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# 2025 Suwon ITS AP Forum

## (ES01) Exploring Current Status and Future Strategies on ITS in AP

28th May 2025

## Strategies for ITS Innovation in Korea


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**ITS KOREA**

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# 01

# ITS Policy Status in Korea

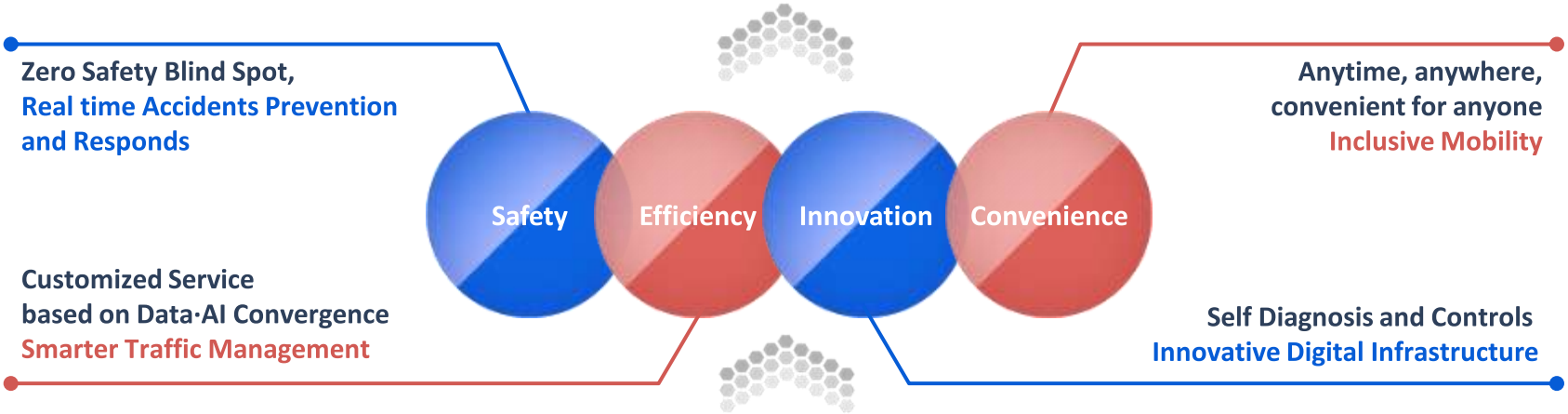
# ITS Master Plan 2030

**2025 Revision(Plan)**

## “ DREAMS on ITS ”

Digital Road for Eco-friendly and Advanced, Mobility Service

**Innovative Road & Competitive International Technologies**
**By Implementing a Digital Road Network for Autonomous Vehicles and MaaS**




**Strengthen technological competitiveness internationally**

| Improvement of Legal/Policy | Standardization | International Cooperation | Nurturing Manpower | Industry Promotion |
|---|---|---|---|---|

# ITS Master Plan 2030

## 01 Safety

- **Zero safety blind spots**
- **Real-Time Prevention & Response**

- Establishing Incident Management System that can Respond Immediately without Blind Spots
- Establishing System for Managing and Responding to Hazardous Situations on Road Intensively

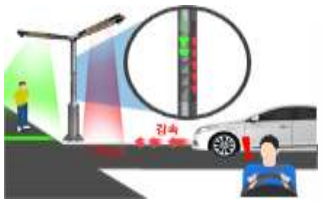
## 02 Efficiency

- **Digital-Based Customized Service Provision**
- **Data with AI Conversing Management System**

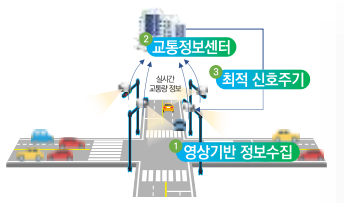
- Advancing AI-based Road Traffic Management Center
- Optimizing Traffic Operation by Digital Road Infra


Smart CCTV(Edge Type)

