

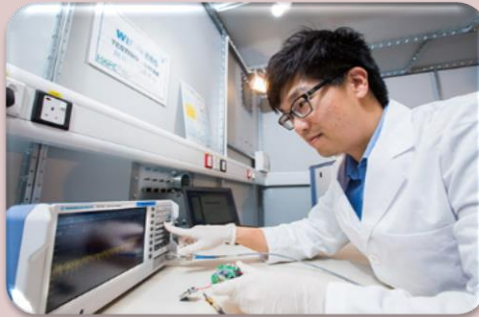
Productization and Pre-test Support of Smart Telecommunication Devices

Testing and Certification of Wireless
and Telecommunication Products

Topics Today



Wireless
Telecommunication
Devices and Smart
City



Support in
productization, and
testing needed for
these products



Industry
collaboration

Wireless Telecommunication Devices and Smart City

Wireless Telecommunication Product

- Key enabling hardware
 - Different coverages/ data rate/ power consumption
- Every part of your life
- Smart City/ Smart Home/ Smart Product

Major Areas of Smart City

- The 13th 5-year Plan of China (Science and Technology)
 - Internet Of Vehicles
 - Smart Agricultural System
 - Internet Of Things
- Other Elements
 - Smart Home
 - Smart Healthcare



Internet of Vehicle

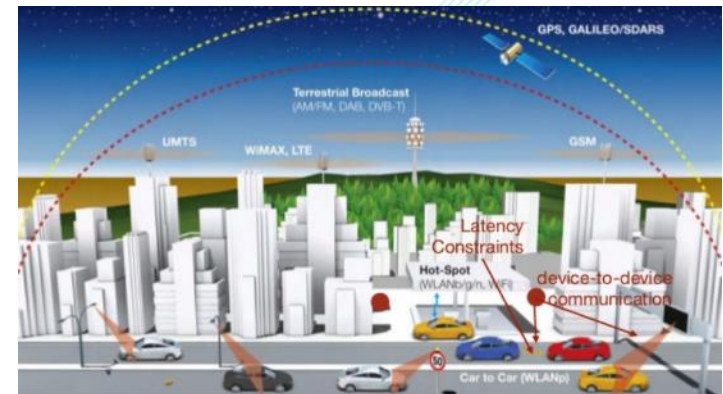
- **90%** of cars connected to internet in **2020**.
- With market size over **250 Billion RMB**.
- Increasing coverage of **5G** in China, promoting IoV development.
- Chinese government policy 《車聯網發展創新行動計劃（2015-2020年）》 from 國家工信部.

Internet of Vehicle

- **Hong Kong** has a comprehensive information and telecommunication *supply chain*. A strong foundation to develop Internet of Vehicle products

Key Technologies of IoV

- Big Data Analysis
 - E.g. Hengseng Index vs Car Speed
- Driving Behavior Analysis
- Road Safety
- Fleet Management
 - E.g. Logistic support
- Remote Control Application
 - E.g. Light pole is not only a light pole now



IoV – Testing and Certification Opportunities

- Testing related to 5G telecommunication networks/ narrow band communication/ other wireless technologies
 - Communication Protocol Testing for interoperability
 - Use of radio frequency, and wireless technology



IoV – Testing and Certification Future Directions

- **Introducing/ Localize** communication protocol and standard. Test and certify these communication protocol.
- Building test facilities for IoV
- Development/ introducing autonomous driving regulations and introduce regulatory testing



Smart Agricultural System

- **60%** of farmers in Hong Kong are over **60**-year old
- **Knowledge and experience** not recorded
- Looking for new technologies to improve **yield and quality**



Wireless and Telecommunication Products in Smart Farming

- Wireless sensing network
- Narrow band communications
- Mobile applications
- Control and automation systems

