CONNECTED CITY CONFERENCE

9th November 2017

City Garden Hotel, Hong Kong

ORGANIZER

WTIA
香港無線科技商會

Event Programme

8:30 am - 9:00 am **REGISTRATION**

9:00am - 9:05am **Opening Remarks**

Ms. Wendy Alison Yung
Executive Director, Hong Kong Wireless Technolody Industry Association (WTIA)

9:05am - 9:35am **5G Closer- Embrace a connected world**

Connectivity empowers new possibilities, fusion of 4G and 5G empowers a more connected world. Innovative 5G technologies enable a better connected future and intensive tests and trials are accelerating the 5G commercialization

Presenter:
Mr. Daniel Ding
Senior Marketing Director, ZTE (H.K.) Limited

09:35am - 10:05am **Digitalization for Networked Society**

With the overwhelming embrace of Big Data Analytics, the digital transformation becomes a pedagogy in business school. It demands the unprecedented ability to share information, people and industries are collaborating more, creating solutions that combine many different areas of expertise and overturning traditional business models. This cross-industry transformation has created a need to evolve wireless connectivity for mobile IoT and 5G technology. This presentation intends to provide a view of mobile IoT and 5G technology driving the digital transformation in a networked society

Presenter:
Mr. Daniel Leung
General Manager, Enterprise Solution Development, Smartone

10:05am - 10:20 am

NETWORKING BREAK + TOUR OF EXHIBITION

10:20am - 10:40am

Experience of LoRaWAN network deployment in Hong Kong

Smart city enhances quality and performance of urban services, reduces costs and resource consumption and engages more effectively and actively with its citizens with the help of digital technologies. The life and core of this is a connected city. This presentation will cover a LoRaWAN overview, technological specifics, the hybrid network model, and outlook on the IoT market.

Presenter:

Mr. Ralph Riley

CTO, Pixel Networks

10:40am - 11:00am

Sigfox & its Applications in Smart City

Internet of Things is recently getting a lot of attention & is regarded as the "next big thing", partly due to the technology advancement in CloudComputing & Big Data Analysis. However, there is still a bottleneck in Wide Area Network connectivity, where millions of simple sensor devices need to be connected to the Smart City Infrastructure in a energy efficient & cost effective way.In this session, we are going explore the characteristics & advantage of LPWAN & Sigfox, and explain why it is the perfect technology for Smart City applications. We will also cover some case studies on how Sigfox is being used in Smart City projects.

Presenter:

Mr. Anthony Lai

Head of Ecosystem Development, Thinxtra Solutions Ltd

Event Programme

11:00am - 11:20am

Connected City Planning: Data Governance

Cities around the world are currently plan for connected cities. Urban informatics and smart cities are concepts where information and data become the basis for new models of managing processes in a city. How is the urban information space governed? How can we address question about usage, control and access to human and machine-generated data?

Presenter:

Ms. Waltraut Ritter
Founder, Knowledge Dialogues

11:20am - 12:10am

5G and IoT Networks Keynote Panel

For many of us in the ICT industry, the future city is an always-on connected city, where ubiquitous connectivity is taken as a for granted infrastructure. The panel shall address questions around how the urban data space will be managed and how human and machine-generated dataacross the city can be governed in a sustainable and inclusive manner. This will include questions around security, access and transparency of data processing, as well as questions around livability and inclusiveness of connected cities. How can we better anticipate both potential and risks of connected cities?

Moderator:

Ms. Waltraut Ritter
Founder, Knowledge Dialogues

Speakers (in arbitrary order):

Mr. Ralph Riley
CTO, Pixel Networks

Ms. Marie Ma
Senior Director of Technical Marketing Solutions, Comba Telecom

Mr. Ken Law
CEO, MotherApp

Mr. Daniel Ding
Senior Marketing Director, ZTE

Mr. Yan Shun Li
Senior Product Manager, China Telecom Global Limited

Mr. Daniel Leung
General Manager, Enterprise Solution Development, SmarTone

Mr. Nick Pugh
Market Segment Manager, Device R&D, Rohde & Schwarz

Mr. Daniel Weitze
Digital Solution Manager, Siemens Ltd HK

12:10am - 1:10pm

NETWORKING LUNCH + TOUR of EXHBITION

1:10pm - 1:30pm

The Data-Driven City: The Role of Smart Infrastructure

The Smart City is rooted in innovation and collaboration across various entities in the public, private and academic sectors. This presentation aims to show the importance of connectivity between the data environment and the physical infrastructure of a city. Particularly in an urban environment like Hong Kong, where the existing infrastructure spans varying levels of age, harnessing data becomes an invaluable tool to extend the life of the city infrastructure and introduce effective, innovative and intelligent means of improving the livability and competitiveness of a world-class city.

