Telecom Infrastructure for Smart Airport

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2019.10.17
Transforming and Growing – Huge Information

Statistics of 2018 –

Number of Passengers: 46,535,180 (↑ 3.69%)

Airfreight Movements: 2,322,820 tons (↑ 2.3%)

Aircraft Movement: 256,069 (↑ 4%)

Source: Taoyuan International Airport
Pillars of Info. Flow Processing

- Passenger Experience
- Safety & Security
- Smart IoT Applications
- Operational Efficiency
- Reliable Connectivity
- Broadband Intelligent Connectivity
AR/VR Applications

Navigating

Tour Guide

Shopping

Remote Collaboration
IoT Applications
Key Features of 5G Technology

4G
- Broadband (eMBB)
  - Enhanced Mobile Broadband
- Reliability (URLLC)
  - Ultra-reliable Low-latency Communications
- Connectivity (mMTC)
  - Massive Machine Type Communications

5G
- Broadband (eMBB)
  - ~1-10 Gbps
- Reliability (URLLC)
  - ~1 ms
- Connectivity (mMTC)
  - ~10^6 devices/km^2

Comparison:
- Broadband: x 10 increase
- Reliability: x 1/10 decrease
- Connectivity: IoT devices increase

4G:
- Broadband: ~0.1-1 Gbps
- Reliability: ~10 ms
- Connectivity: ~10 Subs./Site

5G:
- Broadband: ~1-10 Gbps
- Reliability: ~1 ms
- Connectivity: ~10^6 devices/km^2
5G & ICT Infra. with Intelligent Platform

- AR/VR
- Gaming
- Smart Home
- ...

- Big data
- AI
- Security

- Smart Airport
- Smart Industry
- Smart City
- ...

- Wi-Fi/4G/ 5G
- Fiber
- MEC
- Cloud/IDC

Intelligent platform

5G and ICT Infrastructure
ICT Infrastructure of Smart Airports

Passenger Services

Airport/Aviation O&M

4G/5G

4G/5G MEC

Sensors/Records (NB-IoT/LTE-M)

Passenger Services Server

Intelligent Operation Center

Airport O&M Server

4G/5G
Network Slicing and MEC

Network Slicing

Traffic local breakout

Bandwidth on-demand

Location-based service

Service on-demand

Traditional traffic path

Mobile Backhaul

Mobile Backbone

Internet

CHT 5G intelligent A+
Cloud Enabler

CHT Technologies

Applications

Government
- Food safety
- Daily supplies quality
- Estate record
- Traffic analysis
- Education
- Health care

Enterprises/Consumer
- private cloud
- Hybrid cloud
- Social media
- Intelligent life
- Intelligent home

Cloud Enabler

4G/5G

Software DDC
Now (2018)

Knowledge DDC
Next (2020)

ECoreCloud
Intelligent Operation Center

- Information integration
- Real time surveillance
- Big data analysis
- Manpower optimization
- Equipment efficiency

Motion detection & Image recognition

Operation Center

Surround

Terminal

Landside

Airside

Environment control

Maintenance

Security & protection

Facility supervision
Taiwan’s Advantage towards a Smart Island

- Mobile broadband network coverage > 99.6%
- Mobile data usage volume > 17Gbps/month/sub.
- 4G penetration rate > 110%
- Population with higher education > 70%
- More than 10 ICT products market share rank No.1 worldwide
- No.5 market of Google Play
Connect to the World, Voyage to the Future
Harness the wave of 5G
Create Taiwan's Advantage