Next Stage of ITS Development in Taiwan

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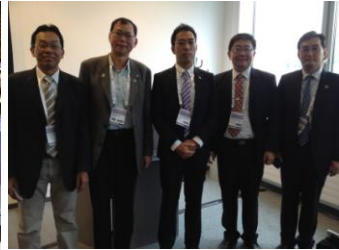# Outline

- Background

- What We
   Have Done

- Next Stage of
   ITS Development

- Concluding Remarks

World Congress in Vienna

Taiwan/ Taipei

- Area: 36,000 sq km / 3,000 sq km
- Population: 23 million/ 6.8 mi (TPE)
- Vehicles: Cars 6.8 million; Motorcycles 12 million / 2.5 mi; 3.2 mi TPE
- Taipei: MRT 110 km; Pre-BRT 58 km; Bike Lane 580 km
- Kaohsiung: MRT 43km; Bike Lane 250 km
- e-Bus and e-Taxi: high-quality, high availability and wide coverage.
- Taiwan High Speed Rail: the journey b/w Taipei and Kaohsiung 90 minutes.

Background

Next Stage
2013~2017

The i-Taiwan Program

The e-Taiwan Program

2009~2012

Promotion & Construction

2003~2008

Master Plan & Infrastructure

～2002

Basic Research & Trials/Demo

What We Have Done

- Efforts have been mainly placed on
  - Advanced transportation management systems (ATMS)
  - Advanced public transportation systems (APTS)
  - Advanced traveler information systems (ATIS)
  - Electronic payment systems (EPS)
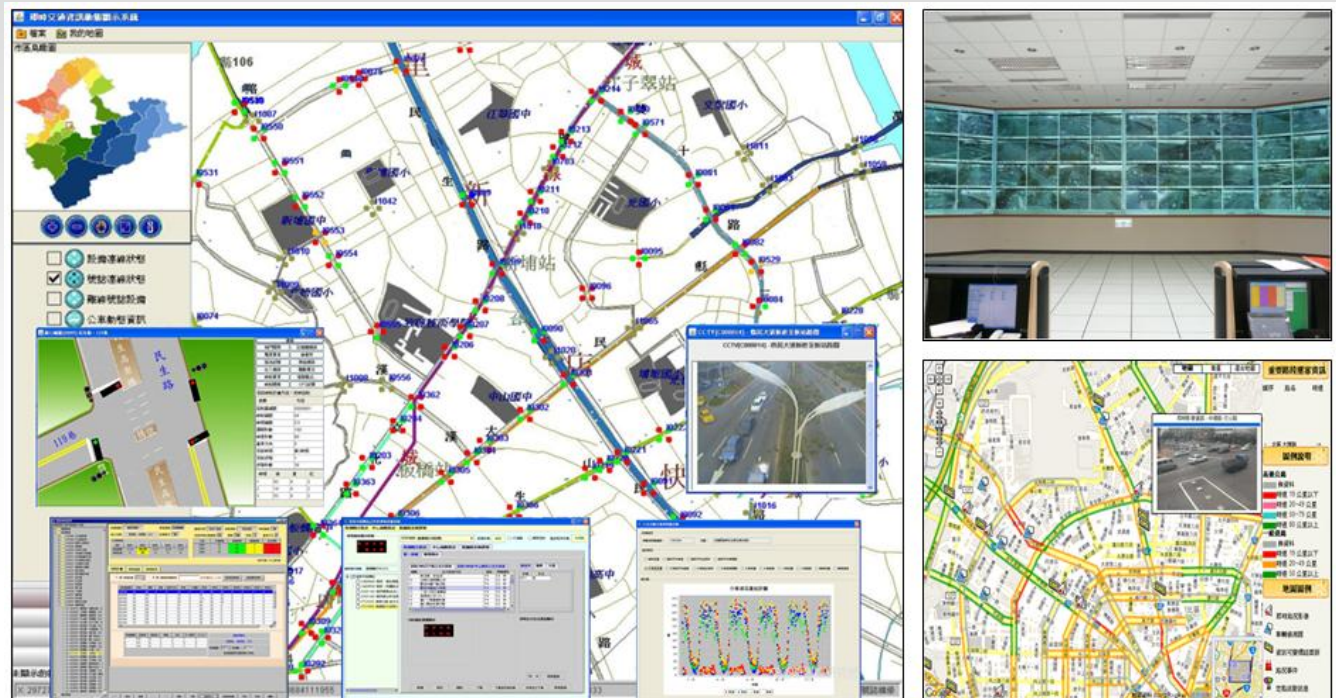 - Highway Disaster Information Systems (HDIS)

