



21 AUG, 2019

CHARTING THE NATIONAL TECH AGENDA

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EYE ON THE FUTURE

CHARTING THE NATIONAL TECH AGENDA

Malaysia is capable of producing world-class technology solutions. MIMOS Bhd, the govt's research and development institute, is optimistic it can help with this. Its newly-appointed interim president and chief executive officer Emelia Matrahah shares her vision with **IZWAN ISMAIL**

SINCE helping the country's national applied research and development (R&D) centre, MIMOS Bhd, interim president and chief executive officer Emelia Matrahah has only one thing on her mind — bringing the applied R&D agency to greater heights, with technology innovations that drive industry transformation.

She said MIMOS had a big role to play in helping the nation move forward in technology.

"Since the establishment of the agency in 1985, a number of initiatives have been carried out to help Malaysia become a high-tech nation.

"Pioneer initiatives such as Jarling (Malaysia's first Internet service provider), National ICT Security & Emergency Response Centre (later rebranded CyberSecurity Malaysia), MyNIC (administrator of web addresses ending with .my in Malaysia), National IT Agenda (NITA) and Multimedia Super Corridor."

This was in the early days before MIMOS moved into intellectual properties (IPs), patent production and digital and software-defined solutions today.

To date, MIMOS has produced more than 2,000 IPs and commercialised half of them.

Emelia started her career at Pricewaterhouse (M) Sdn Bhd before moving to a German multinational manufacturer as an accountant. She then moved to Sapura Telecommunications Bhd as a business controller and iCIMB Sdn Bhd as chief financial officer.

Emelia said her immediate plan for MIMOS was to remain relevant to the national IT agenda, which was driving industry transformation with digital technology.

"Now, MIMOS is more visible

and closer to the industry. As a technology producer, we would like to have more interactions and engagements with the industry and put Malaysia on the world map of the best technology producers.

"Back then, MIMOS researchers produced IPs as more of a culture, but later, the agency started to focus more on quality IPs that are more relevant to the industry."

MIMOS' IPs are used by the agency to come up with its own solutions and products or used by local companies or technology recipients like the small- and medium-sized enterprises (SMEs) and start-ups via partnerships to produce complete products.

"From 2011, we started monetising the technology we produce. When we do IP and research and generate IPs, it cannot end there. There must be something tangible. Our economy also wants us to start looking into earning something from the research that we do."

In the long run, she said, MIMOS would strengthen its network of technology recipients and strategic partners to create a consistent army of resellers and corresponding technology adopters.

"We are also creating a sustainable business partner model where MIMOS will closely work with the industry to deliver more value to the government, industry, academia and rakyat.

"We are always mindful that our endeavours serve a key role in generating economic growth for the nation, towards becoming a high-income nation, and this requires a mindset change within MIMOS to run like a nimble business rather than a government agency," Emelia said.

"There will be a lot of commu-



nication with the people because MIMOS' operating structure is 70 per cent manpower as we produce intellectual property.

"It's the brain that we really need to nurture. Sometimes, researchers are so passionate and we need to ensure there's guidance and aspiration linking them to stakeholders' and shareholders' needs."

ENGAGING THE ACADEMIA

As an agency that promotes innovation, MIMOS sees the importance of nurturing the younger generation so that they will become interested in science and technology.

"An agency like MIMOS won't



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PIC BY ROSELA ISMAIL

be relevant if future leaders are not interested in exploring technology and become techies. This is where our collaboration with universities come in, which is part of our CSR (corporate social responsibility) initiatives."

To achieve this, MIMOS engages the Education Ministry on talent exchange programmes.

"Key leaders in MIMOS are encouraged to share their knowledge with universities through curriculum recommendation and industrial placement so that students are ready when they go to the market. This will solve the pairing issue and ensure the industry will have ready products." Currently, most public univer-

sities and some private ones are part of the programme. MIMOS also sends staff to teach at universities or have students go to the agency to learn.

"We have signed some MoUs (memorandums of understanding), for example, with UNITAR on a data analytics programme."

She said MIMOS had many technology platforms and universities could use them.

SEGI University, for example, is experimenting with artificial intelligence (AI).

"Those who already have their first degree can do their internships as research assistants here," Emelia said.

Besides that, MIMOS is also in-

involved in the government's SLIM (Skim Latihan 1Malaysia management trainee) programme, where the agency hires fresh graduates to work on its projects.