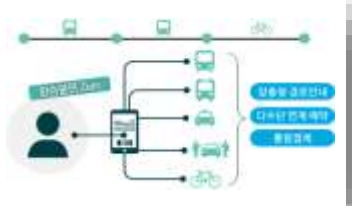
Digital Twin



Smart Pole




Smart Intersection



MaaS

## 03 Innovation

- **Diagnosis and Control situation by itself**

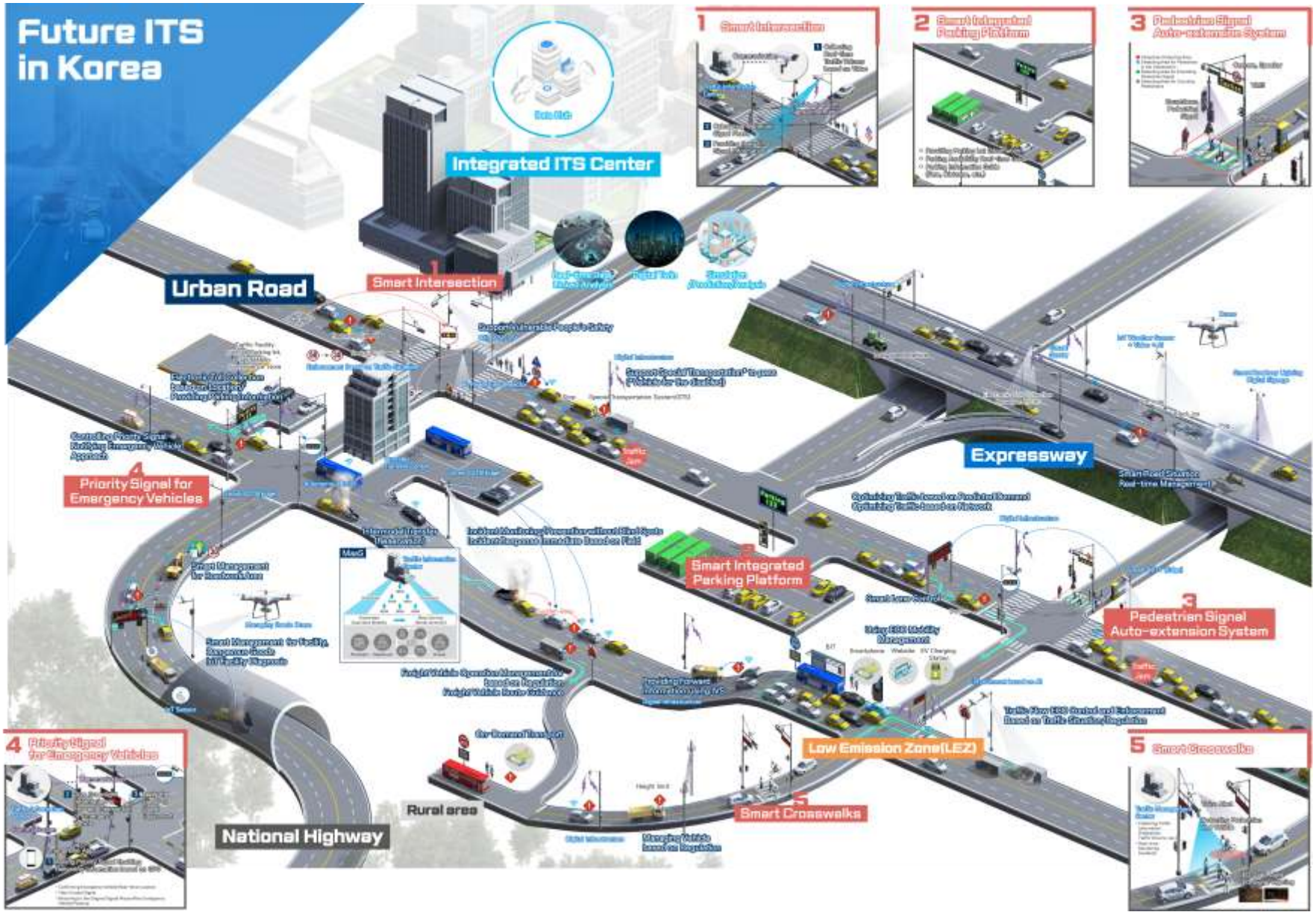
- Implementing Digital Twin-based Traffic Management System
- Innovating Road Infrastructure to Maintain Optimal Performance of ITS Service

## 04 Convenience

- **Provide Service anytime, anywhere, anyone**

- Providing Customized Smart Mobility Service
- Providing Transportation Welfare without Discrimination through Strengthening Equity and Publicness

# ITS Mater Plan 2030 - Future ITS Roadmap



# Mobility Innovation Roadmap

## “ Establishment of Mobility Innovation Roadmap ”

For Implementing Future Mobility in Every Life and Preparing for the Global Market

19th, Sept, 2022

**Autonomous Vehicles** : Over 50% of Autonomous car penetration by 2035

- To release a Level 3 autonomous car by the end of 2022(The third country in the world, after Germany and Japan)
- The Level 4 autonomous buses will be launched on public roads by 2025 and cars by 2027