Testing Need in Smart Agricultural System

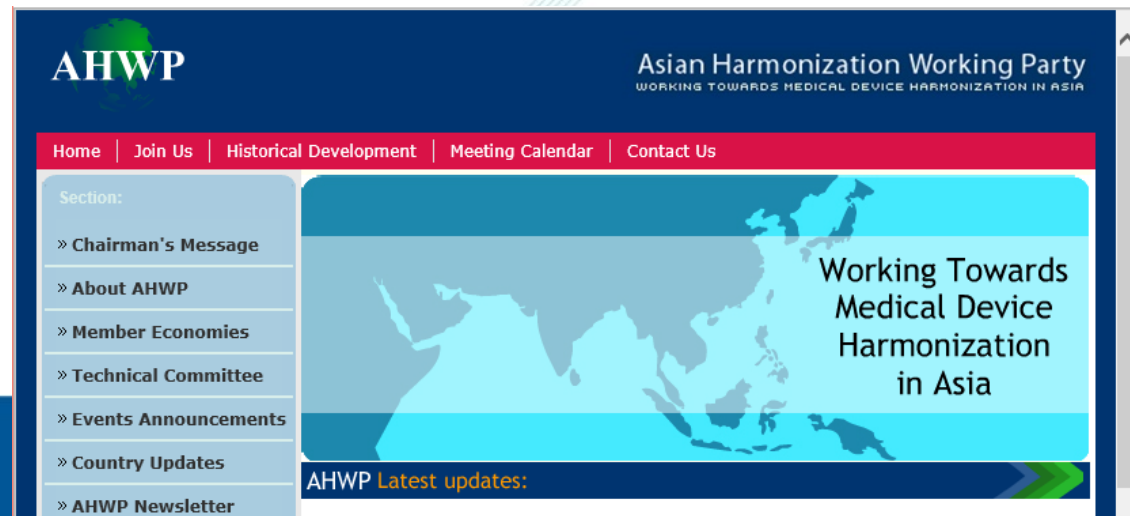
- Wireless regulatory testing
- Reliability
- Performance
- Organic material used?

Smart Healthcare

- **5 Years increase in *Life Expectancy*** from 2000-2015 worldwide. *WHO reports*
- Increasing need of healthcare services and products
- Increasing concerns about personal fitness and health
- Breeding ground of healthcare and new technologies, including wireless and telecommunication products.

Wireless Medical/ Healthcare Equipment Testing Opportunities

- Hong Kong is one of the 30 Economies of AHWP (Asian Harmonization Working Party)
- Department of Health is preparing legislation on the govern the use of medical devices.



Testing and Certification Opportunities

- Wireless Connectivity of Telehealth Products
- Implant communication systems for medical use
- EMC-IEC60601-1-2
- FCC Regulations
- ANSI C63.18
- IEEE1900.2

Development and Productization Support in Local R&D Centres

- Smart Metering Products
- Smart Home Products
- Smart Hydroponic Farm
- Smart Sports Products

Concept > Design Support > Technology Support
> Prototyping > Testing > Certification > Market

