

WORRYING

CYBER SCAMS ON THE RISE

They make up 60 per cent of 2,060 complaints received this year, says Cybersecurity Malaysia

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CYBER scams made up the majority of complaints received by Cybersecurity Malaysia from January to April this year.

Its chief executive officer, Datuk Amirudin Abdul Wahab, said cyber scams comprised 1,302 cases or 60 per cent of all 2,060 complaints received, a trend he noted was worrying.

The second highest category involved hackings with 355 cases, followed by cyber harassment with 118 cases.

"Statistics show that the number of cy-

ber scam cases is significant with a large number of victims.

"We will analyse each case we receive, especially those that contravene the law, before passing them on to the authorities for action," he said.

He was speaking after attending the "Raya Shopping" programme for orphans of Rumah Kebajikan Bait Al-Amin Parit yesterday.

Forty orphans were treated to a shopping experience at a mall in the city.

Amirudin said the programme, began in 2009, was part of the agency's corporate social responsibility effort under the Science, Technology and Innovation Ministry, to celebrate the less fortunate.



Datuk Amirudin Abdul Wahab (left) helping orphans choose their clothes at the mall in Ipoh yesterday. PIC BY FARAH SUHAIDAH OTHMAN

LAMPIRAN 2

UTUSAN MALAYSIA (DALAM NEGERI) : MUKA SURAT 4

TARIKH : 2 JUN 2018 (SABTU)

Pelajar Malaysia catat sejarah dalam bidang nuklear

SEPANG 1 Jun - Bermula tanpa sebarang pengetahuan dalam bidang nuklear tidak menjadi penghalang kepada tiga pelajar Malaysia mencatat sejarah menjuarai Pertandingan Pembangunan Sumber Manusia Untuk Tenaga Nuklear yang diadakan di Gyeongju, Korea Selatan.

Dalam pertandingan yang berlangsung pada 28 hingga 31 Mei itu, ketiga-tiga pelajar dari Sekolah Menengah Kebangsaan (SMK) Kuala Besut, Terengganu berjaya menewaskan 520 peserta lain daripada pelbagai negara melalui projek 100 Perkara Mengenai Sains Nuklear dan Kehidupan.

Menurut salah seorang pelajar, Safyyah Muhammad Nasir, 16, projek 100 Perkara Mengenai Sains Nuklear dan Kehidupan mempunyai keistimewaan yang tersendiri kerana melibatkan penggunaan tenaga nuklear dalam kehidupan seharian dan projek itu berlainan dengan program peserta negara lain.

"Projek yang kami ketengahkan ini ada kelainannya sehingga menarik perhatian juri pada pertandingan itu. Melalui projek ini kita mendedahkan penggunaan tenaga nuklear dalam kehidupan seharian dan bukannya digunakan untuk peperangan

semata-mata.

"Ramai yang menyatakan minat dengan projek ini, sebelum membawa projek ini ke pertandingan itu kami juga ada membuat kajian lapangan tentang penggunaan tenaga nuklear di Besut, Terengganu dan sambutannya amat baik," katanya.

Beliau berkata demikian ketika ditemui pemberita selepas tiba di Lapangan Terbang Antarabangsa Kuala Lumpur (KLIA) di sini hari ini, ketibaan mereka disambut oleh Pengarah Bahagian Kokurikulum dan Kesenian Kementerian Pendidikan, Rozainum Ahmad.

Safyyah berkata, dia dan dua lagi rakaninya bermula tanpa sebarang pengetahuan dalam bidang nuklear dan mereka belajar sedikit demi sedikit termasuk mendapat pendedahan melalui program yang dianjurkan oleh Agensi Tenaga Atom Antarabangsa (IAEA) dan Agensi Nuklear Malaysia.

"Kami amat berbangga kerana dapat mengharumkan nama Malaysia di persada antarabangsa lebih-lebih lagi negara kita bukan merupakan pengeluar tenaga nuklear berbanding negara-negara peserta lain yang aktif dan sering menggunakan tenaga berkenaan," katanya.