**Urban Air Mobility(UAM)** : 70% Reduction in travel time by 2035

- To launch the fully commercialized UAM services in 2025(The first in the metropolitan area)
- To start UAM services across the country in 2035(Operate as express&intercity buses)

**Digital Logistics** : Implementation of half-day consumer goods logistics services nationwide by 2035

- To launch robot-mediated delivery systems in apartment complex by 2023
- To start the Urban Railway logistics service by 2027 and Hyper Tube logistics service by 2040

**Mobility Services** : Reduction of national average commuting time to 20 min by 2035

- To start DRT(Demand Responsive Transport) service in 2nd New Town by 2023
- To construct Future Complex Transfer Center by 2030 and Implement MaaS(Mobility as a Service) nationwide by 2035

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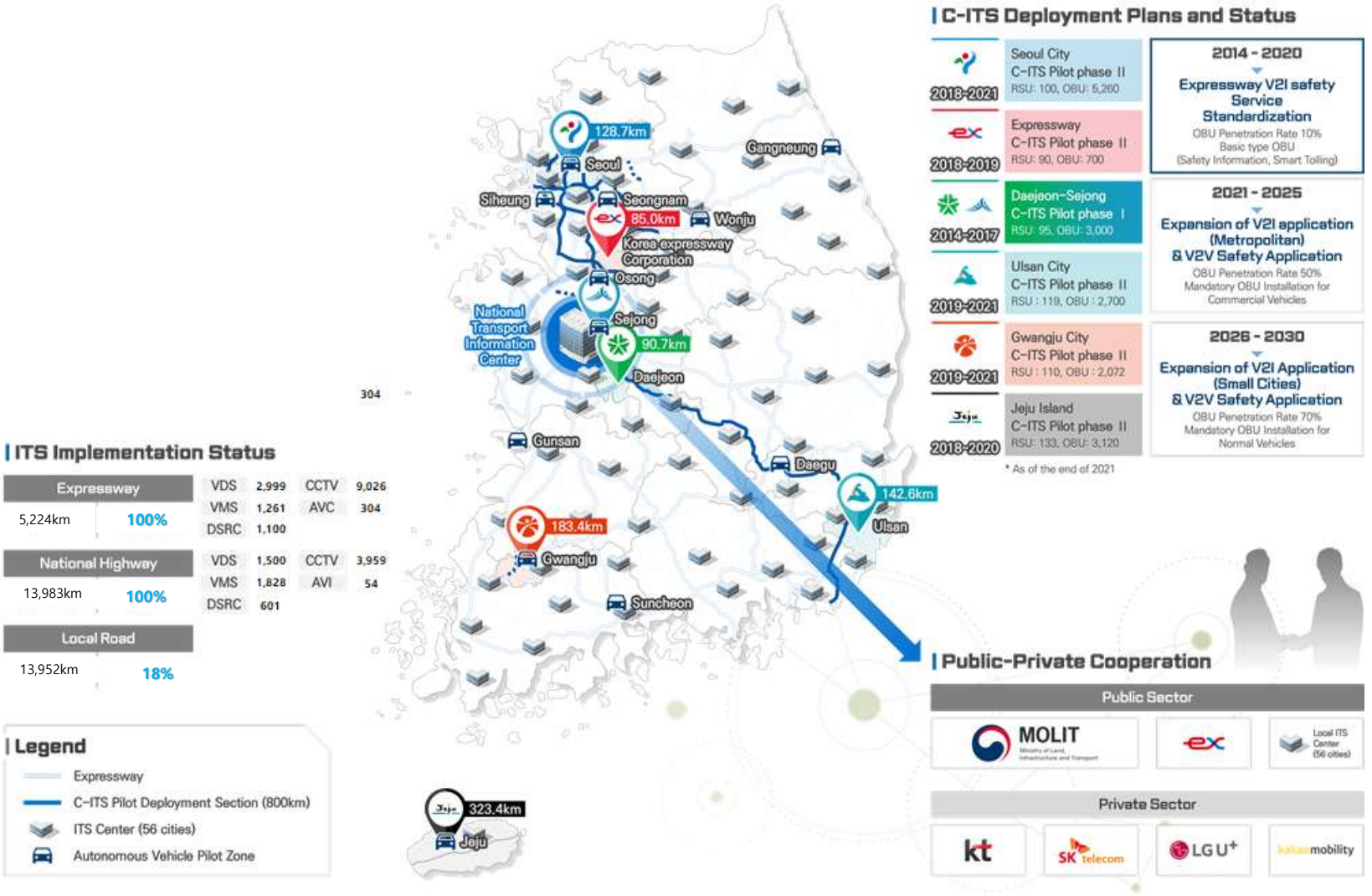
# 02

