

LAMPIRAN 1
THE STAR (SMEBIZ) : MUKA SURAT 10
TARIKH : 25 JUN 2018 (ISNIN)

Pushing nanotechnology products to the fore

By JOY LEE
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AS A growing number of producers look towards nanotechnology to enhance their products, there is a need to safeguard consumers and ensure the quality of such products, says Nanoverify Sdn Bhd managing director Johan Iskandar Hasan.

"We are moving in the right direction. But as with any other technology, the main concern is safety. We don't want nanotechnology to take the route of GMO (genetically-modified organism). So we want to manage expectations and the risk involved," he says.

Nanoverify is Malaysia's first and only nanotechnology verification body. Established in 2015, its aim is to boost recognition for nanotechnology-based products as well as validate the quality and safety of these products and services.

According to Johan, Nanoverify is the sixth voluntary certification programme worldwide. The other programmes are from Russia, the UK, Thailand, Iran and Taiwan.

With the advancement of technology, more products are expected to be nanotechnology-enabled and such programmes will be needed to assure consumers that they are not

getting counterfeit products. This will also increase public trust in new technology and investor confidence in nanotechnology-based projects.

"We want to protect users. We want them to know about nanotechnology and ensure that they are getting products with genuine nanotechnology," he adds.

He hopes to increase awareness on the technology and is working with the relevant ministries in hopes of making it compulsory for all nanotechnology-enabled products to be certified by the end of 2019.

Johan cites reports that the global revenue from nano-enabled products is projected to be US\$1.7 trillion in 2018, the bulk of it coming from the electronics and information technology sectors.

Globally, it is estimated that there are 5,113 nanotechnology products. In Malaysia, there are 504.

To-date, Nanoverify has certified 34 products locally across various sectors with another 18 products in the pipeline. Johan identifies the cosmetics, automotive, fertiliser as well as domestic cleaners as areas of growth for nanotechnology.

He estimates that there are about 600 nanotechnology-enabled products in Malaysia. However, at least

half of these are imported technology.

"Malaysia is not short of SMEs that can produce raw materials for nanotechnology and the integrator technologies. The issue is commercialisation. We encourage local companies to explore nanotechnology by pitching new technology ideas to some companies that may benefit from it. We also facilitate their development and verification process by providing grants. This will help gain traction for nanotechnology."

"But moving forward, we see that the growth of the technology here will be driven by consumer demand. When the acceptance is there, the industry will grow," he says.

Nanoverify is currently more focused on pushing out consumer products to get the masses interested in the technology behind the products. This is hoped to create more awareness and change public perception of nanotechnology.

However, Johan is aware that local consumers are sensitive to pricing, and nanotechnology-enabled products are, notably, selling at a premium.

"I think consumers will become more receptive of these products when they see the health benefits.



Local skills: Johan says Malaysia has the talent and know-how to develop local nanotechnology products.

Millennials are certainly more receptive of such advanced products. And the Gen-X and -Y are approaching the age where health is becoming a concern. So we may see better acceptance for nanotechnology," he says.

Nanoverify intends to drive more local know-how of the technology so that more companies will be able to develop their own nanotechnology-enabled products rather than just import them. This

would help make local products more competitive and, possibly, more affordable compared to imported products.

He adds that the global market is very competitive with various compounds and pricing available for different products.

At the moment, most of the research and development work for the technology is carried out by educational institutions as companies lack such research facilities.

LAMPIRAN 2
THE STAR (NEWS) : MUKA SURAT 2
TARIKH : 24 JUN 2018 (AHAD)

SIX young Malaysian scientists will be joining the annual Nobel Laureate Meeting in Lindau, Germany while three undergraduate students will take part in the CERN Summer Student Programme in Geneva, Switzerland.

Out of the six, five are from Universiti Sains Malaysia. They are Tan Suat Cheng, Chan Siok Yee, Nur Aizati Athirah Daud, Mohd Ghows Mohd Azzam and Yap Beow Keat while Shahidee Zainal Abidin is from Universiti Putra Malaysia.

The group of six scientists are heading to Lindau from June 24 to 29.

Chance to meet top scientists

The Lindau Nobel Laureate Meeting is a globally recognised forum for young scientists to engage with Nobel Laureates.

This allows the transfer of knowledge between the two generations of scientists, listening to the Nobel Laureates' lectures, taking part in panel discussions and having personal interaction with Nobel Laureates.