Presenter:

Mr. Daniel Weitze

Digital Solution Manager, Siemens Ltd HK

1:30pm - 1:50pm

The Road to 5G Smart Cities

5G will be a key building block in the development a true smart city. This discussion examines smart city use cases and how 5G will accelerate IoT and connected smart cities now and in the future

Presenter:

Ms. Marie Ma

Senior Director of Technical Marketing Solutions, Comba Telecom

Event Programme

1:50pm - 2:10pm

Testing Quality and Security of IoT devices for the IoE

Testing is an important aspect for the new technologies of IoT, to ensure true interoperability with existing and other new technologies , optimized power consumption and secure communication of the 'Things' deployed in the 'Internet of Everything (IoE)'. This short seminar will introduce some of the technologies and associated test requirements paving the way to a fully connected IoE.

Presenter:

Mr. Nick Pugh

Market Segment Manager, Device R&D, Rohde & Schwarz

2:10pm - 2:30pm

A 5G Era - Go Fast and Get Smart

Smart city development is currently a hot topic. The Hong Kong Government also stressed the importance of developing Hong Kong into a smart city in the Policy Address. The industry anticipates that connection is the key of this transformation. Some world's leading telecoms operators are working on mass connection solutions by deploying NB-IoT technology to their mobile networks. We will shed light on how 3 Hong Kong is establishing a local NB-IoT ecosystem as we usher in an era of massive 5G connectivity.

Presenter:

Dr. Michael Xue

Assistant Chief Engineer of Radio Planning and Wireless Network, Hutchison Telecommunications (Hong Kong) Limited

2:30pm - 2:50pm

IoT Cyber Security

IoT provides extraordinary business benefits but poses serious network and security concerns. Traditional infrastructure not originally intended for the Internet quickly finds its way online and is made more complex with the addition of new connectivity and data. We will look at how security plays a critical role in IoT, what are the security challenges and how security is played differently in Information Technology (IT) and Operation Technology (OT) environment. We will also look at some recent industrial IoT security incidents, and ways to secure your IoT environment to address the IoT security challenges with the modern day security technologies and architectures.

Presenter:

Mr. Garrick Ng

CTO, Cisco Systems

2:50pm - 3:05pm

NETWORKING BREAK + TOUR OF EXHIBITION

3:05pm - 3:25pm

C-V2X Technology

Number of vehicles in Hong Kong is reaching 800,000 in 2017. While it normally takes years to build up new transportation system and roadnetwork to streamline increasing traffic demand, new information and communication technologies such as Big Data and LTE offers opportunity tomake our existing transportation system safer, faster and more environmental friendly.Currently, drivers, passengers and pedestrian can only access limited amount of real-time traffic information when they make decision for theirjourney. Cellular V2X (C-V2X) technology, being built on top of existing mobile network, supports connecting vehicles to each other (V2V), topedestrians (V2P), to roadway infrastructure (V2I) and to the network (V2N). By integrating with sensing and data analyzing technologies, it canincrease awareness of what happen around and in front of the road for different stakeholders who can timely optimize their routes.

Presenter:

Mr. Philip Yick

Solution Director, Huawei International Co. Limited

Event Programme

3:25pm - 3:45pm

Bringing Trust to IoT World

The IoT is dramatically changing our working and living landscape, with billions of things talking to each other, it is opening new business opportunities and the promise of a better-connected world. From building surveillance, connected cars or smart cities to monitoring workers in risky environments, the IoT has a lot to offer. Gaining and retaining consumer trust in data exchange and privacy is essential for the IoT to reach its potential. IoT Security is a crucial challenge and IoT players need to ensure an end-to-end secure IoT ecosystem that everyone can trust in.