# ITS plans and Projects in Korea

# ITS/C-ITS Implementation status in Korea



# C-ITS Implementation Plan

## History of C-ITS Implementation

| Step 1 ('07~'14) | Step 2 ('14~'23) | Step 3 ('24~'30) |
|---|---|---|
| Development of WAVE-based C-ITS core technology | Pilot / Demonstration Projects (1,702km on major highway, etc.) | Nationwide C-ITS Implementation based on LTE-V2X |

# Expressway Pilot Operation District

## <Status of Expressway Pilot Operation District and Plan>

### 01 Current Status

**4 expressway routes**, partial sections **totaling 332.3 km**, including connections to branch bases, rest areas, and subsidiary facilities

### 02 Extension Plan

**Entire 44 expressway routes totaling 5,224 km**, including connections to branch bases, rest areas, and subsidiary facilities

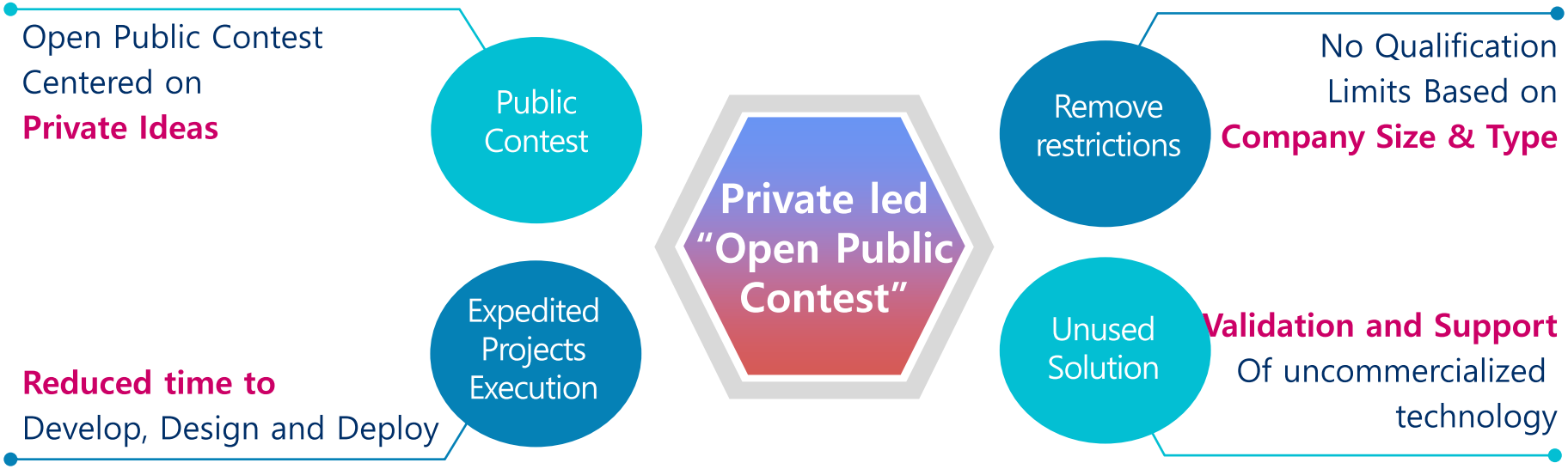
# Autonomous Driving Living Lab

- Four departments (MOLIT, MSIT, MOTIE, KNPA) jointly carrying out the Autonomous Driving Development Innovation project ('21 ~'27)

# Public Call for Proposal on Innovation ITS Services

Breaking away from the Framework of Public Projects to Discover and Deploy **Private led ITS Services**

**"Perfectly Open Public Call for Proposals"**




| Supporting | Advancement | Commercialized |
|---|---|---|
| Proof of concept in real road of Unverified & non-commercialized technology | Supports advanced traffic management system's proposals | Based on the outcomes of this public contest, it will be expanded on various roads |

# ITS standardization WG based on Private demand

## < ITS standardization working group based on Private demand>

- The emergence of New ITS services → The development of new standards and the increasing demand for standards
- Establishing a standardization framework centered around ITS industry stakeholders

