UMS aims to be top Industry 4.0 varsity

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KOTA KINABALU: Universiti Malaysia Sabah (UMS) Strategic Plan 2018-2022 calls for transforming the biggest public varsity in Sabah to be an Industry 4.0 (IR4.0) university to produce IR4.0 enabled graduates issued with temper or forgery-proof degrees with blockchain technology system.

As part of its transformation framework, UMS boasts of Smart online learning, Smart Library and Smart classroom with ICT certification for its learning and teaching prowess.

"UMS is to develop and conduct research capabilities to support the requirements and ecosystem of IR4.0," said Prof Dr Mohd Hanafi Ahmad Hijazi (**pic**) of the UMS' Centre of Information and Communication Technology, one of the public speakers at the recent Propex 2019 event.

The university is engaged in research on cyber security, additive manufacturing, augmented reality, autonomous robots using Big Data and the Internet of Things.

In administration vide its Smart Administration, UMS is embracing and employing the concept and framework of IR4.0 in its process with online paperless transactions, Smart-Hadir, blockchain, integrated system, cashless payment and Big Data Analysis.

"According to the World Economic Forum's 'Future of Jobs Report', the top 10 skills relevant for IR4.0 in 2020 are: 1. Complex Problem Solving, 2. Critical Thinking, 3. Creativity, 4. People Management, 5. Coordinating with Others, 6. Emotional Intelligence, 7. Judgment and Decision Making, 8. Service Orientation, 9. Negotiation, and 10. Cognitive Flexibility," said Dr Mohd Hanafi.

He explained that UMS aims to enhance excellence in teaching and learning, research and innovation, international visibility and reputation, governance, leadership and delivery system, financial sustainability, environmental sustainability, holistic student experience and contribute to state and national development.

The objective of being a Smart Eco-Campus is also to provide efficient services to students and stakeholders, as well as to improve campus safety using digital ID, cashless transaction with smart security system, smart transportation, smart hospital, etc within a connected campus with complete WiFi coverage.

He listed that in disruptive technologies development success, UMS had fully developed its QR-Code vending machine whereby buyer scans QR Code to order item, a project under Dr Chung Seng Kheau. AI face recognition development won golds in national and international invention exhibitions under Prof Dr Rayner Alfred (Itex, Pecipta, SIIF, Iena, Ican).

UMS' success in employing disruptive technologies was also evident with its Smart-Hadir whereby students' attendance can be registered or taken with mobile Apps, besides employing various technologies to register attendance including Near Field Communication (NFC) and Beacons.

Dr Hanafi said students could only gain access to, for example, securely locked laboratories by their Smart-Hadir App scan QR Code to unlock the WiFi enabled door as an example of IoT Door Unlock Disruptive Technologies.

The system also supports magnetic door, digital door, locker cabinet and auto gate in web based administrative user access control and permissions panel with time based user access permission setting, and for added security purpose, comes with multiple biometric verification.

"There are postgraduate study opportunities in IR4.0 in coursework for Masters of Computer Science in software development as well as computational intelligence."

"In research, UMS is into AI for medical disease diagnosis and detection, face recognition which is seeking business partners for commercialisation, intelligent robotics, affective detection, augmented and virtual reality and many more."

He said UMS is working on "speaker verification for biometric verification, IoT for smart home (relevant to Shareda), translator for Kadazandusun and other dialectic languages, a Smart transportation app, Tourist smart app and many others."

UMS' success in artificial intelligence, among others, is a workable car registration plate recognition using artificial neural network with potential application for parking fee payment system, road monitoring and traffic control system and e-summons system etc., under Dr Chin Kim On and Dr Azali Saudi.

For example, at the digital medical record equipped UMS Smart Teaching Hospital (Smart HUMS), there are 400 beds in a floor area of 110,853 square metres completed with learning centre, laboratory diagnostic centre, and smart classroom to transform healthcare with three components.

These components are the digital, integrated, EMR, state-of-the-art technology 'Smart Hospital'; 'Smart Wellness' in helping people to live a healthy lifestyle; and bringing healthcare to the public vide 'Healthcare Uberization'.

In 2020, members of the public can enjoy hard disk data recovery service from damaged or corrupted storage devices when UMS' MyCSC Clinic, the first cyber-clinic in Borneo is open to the public in collaboration with CyberSecurity Malaysia.

UMS' Huawei Authorised Information Network Academy (Haina) offers Huawei professional certification to its graduates. So far the passing rate is 100 per cent for the more than 100 students in the Huawei Certified Network Academy (HCNA) and Huawei Certified ICT Associate (HCIA) courses. Students won the runners-up slot in national competition under Dr Tan Soo Fan.

Prof Dr Mohd Hanafi said that UMS trusts technology to progress further.

"According to the HSBC 2017 study of more than 12,000 people: 67 per cent of these people agreed that technology will make the world a better place.

"Trust in technology is highest in Asia, and lowest in Europe," he revealed.

Marja and students in a group photo at Lok Kawi Wildlife Park.