What We Have Done in ATMS

- Freeway and expressway traffic management systems
- Standardized urban traffic control systems
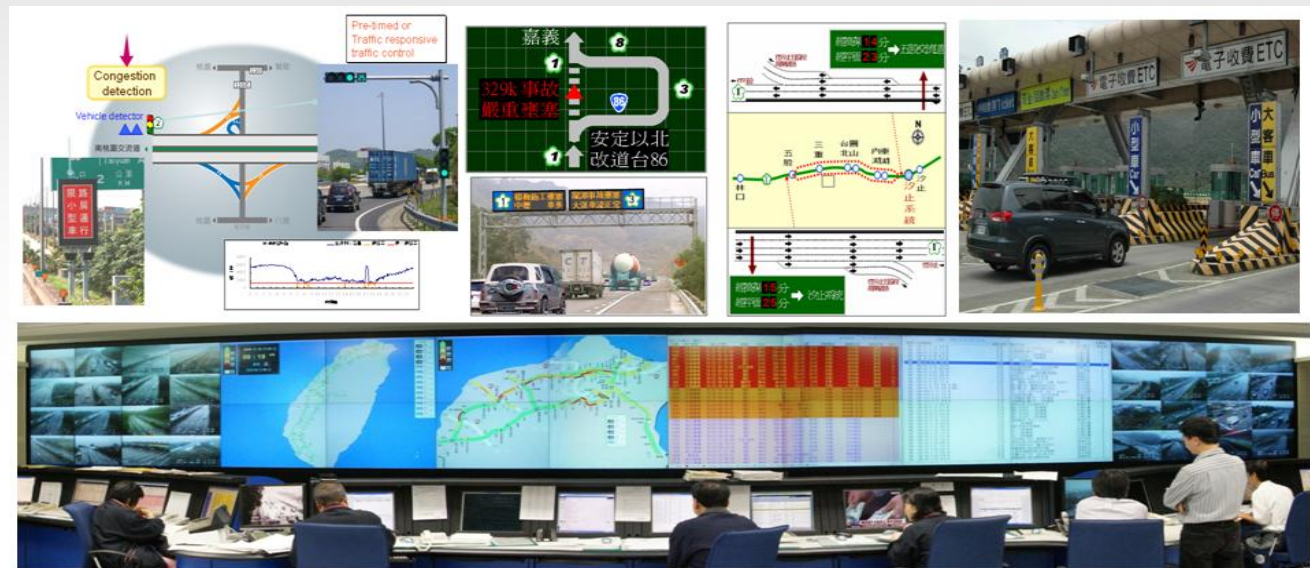
What We Have Done in ATMS

- Center-to-center coordinated traffic management