### Conventional ITS standardization

| | |
|---|---|
| Issue. 01 | Government agency-centered |
| Issue. 02 | Irregular meetings |
| Issue. 03 | Not accommodating of technological changes |


### Private demand oriented Standardization

| | |
|---|---|
| Reflecting private sector demand | Solution. 01 |
| Regular WG meetings | Solution. 02 |
| Gathering opinions from Experts in each field | Solution. 03 |

**Expanding channels for identifying standardization demand**

**Increasing the utility of standards**

**Development of standards that are practically applicable**

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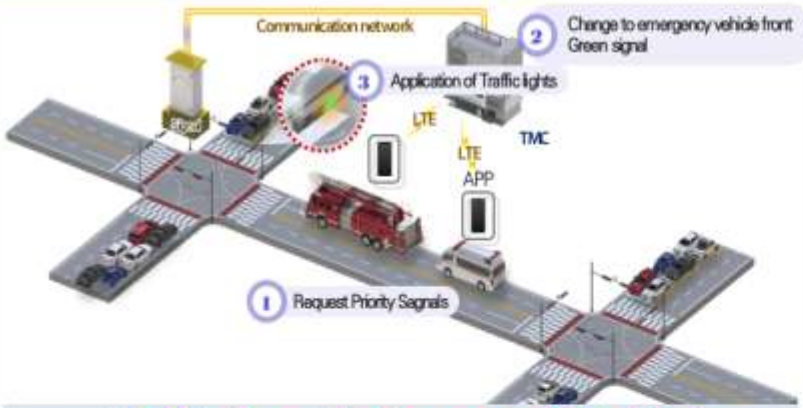
# 03

# Latest ITS Services in Korea

# Latest ITS Services in Korea

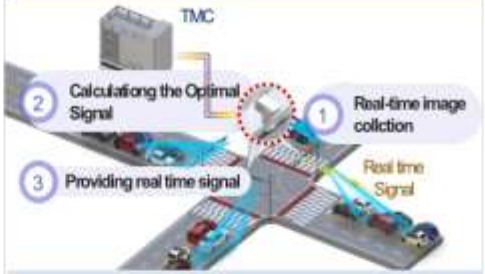
## Emergency vehicle Priority Signal




**40-50% dispatch time reduction effect**

A System for Quick response to disaster situation by preferentially giving green signals when emergency vehicles pass through intersections.

## Smart Intersection



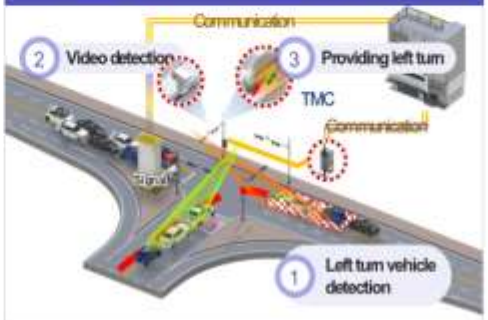

**10% intersection flow improvement**

A system that calculates optimal signal data and applies to based on generated data such as intersection direction and vehicle type.

## Smart Pedestrian Crosswalk

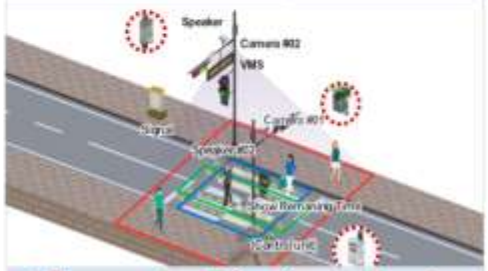

A system that provides smart services to vehicles and people to prevent pedestrian accidents in advance.

## Left-Turn Actuated Signal




A System that increase traffic efficiency by reducing unnecessary left turn signals.