Product Development Support with Testing and Certification

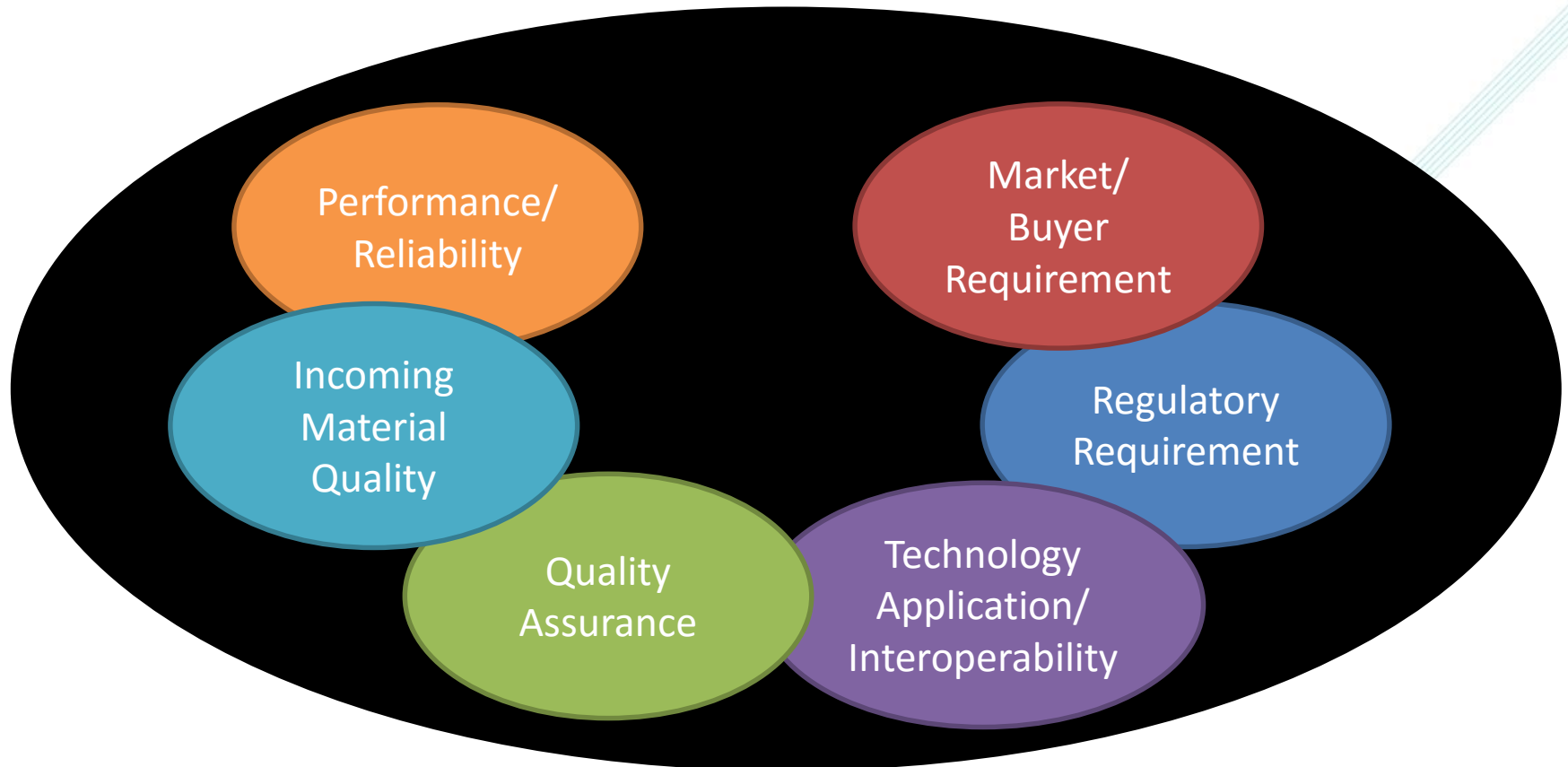
- Smart Products – Custom made products
- Intellectual Property application support
- Product development and testing as a proof of concept
- Quick prototyping
- Product testing for quality, performance and reliability

Development and Testing are linked!

產品開發，沒有測試支援，同自己在家中砌模型無異。

*Testing = Compliance with
Regulatory Requirement?*

Testing is Something More!



Pretest/ Testing Supported by R&D Centres

- We are not helping you to obtaining CE approval but to use our testing facility to **smoothen your development process!**
- Wireless RED/FCC Pre-test
- EMC Walk-in and technical support

Tailor Made Test Maybe Needed!

Why Hong Kong R&D Centres?



Collaboration for Extra Value





Common
Concept?



Share Economy!

- Share Bike's Concept is not new!
- We share facilities
 - Development Support
 - For T&C Industry

Lab
TEST *One*

Conclusions

- Wireless Telecommunication Products have more opportunities than ever thanks to the development of smart city and new government initiatives
- New testing needed, not only for regulatory approval, but to smoothen development processes and more
- Local R&D, T&C industry and Electronic industry works together to create new value!

Questions?

THANK YOU!