

**Speaker** : Prof. Ir. Dr. Ewe Hong Tat

**Venue** : KB210

**Time** : 3.00pm –  
4.00pm

**Talk Title** : Next Wave of Technologies

---

### **1. Company Background (10%)**

Prof. Ir. Dr. Ewe Hong Tat is the Vice President of Internationalisation and Academic Development at UTAR. He had involved in the research of Microwave Remote Sensing, Applied Electromagnetic, Satellite Image Processing, and Sensing Network and Intelligent Systems. Before starting his career in UTAR, He had worked in Motorola Penang, Intel Penang, MIT's Research Laboratory of Electronics, University of Malaya(UM) and Multimedia University(MMU). He had received plenty of awards such as The Young Scientist Award of URSI (International Union of Radio Science) in 1996, and The Outstanding Young Malaysian Award 2005 for Academic Leadership. Currently, He is the Educational Counsellor and Regional Chair (Malaysia) of MIT Educational Council, Fellow of ASEAN Academy of Engineering and Technology (AAET), Fellow of Academy of Sciences Malaysia (ASM), Council Member of Malaysia Qualifications Agency (MQA), Advisory Judge of Asia Pacific ICT Alliance Awards and also President of MIT Club of Malaysia.

### **2. Technology(ies) Discussed (20%)**

The talk began with the technology evolution which started from Agriculture until the 3<sup>rd</sup> Industrial Revolution, but the main concern of the talk is on the 4<sup>th</sup> Industrial Revolution which is entering our daily life recently. The 4<sup>th</sup> Industrial Revolution is about Cyber-Physical Systems, it is the integration of computation, networking, and physical process. It indicates that the human work especially repetitive work will be replaced by computers such as machine learning and AI. The speaker throwback to some great achievement of the 20<sup>th</sup> century that changed the world such as Electrification, Automobile, Airplane, Internet, and Spacecraft.

Besides that he talked about the products that related to technology currently has rapidly replaced by innovation. For example, the film camera had replaced by the digital camera and recently the digital camera has also replaced by the smartphone. On the other hand, technology innovation also brings

disruption to some of the markets. For example, the self-driving car helps the driver to reduce tension while driving but it will cause the taxi driver to lose their job. In addition, a real-time face capture software called Face2Face is able to re-enactment videos. It's difficult to observe and it's threatening to the reliability of a video.

The discussion of technology ended with the engineering challenges of 21<sup>st</sup> Century and Convergence of Technologies. The challenges are making the solar energy economical, provide energy from fusion, secure cyber, etc.

### **3. Successful Business Idea Model / Business Idea Description adopted by Speaker (20%)**

A successful business idea model which related to technology will undergo the Technology S curve that stated by the speaker. There is an incubation period for the business while introducing a new technology because it is still immature at that time. Any products or business idea will go through the process and it will reach the innovation boom where the market is mature and most of the people started to familiar and implement it. Then the products or business idea will enter the mature period which consists of a stable period.

The speaker has shared the business idea of the 3D printing industry. He said that everyone house will have 3D printers in the future and we can build anything we want with using it. For example, when a person needs to buy a replacement parts, he or she just need to download the template of the replacement parts from the official provider and start to print and use it immediately. The 3D printer is getting well-known currently and there's a lot of tutorials to teach people to make their own product with it.

### **4. Challenges, Problems and/or Issues faced by Entrepreneur? (20%)**

There're a few challenges that will be facing by the entrepreneur in the technology field. The challenges like making the solar energy economical, secure cyberspace, and restore and provide access to clean water. There are many problems in that might be occurring but it will improve human's life after the problems are fixed. For the young entrepreneur who intends to explore the new market with unheard technology will be facing challenges because the market hasn't prepared for the advent of new

technology. It needs a period to settle down and get used to it by the market and the problem will be how large is the community will get inspired by the new technology in order to survive in the market.

5. **To what extent this talk has impacted me as a software engineering student? (30%)**

To my mind, I think is a good opportunity to rethink the reasons for myself to become a software engineer and my future direction in the next technology era. To a software company or a new startup, I realize that the ability to manage and analyze big data is the key to survive in the future market. The popularize of machine learning has already replaced the repetitive works by human and it has already overtaken some of the human's ability. I felt that software engineers should focus to work on something that is unable to duplicate by others or replace by machine, which I think that is creativity in my humble opinion.

The speaker had raised up the issues of blockchain which trigger my curiosity me to do a small research on it. I found that it is widely used in the crypto-currencies and how the consumers gain benefits from the technology. But I believed that blockchain will serve for other purposes in the future and it will become a technology that can help to build a authentication or validation system with minimal of human management.

In short, the talk has told me the next move of the technology and how software engineer plays an important role to make things happen. I will be much appreciated as a software engineer to become the pioneer to embrace the next wave of technology. I think it would be an opportunity to be the one of it and to have different of point of view when the day has come.