- Nation-wide traffic control systems in urban areas

What We Have Done in APTS

- All buses in Taiwan are included in the bus information system (Smart Bus).
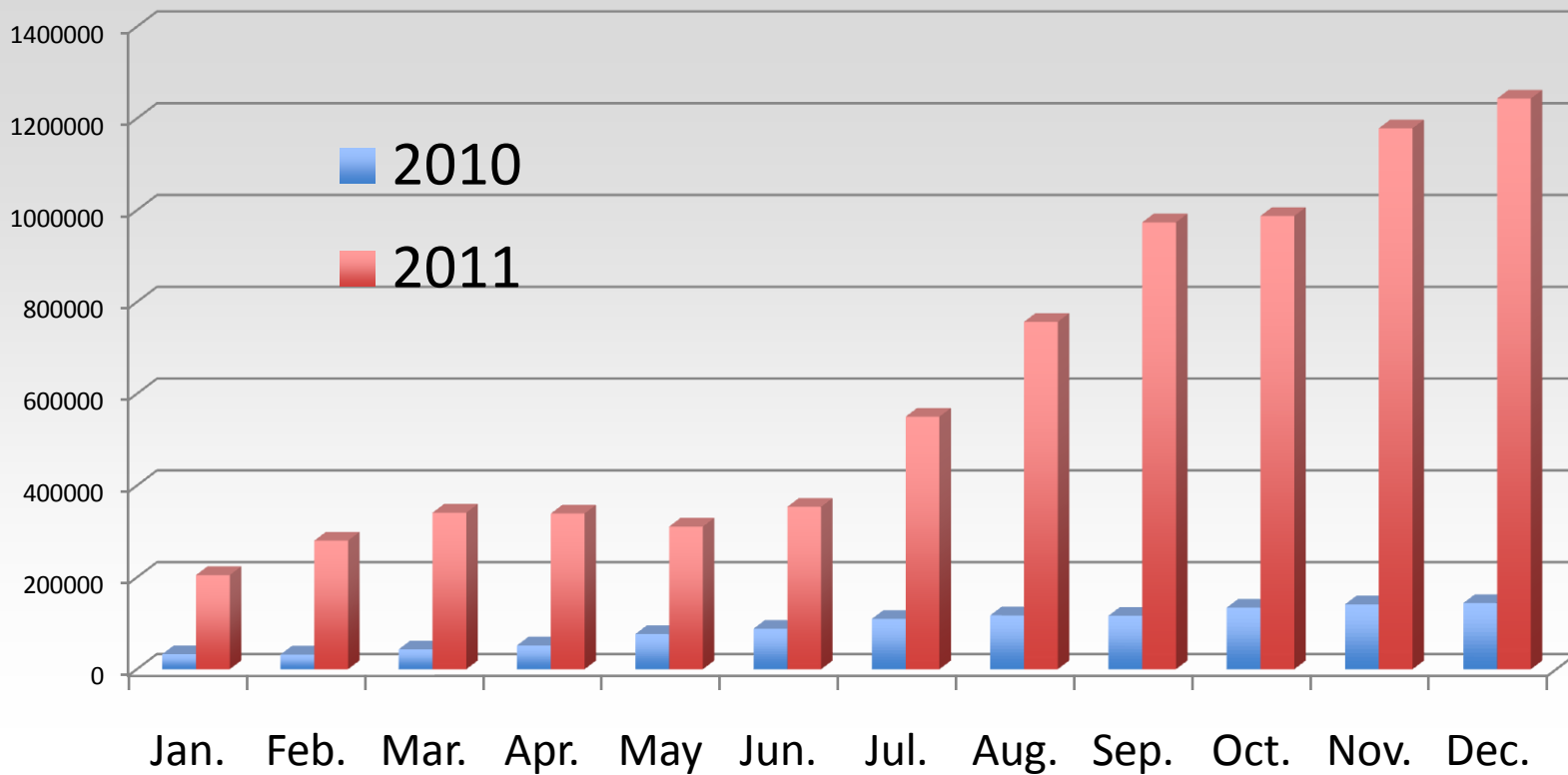
What We Have Done in APTS