The three who are taking part in the CERN Summer Student

Programme from June 25 June to Aug 17 are Fahmi Ibrahim from Universiti Teknologi Malaysia, Yohashama P. Sivagnana Kumaran from Universiti Malaya and Mirza Basyir Rodhuan from Universiti Tun Hussein Onn Malaysia.

CERN, the largest particle physics laboratory in the world, offers undergraduate students of physics, computing and engineering from around the world an opportunity to join the research teams and take

part in experiments at its facilities through this programme.

The Academy of Sciences Malaysia (ASM) is responsible for the national level vetting and selection of nominees for Malaysia, while the final selection is by the respective review panels from Lindau and CERN.

ASM president Prof Datuk Dr Asma Ismail said its connections as a knowledge partner with several international organisations has

enabled it to nominate Malaysia's young scientists to take part in various international research programmes.

"ASM emphasises the need to invest in young, early-career scientists and researchers by providing avenues and opportunities for them to gain experience and expertise, in order to be able to solve pressing global issues," she said.

Since 2004, 63 young Malaysian scientists have participated in the Lindau Nobel Laureate Meetings while 18 students have taken part in the CERN Summer Student Programme since 2012.

Getting 'played' over games

Online fraudsters are not only going after cash, but manipulating victims into buying game credits for them.

Stories by YUEN MEIKENG
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TWO friends were chatting on Facebook, remarking how long it had been since they last met.

Happy to hear from an old friend, James (not his real name), 39, gave Carol his phone number.

Unbeknown to him though, "Carol", or rather the person pretending to be her, was a scam artist.

The person's motive was unique; to manipulate James into buying online game credits for him.

Asking James to help her redeem a free gift, "Carol" told him to send an SMS to a number.

Upon receiving a four-digit code, James was to report the numbers back to her.

But when he received a notification that he had bought RM100 worth of credit for games, Carol merely told James not to worry as it was free.

Trusting her, James followed her instructions again but became suspicious when she asked him to repeat the steps for a third time.

"I called her up to ask why was it so troublesome just to redeem a free gift."

"Imagine my horror when my friend told me she didn't even message me in the first place!" the art director of an advertising company related of the incident in April.

James immediately tried to screenshot the conversation as evidence but the scammer already deleted Carol's portion of the chat.

Upon calling his mobile phone service provider, he was told that he had unknowingly purchased RM244 worth of game credits through his actions.

"The telco said many had complained to them of similar incidents," revealed James.

Imagine my horror when my friend told me she didn't even message me in the first place!

James, 39,
a victim of an online impersonator

While he was able to stop the credits from being transferred to the scammer, he couldn't get a refund as the purchase was final.

"So I am now stuck with these game credits. I don't even play online games," James lamented.

Taking this as a lesson, he urged the public to be on their guard as even chatting with a friend online may not be what it seems these days.

Major mobile phone service providers have also noted the emergence of such cases of late.

When contacted, Digi Telecommunications Sdn Bhd says it has informed subscribers on its website about such cases on social networking sites.

"Recently, there has been an increase in cases regarding fake Facebook profiles."

"These scammers are taking on your friends' identity on the social network."

"Their newly created Facebook profiles will add you as their friend, pretending to have lost their previous account," reads the post dated May 15.

DiGi says the scammers will then ask for the victim's mobile number.

Once the victim has given their mobile number, the con artists will then try to phish

a TAC or a One Time PIN (OTP) sent to the victim's mobile.

"Do not give your phone number without verifying with the actual person who is asking for it."

"Most importantly, do not give away any TAC or OTP sent to your mobile by any DiGi short codes like 20000 or any 6xxxx numbers," DiGi stresses.

As for Celcom Axiata Bhd, the telco is aware that there have been reports of fraudulent activity of unauthorised online gaming credit purchases using subscribers' accounts.

"However, to date, we have not received any complaint or report from Celcom subscribers of such incidents."

"Celcom, as an ethical digital enabler in supporting the mobile gaming industry, encourages its subscribers to be extra cautious of SMS, WhatsApp, Facebook messages and calls from unknown parties," it says.

The telco also urges its subscribers to never disclose authentication or verification codes to third parties or unofficial websites.

"Social scammers may pretend to be a known friend or via other means of obtaining various monetary authentication codes," Celcom adds.

Maxis Bhd advises customers to remain vigilant and not share any personal information with any unidentified individuals.