ROZAINUM AHMAD (tiga dari kanan) beramah mesra dengan pelajar Malaysia yang muncul juara Pertandingan Pembangunan Sumber Manusia Untuk Tenaga Nuklear, Muhammad Anuar Ab. Ghani, Safyyah Muhamad Nasir dan Muhammad Syazwan Mat Sidik di KLIA, Sepang, Selangor, semalam. - UTUSAN/RASHID MAHFOF

LAMPIRAN 3
THE STAR (NEWS) : MUKA SURAT 6
TARIKH : 4 JUN 2018 (ISNIN)

MALAYSIAN INNOVATION ON GLOBAL MAP

AS a technology enabler in its role for the entire electronics value chain, the semiconductor industry is widely recognised as a key driver for economic growth. The longer term prospects are positive as technology innovation advances.

According to Independent Market Researcher Smith Zander, the global industry registered a compounded annual growth rate (CAGR) of 7.77% between 2013 and 2017, growing from US\$305.58bil (RM962.91bil) to US\$412.22bil (RM1.77 trillion), a clear indication of its growth.

Smith Zander further forecasted that the global semiconductor industry, measured in terms of global semiconductor sales, is set to grow to US\$505.64bil (RM2.17 trillion) by 2022 from US\$412.22bil (RM1.77 trillion) in 2017, registering a CAGR of 4.17% during this period.

SEMI has revealed that Fan-Out Wafer Level Packaging (FOWLP) technology, having been developed for years, is only now making a significant impact in the market, especially after Apple/Taiwan Semiconductor Manufacturing Co (TSMC) implemented FOWLP-based InFO technology in A10 processor for Apple's iPhone 7.

Meanwhile, leading outsourced semiconductor assembly and test companies (OSATs) have been building up FOWLP capabilities to defend their market shares and serve the rising demand, especially in mobile applications, for these packages.

The implementation of FOWLP is expected to impact related equipment and materials market in the years to come.

The impact on the semiconductor industry stemming from the recent dispute between China and United States is unknown for now, but it is unlikely to see much changes in the short or medium term as it is not easy to unwind the entire global

Mi Equipment riding high on advanced level semiconductor packaging



Flagship machine: Mi Equipment's flagship Mi Series wafer level chip scale packaging sorting machine with inspection capabilities.

supply chain which has taken decades to develop.

While consolidation of OSATs globally may see a reduction on equipment spending, the impact of global polarisation could be positive for semiconductor equipment suppliers because of the additional supply chain to serve new players in new locations.

Currently, wafer level chip scale packaging (WLSCP) is one of the most advanced form of packaging used in the semiconductor industry. This is because of its strength in performance and the cost advantages it delivers for smartphones, tablets and other applications that require high functionality and low power consumption in small form factor.

This is expected to result in a further increase in the demand for semiconductor equipment to support the manufacturing of mobile and wireless devices, further driving the growth of the WLSCP sorting machine industry.

There was still growth in worldwide sales of semiconductor equipment amounting to US\$56.6bil in 2017, a year-over-year increase of 37% from 2016 sales of US\$41.2bil.

Based on data published by SEMI, South Korea overtook Taiwan and claimed the largest market for semiconductor equipment for the first time in 2017. China maintained the third largest market position for the second year in a row.

Annual spending rates increased for South Korea, China, Japan,

Europe and North America. The assembly and packaging segment increased 29% and total test equipment sales climbed 27%.

The market for wafer level packaging (WLP) is gaining traction and is still considered unsaturated, leaving a lot of room for future expansion and growth.

Given the demand of higher contents with the same or reduced size of devices and affection for higher performance, miniaturisation of more powerful chip through advanced technological packaging has become even more crucial.

Company highlights

Penang-based Mi Equipment Holdings Bhd, is in the right space with its focus on WL-CSP which has only entered the market in 2010s.

It has the knowledge and innovation to be part of the technological advancement amidst the evolution of chip testing and assembly by way of supplying its machines, having found its market niche focusing on equipment that concentrates on WLP.

Mi Equipment reckons the barrier of entry into advanced level packaging is higher, and as such, there's less competition. Moreover, it believes WLP will be at the centre stage of semiconductor packaging, going forward to replace the conventional packaging, thus its positioning in the semiconductor equipment sector.