- Fleet management
  - transit management centers, transit vehicle tracking, safety and security, emergency management
- Public Transportation Information Service
  - Bus real-time information, trip planning and transfer among different modes (metro, high speed train, rail.

What We Have Done in APTS

Taipei City Bus Information System Usage **(times/day)**

What We Have Done in ATIS

- Provide comprehensive traffic information in real time to driver for their trip decision making or route choice.

What We Have Done in ATIS

MRT and Real Time Video

MRT info

Real Time Video

What We Have Done in EPS

- Smart-Card
  - Applications: High Speed Rail, Mass Rapid Transit, Railway, Bus, Taxi, Ferry, Parking, Public Bike Rental, Security and e-purse.
  - Total number of Smart-Card issued: > 28 millions (2012)
- ETC
  - Usage is 46%, the number of OBU issued is around 1.8 million, successful read rate is over 99.995% (2012/06).
  - Promote distance-based charge scheme in freeway (2013)

What We Have Done in HDIS
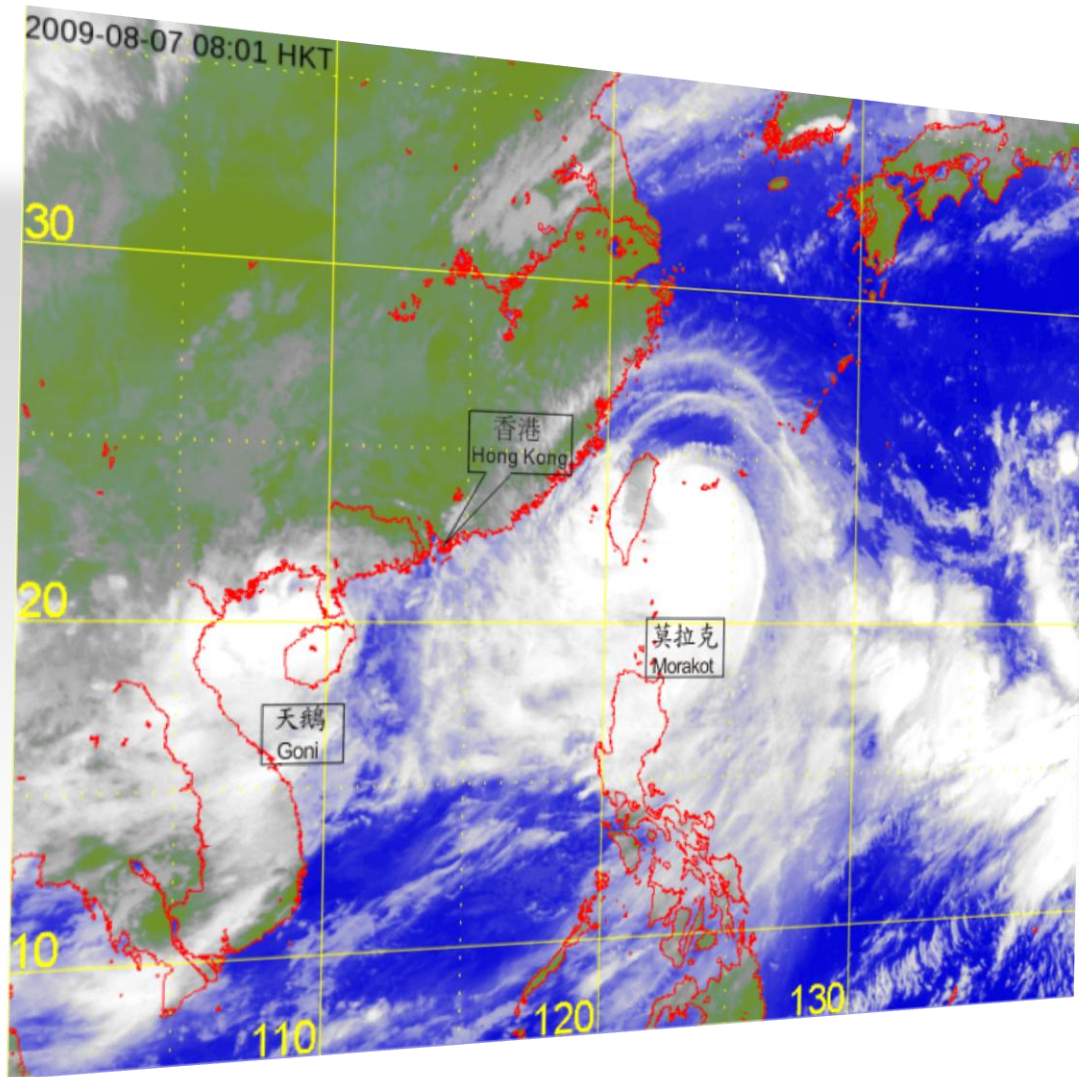
What We Have Done in HDIS
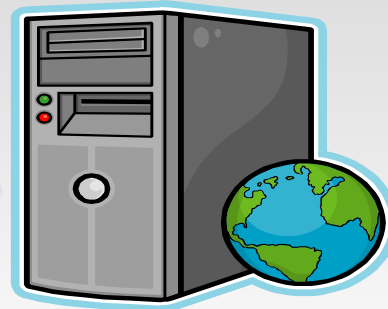
Location Based Service of Highway Disaster Relief Project

Field officers report the disaster information to HDIS center with GPS locations and photo images via 3G smart phone