Presenter:

Mr. Clement Lam

Vice President, Field Marketing & Solution Sales (Mobile Services & IoT), Gemalto

3:45pm - 4:05pm

Hong Kong Smart City Case Study: Real-Time Crowd Management of a Marathon

Synopsis: RunOurCity is a large scale marathon with more than 15,000 participants and it is not easy feat to manage the crowed. Using the latest IoT and AI technologies, we enable the organisers to understand the people flow so that they can send the staff to the right place at the right time to manage the crowd and provide a better visitor experience. In this talk, we will share the challenges and lesson learnt in the project conception and execution.

Presenter:

Mr. Ken Law

CEO, MotherApp

4:05pm - 4:35pm

Smart City capability and practice?

With the acceleration of smart city development, the driving effect of NB-IoT, Big Data and Cloud Computing in build a Smart City is becomingincreasingly important. This topic is to share how China Telecom leverage the latest technologies to realize ubiquitous connectivity and thoroughcity awareness to boost new-style smart city.

Presenter:

Ms Maggie Liu

Senior Solution Consultant, China Telecom Global Limited

4:35pm - 4:40pm

Closing Remarks

Ms. Wendy Alison Yung

Executive Director, Hong Kong Wireless Technolody Industry Association (WTIA)

4:40pm

END OF PROGRAMME

CHINA TELECOM GLOBAL

China Telecom Global Limited ("CTG") is a wholly owned subsidiary of China Telecom Corporation Limited. Headquartered in Hong Kong, CTG connects the Asia Pacific region and the world, and extended its presence in emerging markets such as Africa and the Middle East. CTG provides customized and cost-effective integrated communications solutions and diversified telecom services to cater to customers' needs. Its services include internet direct access, internet transit, data services, broadband, unified communications, internet data center, cloud computing, ICT services, fixed and mobile voice and value added services, professional services and industry solutions, telecom operation consultancy and service outsourcing.

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Connecting the World

First ever commercial NB-IoT operator in Hong Kong

Narrowband Internet of Things (NB-IoT) is a standards-based low power wide area (LPWA) technology developed to enable a wide range of new IoT devices and services. NB-IoT technology is deployed “in-band” in spectrum allocated to Long Term Evolution (LTE), also suitable for the re-farming of GSM spectrum. NB-IoT focuses specifically on indoor coverage, low cost, long battery life, and enabling a large number of connected devices.

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Innovative 5G Product & Solution

Complete Product Portfolio

Full range of 5G mmWave and Sub6GHz products support 3GPP 5G NR new air interfaces and cover mainstream 5G frequency bands.

Sub6GHz	
3.5GHz	4.5GHz

Lightest & smallest 3.5GHz product in the industry, pre-commercial

mmWave	
26GHz	28GHz

The first vendor to complete 26GHz test in China National 5G Test

Efficient Air Interface Technology

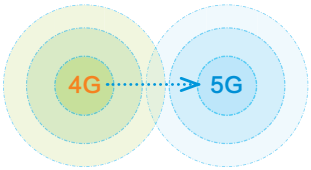
ZTE focuses on 4 key technologies on air interface that will bring colorful services and extreme user experience.

- **Massive MIMO:** Rich commercial experience
- **MUSA:** ZTE is leading the development of NOMA project in 3GPP
- UFS
- FB-OFDM

Smooth Evolution

Existing LTE network can evolve to 5G via different ways, depending on available spectrum resources, coverage and service requirements.

- **ITBBU**
- **Flexible Evolution Solution**



Versatile RAN Architecture

Adaptive to diversified scenarios with flexible topology, enabling networks to meet increasing performance requirements while reducing the cost.

Contributor for Global Standards Research

As a core member of several standard organizations, ZTE put forward multiple new 5G air interface proposals, led many jointed project research.

ZTE has joined all the main stream standard groups and organizations，such as ITU/3GPP/IEEE/NGMN/ETSI/OpenFog/CCSA/IMT-2020/5GIA/5GAA.

Since Jan 2016, ZTE has submitted more than 3500 proposals in 3GPP 5G NR area and occupied 2 editor seats in 5G key specification.

ZTE has been in the lead of the NOMA research project in RAN and ATSS research project in SA.

Active Driver for 5G Industry Ecosystem

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The Industry 1st 3GPP compliant IoDT test @ Sub6GHz

In the beginning of 2017, ZTE announced plans with Qualcomm and China Mobile to conduct interoperability testing and over-the-air field trials based on the 5G New Radio (NR) specifications being developed by 3GPP.