Since it burst into the global scene, a mere four years ago, Mi Equipment has managed to keep abreast of stiff competition in the semiconductor industry against leading equipment manufacturers from Japan and Europe.

This is probably due to its engineering and technical expertise

through continuous R&D efforts to develop products that are able to meet the ever-increasing demands of the semiconductor industry. The company boasts its very own in-house brand of WLSCP sorting machines, the Mi and Li series, designed to provide high accuracy, quality and speed.

At present, there is no close local competitor as Mi Equipment is one of the largest WLP players domestically, and possibly one of the largest in the South-East Asia region from a sales volume perspective.

On a global front, Mi Equipment's competitors would be advanced semiconductor equipment makers such as ASM, Muhlbauer and Ueno Seiki. Four out of five largest OSATs globally are its key customers. For the financial year ended Dec 31, 2017, 83% of its revenue was derived abroad with some 64% of sales derived from North-East Asia.

The next two years will be very exciting for the company as it is a phase of rapid expansion. One can expect to see it adopting a broader, more comprehensive product portfolio, as there are plans to introduce new series of machines with different functionalities to its product line-up.

The R&D works are already under way in designing and conceptualising a new product platform. Most notably, Mi Equipment will be relocating existing operations to its new Bayan Lepas factory when it is completed in the first quarter of 2019, which boasts a larger production floor space that will increase production capacity by four times.

It is also venturing into the manufacturing of precision fabricated parts, such as precision steel, aluminium, engineering plastic components, to complement and support its existing business.

LAMPIRAN 4
UTUSAN MALAYSIA (MEGA SAINS) : MUKA SURAT 17
TARIKH : 4 JUN 2018 (ISNIN)

REALITI MAYA TIGA DIMENSI

REALITI maya (VR) secara relatifnya bukan teknologi yang baharu, Namun di negara kita, oleh kerana potensi mengaplikasikan teknologi tersebut masih pada tahap yang sangat minimum, maka kebajikan daripadanya tidak dapat dimanfaatkan sepenuhnya.

Dalam bidang lain seperti penerbangan, bakal juruterbang sebelum dibenar menerbangkan sebuah AirBus atau Boeing, mereka diwajibkan menjalani latihan dan peperiksaan simulasi.

Tahap penggunaan aplikasi VR dalam sektor penerbangan telah membuktikan banyak kejayaan.

Ini kerana ia dapat menghasilkan gambaran yang hampir benar mengenai sesuatu produk yang hendak dicipta.

Sebagai contoh, pesawat termoden Boeing dibuat secara terus berdasarkan lukisan dan gambar tiga dimensi (3D) realiti maya yang dicipta melalui komputer. Dengan ini masa proses pembuatan boleh dijimatkan dan kualiti serta ketepatan sesuatu produk yang dihasilkan itu dapat dijustifikasi dengan cekap.

Walaupun aplikasi VR telah berjaya dalam sektor seperti penerbangan,

kejuruteraan binaan dan mekanikal, perkembangannya dalam bidang perubatan masih jauh ketinggalan, terutama di negara membangun seperti Malaysia.

Dalam usaha melatih pakar perubatan lebih lagi teknik pembedahan, proses pembelajaran bukan sahaja mengambil masa yang lama dan kos yang tinggi, ia juga melibatkan proses pembelajaran yang kompleks kerana melibatkan pengajaran pembedahan menggunakan pesakit sebenar.

Secara umumnya di hospital universiti, kerajaan atau swasta, latihan dan peperiksaan perubatan masih dijalankan secara konvensional dari segi jangka masa panjang, ia menelan kos yang besar.

Teknologi VR dikenal pasti berpotensi untuk memudahkan proses pembelajaran tersebut dan boleh menjimatkan masa dan kos latihan bakal doktor secara jangka panjang. Ia juga sangat inovatif, menarik minat bakal doktor menceburi pengkhususan dalam kepakaran bedah mahu pun bidang perubatan yang lain.



