

# INDUSTRIAL DIGITALISATION

ELECTRICAL ENGINEERING TECHNICAL DIVISION

reported by



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The Electrical Engineering Technical Division (EETD) and Information Communication Technology Special Interest Group (ICTSIG) of IEM and Institution of Engineering & Technology (IET) jointly organised a one-day seminar on Industrial Digitalisation on 19 December, 2018. There were 54 participants and 5 speakers who came from government agency, process industry, energy industry, oil & gas industry and industrial cyber security.

The keynote address was presented by Dato' Ng Wan Peng, Chief Operation Officer of Malaysia Digital Economy Corporation (MDEC). She talked about the digital disruption happening globally and how it had impacted the way we live, work and do business. It is expected that 1 trillion objects will be connected to the Internet by 2025. While new technology used to take 38 years to reach 50 million users in the late 19th century, it took only 19 days for a new technology to reach 50 million users in 2016. Dato' Ng also shared the 12 technologies that will disrupt us in the near future:

1. Mobile Internet.
2. Cloud technology.
3. Internet of Things.
4. Big Data and Advance Analytics.
5. Next-Generation Genomics.
6. Advance Materials.
7. Advance Robotics.
8. Autonomous and near-autonomous vehicles.
9. 3D printing.
10. Energy storage.
11. Advance oil and gas exploration and recovery.
12. Renewable energy.

According to Dato' Ng, while Malaysian companies have moved towards digitalisation, we are still far behind. She said some of the main challenges are:

1. Lack of structured approach.
2. Budget unavailable or not prioritise.
3. Lack of digitally skilled workforce.
4. Digital transformation is too fast paced and complex.

To assist the Malaysian industry embrace the Industry 4.0, she said MITI had outlined 13 strategies under the National Policy on Industry 4.0 (Industry4WRD) as part of its roadmap to transform our manufacturing industry landscape in the next 10 years.

The second speaker was from the process industry. Ir. Johnson Tan is the Vice President of Process Automation Business Unit, Siemens Malaysia Sdn. Bhd. A pioneer in the earlier industrial revolution, Siemens has introduced The

Siemens "Digital Enterprise" approach for process industries which addresses key features of Industry 4.0 by focusing on integrated engineering and integrated operations as well as supporting the customers to respond with significant speed, flexibility and efficiency improvements. This is achieved through a structured plant-wide maintenance dashboard which provides user transparency over field devices anytime and anywhere. It focuses on early detection of process anomalies, process optimisation and productivity increase.

Then Ir. Pershanta Kumar, a senior engineer (Asset Information) with Asset Management Strategy Design & Standard at TNB Distribution Network, spoke on the energy industry. He noted that even the energy industry is affected by the technology disruption. Technology disruption comes from distributed renewable energy generation, battery energy storage system and consumer self-generating renewable energy. To remain relevant, TNB has embarked on Reimagining TNB which includes decentralisation, electrification and digitalisation. The TNB Distribution Network is focusing on Grid of The Future (GoTF), which addresses challenges brought about by the disruption of the network/grid through the introduction of new technologies, such as bi-direction of power and greater complexity in the distribution grid.

The next speaker was Encik Izwan Hasli Mohd Ibrahim, Chief Operating Officer of Petronas ICT Sdn. Bhd. He said Petronas had, from the start, embarked on digital effort which was backboned by data-driven organisation, adoption of new ways to work and deliver new value to the customer. Petronas has embraced IT-OT integration to achieve the full potential of IoT, manage cybersecurity risk as well as the importance of the people and new ways of working in Petronas. Finally, he shared with participants, a case study of RAPID Digital deployment at Pengerang Integrated Complex. RAPID Digital application covers life safety, real-time analytics, people tracking, evacuation management and digital operating procedures.

Finally, Mr. Diego Betancur, the ICS/SCADA security engineer for APAC Region at Nozomi Networks, pointed out that, with huge number of digitalisation implementation at leading utilities, energy, manufacturing, and other industrial companies, industrial cybersecurity had become a critical issue. He shared the background of some increasing cyber risks and challenges in securing industrial environments and introduced some industrial cybersecurity innovation and implementations.

The seminar ended with speakers, participants and the sponsors (Netpolean Group and Siemens Malaysia) networking and visiting sponsors' booths. ■