Access to the real-time disaster situation

HDIS

Road collapse

Duty officer

Execute relief and control

Display real-time disaster information

The public or specific users

What We Have Done in HDIS

Location Based Service of Highway Disaster Relief Project
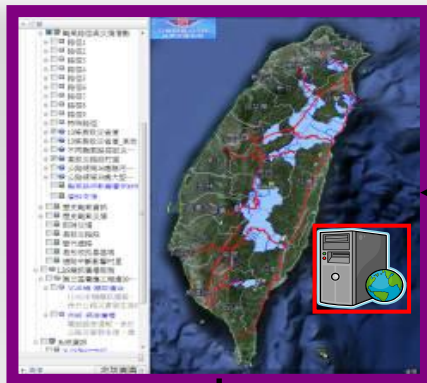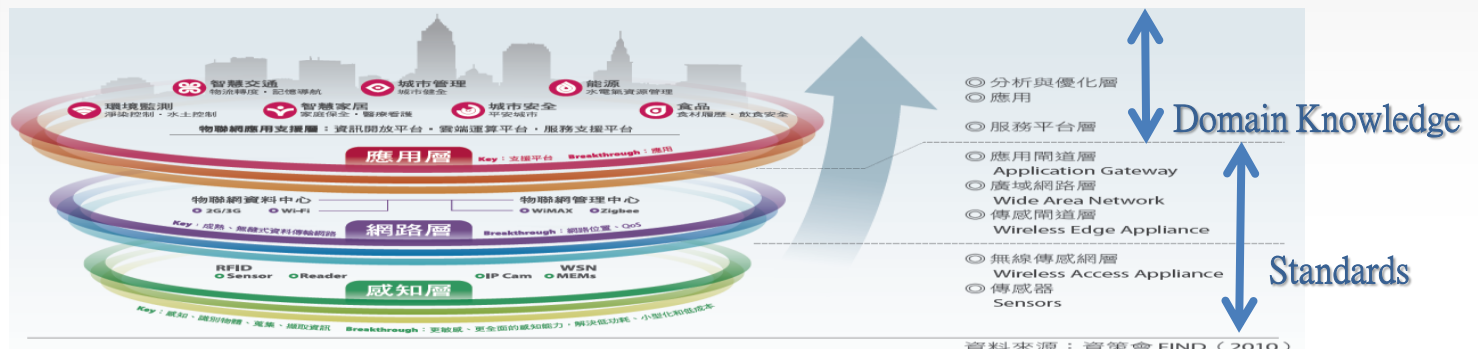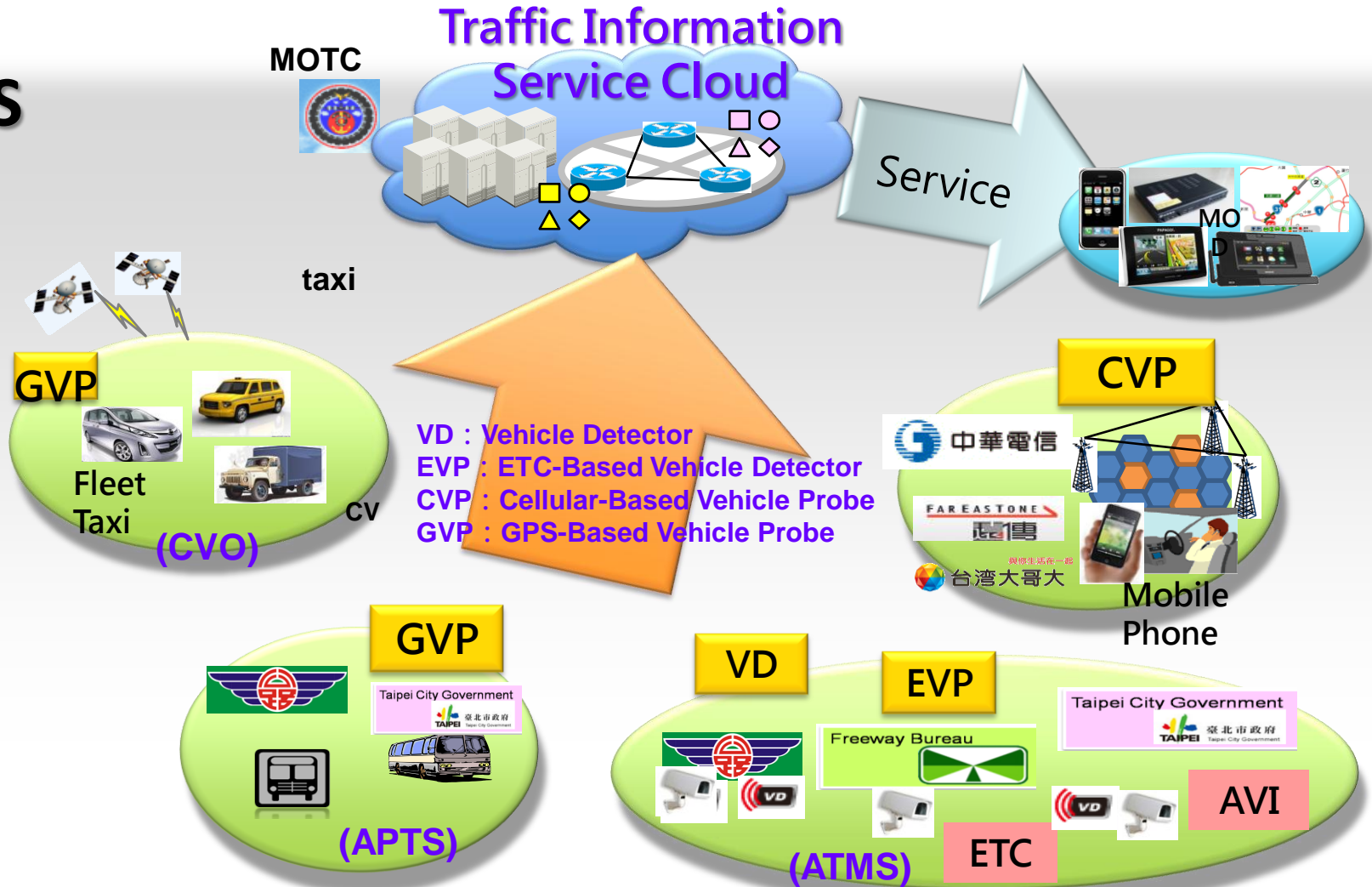
Next Stage of
ITS Development

Next Stage of ITS Development

- Constantly improve the existing system functions

- Seamless public transport, safety and travel information

- Cloud computing and Internet of things (IoT) technology to integrate ITS subsystems