"In the event customers are contacted by a suspicious caller, they are advised to check the authenticity of the call by referring to the company, organisation or institution involved for further clarification," it says.

There are consequences for the perpetrators and those who commit online fraud will face the full brunt of the law.

Bar Council information technology and cyberlaw committee deputy chairman Foong Cheng Leong said somebody who impersonates another person online could be break-

ing the law if the actions fall within criminal activity.

"For example, impersonation to gain monetary benefit could amounting to cheating."

"Impersonation, as a prank, is not a criminal act," he explains.

Hence, it is considered a crime in cases where the online impersonator asks for money from unsuspecting victims - or as in the case of this latest twist, tricking them into buying game credits for them.

Such an offence comes under Section 420 of the Penal Code for cheating and dishonestly inducing delivery of property.

It is a crime punishable with a jail term of between one and 10 years, with whipping and a fine.

However, even the act of hacking into a person's social media account alone, whether it is a prank or not, crosses into the criminal realm.

Under the Computer Crimes Act, a person who gains unauthorized access to computer material is guilty of an offence.

Those convicted could be liable to a maximum fine of RM50,000, five years in jail or both.

Hacking with intent to commit further offences, including fraud, also amounts to a crime.

If found guilty, the court can sentence a person to a maximum fine of RM150,000, a 10 year jail term or both.

CyberSecurity Malaysia chief executive officer Datuk Dr Amirudin Abdul Wahab says different scammers use different tactics but all share the same goal to obtain private information for fraudulent use.

"It's not always easy to identify online fraud. But understanding how it takes place helps keep users safe," he says.



LAMPIRAN 4
THE STAR (FOCUS) : MUKA SURAT 18
TARIKH : 24 JUN 2018 (AHAD)

Impersonation over FB still frequent, says CyberSecurity Malaysia

CASES of online impersonations, including those who pretend to be another Facebook user, are still rampant in Malaysia.

This is because users are not careful when they share information, says CyberSecurity Malaysia (CSM) chief executive officer Datuk Dr Amirudin Abdul Wahab.

"They do not set their accounts to be private. It is accessible publicly, giving the opportunity to be targeted by perpetrators.

"Sharing too much info without boundaries, using public WiFi to access social media and to fill in important forms also exposes users to threats," he tells *Sunday Star*.

In fact, the CSM has recorded a rising trend in online fraud cases every month between January and May this year.

Online fraud, including impersonation on social media, make up the bulk of reported cybersecurity cases, with 234 in January and steadily increasing to 467 in May.

Last year, a total of 3,821 cyber fraud incidents were reported to the CSM.

On cases of victims being tricked into buying online game credits for scammers, CSM says it has received similar reports of such incidents.

Such scammers usually impersonate the victim's friend on social media, asking for their phone numbers on the pretext that they have lost their phone and contacts.

Because victims trust the "friend", they oblige and follow instructions.

In one case, a conman tricked the victim into sending an SMS to a number and asked the victim to send the screenshot to him.

"This is despite the SMS clearly requesting confirmation to buy something or containing words like "do not share the code".

"The victim forwards it anyway because they trust their "friend", causing their telco bill to be charged," Dr Amirudin explains.

Another cyber scammer even assured he would repay the victim after he followed through with the steps.

"But the victim was left poorer in the end.

"One of the fraudster's main objectives is to manipulate a user's trust.

"They will use methods such as impersonation to cheat their victims to get money or free services," says Dr Amirudin.

Fraudsters may also hack into a victim's account to gain direct access.

In such cases, victims would likely have accounts with higher privileges in terms of gaming levels or unsecured accounts.

Condemning these cybercrimes, Dr Amirudin describes them as a combination of fraud, identity theft and a violation of individual privacy.

"The victims should verify any request they receive from social media and messaging apps, even from their closest friends or family members.

"Just a simple call to confirm will do, before doing anything as instructed.

"This is because such techniques seem to be successful," he says, referring to social engineering methods to manipulate a vic-

tim's weaknesses, trust or relationship into giving their personal information.

Dr Amirudin advises the public to safeguard their email as it is often a vehicle to transmit malware and commit fraud.

But the fight for information security is a global concern and CSM's chairman of the board of directors General (Rtd) Tan Sri Mohd Azumi Mohamed says mistrust and a lack of transparency will lead to a more porous cyber-defense mechanism.

