

Headline	Prepping digital tech talent
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NEW STRAITS TIMES IN EDUCATION

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Grooming digital tech professionals

» Pages 6&7

GENE THERAPY: REFORMING KILLER VIRUSES TO SAVE LIVES
PAGE 5

JACK UP YOUR ESSAY
PAGE 8

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COVER STORY

Prepping digital tech talent

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THE wave of the Fourth Industrial Revolution across the globe and the country's aspiration for digital economy growth are increasing demand for workers in the digital technology sector.

While all sectors are said to be in dire need of talent, digital technology is unique — being in the fast-moving sector — and it is difficult to not only get sufficient talent but also the right workforce with the right skillset and at the right time.

Malaysia Digital Economy Corporation (MDEC) director of talent Siti Norliza Mohd Sahar said: "We are an entity with a mandate to attract investment into the country. Potential investors ask whether the nation has sufficient talent. They want to know whether it will be easy to hire people and whether there will be an adequate workforce."

MDEC is the lead agency driving the digital economy in the nation. Its role is to create a vibrant digital economy and ensure that the country plays a key part in the global digital revolution.

To address the issue of producing top-quality graduates in digital technology, MDEC and the Ministry of Higher Education (MOHE) have awarded a recognition status to select Institutes of Higher Learning called Premier Digital Tech Universities (PDTUs) and Preferred Digital Tech Polytechnics (PDTPs).

Awarded to 13 Institutes of Higher Learning in August this year, the status recognises the institutions for their qualifications and commitment in offering top-notch digital technology courses and ensuring highly skilled graduates continue to fill and flourish in the demands of digital jobs, locally and globally.

The eight PDTUs are University of Malaya, Universiti Teknologi Malaysia (UTM), Universiti Teknologi Mara, Multimedia University, Tunku Abdul Rahman University College, Sunway University, Taylor's University and Asia Pacific University.

The five PDTPs are Politeknik Balik Pulau (Penang), Politeknik Mersing (Johor), Politeknik Sultan Idris Shah (Selangor), Politeknik Sultan Mizan Zainal Abidin (Terengganu) and Politeknik Ungku Omar (Perak).

"In a 2016 MDEC survey on Malaysia Super Corridor companies, we found out the universities which they were likely to hire graduates from. After feedback, we shortlisted 20 universities. We then narrowed it down to eight after a series of assessments based on criteria which included teaching and learning, industry collaboration and infrastructure," added Siti Norliza.

MDEC is working closely with the eight tertiary institutions on their curricula and put-



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SITI NORLIZA MOHD SAHAR
MDEC director of talent



The launch of Premier Digital Tech Institutes of Higher Learnings on Aug 28 by Higher Education Minister Datuk Seri Idris Jusoh in Putrajaya.

ting together the right model for digital tech-related studies.

"If the graduates from the eight universities prove to be highly employable particularly in the digital tech sector, the model can be replicated by other tertiary institutions — an initiative that the ministry can take further so that there is a sustainable talent pipeline for the industry."

While most of the current programmes for digital tech workforce development are stop-gap in nature in the form of bridging courses, Siti Norliza said PDTU programmes save time and money as they are embedded in the campus.

"This is part of our end-to-end strategy in collaboration with the ministry and various partners to create a sustainable talent pipeline which begins with the #mydigitalmaker programme that looks at seeding an innovative mindset among schoolchildren."

PDTUs provide a complete, sustainable and well-supported ecosystem, where the student experience is structured to provide optimum exposure to the latest industry tech-

nologies by both faculty members and industry players alike.

PDTPs, on the other hand, are designed to emulate PDTUs in terms of formulation of a structured ecosystem actively supported by the industry. The graduates of these polytechnics are hands-on and envisioned to meet the requirements of industry players whose talent needs are inclined towards Technical and Vocational Education and Training.

Through the PDTU programme, MDEC is looking at the best method to make sure the curriculum is aligned with industry needs, internship practices are beneficial for students and elevate teaching and learning, ultimately preparing more talent for the digital sector.

"For now, we focus on the computer science and information technology faculties. We're looking at 4,000 students from the eight universities. Once the 4,000 students join the workforce, then we can get industry feedback on whether they meet requirements. After we have validation then the programme will be scaled beyond the eight universities."

On the companies involved, the list in-

cludes those impacted directly by the Fourth Industrial Revolution such as those in areas like cloud technology, big data analytics, e-commerce and fintech.

"ICT is no longer vertical, it is now horizontal and no longer confined to tech companies, ICT expertise can fit into any sector — be it finance, health, service, etc — and we must make sure universities are equipped to produce such talent."

For studies in digital tech to thrive, MDEC is primed to build an ecosystem which comprises the Digital Tech Education Fund Network, Influencer Development Plan, Internship and Job Placement, Digital Expert Panel, Digital Career Centres, Green Lane and Undergraduate Development Programmes.

"To fund digital tech students, we are calling on the corporate sector to provide financial assistance so that there will be less dependency on the government to create the talent pipeline."

The Influencer Development Plan equips lecturers with the know-how of the digital tech sector. "We've already reviewed the curriculum and the lecturers are taught the know-how in consultation with the industry."

For the Undergraduate Development Programme, participation in conferences, competitions and internships related to digital technology offer exposure to the industry.

There are currently two career centres: one is at Taylor's University and the other is at UTM. The universities can track students from the start till they go for internships — aligned with MOHE's e-portfolio — making it easy for them to get employed.

