

**Talk on 5G Mobile Networks**

by Low Pek Jun

Low Pek Jun is currently pursuing Master Degree in Electrical Energy Management. He is working with NTT MSC, a subsidiary of NTT Communications, the world largest colocation/data center provider, as the Data Center Engineer where he is responsible for the uptime of power and cooling in the data centers.

On July 7th 2018, EETD organized a talk on regards of 5G Mobile Networks: technologies, standards, applications by Ir Gan Tian Eng at Wisma IEM. Mobile phones evolve from voice, messaging and then web browsing and now video as well as applications usage. 5G is a technology that will supersede 4G in term of the amount of data usage/demand by the customer and can be measured in terms of faster speed, lower latency and better bandwidth.

5G standard were developed through the international effort where the work was basically grouped as:-

1. 3GPP: where the group are required to deliver technical specifications
2. IETF: for the network virtualization
3. ITU: the spectrum for the 5G usage
4. 5GPPP: for solutions and architectures

Ir Gan highlights that 5G shall be utilized by the consumer in terms of:-

1. Broad experience on everywhere and anywhere
 - a. Maximize customer experience in both indoor and outdoor connectivity
 - b. High QoS broadband even in challenging network conditions
2. Smart vehicle, transport and infrastructure
 - a. Focused on massive machine type communication
 - b. Sensors to be embedded in roads, railways & airfield to communicate each other and/or with smart vehicle
3. Media everywhere
 - a. Ultimate video quality anywhere
 - b. Meeting consumer demands for TV on their terms
 - c. Enables industry transformation to all IP

4. Critical control of remote devices
 - a. Controlling heavy machinery remotely to lower risks in hazardous environment
 - b. Increase efficiency and reduce costs. Replace communication bus with wireless links
5. Interaction human – IOT
 - a. Fills a gap between humans and IOT
 - b. Context awareness is the main different from M2M

Few takeaways out of this talk include the exact date for the 5G's arrival which depends either on the government mandates or consumers oriented demand; continuous investment on LTE or 5G are dependent on how mature the technologies in the country as well as the coverage that are expected to be fulfilled. He also touches if the needs of the fibre broadband if the 5G are good enough for the consumers and ends the talk by discussing the possibility of 6G needs. Figures below summarise the talk.



Ir. Gan presenting his topic



The participants



EETD Committee member presenting token of appreciation to Ir. Gan