Azumi, who was invited to speak at the Infoforum Ugra 2018 in Russia, highlighted the importance of building trust and cooperation between nations to ensure a safer and appropriate use of the technology.

"We need to develop an effective international response to cyber threats.

"This is especially since cyber security is an eco-system where laws, organisations, skills and cooperation need to harmonize to work," he said at the international forum, which seeks to resolve issues and cyber threats.

LAMPIRAN 5
UTUSAN MALAYSIA (MEGA SAINS) : MUKA SURAT 17
TARIKH : 25 JUN 2018 (ISNIN)

MYTHROB PANTAU JANTUNG

PENYAKIT kardiovaskular (CVD) atau penyakit jantung adalah punca utama kematian di seluruh dunia.

Dianggarkan bahawa 17.7 juta orang mati akibat CVD pada tahun 2015, yang mewakili 31 peratus daripada semua kematian global, dan 52,960 atau 36 peratus daripada jumlah kematian di Malaysia.

Senario ini memerlukan sesuatu dilakukan bagi mengurangkan beban kos yang perlu disediakan bagi merawat pesakit atau dengan kata lain, perlunya langkah awal sebagai pencegahan serangan jantung.

Sekumpulan penyelidik dari Universiti Teknologi Malaysia (UTM) menyahut cabaran tersebut apabila usaha dua tahun mereka berjaya menghasilkan peranti *myThrob* yang boleh dimanfaatkan sebagai alat pemeriksaan dan pemantauan penyakit jantung pintar.

Menurut ketua penyelidikanya Dr. Hau Yuan Wen dari Fakulti Bioproses dan Kejuruteraan Perubatan (FBME) UTM, penyakit jantung kekal sebagai pembunuh utama bukan sahaja di Malaysia,

tetapi di seluruh dunia.

Katanya, selama 15 tahun yang lalu iaitu sejak tahun 2000, penyakit kardiovaskular adalah pembunuh senyap tertinggi. Sebenarnya, kebanyakan orang tidak tahu bahawa mereka mempunyai penyakit jantung sebenarnya.

"Oleh kerana kadar kematian jantung yang tinggi di Malaysia, pendekatan praktikal untuk meningkatkan perkhidmatan penjagaan jantung di Malaysia dituntut.

"Walaupun bagaimanapun, pengurusan risiko penyakit kardiovaskular sentiasa diabaikan sehinggalah peristiwa jantung berlaku disebabkan tempoh asimtomatik yang panjang," ujarnya.

Di samping itu, disebabkan jumlah pakar kardiologi dan hospital pakar tidak mencukupi terutamanya di negeri-negeri membangun atau kawasan luar

bandar, seperti pantai timur Semenanjung Malaysia, (Kelantan dan Sarawak, komuniti perlu menderita dari perjalanan jarak jauh dan beraturnya panjang di hospital pakar untuk pemeriksaan jantung. Pada masa yang sama,



KOMPONEN peranti *myThrob* yang dibangunkan hasil pelbagai kepakaran.

terdapat juga banyak kelemahan peranti pemantauan jantung yang sedia ada di pasaran, seperti peranti yang terlalu berat, kekurangan algoritma pengelasan yang canggih, tidak menyokong pengelasan diri, ketepatan yang rendah, dan lain-lain yang mungkin tidak sesuai untuk digunakan oleh pengguna rumah.

Katanya, *myThrob* sesuai dipakai untuk pemantauan di rumah, seperti alat pengukur tekanan darah yang biasa digunakan di rumah sekarang.

Beliau berkata, penyelidikan membangunkan peranti *myThrob* bermula pada tahun 2013 bermula

dengan fasa pertama berkaitan kajian algoritma.

Katanya, ia bertujuan mengkaji algoritma asli yang dapat mengesan denyutan jantung tidak normal yang mengancam nyawa sebagai petunjuk yang kuat atau prekursor kepada beberapa penyakit jantung yang serius dengan ketepatan yang tinggi.

"Pada tahun 2016, kami berjaya mencipta prototaip *myThrob* iaitu pembuktian konsep dengan reka bentuk pemrosesan yang pantas untuk memproses analisis ECG secara masa nyata (*real-time*).