"For example, now when we get projects from the government, one requirement is for us to hire a certain percentage of graduates for the project. This is how we give back to the nation."

TECH THAT MATTERS

Emelia said the next big thing that would affect the industry was Industry 4.0 technologies. These include AI, big data (extremely large data sets that can be analysed computationally to reveal patterns, trends and associations,

especially relating to business and human behaviour), Internet of Things (a network of physical objects that have an IP address for Internet connectivity, which allow them to communicate or connect with other Internet-enabled devices and systems), blockchain (the technology that underpins digital currency, like Bitcoin, Litecoin and Ethereum, that allows digital information to be distributed, but not copied), augmented reality (a technology that superimposes a computer-generated image on a user's view of the real world), cybersecurity and smart manufacturing (a technology-driven approach that utilises Internet-connected machinery to monitor the production process).

Industry 4.0 is a new phase in the industrial revolution that focuses heavily on interconnectivity, automation, machine learning and real-time data.

"As the world embraces Industry 4.0, it is critical for businesses to keep up with the times. Industries must be competitive and at least on a par with if not ahead of others in terms of innovation and use of technology," Emelia said.

Under the 12th Malaysia Plan, MIMOS will look into big data, Internet of Things and analytics.

"It's also a continuation of the preparation for transformation of future jobs. This is why it's very important for universities to plan their programmes and skillset training.

"Whatever we do, it has to be aligned with that. It has to link with the government's aspiration, the industry and create job opportunities," Emelia said.

Since the 10th Malaysia Plan, MIMOS has started putting its technology in places like the Social Security Organisation and Health Ministry, with solutions like data warehousing.

"Besides that, our AI-based video analytics solution is used in police lock-ups. It monitors aggressive and suspicious behaviours of detainees."

MIMOS' recent developments include indoor location tracking, licence plate recognition, government services like digital identification and AI in capital market and accounting.

MIMOS also established the Centre of AI for Future Industry with Microsoft last year, working with various universities in developing AI, data science and other Industry 4.0 technologies.

INDUSTRY CHALLENGES

One key challenge faced by the industry today is R&D, which can take a long gestation period, involves high cost and often encumbered by uncertainties.

"With MIMOS' R&D work, the local tech industry can focus on building and marketing their brand without having to invest a fortune in research," Emelia said.

At the same time, she said, there was also a lot of re-export type of businesses.

"We need to develop our SMEs not just as box sellers, but to have more domestic content, which means having more local products and innovation in what we export.

"Since MIMOS has a ready facility, like the wafer foundry, we are looking into working with MITI (International Trade and Industry Ministry) to obtain some grants to enhance the capability of the facility.

"We allow SMEs to come to MIMOS to test products, design IC (integrated circuit) or anything related so that they can bring their products to the market.

"We do the facilitation and from there, we can do pairing with some grants, from which they can apply so that they can transform the technology into products."

Another big challenge is finding industry-competent talent, which MIMOS has been addressing for some time.

"One challenge that should never be ignored is the emerging and unpredictable nature of technology itself. There will be potential hazards and risks. The challenge is in balancing the risks and rewards," Emelia said.

On comments that MIMOS was competing with the industry, Emelia said this was a perception that needed to change.

"This came about when we participated in some projects from ministries and some industry players thought we are competing. We are not.

"Our technology being applied in ministry projects are industry-class and saves cost, so that the government doesn't have to spend more."

MIMOS IN 5 YEARS

MIMOS anticipates exponential growth of its technology solutions for the country and sees the agency becoming a key driver of national development post-2020, as well as providing up-to-date global technology and the corresponding talent pool.

Emelia said MIMOS would intensify efforts in transforming the industry and boosting the government delivery system.

"Use of technology such as big data analytics and AI will enhance strategising, efficiency of service delivery and reporting.

"At the rate technology is advancing, it is really hard to imagine where and how we would be in five years, but at MIMOS, our role is to contribute to the nation's digital transformation.

"With solid support from MITI and close working relationships with other government agencies, industry and academia, we foresee MIMOS' increasing relevance and contribution.

"In five years, we can't even guarantee the roadmap that we chart today will look the same.

"It could be something we can't imagine today. We will always stay alert, armed and ready for possibilities."



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SUMMARIES

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