## Pedestrian Signal Time Extension System

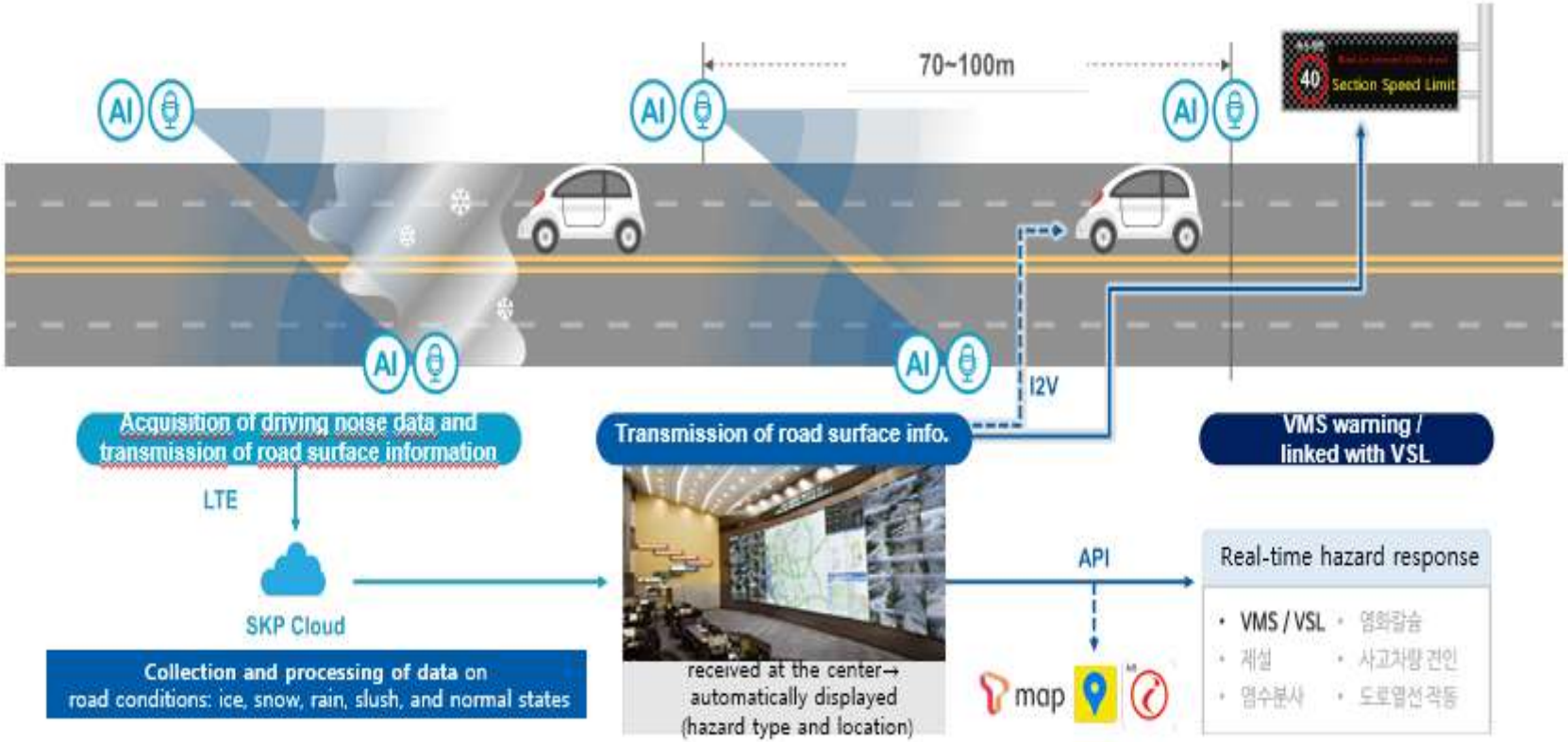



**4-5 second walking time extension**

A system that automatically extends the signal for pedestrians who cannot cross within the given walking signal time.