"Sejak berjaya dihasilkan hingga 2018, kami telah berjaya

menghasilkan prototaip demonstrasi makmal dengan penambahbaikan algoritma yang berterusan dari semasa ke semasa, supaya ia dapat mengesan lagi banyak pelbagai jenis aritmia yang mengancam nyawa dengan ketepatan yang lebih tinggi, seperti takikardia ventrikel iaitu aritmia yang mengancam nyawa yang boleh membawa kepada fibrilasi ventrikel, fibrilasi atrium yang berkemungkinan besar akan membawa kepada strok, dan lain-lain, ujarnya.

Beliau berkata, oleh kerana penciptaan peranti dan instrumen perubatan adalah tugas yang kompleks dan sangat mencabar, tambahan pula bidang kejuruteraan bioperubatan melibatkan pengetahuan dan kemahiran berbilang disiplin, pasukan penyelidikan tersebut terdiri daripada pakar pelbagai bidang yang berbeza untuk memastikan mereka dapat memimpin projek ini ke arah yang berjaya.

Beliau sendiri merupakan pakar bidang kejuruteraan elektronik dan komputer yang bertanggungjawab untuk pengurusan keseluruhan projek penyelidikan, serta penyelidikan algoritma dan reka bentuk peranti *myThrob* bersama Dr. Mohd. Afzan Othman dan Dr. Mohd Najeb Jamaludin daripada latar belakang kejuruteraan

bioperubatan.

Keperluan lain termasuklah latar belakang klinikal iaitu Prof. Madya Dr. Sazali Shahlan dan Dr. Lim Chiao Wen, sebagai pakar kardiologi dari UTM Medical Specialist Centre dan Datuk Dr. Aizal dan Dr. Tan Lay Koon, sebagai pakar kardiologi dari Institut Jantung Malaysia (IJM).

Dr. Rania Husssein Ahmed Al Ashwal pula merupakan doktor perubatan dari UTM FBME manakala Mohd. Shafullah Sirdari merupakan ketua teknologikardiovaskular dari Institut Jantung Negara (IJN).

Katanya, kesemuanya memainkan peranan yang sangat penting dalam kajian penyelidikan tersebut dengan perkongsian pengetahuan klinikal dan kejuruteraan bioperubatan yang amat berharga, terutamanya topik yang berkaitan dengan analisis ECG, diagnosis dan rawatan kepada pesakit jantung daripada perspektif yang berbeza, serta teknologi terkini peranti perubatan ECG.

Selain itu, UTM Medical Specialist Centre juga membekalkan data ECG untuk pengesahan dan pengujian peranti *myThrob*, manakala IJN menyediakan peluang latihan kepada ahli penyelidik peranti ECG yang berlatihan serta perisian analisis. - LAUPA JUNUS



DR. HAU YUAN WEN

LAMPIRAN 6
UTUSAN MALAYSIA (MEGA SAINS) : MUKA SURAT 17
TARIKH : 25 JUN 2018 (ISNIN)



KELEBIHAN

- Peranti pintar yang mampu mengesan sendiri (self-classification) banyak ketidaknormalan irama jantung yang mengancam nyawa berdasarkan algoritma kepintaran buatan (AI) yang canggih dengan ketepatan yang tinggi.
- Seni bina pemrosesan peranti adalah berdasarkan kepada seni bina Sistem-on-Chip (SoC) yang dapat menyokong analisis ECG dalam masa nyata yang penting untuk perubahan dan kesihatan yang perlu tindakan perubatan segera.
- Teknologi pelaksanaannya berdasarkan Field-Programmable-Gate-Array (FPGA) yang memberikan fleksibiliti peningkatan sistem masa depan,

bukan sahaja dalam algoritma perisian, tetapi juga dalam seni bina pemrosesan perkakasan.

- Dengan kombinasi semua ciri-ciri ini, myThrob adalah unik, pintar, pantas, ringan, dan kejituan tinggi.

- Penyelidikan disokong oleh dua geran penyelidikan setakat ini: -ScienceFund dari Kementerian Sains, Teknologi dan Inovasi (MOSTI).

-Skim Geran Penyelidikan Penyelidikan Transdisiplin (TRGS) dari Kementerian Pendidikan Tinggi (KPT), bersama dengan Geran Universiti Penyelidikan (GUP) institusi dari Universiti Teknologi Malaysia.

- Prototaip peranti berharga RM 2,500 namun akan dikurangkan kepada RM1,000 selepas penambahbaikan.

Tambah baik untuk pengkomersialan

PADA peringkat ini kumpulan penyelidik tersebut berhasrat untuk menambahbaik peranti myThrob ini dengan menjadikannya lebih kecil kepada saiz poket, seperti saiz telefon pintar supaya mudah dibawa oleh pengguna ke mana-mana.

