showcases the transformative potential of such technologies in agriculture. Studies indicate that:

- AI-enabled tools can increase crop yields by 20% and reduce resource wastage, such as water and fertilizers, by up to 16%.
- Integration of AI in **supply chain optimisation** streamlines logistics, enhances traceability and meets stringent sustainability standards in the palm oil industry.

Impact on KLK

KLK's efforts resonate with Malaysia's broader vision under initiatives like the Digital AgTech Programme by MDEC, which seeks to modernize agriculture and improve food security. By harnessing AI for real-time crop monitoring, predictive analytics, and supply chain management, KLK has become a leader in sustainable agriculture, contributing to economic growth and environmental stewardship.

How is it ranked:

KLK AI

◆ Organisational Impact	●●●◑ ○	
✖ Ease of Deployment	●●● ○ ○	
🔒 Safety & Trustworthiness	●●●◑ ○	
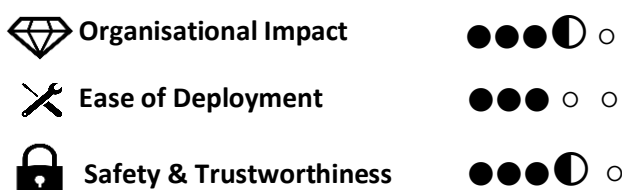
Commentary

KLK's adoption of AI in agricultural operations has modernised traditional farming practices, though specific impact metrics remain undisclosed. The integration of precision agriculture technologies, including drone monitoring and smart irrigation systems, indicates potential yield improvements of up to 20%. Their focus on AI-driven sustainability aligns with Malaysia's RM120 billion agricultural export target while enhancing operational efficiency.

Conclusion

Enhancing productivity and transforming various sectors, AI in Malaysia is the next step to innovative solutions. From AI-powered supply chain management projects to smart city initiatives, Malaysian companies are driving growth and operational efficiency with AI.

As these technologies continue to evolve with supportive government initiatives (Malaysia Artificial Intelligence Roadmap), the potential to reshape the economic landscape and address societal needs effectively is vast.

Moving forward,private sector players and government entities must also understand their collaborative role in realising a future where AI is pivotal for all of Malaysia.

Appendix

Use Case Prioritization Criteria

Organisation Impact

- o Direct & indirect economic value (incl. revenue gains, cost savings, increase in productivity)
- o Experiential benefits (business processes and stakeholder experience)
- o Strategic fit/alignment to company priorities (in line with industry trends)
- o Efficiency, engagement, and ecosystem improvement (twimbit 3Es – internal and external stakeholders)

Ease of deployment (impacting time and cost)

- o Data availability & quality (data lifecycle management)
- o Interoperability/Integration with existing systems (reusability of use cases)
- o Technical and business expertise needs (domain knowledge, machine learning understanding, need for training/hiring)
- o Infrastructure requirement (hardware & software like cloud computing, AI development & training, deployment & execution)
- o Documentation & support accessibility and adequacy (solution design from internal and external resources)
- o Scalability (with minimal operational process disruptions)

Safety and Trustworthiness

- o Regulatory compliance (linked to high-exposure business areas)
- o Ethical considerations (need for new governance in place)
- o Operational risk (performance issues, system failure, integration breakdown)
- o Reputational risk (brand impact, public perception)
- o Technological risk (vendor lock-in, tech maturity, cybersecurity)

Scoring Methodology

Each main criterion in our framework is evaluated using a scoring scale from 1 to 5, where 1 signifies a very low organisation impact or ease of deployment, and 5 signifies a very high organisation impact or ease of deployment. To calculate the overall score for each criterion, we use an average approach, where each sub-dimension (i.e., direct & indirect economic impact or regulatory compliance) is assigned a rating of low, medium, or high. The threshold is slightly skewed towards the lower range as the scoring of each sub-dimension will be accounted for in the final score (e.g., each sub-dimension is given a low rating).

Note that the scoring range and threshold will be inversed for the last criterion (Safety and Trustworthiness), whereby a low rating is more favourable.

These ratings are determined based on a thorough analysis of the use case's potential benefits and challenges, informed by secondary research. The final score for each criterion is the sum of the weighted ratings of its sub-dimensions, providing a nuanced and precise evaluation of the use case.