



Flash

Malaysia Well on Its Internet of Things Journey through Its Open Innovation Platform: MIMOS Internet Services of Things

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IN THIS FLASH

This IDC Flash provides an overview of the MIMOS Open Innovation Platform, MIMOS Internet Services of Things (Mi-MIST), showcased at the "MyIoT Week 2016" event held from August 17 to 19 in Kuala Lumpur, Malaysia. Datuk Seri Panglima Madius Tangau, Minister of Science, Technology, and Innovation, was the keynote speaker at the event. MIMOS is Malaysia's national research and development center and lead technology provider in the ICT market. The launch of this Internet of Things (IoT) Open Innovation Platform is in line with Malaysia's focus on transitioning from a manufacturing-based to an innovation-based economy.

SITUATION OVERVIEW

IDC defines the Internet of Things as a network of uniquely identifiable "things" that communicate without human interaction using IP connectivity. The IoT ecosystem contains a complex mix of technologies, including modules/devices, connectivity, IoT purpose-built platforms, storage, servers, applications, security, analytics software, and IT services. The IoT market continues to grow in terms of market awareness, opportunity, and participation through an ecosystem of players. IDC's Worldwide Internet of Things Spending Guide 2016 indicates that by 2019, there will be 8.6 billion connected devices in Asia/Pacific (excluding Japan) (APEJ). The key drivers for IoT solutions in the region are the growing need to improve productivity and enable operational excellence, with the top 5 use cases being smart grids, manufacturing operations, freight monitoring, production asset management, and smart buildings.

MyIoT Week

The Ministry of Science, Technology, and Innovation (MOSTI), together with its applied research agency, MIMOS, kick-started the IoT and Big Data and analytics (BDA) initiatives that are expected to transform businesses and government delivery systems in Malaysia. As a crucial part of this initiative, under the leadership of MOSTI, the first session of MyIoT Week was commenced in 2015, with a theme "Building Industry Ecosystem," to establish an ecosystem that is conducive to encourage collaboration between technology innovators, government agencies, and enterprises in addition to knowledge sharing on the latest advancements in IoT. The key highlight of the MyIoT Week 2016, with a theme "IoT Community Catalyzing a Connected Society," was the launch of MIMOS's Open Innovation Platform, MIMOS Internet Services of Things (Mi-MIST), which aims to increase the IoT community's capabilities and capacities in catalyzing and accelerating the development of IoT innovative solutions. Additionally, at the event, RecoMedia, an IoT-based device for collaborative presentations developed by EV-Dynamics Sdn Bhd based on the Mi-MIST platform, was also launched.

Open Innovation Platform

IoT is a technology wave that has evolved from existing technologies, which gives rise to myriads of standards, formats, and protocols between devices, data, and communication layers. The diverse and multi-standard nature of the IoT landscape will intensify the challenges around deriving maximum business insights and values.

Open Innovation Platform is a "melting pot" of various standards and includes key interfaces to complement the heterogeneity landscape, where all IoT-related technologies will interact in a "harmonious" manner. Even though in a nascent stage, Open Innovation Platforms are emerging as an attractive option for organizations embarking on the IoT journey, serving as a catalyst for new applications and services creation. The ultimate goal of Open Innovation Platform is to reduce market entry barriers by decreasing application development cost and accelerating IoT service and application development for IoT players, particularly systems integrators and application and service developers.

MIMOS Internet Services of Things (Mi-MIST)

Small and medium-sized enterprises (SMEs) are a key driver of growth in the IoT industry. However, these enterprises do not yet play a significant role in driving IoT development due to the heterogeneity of technology standards, which is a result of increased complexity in integration and interoperability. IoT is the convergence of a variety of technologies; however, given that each of these technologies often come with different standards, the IoT community is finding it harder to make inroads into the market. Thus, it is important to address the technology complexity to promote the proliferation and industrialization of IoT.

