



### **Report for Technical Talk on Implementation of I4.0 into Existing Equipment & Processes for Improving Productivity and Maintenance**

by Ir. Dr Lee Choo Yong

Ir. Dr Lee Choo Yong is currently the Secretary/Treasurer in Electronic Engineering Technical Division (eETD).

Mr. Royce Tan Thiam Soon, director of Robert Bosch Sdn Bhd, delivered a technical talk on an overview of Industry 4.0 (I4.0) and Internet of Things (IoT), on 24<sup>th</sup> May 2018 at the IEM Penang Secretariat with an audience of 18 attendees from different companies.

The objectives of I4.0 are to stimulate innovation, to increase productivity and flexibility, and to improve competitiveness.

A number of case studies of implementation in various sectors were shared including:

- Agriculture – Monitoring of growth of crops
- Farming – Monitoring of health condition of animals by measuring weight change
- Security - Vehicle recognition, early smoke detection
- Aquaculture – Monitoring of water temperature, salinity and level
- Tele-medicine - Hand-held eye checker with diagnostic algorithm
- Connected logistic –RFID employment for real-time tracking to reduce stock in process and to improve efficiency
- Mobility – Autonomous driving
- Fleet management - Cargo tracking & monitoring
- Manufacturing –Connectivity amongst equipment, predictive maintenance, smart shop floor management, flexible manufacturing lines etc
- Energy – Monitoring of temperature, humidity, energy consumption etc remotely
- Flood Monitoring & Management – Monitoring of humidity, water level and flow and predict flood

Sensors of IoT gateway and data analytics are the key pillars for successful implementation of IoT and I4.0. Royce shared how I4.0 was implemented, elaborating chiefly on identification of requirements, for instance what type of information was needed e.g. vibration, humidity, temperature, etc, where to locate sensor, what was the threshold value to be set to alert user for further action, and subsequently what were the suitable sensor and IoT tools could be derived. I4.0 is a field that combines skills and specializations from various domains, resulting in tremendous job opportunities.

Royce concluded his talk with a main takeaway that I4.0 is inevitable and humans are the key drivers of I4.0.

The talk ended with presentation of certificate of appreciation and a group photo-taking session.



Group photo session