Kumpulan penyelidik juga berusaha meningkatkan lagi spesifikasinya seperti integrasi dengan teknologi komunikasi wayarles supaya peranti tersebut bukan sahaja dapat menyokong klasifikasi diri aritmia yang disasarkan untuk kawasan luar bandar yang tidak mempunyai liputan Internet yang baik.

Peranti tersebut juga menyokong Internet Kebendaan (IoT) yang membolehkan aplikasi di kawasan bandar, untuk menyokong ciri-ciri canggih tertentu seperti penghantaran automatik data kritikal pesakit ke hospital terdekat dan pengesanan lokasi automatik untuk tindakan perubatan segera, penyimpanan data automatik untuk analisis lanjutan data yang tidak normal, dan lain-lain lagi.

Pada masa yang sama kata

Dr. Hau Yuan Wen, pihaknya juga akan menjalankan ujian praklinikal untuk memastikan peranti tersebut mematuhi piawaian industri yang diperlukan, dan percubaan klinikal untuk menastikan kesahihan peranti boleh dipercayai.

"Kami juga meningkatkan seni bina dan liter pemrosesan peranti supaya ia sentiasa dapat mengesan penyakit jantung secara masa nyata dengan analisis pantas dan sesuai untuk teknologi sistem tertanam," ujarnya.

Sepanjang 2018 hingga 2020, pihaknya akan menumpukan usaha utama untuk membawa peranti ini ke arah pengkomersialan dengan menyelesaikan tugas-tugas seperti ujian praklinikal dan klinikal, ujian pematuhan standard piawai dan pengijilan peranti.

Untuk tujuan itu, pihaknya berharap dapat memperoleh geran prototaip yang mencukupi untuk meningkatkan lagi prototaip terkini untuk dikomersialkan. Oleh kerana peranti ini disasarkan untuk pengguna rumah dan hospital bukan pakar, peranti myThrob ini

dicipta untuk mesra-pengguna.

Peranti myThrob terdiri daripada hanya tiga elektrod yang dipasang ke tangan kiri, tangan kanan dan kaki kanan masing-masing untuk mendapatkan isyarat elektrokardiogram (ECG).

Sebaik sahaja peranti diaktifkan dengan algoritma pengelasan diri dan seni bina liter pemrosesan yang maju, peranti tersebut akan menganalisis isyarat ECG secara automatik dengan masa nyata dan menjana hasil pengesanan dalam masa 10 saat.

Sekiranya mengesan sebarang ketidaknormalan degupan jantung, myThrob akan memaparkan mesej ketidaknormalan yang dikesan pada skrin untuk memberi amaran kepada pengguna rumah atau kakitangan klinikal.

Pengguna atau pesakit tersebut kemudiannya dinasihatkan atau dirujuk kepada ahli kardiologi profesional di

hospital pakar untuk rawatan klinikal dan diagnosis yang lebih lanjut.

Justeru, beliau berharap inovasi myThrob dapat membantu mengurangkan kos penghospitalan yang tinggi, yang merupakan peralihan penjagaan dari hospital ke rumah dengan pemantauan jarak jauh untuk pemeriksaan jantung yang kerap.

"Dengan alat pengesanan dan pemantauan penyakit jantung pintar myThrob ini, orang ramai boleh memperoleh isyarat ECG di mana-mana sahaja pada bila-bila masa semasa melakukan apa sahaja aktiviti," ujarnya.



DEMONSTRASI
pemasangan prototaip
myThrob pada pesakit

LAMPIRAN 7
THE STAR (EVENTS) : MUKA SURAT 5
TARIKH : 25 JUN 2018 (ISNIN)

IPOH

THREE Universiti Tunku Abdul Rahman (UTAR) students have won a Merit Award at the 9th China Students Service Outsourcing Innovation and Entrepreneurship Competition held in Wuxi, China.

Information and Communication Technology Computer Science Faculty students Bernard Lee Jian Wen, Benson Thew Thung Liang and Leonard How Xun Zhen won the award in the One-Belt-One-Road University Category during the event earlier this month.

Each of them received a trophy, RM1,250 and a certificate.

UTAR students awarded for augmented-reality app

Lee said their winning project called the "Interactive Augmented Reality (AR) Food Ordering System" allows restaurant customers to view food on a menu in AR view via a mobile app.

