WORLD BANK GROUP | KOREA GREEN GROWTH TRUST FUND | Ministry of Finance and Economy | SEJONG CITY

KGID 2026 SEJONG

Korea's National ITS Framework and Future Mobility Vision

Sue Park, Director, ITS Korea


1. ITS MP

1.1 Korea's ITS Milestones

Introduced in 1993, now Building a Digital Infrastructure

1993-1998

Stage 1
Introduction

- '93 Review of ITS
- '94 Expressway ITS Pilot Project
- '97 Establish 1st National ITS Masterplan
- '98 Host the 5th ITS World Congress in Seoul

1999-2004

Stage 2
Foundation

- '99 Enactment of National Transport Systems Efficiency Act
- '01 Establish 2nd National ITS Master plan
- '01 ETCS Pilot Project
- '02 Host the 5th ITS AP Forum in Seoul
- '04 Implementation of ITS on Seoul Urban Expressways

2005-2010

Stage 3
Growth

- '05 Metropolitan BIS Pilot Project
- '06 Establishment of ITS Centers in Five Districts
- '07 Nationwide Expansion of ETCS
- '09 Projects to support the establishment of ITS in local government
- '10 Host the 17th ITS World Congress in Busan

2011-2020

Stage 4
Next Generation

- '13 Establish C-ITS Master Plan
- '14 Smart Highway Project
- '14 Private-Public Cooperation in Traffic Information
- '16 C-ITS Pilot Projects
- '18 C-ITS Demonstration Projects
- '18 Completion of the K-City Testbed
- '19 Establishment of Traffic Information Centers in 53 Local Governments

2021-

Stage 5
Digital Infrastructure

- '21 Nationwide Expansion of ITS (National road)
- '24 Operation of Traffic Information Centers in 63 Local Governments
- '21 Establish Korea National ITS Master Plan 2030
- '25 Host the 20th ITS AP Forum in Suwon
- '25 Establishment of C-ITS Roadmap (~'26)
- '25 Update of the ITS Master Plan 2030 (~'26)
- '26 Host the 32nd ITS World Congress in Gangneung

More Convenience, More Benefits!

01 ITS Infrastructure

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

02 ITS Data Management

- 89 ITS Centers
- Public–Private Data Sharing
- Open API-based Data Sharing

03 Signal Control

- Priority Signal System 50 Cities
- Smart Intersection : 45 Cities
- Expansion of Smart Crosswalk

04 ETCS

- Hi-pass : 490 Toll plazas
  ** Hi-pass : Korea ETCS System*
- Multilane Hi-pass : 84 Toll plazas
- Hi-pass Usage rate : 90.6%

05 BIS

- 161 cities, BIT* 43,182ea
  ** BIT : Bus Information Terminal*
- Data Accuracy : over 90%
- Over 80% of users are satisfied

06 C-ITS

- ('14~'20) C-ITS Pilot/Pre Deployment
- ('17~) Automated Vehicle Test-bed (K-City)
- ('24~'25) LTE-V2X Testing on Real Roads

1.3 Benefits of Korea's ITS

ITS for Better Roads and Better Convenience

01 ITS Infrastructure

- Improving speed 8.36%
- Improving travel time 7.52%
- Traffic Info User Satisfaction 85.2%

02 ITS Data Management

- Providing Traffic Information
- Public↔ Private Data Sharing
- Value-Added Services

03 Signal Control

- Improving EV Speed 61.15%
- Reducing travel time 39.44%
- Reducing Intersection Queue Length 4.16%
- Reducing Pedestrian Jaywalking 13.29%

04 ETCS

- Reducing waiting time 44sec
- Reducing Co2 15,300ton/y
- Saving fuel Cost USD8.5million

05 BIS

- Improving bus punctuality by 35%
- Reducing bus accident by 24%
- Reducing Bus Complaints by 48%

06 C-ITS

- Reducing Congestion charge USD550million
- Reducing traffic accidents by 46%
- Improving travel speed by 30%

Digital Road System Supporting Eco Friendly Mobility

DREAMS on ITS

Digital Road for Eco-friendly and Advanced, Mobility Service

Target Indicators : Traffic accidents ~40%, Traffic costs ↓ USD 1.0 billion/year
GHG emissions ↓ 700,000 tons/year

Zero Safety Blind Spot
Real Time Accidents Prevention and Responds

Customized Service Based on Data·AI Convergence
Smarter Traffic Management

Safety

Efficiency

Innovation

Convenience

Self Diagnosis and Controls
Innovative Digital Infrastructure

Anytime, Anywhere, Convenient for anyone
Inclusive Mobility

Enhancing Global Competitiveness

- Legal and Regulatory
- Standardization
- International Cooperation
- Development of Professional
- Industry Development