- Taiwan Telematics Industry Association (TTIA) for IC Industry and International Cooperation
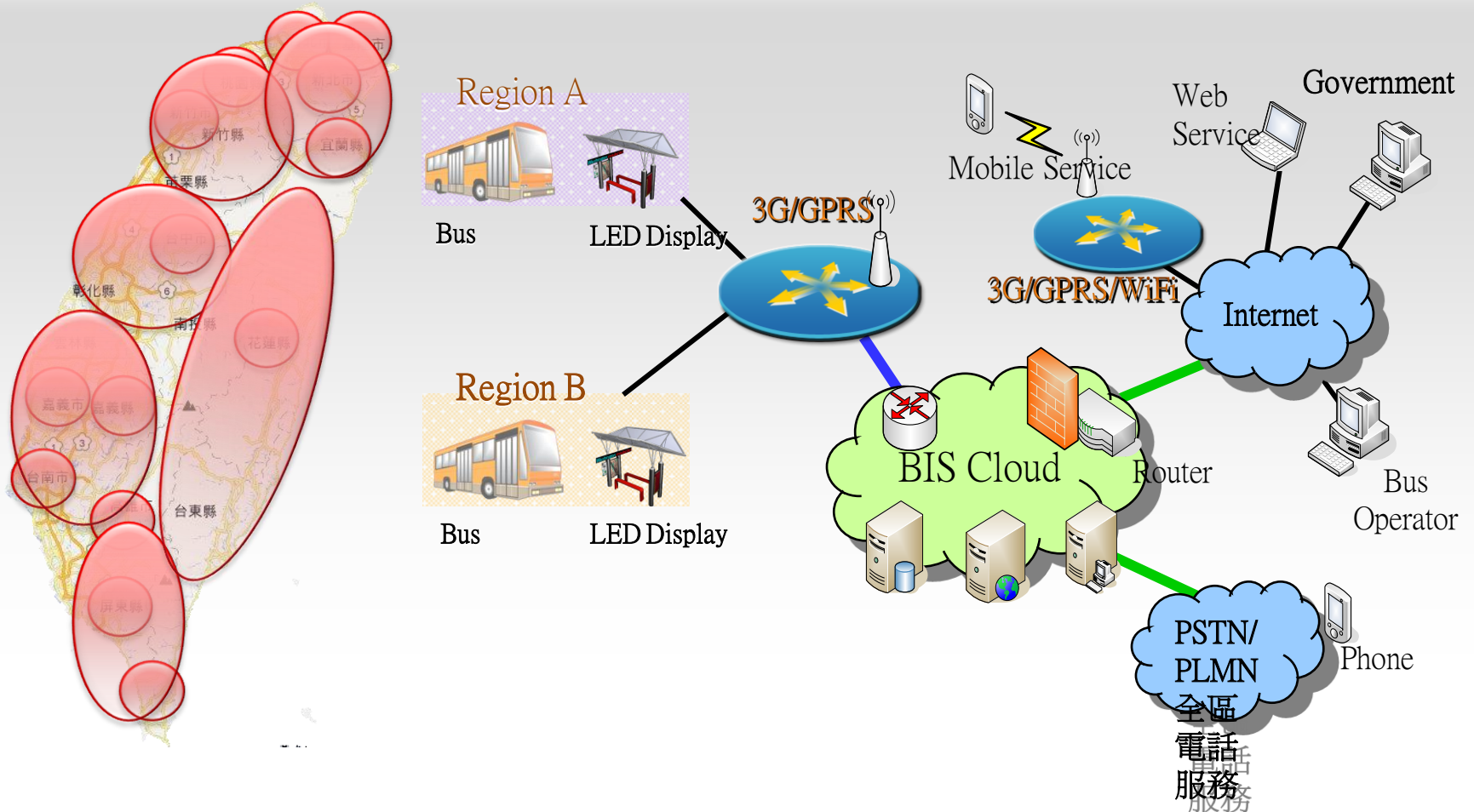
- Provide sustainable mobility and multi-domain services

Next Stage of ITS Development

- **ATIS**

Traffic Information Service Cloud

MOTC

Service

MOD

taxi

GVP

Fleet Taxi

(CVO)

cv

CVP

中華電信

FAR EASTONE 遠傳

台湾大哥大

Mobile Phone

VD：Vehicle Detector
EVP：ETC-Based Vehicle Detector
CVP：Cellular-Based Vehicle Probe
GVP：GPS-Based Vehicle Probe

GVP

Taipei City Government 臺北市政府 Taipei City Govt

(APTS)