# Innovative Services in Korea

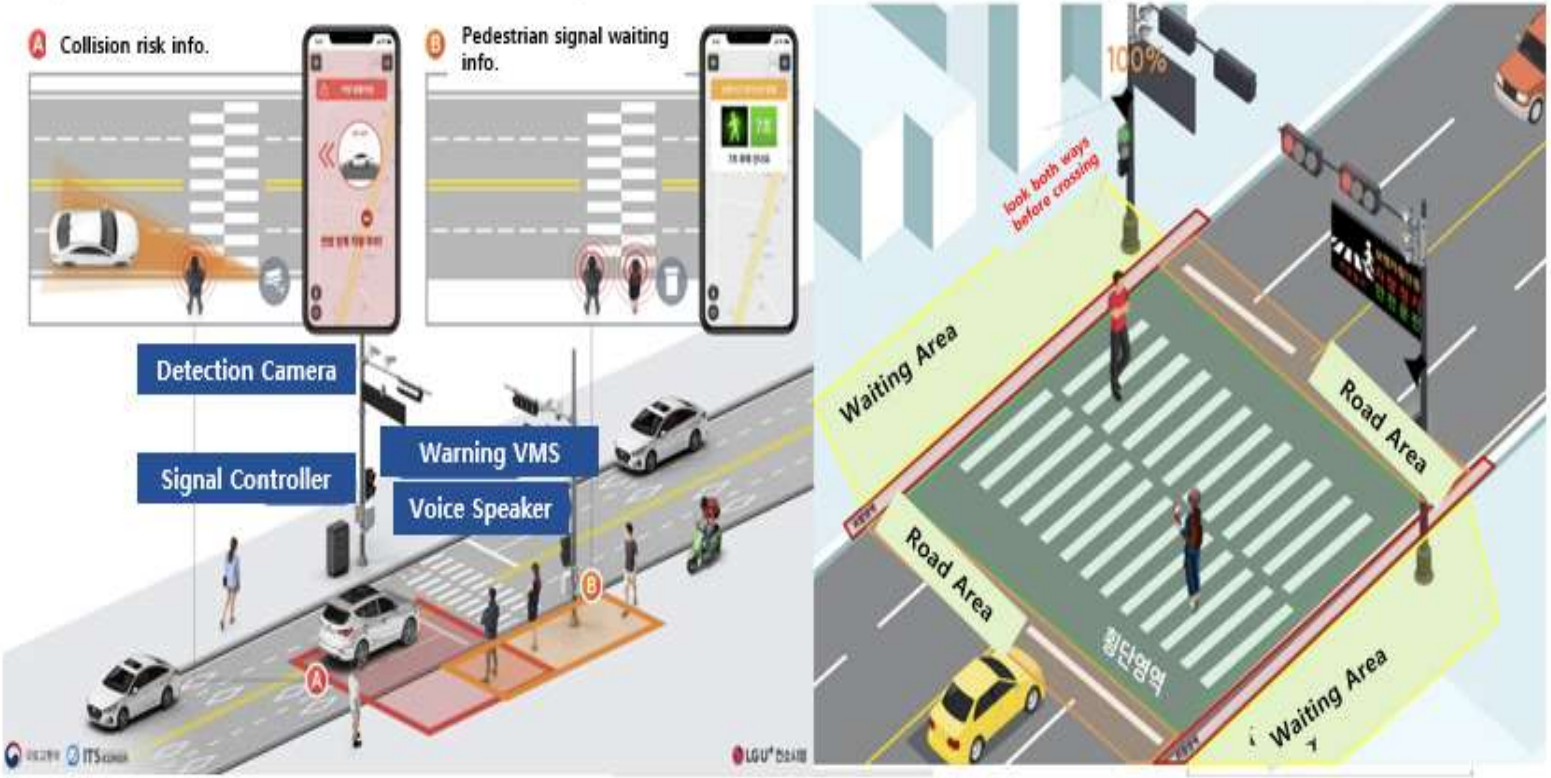
## ① Real-time road risk information system Based on AI analyzing road-friction sound




- ◆ Improved Accuracy in Road Surface Condition Detection (e.g., Ice/Snow)
- ◆ Minimization of Workforce and Resource Waste