Leading 5G Innovations

Abundant Validation with High Performance

China's 5G technology R&D test is the world's first government-led and planned 5G test
In the second phase, ZTE has completed 7 scenario verification and set new test records

eMBB	**Sub6GHz:** Set new record, cell peak throughput>19Gbps **mmWave:** First vendor to test, single user peak data rate reaches 13+Gbps
mMTC	access overload rate improved, access capability >**90million/MHz/hour**
uRLLC	**0.416ms** ultra-low latency
eMBB + mMTC + uRLLC	Network Slicing to build a unified air interface network. At the same time, cell peak throughput reaches 15Gbps, latency < 0.416ms, massive connection capability > 90million/MHz/hour.

Huairou, Beijing

Telefonica 5G Test:

Telefonica and ZTE jointly verified key technologies in 5G network architecture, including RAN Split, CU/DU separation, and NG Core.

China Mobile 5G Test:

Key technologies were verified in 5G air interface, including Massive MIMO, FB-OFDM.

ZTE will progress along 2017 and beyond on its 5G research, cooperation with operators and standard bodies, targeting for the earliest 5G commercialization!

5G

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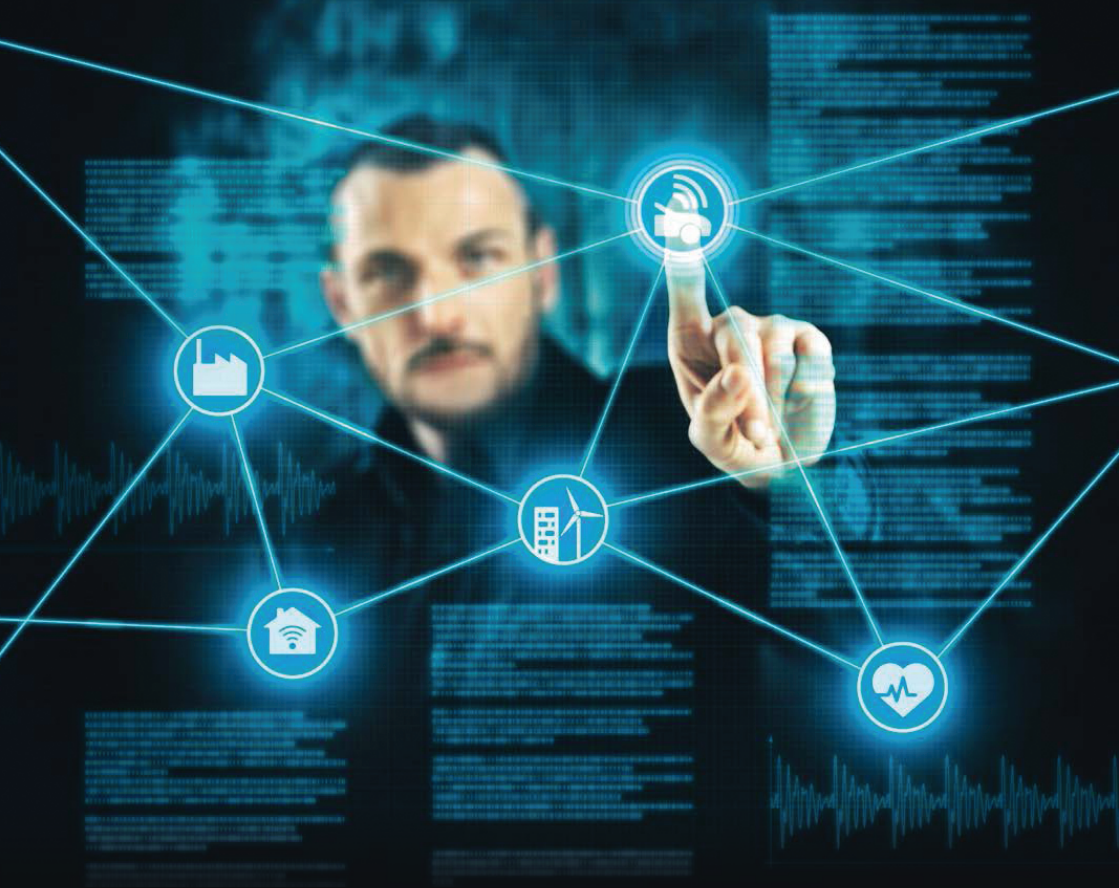

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