VD

EVP

Taipei City Government 臺北市政府 Taipei City Govt
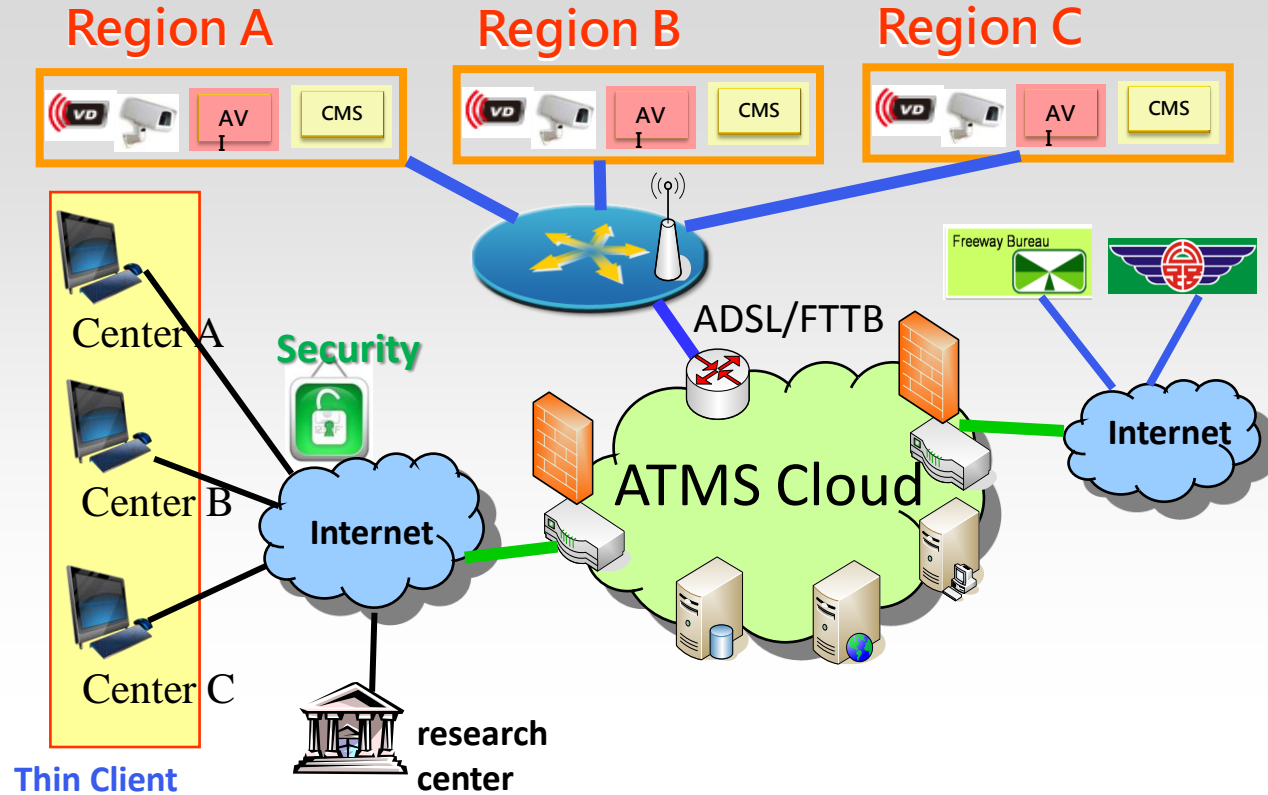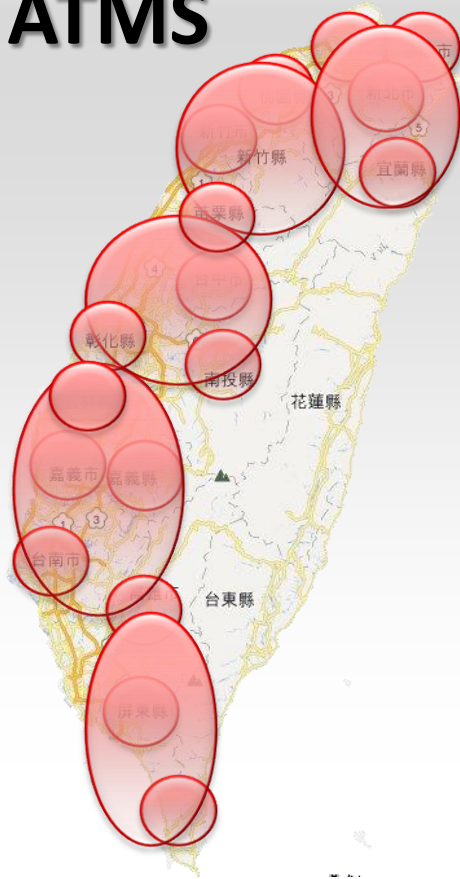
Freeway Bureau

VD

VD

AVI

ETC

(ATMS)

Next Stage of ITS Development

- **APTS: BIS Cloud and Intermodal Integration**

Next Stage of ITS Development

- **ATMS**

Next Stage of ITS Development

- **Sun Moon Lake Project**

Next Stage of ITS Development

- The i^3 travel project

innovative

intelligent

interesting

Next Stage of ITS Development

- The i^3 travel project

- Making Sun Moon Lake become a demonstration of low-carbon tourism and ITS service.