"The food will appear in 3D instead of 2D. Users will have a clearer view of how the food looks as well as the exact portion," he said.

"Through the app, restaurant owners can register an account, choose their menu template design and add their food items, providing

an image, name, price and description of the food.

"This will help reduce food waste and improve interaction between the user and menu," he added.

Thew said the app stood out by being creative and useful.

"We have seen the existence of physical food menus in the market for over two decades.

"Although most of the food ordering system now has been digitalised, it does not differ much from the traditional food menu," he said.

"With the proliferation of smart-

phones and the improvement of their computing power, users can make use of our app on their smart-phones easily," he added.

How said the Utar team joined the competition to further enhance their skills in programming and problem solving.

He said Artificial Intelligence (AI), Virtual Reality (VR), Internet of Things (IoT) and AR are now a trend in the technological market.

"In the competition, there were many teams which instilled AI, VR, IoT and AR into their projects and

most of the projects are ready to be commercialised into the market," he said.

"Another reason our team joined the competition was also to commercialise our food ordering system in China," he added.

The competition was jointly organised by the Chinese's Ministry of Education, Ministry of Commerce and Wuxi Municipal Council.

More than 5,000 teams from 401 institutions of higher learning inside and outside China took part in the competition.

LAMPIRAN 8
NEW STRAITS TIMES (OPINION) : MUKA SURAT 16
TARIKH : 25 JUN 2018 (ISNIN)



ZAKRI ABDUL
HAMID

SCIENCE AND TECHNOLOGY

ADDING TO MALAYSIA'S MIGHT

The high-technology group's work has been recognised with many awards over the past quarter century

TO earn the title "World's Best Science Communicator," a young scientist must explain an important science idea in a compelling, easy-to-understand way, and in less than three minutes — a tremendous challenge of World Cup proportions.

So it was with great pride that we learned one of our own had won the top honours at the 2018 FameLab International competition, held this month in the western UK city of Cheltenham.

Dr Siti Khayriyyah Mohd Hanafiah of Universiti Sains Malaysia prevailed over 11 other finalists — from Europe, the Middle East, Africa and Asia — with her description of modern diagnosis of a "hidden killer," tuberculosis, through the use of antibodies-antigens.

Siti Khayriyyah was the second Malaysian winner in three years. Dr Abhimanyu Veerakumarasivam of Universiti Putra Malaysia won the 2016 competition. And together they have demonstrated to the world the capacity of Malaysians to excel in science and technology.

And what a boost for young scientists as they start careers, not just for the winner but for all those from the 27 participating countries. While only one competitor can win in one sense, all took home valuable experience and contacts.

Malaysia was invited by the British Council to participate in FameLab in 2015 and the Malaysian Industry-Government Group for High Technology (MIGHT) offered to act as its national partner.

It is one of MIGHT's more recent creative efforts to drive forward our economy through competency in science and technology.

Celebrating its 25th anniversary of service this year, the independent, non-profit MIGHT was created as a public-private partnership to prospect and promote promising technology-re-

lated opportunities, and to build consensus on strategically important policies.

The origins of MIGHT actually date back to 1984 when, in his first tenure as prime minister, Tun Dr Mahathir Mohamad appointed his first science adviser, an authoritative voice to augment the counsel of government ministries.

With a mandate to develop science and technology in Malaysia, the first Science Adviser, Tan Sri Dr Omar Abdul Rahman, created a "High Technology Special Unit", which gradually grew and emerged as MIGHT in 1993.

Since then, MIGHT has realised many achievements, nurturing the growth of strategic, technology-related industries and helping Malaysia edge ever closer to developed nation income and status.

So what are the key tech-related sectors MIGHT prioritised as most promising and valuable for national pursuit? There are several, including:

Aerospace, advanced automotive materials, biotechnology, cosmetics and pharmaceuticals, energy, electronics and electrical equipment, herbal products, housing and construction, intelligent transportation systems, "smart cities", shipbuilding and repair, telecommunications, waste management, nanotechnology, medical sensors, and plantation crops.

Creating concrete substance in these priority areas, MIGHT's early successes included support of the Malaysian Automotive Institute, for example, as well as Formula 1 racing to advance our expertise in auto-related technology.

Opened in 1996, the MIGHT-supported Kulim High-Tech Park was the first development of its kind in Malaysia and now ranks among the best in Asia Pacific.