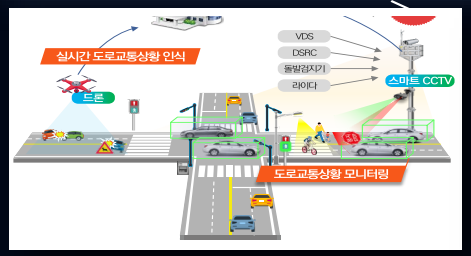
Digital Roads for Innovative Road Services

01 Safety

- Zero Safety Blind Spot
- Real Time Accidents Prevention and Responds

02 Efficiency

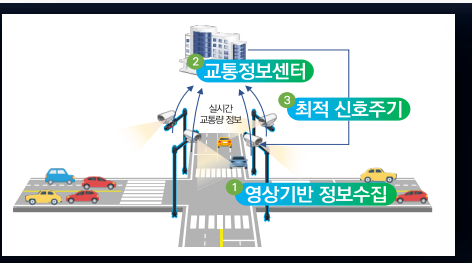
- Digital-Based Customized Traffic Provision
- Data with AI Conversing Management System



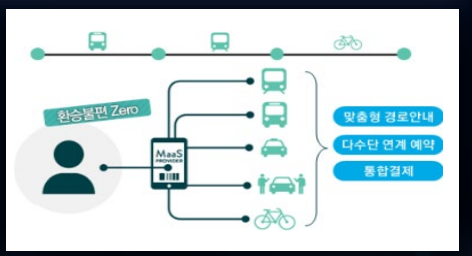
Smart CCTV(Edge Type)

Digital TWIN

Smart Pole



Smart Intersection



MaaS

03 Innovation

- Diagnosis and Control Situation by itself
- Implementing Digital Twin-based Traffic Management System

