

Sharing Programme on Construction 4.0: The Next Revolution in Construction Industry

CONSULTING ENGINEERING SPECIAL INTEREST GROUP

reported by



Ir. Dr Tan Chee Fai



Ir. Dr Low conducting the talk

Emerging technologies have changed the engineering environment to one with a fast pace. Cloud computing, internet of things, wireless sensor network, big data and mobile internet are starting to be implemented into industries.

The advances of science and technology continuously support the development of industrialisation all over the world. From a technological evolution perspective, there are four stages commonly identified with industrial revolution.

The first three industrial revolutions took place over two centuries and were the result of, respectively:

1. The use of wind, water and steam energy to power machinery,
2. The introduction of electricity to manufacturing for mass production and
3. The use of automation technology for manufacturing.

For the 4th Industrial Revolution, governments around the world have initiated different plans such as Advanced Manufacturing Partnership (United States), Industrie 4.0 (Germany), La Nouvelle France

Industrielle (France), Future of Manufacturing (United Kingdom), Made in China 2025 (China), Innovation in Manufacturing 3.0 (South Korea) and Smart Manufacturing (Netherlands).

The new trends and advancements in the manufacturing industry are also able to give the construction industry a boost. The digital revolution in construction design has created building information modelling (BIM), which allows for the planning and management of construction information as well as to visualise the design in a 3D environment.

Unlike other industries, the construction sector has been slow to adopt new technologies and has certainly never undergone a major transformation. As a result, productivity has been stagnated in the last 4 decades or, in some cases, even declined.

On 13 January, 2018, the Consulting Engineers Special Interest Group (CESIG) organised a Sharing Programme on "Construction 4.0: The Next Revolution in Construction Industry".

This programme is one of the many CESIG initiatives to promote awareness of the 4th Industrial Revolution among members of IEM. It provides a comprehensive look at technological trends which will be shaping the global engineering profession and workforce of tomorrow in the construction industry.

The four speakers were Ir. Dr Tan Chee Fai (Current Technology Trends in construction Industry), Ir. Prof. Dr Leong Wai Yie (Big Data and Analytics for Construction Industry), Ir. Tejinder Singh (Artificial Intelligence) and Ir. Dr Low Cheng Yee (Mechanisation for Construction Industry). ■



Session Chairman Ir. Vig presenting a certificate of appreciation to Ir. Dr Low Cheng Yee



Session Chairman Ir. Vig presenting a certificate of appreciation to Ir. Tejinder Singh



Session Chairman Ir. Vig presenting a certificate of appreciation to Ir. Dr Tan Chee Fai