It offers local and multinational companies a world-class, synergistic space within which to produce high-value products, and boasts 37 industrial and 78 sup-



Dr Siti Khayriyyah Mohd Hanafiah of Universiti Sains Malaysia returns home after beating 11 finalists to be the 'World's Best Science Communicator'. PIC BY KHAIRUL AZHAR AHMAD

porting tenants employing a workforce of 28,000. In all, the Kulim High-Tech Park has helped cultivate investments of more than US\$11 billion.

Over the years, Malaysia's development of more than 20 industrial sectors has been charted with the benefit of blueprints and roadmaps produced by MIGHT.

MIGHT's programmes and activities today also include supporting, for example, Malaysian business competitiveness through our membership in the Global Federation of the Competitiveness Council and the Kyoto Science and Technology Forum. MIGHT is also the secretariat of the Global Science and Innovation Advisory Council (GSIAC) established by the prime minister and comprising leading world figures in academia, business and civil society to advise Malaysia on the role of science and technology in economic development. One of the projects arising from GSIAC's advice is to find ways to derive additional products and economic benefit from biomass left over from palm oil refineries (MyBiomass).

It is expanding Malaysia's use of systematic foresight techniques beyond the realms of technology and industrial development. In 2012, MIGHT launched the Malaysian Foresight Institute (MyForesight) to build national capacity to employ

these techniques for better decision-making.

Winners of MIGHT's Global Cleantech Innovation Programme, a collaboration with the UN Industrial Development Organisation and other partners since 2014, give Malaysian entrepreneurs the opportunity to pitch their innovations in Silicon Valley, and access to potential venture funding.

Senior government officials and captains of industry are represented on MIGHT's board of directors, which I have the honour to chair jointly with Tan Sri Dr Ahmad Tajuddin Ali, a distinguished leader from Malaysia's corporate world. MIGHT's talented president and chief executive officer is Datuk Dr Yusoff Sulaiman.

MIGHT's work has been recognised with many awards over the past quarter century. But the greatest reward of all cannot fit in a trophy case — it is the higher standard of living many Malaysians enjoy today as a result of its farsighted vision and effectiveness.

We therefore wish MIGHT a happy silver anniversary, with thanks from us all.

The writer is Joint Chairman of the Malaysian Industry-Government Group for High Technology (MIGHT) and the third science adviser to the Prime Minister

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Technology in teaching, learning

IN the current digital world, every aspect of education has some elements of technology. Teaching and learning becomes very complex and holistic with the use of technology. The speed of changes in content and pedagogy is also speeding up like the speed of lightning. Currently, the success rate in most developing nations is based on how well students perform in their examinations or how clever they have become. In many schools and higher learning institutions, we are missing the integration of all types of people, the joy of studying and the purpose for life. It has become a very mechanical world.

Preschool children are forced to spend hours studying for a supposedly early head start. By the time they are in secondary schools, they become burnt out and some may even take their own lives because they cannot keep up with self, parental and societal pressure to be excellent in studies.

To ensure that the digital education era does not eliminate the humanities in education, there are special needs to ensure the humanising of education. This can become a reality through Moral Education.

Moral Education is a subject that aims to develop students into individuals who have integrity and noble values, high moral standards based on universal values founded on moral principles.

These contribute towards the unity, prosperity and wellbeing of self, society and the country as well as global society.

Through certain innovative pedagogies in Moral Education such as visualisation, students would be able to get into self-reflection and deep learning.

They would be in a better position to decide based on the moral choices available

in moral dilemmas that they face at interpersonal and intrapersonal levels.

When I was growing up in a multicultural environment, I always visualised people as equal without even thinking much about colour and creed and everyone living happily with each other.

It is slowly becoming a reality now. A borderless world where the Internet connects us without fail, anytime of the day gives us the opportunity to connect with anyone at any time all in physical and virtual spaces.

Visualisation techniques have been used by many individuals to visualise their desired outcomes for ages. The practice has even given some great world leaders what seems like super-powers, helping them create their dream lives by accomplishing one goal or task at a time with total focus and confidence. The technique involves envisioning yourself achieving your goal. To do this, a detailed mental image of the desired outcome using all of your senses is created. For example, if your goal is to stay healthy, visualise yourself eating all the healthy food as you are what you eat.

When students have the space to become complete humans then no digital era will ever take away their pride and dignity as well as self-worth.

The crucial question here is are we educators, parents and society on the whole providing such a platform for our students?

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