04 Convenience

- Provide Service anytime, anywhere, anyone


2. AX-Sprint

AX-Sprint 300

Fast-Track for AI Commercialization

Targeted support for rapid commercialization in high-potential AI sectors

Focus 01 — New Market Creation for AI Products & Services

Focus 02 — Accelerating AX for Existing Manufacturing and Service Firms

Focus 03 — Raising Public Awareness of AI

Focus 04 — Fostering New AI Firms

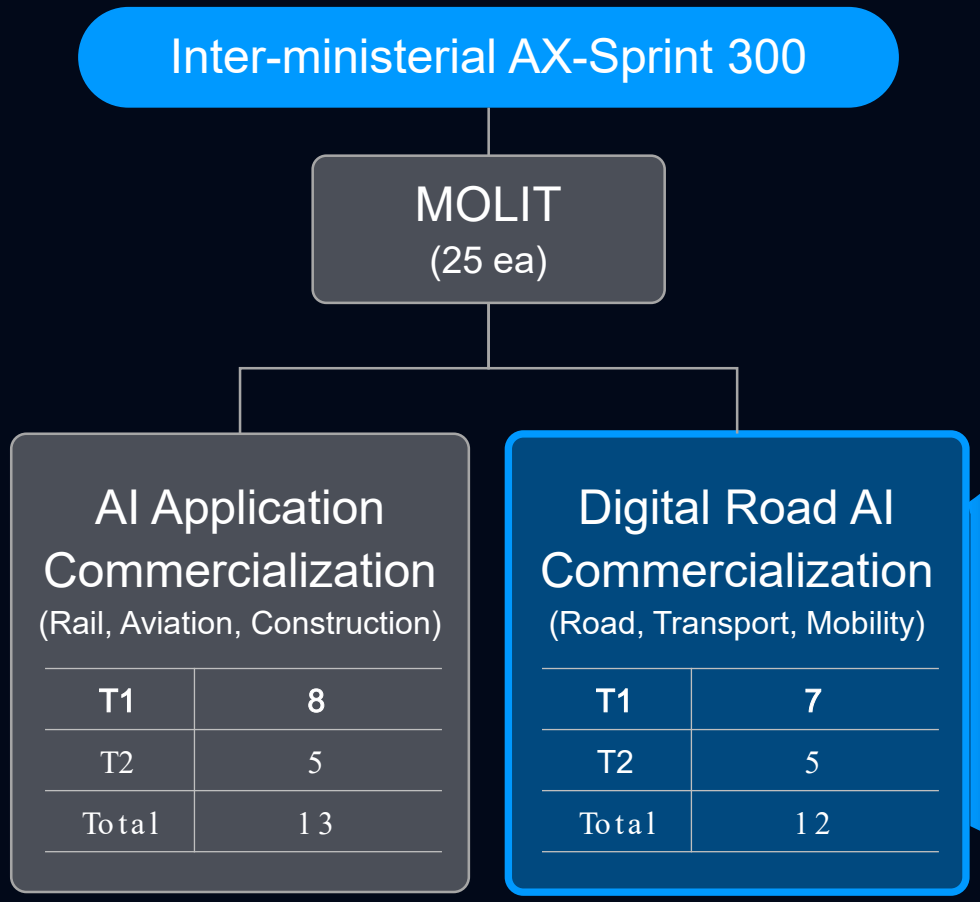
AI, Intensifying Global Competition

Core Technology Development,
including AGI(Artificial General Intelligence)

AX, Emerging as a Survival Strategy for Industry

AI-Driven Innovation in Business Decision-Making,
Product Development, and Manufacturing Processes

Digital Road AI Commercialization Program



Goal	**Accelerating AX Adoption across the Road Lifecycle (design, construction, operation, and maintenance)**
Period	’26 ~ ’27 **Operating Grant (70% Government funding)**
Budget	USD 35 Million Government Budget USD 24.5 M(’26-19.4M, ’27-5.1M)
Program Scope	TYPE1: 7 ea (within 2026) TYPE2: 5 ea (during 26~27)
KPIs	Ex No. of completed pilots, client linkages (MOUs), and new revenue/sales cases

Main Items(Tentative)

01

Next-gen Lane-level Navigation

02

Autonomous Driving Guidance

03

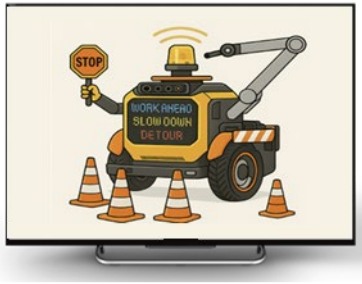
AI Monitoring All Road without Blind Spots

04

AI Tunnel Repair-Bot

05

Road Safety Guardian Robot

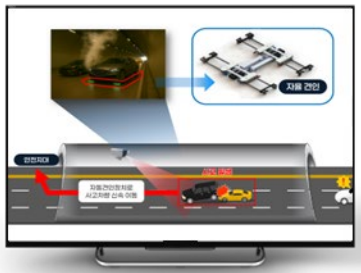


06

AI Autonomous Lane Marking Robot

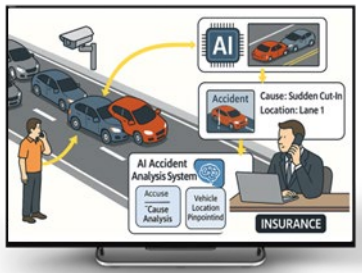
07

AI Autonomous Tunnel Towing Platform



08

AI Remote Accident Assessment Platform



09

Smart AI Crosswalk Signal


3. Autonomous Diving
Living Lab

3 Autonomous Driving Living Lab

Autonomous Driving Technology Development

Safer, Smarter Lives through the Growth of Autonomous Driving

Foundation for Level 4+ AV commercialization completed by 2027

Title	**Autonomous Driving Technology Development and Innovation Project** (A large-scale, multi-ministerial initiative led jointly by MOLIT, MOTIE, MSIT, and KNPA (88 projects in total).
Period	**2021–2027 (7 years)**
Budget	**USD 784M** (≒ KRW 1.0974 trillion, 25% private investment)

Goal

- **Top 3 global leader in autonomous driving** through integrated package approach
- **Create New Markets and Boost Public Acceptance** through autonomous driving service pilots
- **Lay the foundation for new industries** by building an autonomous driving ecosystem

