



FLASH

Digitization of Agriculture – The Next Chapter for Internet of Things in Malaysia

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IN THIS FLASH

This IDC Flash provides an analysis of the MIMOS Intelligent Traceability Platform, Mi-Trace, launched by Datuk Seri Panglima Madius Tangau, Minister of Science, Technology, and Innovation (MOSTI) of Malaysia, on July 19, 2016. This solution is one of the many cutting-edge technologies developed by MIMOS, Malaysia's national research and development (R&D) center in ICT, in 2015, leveraging the Internet of Things (IoT) and Big Data and analytics (BDA). It was developed specifically for end-to-end tracking and tracing process of premium products.

SITUATION OVERVIEW

MIMOS has been proactive in driving the latest ICT technologies, such as IoT and BDA, in Malaysia. Since the launch of Malaysia's National IoT Strategic Roadmap in July 2015, MIMOS has implemented IoT and BDA technologies to monitor unwanted incidents inside the Royal Malaysia Police's lock-ups through the Self-Monitoring Analytics Reporting Technology (SMART) Lock-Up solution, which analyses videos from existing CCTVs and alerts the authorities through the Internet in real time.

Recently, MIMOS had another breakthrough in the local IoT market when it launched its in-house-developed IoT solution, Mi-Trace. Based on GS1 standards, Mi-Trace is an end-to-end tracking and tracing platform mainly for the agriculture industry. The platform allows a product to be tracked and traced using any smart devices by scanning the unique QR codes displayed on the product packaging. This provides an effective mechanism for consumers to verify the authenticity of the product, while at the same time collect necessary information for suppliers to understand market characteristics. This solution is initially targeted for premium food products to prevent counterfeiting and to increase customers' confidence. It is planned to be adopted in other vertical industries in the future.

The first commercialization case of this solution is to track the export of Musang King, a premium type of durian, to China. Durian is a seasonal fruit that can only be found in Southeast Asia, while Musang King is one of the most expensive types of durian. The price fluctuates and can go as high as US\$50 for a single durian. Hence, it is important for exporters and sellers to ensure the authenticity and quality of their durian as well as to retain its freshness when exporting it to other countries.

This commercialization was made possible because of the collaboration of multiple parties including MIMOS, which developed Mi-Trace; My Traceability Sdn Bhd (MTSB), which offers the service; six main Malaysian durian exporters; three major durian importers in China; Malaysia's Department of Agriculture; the Federal Agricultural Marketing Authority (FAMA); SIRIM Berhad; Standards Malaysia; and the National Institutes of Biotechnology Malaysia (NIBM).

FUTURE OUTLOOK

Keeping the IoT Pace, Attracting Leading Players

Malaysia is considered late when it comes to adopting the latest ICT technologies. The adoption of and demand for cloud, BDA, mobility, and IoT technologies in Malaysia are behind other developed countries in the region such as Singapore, Australia, and South Korea. This slows down the interest of big names and leading global vendors to focus on and invest in the latest technologies such as IoT in Malaysia.

The launch of the National IoT Strategic Roadmap, the commercialization of SMART Lock-Up solution and Mi-Trace platform by MIMOS, and several other announcements by various organizations keep Malaysia's IoT pace high. This will attract the attention of established players to expand their presence, partner with local players, and explore IoT opportunities in Malaysia.

Leading Role of the Public Sector in Driving ICT Adoption in the Private Sector

As IoT is still considered new, there are limited tangible business cases and successful implementations in the region. This is one of the key inhibitors for enterprises in Malaysia to invest in IoT technologies. It is important for the government or government agencies to start implementing such technologies, demonstrating successful use cases with positive returns, and driving the adoption in the country, especially in the private sector, which is usually more cost-sensitive.

MIMOS, a government agency in Malaysia, plays a vital role by not only developing various IoT solutions and platforms that can be used by start-up companies but also by driving the commercialization of its IoT solutions. The commercialization of Mi-Trace marks another successful initiative by MIMOS. This is expected to encourage more start-ups to partner with MIMOS for their IoT solutions, and organizations in the private sector across different vertical industries to start considering IoT for their business.

IoT Solutions Are Industry-Specific

Unlike many other ICTs, there is no "one-size-fits-all" solution for IoT. Solutions are developed specifically for a vertical industry (e.g., predictive maintenance in manufacturing, interactive screens in retail, and Smart City in government). Different countries usually have different focus on vertical industries for IoT solutions (e.g., manufacturing in China, mining in Australia, and Smart City in Singapore).

Agriculture is one of the biggest industries in Malaysia. There is a high potential to implement IoT in this vertical in Malaysia, especially with the current economic situation, wherein higher yields are expected while keeping the cost to a minimum. Mi-Trace not only helps save millions of dollars from loss due to counterfeit products, it can also increase sales by gaining customers' confidence. Beyond Mi-Trace, as IoT is able to intelligently analyze information in real time, it can help organizations in the agriculture industry to minimize operating costs by optimizing decision-making process and reducing human error.

Driving IoT Awareness Across Ecosystem

IoT today is still seen as a good-to-have technology instead of a necessity. It is usually implemented by big multinational companies such as AirAsia and Audi, or digital companies such as Intel. It may be a bit too fancy for traditional businesses such as farmers, fruit exporters, and importers to consider IoT today.

However, the commercialization of Mi-Trace has shown the importance of tracking and tracing premium food, which can be achieved using IoT and BDA technologies. This proves that IoT is already a necessity and can add value to all players in the value chain, from the farmer, exporter, importer, logistics company, distributor, retailer, to the end customer.

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