Mi-MIST is an application enablement platform (AEP) that enables management and interconnection of smart devices and sensors through integrated intelligent services. It facilitates IoT deployment in organizations by eliminating the complexity in integrating devices and reduces market entry barriers by reducing high application development cost and creating new context-aware IoT services. Furthermore, Mi-MIST as a platform can be accessed by the existing MIMOS software solution stacks, namely, BDA, cloud computing, security, artificial intelligence, and enterprise systems.

The unique value proposition for Mi-MIST is that this platform is technology-agnostic starting from the device layer up to the communication protocols layer. Thus, the platform facilitates the interoperability of different devices across a wide spectrum of communication protocols, such as 5G, 4G, WiFi, and Bluetooth to name a few. Mi-MIST will "simplify" and bridge the differences between technologies to ease the IoT innovation process. By harmonizing multiple standards through scalable and cost-efficient infrastructure, the platform enables the IoT industry to develop reliable applications and services.

Mi-MIST in Action

In alignment with Malaysia's "National IoT Strategic Roadmap," Mi-MIST has been utilized and applied in several use cases to demonstrate its functions and capacities. This has primarily been done in four economic sectors (specifically agriculture, healthcare, manufacturing, and transportation) to trigger IoT adoption in Malaysia.

A unique use case of the Mi-MIST platform was in the export of Malaysian premium durian Musang King to China. To prevent counterfeit or low-grade durians from being sold in Chinese markets as Malaysia's Musang King variety, QR codes were implemented, so that customers could scan the code and immediately find details of the product they intended to buy, including where the product

originated. The QR code scans done by the phone sent the data back through the network through the middleware, Mi-MIST. When customers' information is aggregated, it provides exporters with valuable real-time information, helping them to gain a keen insight into the product penetration, market profile, distribution number of products being sold/scanned, and geographic data on sales. Empowered by Mi-MIST in facilitating the traceability process by integrating different data points, harmonizing different data formats, and deriving insight values, durian exporters can leverage on the information to strategize their marketing and product placement, while consumers are ensured with product authentication. The result of all this data and insights was a 30% increase in the sales of durian to China.

The trend of bring your own device/choose your own device (BYOD/CYOD) has become more prevalent, increasing the communication needs in the world of enterprise, especially the conferencing applications market. End users and organizations alike are looking for seamless real-time communication alongside the in context of information exchange. In addition, individual productivity is no longer limited by geographical or organizational boundaries, forcing collaborative applications to evolve to meet these requirements.

RecoMedia rides on the Mi-MIST platform to interoperate the heterogeneity of devices by taking the display signals from various Internet-connected devices to translate and harmonize the data for collaborative presentation wirelessly, instead of physical connection via cables. Mi-MIST will empower mobility and cost-effective communication solutions that allow anywhere, anytime connectivity. RecoMedia is seeing uptake in the field of education with a focus on interactive learning, as it facilitates interaction between multiple classrooms, universities, and so forth using visual displays.

FUTURE OUTLOOK

IoT across APEJ continues to grow in size, connections, and number of use cases across all industries and is becoming an important element of enterprise digital transformation. Having said that, enterprises are still in the early stages of IoT adoption and ecosystem development, with industrial IoT, fleet management, freight monitoring, smart grids, smart buildings, home automation, and personal wellness IoT solutions experiencing growth.

IDC believes that the key to success for the IoT industry will be to understand, manage, and address the complexities that will arise with the adoption of IoT solutions. The IoT industry also needs to address the interaction and complexity that arises from the four layers of the IoT architecture — application, platform, network, and sensor layers. Moreover, the IoT industry must concentrate on and build industry-specific business case studies to have better conversations and focus on business value that align with their customers' needs. In addition, the Malaysian government is gearing up to provide facilities, with aims to increase the local IoT industry's capabilities to harness IoT as a new source of growth. Mi-MIST is going to play a pivotal role in strengthening the local SMEs' capabilities to build innovative IoT solutions and services, helping them to compete in the global market.

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