MOHD. ISMAWIRA
MOHD. ISMAIL



DR. YAZID
BAJURI



MOHAMMAD NAZIR
AHMAD

KANDUNGAN TIGA DIMENSI

Walaupun bagaimanapun, negara masih kekurangan pakar pembangunan kandungan tiga dimensi bagi VR atau ringkasnya 3D VR. Dalam menepuh cabaran Revolusi Industri (IR) 4.0, sudah tiba masanya pihak berkepentingan membuka peluang pelaburan dalam infrastruktur VR dan pembangunan 3D VR. Apatah lagi, VR merupakan salah satu teknologi penting dalam era IR 4.0.

Syarikat terbitan (*start up*) yang memfokuskan aktiviti pembangunan inovasi 3D VR seperti V3X Malaysia Sdn. Bhd., dan banyak lagi perlu diberikan sokongan dan peluang supaya mampu membuka peluang pekerjaan dalam bidang ini pada masa hadapan.

Sehubungan itu, Perunding dari Institut Informatik Visual UKM,

Prof. Madya Dr. Mohammad Nazir Ahmad, bersama pakar bedah mata dari Hospital

Canselor Tuanku Muhriz, Dr. Mushawihati Mustapha dan pakar ortopedik hospital yang sama, Prof. Madya Dr. Mohd. Yazid Bajuri sedang merintis jaringan kerjasama pembangunan 3D VR bagi pembedahan katarak dan simulasi di unit oftalmologi dan ortopedik masing-masing.

Dengan hasrat ke arah menjadikan hospital berkenaan sebagai hub simulasi bidang perubatan, kerjasama ini disokong oleh pengurusan UKM secara menyang-menang antara hospital dan industri, iaitu Syarikat Integrasi Erat Sdn. Bhd (IESB), yang merupakan pengedar tunggal bumphutera infrastruktur VR, jenama Virtualis, United Kingdom (UK).

Ketua Pegawai Eksekutifnya, **Mohd. Ismawira Mohd. Ismail**, yang juga alumni UKM, berkata, sudah tiba masanya universiti dan industri di negara ini perlu

bekerjasama supaya potensi dan khazanah ilmu di universiti dapat disampaikan kepada masyarakat menerusi industri dengan cepat.

Menurut Dr. Mohammad Nazir, pihak industri seperti IESB menawarkan perkhidmatan secara percuma dalam tempoh tertentu penggunaan platform Virtualis. Pakar perubatan pula menyediakan bahan asal untuk dibangunkan 3D VR oleh IESB secara kos yang murah.

Pada masa hadapan, pihak hospital dan IESB berpotensi meluaskan kerjasama bagi membangun dan memasarkan harta intelek 3D VR bersama syarikat antarabangsa seperti Virtualis UK sendiri, ujarnya.

Menurutnya lagi, pelaburan infrastruktur VR merupakan satu keputusan yang besar kerana melibatkan kos yang mahal, namun, ia boleh digalakkan sekiranya tiada kesinambungan dari segi pembangunan kandungan 3D VR. Ini juga merupakan salah satu sebab utama kenapa teknologi VR berkembang perlahan.

Oleh itu, kerjasama ini tidak terburu-buru membuat

pelaburan secara pantas terhadap perkakasan, lebih mengutamakan aspek perisian kandungan 3D VR dan ingin melihat bagaimana ia mampu memberikan impak dan manfaat bersama.

Sebagai contoh, dalam aspek kandungan 3D VR ortopedik, menurut Dr. Mohd. Yazid Bajuri, kajiannya tentang MyAnkle iaitu satu keberhasilan yang baharu yang ia satu-satunya perisian yang dibangunkan untuk membantu pakar-pakar ortopedik menilai dan mengukur saiz sebenar implan yang bakal digunakan semasa pembedahan penggantian sendi buku lali (*total ankle replacement*).

Dengan adanya 3D VR, simulasi yang dihasilkan oleh MyAnkle dapat dilaksanakan dengan lebih cekap dan tepat bagi mempermudah proses pembedahan sebenar dilakukan. Bahan asal latihan tentang proses pembedahan katarak disediakan oleh Dr. Mushawihati.

