HKIE Electronics Division Annual Dinner 2017
Speech by Ir Frank CHAN JP, Director of Electrical & Mechanical Services

At a time of change, we are going to make a difference. As you might have noticed, tonight's dinner is going to start with fruits. It is indeed unusual for a Chinese banquet to start with fruits. But there are suggestions that eating fruits before a meal helps control weight and increase intake of fiber, vitamins and minerals. Taking heed of the advice, the annual dinner organizing committee has particularly prepared a fruit platter comprising Blackberry and Raspberry among other fruits for your enjoyment tonight.

Blackberry

Not long ago, BlackBerry was once the smartphone of choice. It remains connected at all time so that users can securely access their emails anywhere, anytime. It was so popular that a Blackberry hand held device was handed out as souvenir for the ministers and VIP guests during the ITU Telecom World 2006 held in Hong Kong.

However, BlackBerry failed to capture the opportunities of the "app economy". By the time it responded, the mobile market was dominated by phones equipped with IOS and Android system. In the fourth quarter of 2016, more than 432 million smartphones were sold, and slightly more than 200,000 units were BlackBerry devices running its own operating system. Blackberry's global market share has virtually reached ground zero.

Raspberry Pi

While Blackberry bows out of the stage, there comes the Raspberry Pi. With the size about half of our palm, Raspberry Pi is a fully functional single-board computer. It was first launched in 2012. It has a quad-core CPU with processing power comparable to the Intel Pentium 4 but only one-tenth of its power consumption. Coincidentally and more importantly, its US$35 price tag is again one-tenth of Pentium 4. The founder of Raspberry Pi started his business with a humble objective - to popularise computer programming for students in UK with a low cost device. He set a sale target of 10,000 units for the whole product lifecycle but the first 10,000 units were sold out within hours on the first day. So far, over 12.5 million Raspberry Pi have been sold since its release.

While capturing a niche market of computer users who look for low cost and high versatility, Raspberry Pi continues to evolve and release new models embedded with Bluetooth and other wireless technologies. One of the latest models of Raspberry Pi costs as little as US$10 with the size of a gum stick. Raspberry Pi has also developed software for the Internet of Things and cloud computing applications.

Octopus

Survival through continuous improvement and innovation is not unique to Raspberry Pi. Back in Hong Kong, the Octopus has done us proud. It has extended from fare collection to non-payment application, such as access control and attendance registration. Like Raspberry Pi, Octopus successfully penetrates a niche market of transportation fare payment and micropayment. Because of its offline nature, fares could be settled in less than half a second which allows commuters to smoothly pass through turnstiles most efficiently. Octopus has dominated the smaller amount transaction market in Hong Kong. In view of the arrival of other mobile payment systems, such as Apple Pay and WeChat Wallet, Octopus has introduced the mobile peer-to-peer online payment app called "O! ePay" and braves the e-wallet battle.

Given its commonplace in Hong Kong, Octopus is used as identification for the Government Public Transport Fare Concession Scheme for the Elderly and people with disabilities. Recently, the Transport Department is considering the use of Octopus for pedestrian traffic management. When an elderly or a person with disabilities taps a personal Octopus card on a traffic light pole's detector, longer pedestrian green time will be allowed. The innovative application has put Octopus on the roadmap of Hong Kong's smart city development.

Conclusion

Economies and people worldwide are starting to realize the impacts of the Fourth Industrial Revolution that is characterized by a fusion of technologies of all kinds. The revolution will fundamentally alter the way we live, work, and relate to one another. The stories of the Blackberry, Raspberry Pi and Octopus are nothing but vivid illustrations of the essence of

today's survival game, "Innovate or Terminate". Breakthroughs are happening and proliferating at an unprecedented pace. The number of industrial robots in the world has increased from 69,000 in 2002 to 229,000 in 2014, and is projected to reach 400,000 by 2018. As the Internet of Things becomes mainstream, the number of connected devices will triple from 13.4 billion to 38.6 billion by 2020. The possibilities of billions of people connected by mobile devices, with unprecedented processing power, storage capacity, and access to knowledge, are unlimited. And these possibilities will be multiplied by emerging breakthroughs in artificial intelligence, robotics, the Internet of Things, nanotechnology, biotechnology, energy storage, quantum computing and so on.

According to the latest Global Competitiveness Report, Hong Kong remains in the top 10 for the fifth consecutive years but our latest ranking drops from the 7th to the 9th place. "Hong Kong tops the infrastructure pillar for seven years, reflecting the outstanding quality of our facilities across all modes of transportation. Our financial sector is highly sophisticated, trustworthy and stable. Our domestic market is highly competitive, efficient, and one of the most open in the world. Our labour market is among the world's most flexible and efficient. Hong Kong is hyper-connected and has been a forerunner in respect of Internet use and mobile penetration. The challenge for Hong Kong is to evolve from one of the world's foremost financial hubs to become also an innovative powerhouse. Among the twelve pillars of competitiveness, with the exception of market size, innovation remains the weakest pillar that we have to work ourselves out of it." [*1] If Hong Kong is to enhance our competitiveness and survive the Fourth Industrial Revolution, our pursuit for innovation and productivity must continue, and we must work together, locally and globally, to make the difference. Thank you.

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Note *1* Quote and adapt from the Global Competitiveness Report 2016-17