# Innovative Services in Korea

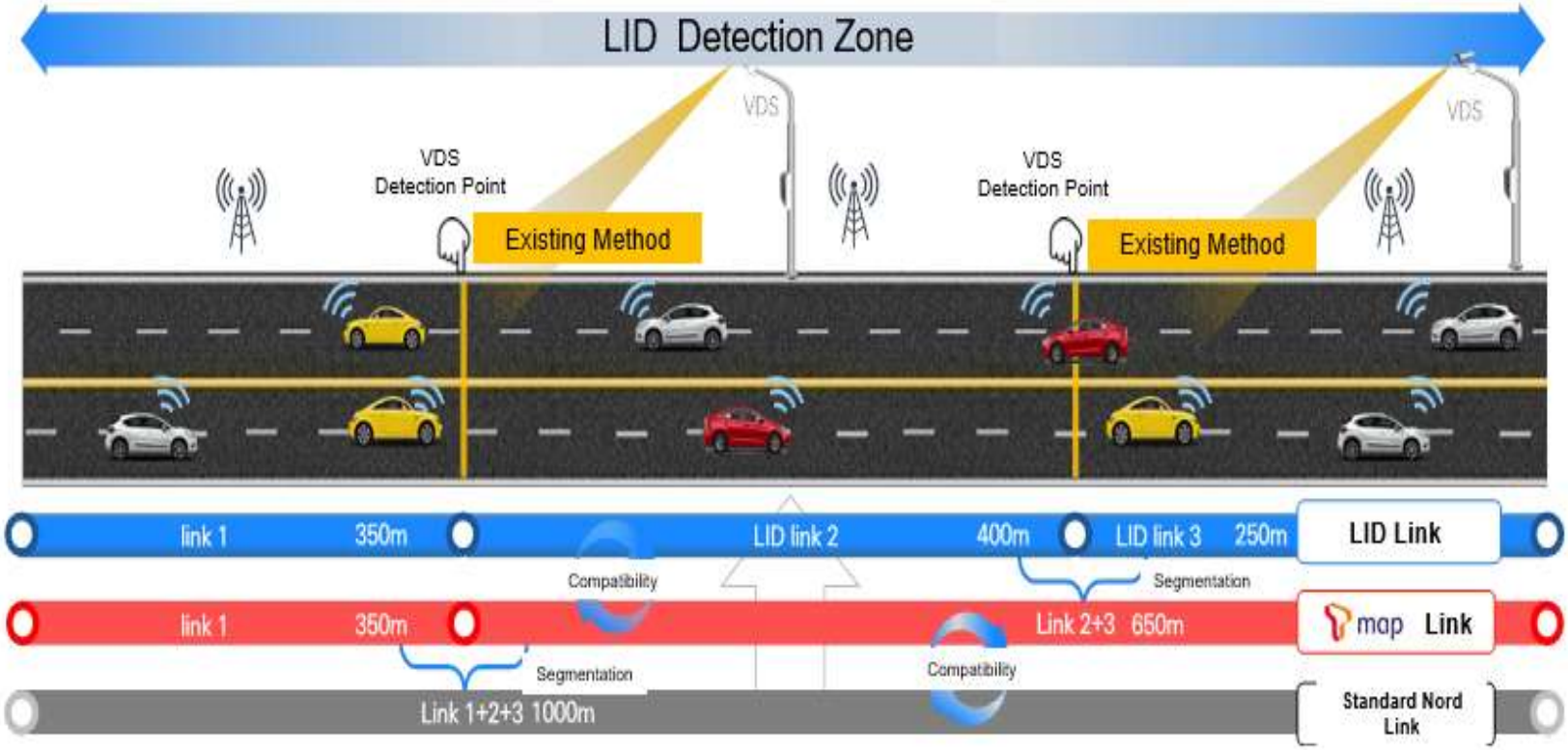
## ② Smartphone-based Pedestrian Safety Enhancement Service Utilizing Data, Network, AI Technologies




- User response rate of **83%** (speed reduction ect.)
- **21.3%** reduction in jaywalking incidents

# Innovative Services in Korea

## ③ Innovative service based on high-precision Cellular data positioning technology




◆ Expanded information collection coverage
(**7.7 times** greater collection area, **18.1 times** more data links)

# 04

# Measures to Strengthen Cooperation In AP

# Sharing Current Status of ITS Deployment

## 01 ITS Infra Investment

- Highway : 5,224km (100%%)
- National Road : 13,983km (100%%)
- Local Road : 13,952km (18%)

## 02 Information Management

- 89 Center operations
- Private Companies utilizing public data
- Data open in Open API format

## 03 Traffic Control

- Priority Signal System : 50 cities
- Smart Intersection : 45 cities
- Increase Smart Crosswalk

## 04 Electronic Toll Collection

- Hi-Pass : 490 Toll plazas
- Multilane : 84 Toll plazas
- Usage rate : 90.6%

## 05 Bus Information System

- 161 cities, BIT* 43,182ea

* BIT : Bus Information Terminal

- Information Accuracy (over 90%)
- More than 80% user satisfaction

## 06 Cooperative ITS

- ('14-'20) C-ITS Pilot / Pre Deployment Projects
- ('17~) Automated Vehicle Test-bed (K-City)
- ('24~ '25) Testing on real roads and Dajeon-Sejong pilots

* Source : MOLIT(Ministry of Land, Infrastructure and Transport)

# 2025 Smart Mobility Forum

## Smart Mobility Forum

- Date & Time : August 4th ~ 5th, 2025
- Venue : Paradise City Sapphire Room, Incheon
- Theme : Smart Mobility Initiative for a Sustainable Future in APEC (TBC)
- Participants : High and working-level officials from APEC Economies and industry professionals

**DAY 1**

| | | |
|---|---|---|
| Technical Tour | Opening Ceremony | Key Note Speech |
| High-Level Session | Welcome Reception | |

**DAY 2**

| | | |
|---|---|---|
| PL Session 1 | PL Session 2 | PL Session 3 |
| Closing Ceremony | | |

Biz Matching and Exhibition



# Thank you.

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