- High quality mobility & reliable information service
  - EV, PHV, and electric buses
  - Cloud and Internet of things technology
  - ITS & Telematics

Next Stage of ITS Development
HDIS: Prevention, Warning, Management
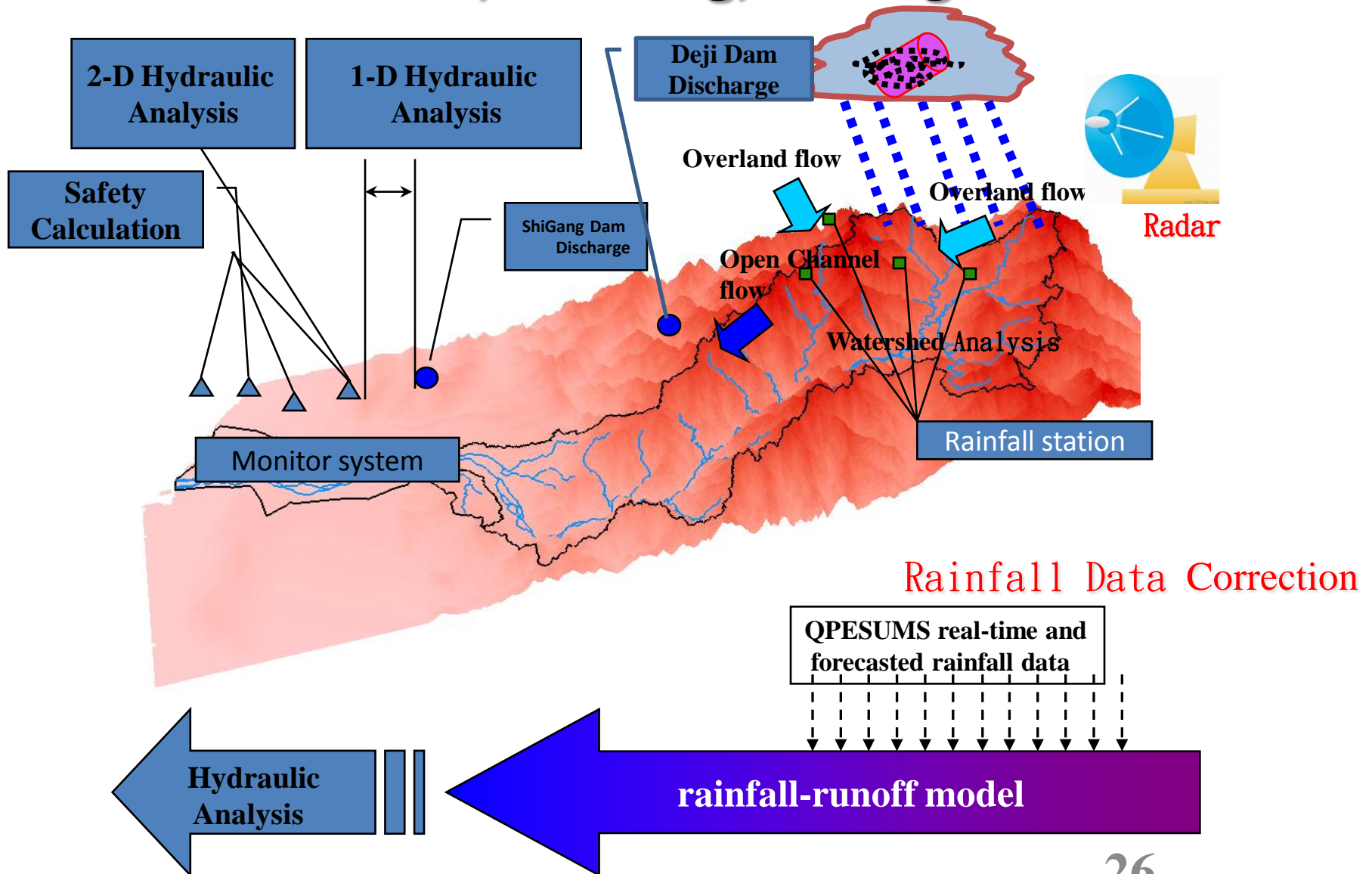
Concluding Remarks

- TTIA and ITS Taiwan fully support ITS Asia Pacific Forum and ITS World Congress

- ICT and Cloud for APTS, E-ticketing, ETC, Travel Information System and Intermodal Integration

- E-safety, Disaster Warning and Emergency Management Systems

- Intelligent Transport Sustainability

- PPP and Business Models

- International Cooperation on Standardization and Deployments

Thank you!

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