Gambar AMIR KHALID



LAMPIRAN 5
UTUSAN MALAYSIA (MEGA SAINS) : MUKA SURAT 17
TARIKH : 4 JUN 2018 (ISNIN)



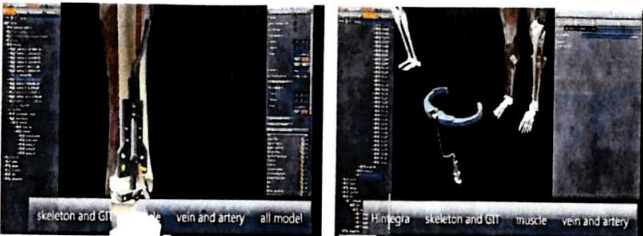
INFO

■ Teknologi VR atau realiti maya adalah teknologi berkomputer yang membolehkan sesuatu persekitaran sebenar boleh disimulasikan. Ia merupakan suatu persekitaran yang dicipta untuk menyerupai persekitaran sebenar.

■ Teknologi VR belum popular di negara ini disebabkan antaranya kos awal yang tinggi dan tiada kepakaran dalam membangunkan kandungan VR.

■ Di Malaysia, kerjaya seperti 3D animasi masih belum melonjak.

Teknologi VR sebagai pelengkap



GAMBAR menunjukkan bagaimana teknologi realiti maya tiga dimensi membantu dalam simulasi pembedahan tulang.

teknologi VR bagi tujuan latihan, namun ketepatannya tidak boleh menggantikan kaedah membedah mata secara sebenar.

Namun, latihan berulang kali dalam platform simulasi seperti VR berupaya mengurangkan kos dan risiko pembedahan mata yang bagi pengamal perubatan yang baharu terlibat kali pertama.

Dalam dunia perubatan, ia lebih banyak tertumpu kepada tujuan latihan dan simulasi, bukan untuk mengubati penyakit. Namun, terdapat juga sebahagian digunakan untuk mengubati pesakit yang memerlukan ujian rehabilitasi seperti fisioterapi.

Namun, belum ada aplikasi VR dipercayai dapat mengubati pesakit. Malah, untuk tujuan latihan sekali pun, ia masih jauh ketinggalan.

Menurut Dr. Mohammad Nazir lagi, teknologi VR dalam bidang perubatan memang ada tetapi masih jauh ketinggalan, khususnya di Malaysia.

Seperti yang disebutkan, teknologi tersebut banyak digunakan dalam bidang seperti penerbangan, kejuruteraan mekanikal dan bangunan.

Justeru, bagi menggalakkan

teknologi VR di negara ini beberapa usaha perlu dilakukan iaitu menggembeng tenaga graduan animasi daripada mana-mana institusi yang rata-rata tidak mendapat pekerjaan yang sepatutnya.

Selain itu, suntikan dana kerajaan yang menjurus kepada pembangunan kandungan untuk VR dan anjakan paradigm dalam kalangan pakar perubatan khususnya bertujuan menggunakan teknologi berkenaan pada kos latihan secara jangka panjang.

"Pada masa sama, perlunya program menggalakkan pengamal perubatan menggunakan teknologi VR berbanding teknologi yang sudah konvensional atau tidak inovatif," ujarnya.

Wala bagaimanapun, dengan perkembangan IR 4.0 dan tuntutan dunia digital, perkembangan positif akan berlaku dan lonjakan akan menjadi bertambah baik.

Selain itu, jumlah pakar yang menggunakannya masih kurang.



ZAKRI ABDUL
HAMID

SCIENCE DIPLOMACY

SCIENCE AND INTERNATIONAL RELATIONS

Science advice and diplomacy are crucial to developing multilateral responses to growing and complex global challenges

IN THE 19th century, renowned French chemist and microbiologist Louis Pasteur famously said: "Science knows no country, because knowledge belongs to humanity, and is the torch which illuminates the world." The wisdom of that remark has proven itself often in the many decades since.

Successfully advancing research depends on sharing ideas and knowledge with colleagues worldwide. And the benefits of such cooperation can draw together even the staunchest of enemies.

Cold War hostilities were put aside, for example, when American Albert B. Sabin helped pioneer the use of a live-virus, oral polio vaccine in the Union of Soviet Socialist Republics, leading to the vaccine's adoption worldwide.