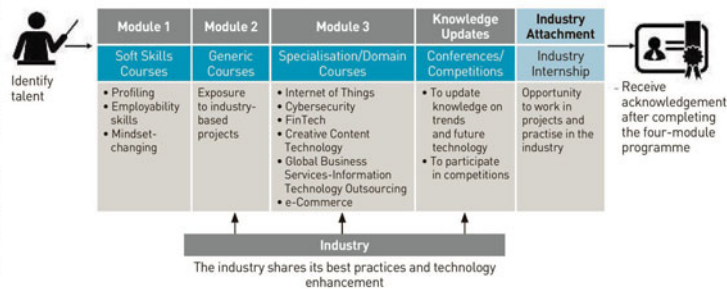
"Students from other universities attend virtual career talks by the industry and we hope to establish on-campus recruitment and a virtual marketplace with existing players."

The PDTU programme also hopes to provide a Green Lane for students from the Education Ministry's matriculation colleges to enrol in digital sector programmes at PDTUs.

"We hope to fast-track students with innovative skills from our #mydigitalmaker programme into the eight universities. If we leave it to chance, they may not get into digital tech and we would have lost our investment as we have groomed the students since school. So this is how we make sure there is an end-to-end solution."

PREMIER INSTITUTES OF HIGHER LEARNING — UNDERGRADUATE DEVELOPMENT PROGRAMME

Process flow in developing future talent



INFOGRAPHICS NST

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Ninjas with outstanding aptitude

THE excellence of the computing programmes at the Faculty of Computer Science and Information Technology in University of Malaya (UM) has earned the tertiary institution the status of Premier Digital Tech University (PDTU).

UM vice-chancellor Datuk Dr Abdul Rahim Hashim said that computational skills "will empower the next generation in almost any field".

The university is strengthening the curriculum to embed Fourth Industrial Revolution elements into as many undergraduates and postgraduates programmes as possible. The Faculty of Computer Science and Information Technology is setting up a Digital Career Centre that will be an interactive, integrated and comprehensive one-stop portal to synergise communication between the industry and students.

Abdul Rahim added: "The faculty offers the data science programme at the master's level and will launch an undergraduate programme next year.

"Academicians are equipping themselves with relevant big data skills by attending courses and embarking on frontier research in this area.

"The students are exposed to industry partnership as part of a final-year project in the Innovative Project Product Initiative, where the requirements are engineered based on industry needs."

UM academicians have been working closely with the Malaysia Digital Economy Corporation (MDEC) and the Education Ministry to prepare educators for the new curriculum, and train teachers to integrate computational thinking and computer science into lessons.

"MDEC has requested UM to set up a special Digital Maker class for secondary students — digital ninjas with outstanding aptitude, talent and interest in pursuing careers in digital technology. This will also help to identify talents to be funnelled into

UM and nurture them to be well-rounded and world-ready scientific minds to make distinguished contributions to the country. This is a good idea and a great start but, of course, generous funding will be required."

Nevertheless, UM will offer a complete, sustainable and well-supported ecosystem,

where its student experiences are structured to provide optimum exposure to the latest digital technologies by the academia and industry partners.

"UM is a dynamic entity. It is all about exploring and engaging with digital technology, teaching and learning as well as research.

We cover a great distance, we do it in an interdisciplinary way, and we do it for our students."

As a PDTU, Tunku Abdul Rahman University College (TAR UC) has to keep up with ever-changing needs of the digital economy so that graduates can continue to stand out from the crowd.

Its president Datuk Dr Tan Chik Heok said: "With MDEC's support, TAR UC will soon introduce courses with a focus on fintech and data analytics in addition to the existing programmes in the areas of Internet of Things, computational intelligence, data science, e-commerce, information security and robotics in line with the MDEC Digital Tech Focus Areas.

"Our long-term goal is to generate greater interest among school-leavers to choose digital tech programmes as their top choice when they embark on their tertiary education by conducting outreach programmes such as organising workshops to spark their interest. This will not only be done by TAR UC but as a concerted effort by all PDTUs," added Tan.

Universiti Teknologi Malaysia (UTM) regards the PDTU status as a plus for its Fac-

ulty of Computing in particular the move towards its vision of becoming globally prominent for academic and research excellence in digital technology.

UTM is restructuring its academic governance and programmes, known as UTM 4.0, so as to be better prepared for the Fourth Industrial Revolution. The computing or digital technology discipline will play a pivotal role as it influences all other disciplines, especially engineering. The so-called Fourth Industrial Revolution technologies such as virtual and augmented reality, cloud computing, artificial intelligence, Internet of Things and big data analytics are to be made accessible to all disciplines.

UTM Computing Faculty dean Professor Dr Abdul Samad Ismail said: "With the PDTU status and support from MDEC, we have better access and opportunities for collaborations with many related stakeholders, especially the industry. Academic programmes are under review, training of lecturers is actively conducted, and student development programmes are continuously organised. With the status, the rate of progress is much faster."

The Faculty of Computing covers the three sub-disciplines of computing, namely computer science, software engineering and information system.

"With the expertise and infrastructure in place, and the support and benefits that the faculty can get from MDEC and industry players through the PDTU programme, we believe we can produce 4IR-compliant and future-ready graduates.

"In the short-term, we are revamping all our programmes. In the medium-term, we will network with the industry and potential employers, and in the long run we hope to be recognised globally for academic and research excellence in digital technology."



Abdul Rahim Hashim



Tan Chik Heok



Abdul Samad Ismail



Premier Digital Tech Institutes of Higher Learning undergraduates participate in outreach activities to spark interest among schoolchildren.