Since then, the scourge of polio, so dreaded in my childhood years, has all but disappeared from the planet (though not eradicated; occasional outbreaks remind us of the need to be vigilant).

We have also seen tremendous international coalitions formed around the world's common interest in polar science.

The Polar Regions have in many respects been good models for international scientific cooperation: this started with the two so-called Polar Years of 1882-83 and again in 1932-33, during which many nations collaborated in simultaneous scientific measurements at remote polar sites. These investigations focused primarily on the Earth's climate and its magnetism.

A sequel to the International Polar Years was the International

Geophysical Year (IGY) in 1957-58, which focused on Antarctica and outer space. Despite the Cold War there was good cooperation in Antarctica, which continued well after the IGY. In the Arctic, scientific cooperation proved to be quite difficult, however, because of the military confrontation between the Soviet Union and the United States.

Some 10 years ago, the American Association for the Advancement of Science (AAAS) opened a Centre for Science Diplomacy, and two years later teamed with the United Kingdom's Royal Society on a joint report, which described three forms of science diplomacy:

SCIENTIFIC collaborations that improve international relations;

USING evidence and scientific expertise to help formulate foreign policy; and,

DIPLOMACY that promotes and supports international scientific cooperation

Since that publication, many academic programmes, workshops, conferences and institutes, even a AAAS journal, have been dedicated to the subject.

In addition, a global Foreign Ministries Science and Technology Advisers Network was initiated two years ago. Its initial meeting involved advisers from Japan, New Zealand, the UK and the US, and diplomats from 12 other nations in Africa, Asia (including Malaysia), the Americas, and Europe.

The organisation underlines that science and technology advisers to foreign ministries "are not necessarily experts on all scientific matters, but they understand science and know where to

find the most appropriate expert on any given topic. They have the skills to explain evidence required for informed decision-making about foreign affairs, serving as evidence brokers in our increasingly trans boundary world with constantly emerging complexities. They utilise their roles as evidence brokers to reveal options that contribute to informed decision-making by nations across the international landscape."

Recently, the network convened a meeting with the Commission for Science and Technology for Development in Geneva, Switzerland. Among the main discussions was the role of science, technology and innovation (STI) in foreign aid.

An increasing proportion of foreign aid has a core STI element and research may be specifically funded as a development assistance tool. Indeed, the success of much foreign assistance requires science and technological effort, and donor academic institutions are often involved.

A good example of the role of STI in foreign aid is the Newton Fund established by the UK. Malaysia is among 18 nations chosen to participate in this global initiative (known here as the Newton Ungku Omar Fund) which builds scientific innovation partnerships to support economic development and social welfare. It also develops research and development innovation capacity for long term sustainable growth.

Today, more than 250 joint collaborations are funded in various fields of STI between both coun-

tries from programmes and activities such as the Institutional Links, Research and Innovation Bridges and Researcher Links.

At least eight technologies and innovations are being co-developed. These products and innovations have significant outcomes in terms of commercialisation and solving global challenges.

Malaysia itself actually put the idea of foreign aid through cooperation into practice 10 years ago when we embarked on the Malaysian Technical Cooperation Programme during the First Commonwealth Heads of Government Meeting in Sydney. The programme emphasises human resource development through training in public administration, good governance, healthcare services, education, sustainable development, agriculture, poverty alleviation, investment promotion, banking and other essential areas.

More than 100 short-term specialised courses are offered by not less than 50 training institutions. More than 20,000 participants from 140 countries have benefited so far.

Clearly, science advice and diplomacy are crucial. Developing cross-disciplinary, multilateral responses to global challenges such as the Sustainable Development Goals depends on the interconnected roles they play.

The writer is joint-chairman of the Malaysian Industry-Government Group for High Technology (MIGHT) and represented Malaysia in the negotiations of a number of science-related treaties convened by the United Nations.



Science and
diplomacy
are coming
together to
solve many
of the world's
problems.

Successfully
advancing
research depends
on sharing ideas
and knowledge
with colleagues
worldwide. And the
benefits of such
cooperation can
draw together even
the staunchest of
enemies.