3 Autonomous Driving Living Lab

2026 R&D for Autonomous Driving

Autonomous Driving Programs and Technology Development by Ministry

Ministry of Trade, Industry and Resources

AV → SDV

- In-Vehicle High-Speed Communication Semiconductor

Ministry of Science and ICT

E2E

- Completed the foundation for commercialization of convergence Lv.4+ AV in ‘27

Ministry of Land, Infrastructure and Transport

Service Development

- Localized Autonomous Driving Service Model Development

Korean National Police Agency

Traffic Safety

- Completed the foundation for commercialization of convergence Lv.4+ AV in ‘27

Ministry of Oceans and Fisheries

Maritime Technology

- Autonomous Vehicle Maritime Export-Import Service Technology

Cluster Type

Innovation for Autonomous Driving Competitiveness

MOTIR

MSIT

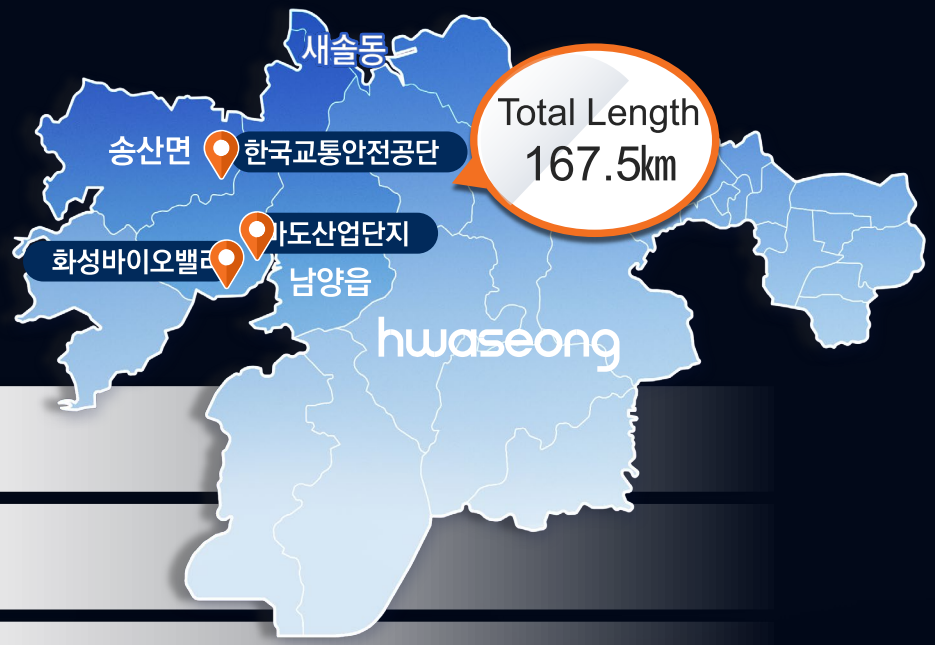
MOLIT

KNPA (Police)

MOF

Upgrading Autonomous Driving Competitiveness through Synergy

Autonomous Driving Living Lab



Citizen-engaged Level 4/4+ AV pilot

Boost AV Service Acceptance via Various Pilot Environment

Sites	9 Districts
Lead Agency	MOLIT Ministry of Land, Infrastructure and Transport (Div. of AD Policy) | TS 한국교통안전공단 Korea Transportation Safety Authority
Period	Building 2024. 11. ~ 2026. 3. Operation 2026. 1. ~ 2027. 12. (2 years)
Government	✓Center equipment and operations platform, on-site infrastructure, promotion/experience center, and AVs
Hwasung city	✓AV traffic signal information open-access environment (Apr. 2025 completed) ✓Charging and maintenance facilities ✓Provide core infrastructure (facility space), support setup, operations, and administration.

Work Scope			
	Public service pilots across 8 AV key areas	AV service charging and support systems	AV Promotion and Experience Center
	Operate 73 + AVs	Charging & Maintenance	AR/VR Contents

Introduction to Autonomous Driving Services

Services for Improving Public Convenience

Mobility Support for the Transportation Vulnerable

For the disabled, elderly, and underserved areas

Demand-Responsive Public Transport

public transport services such as micro-shuttles

Autonomous Shared Cars

Pick-up, return, and optimal allocation of autonomous shared vehicles

Fixed-Route Public Transport

Autonomous public transport services operating on designated routes

Services for Urban Efficiency

Urban Environment Management

For city maintenance and environmental services

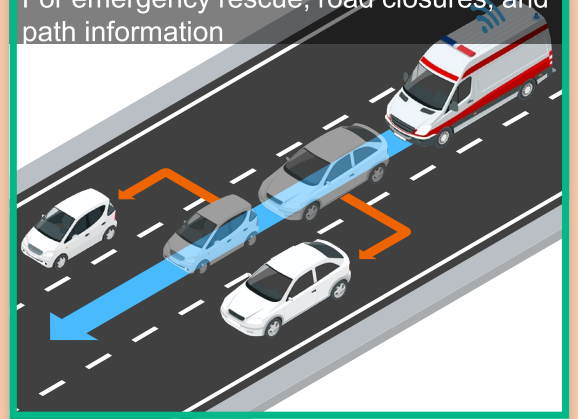
Infrastructure Emergency Recovery Support

Emergency response for infrastructure repair and real-time road condition diagnostics

Services for Public Safety

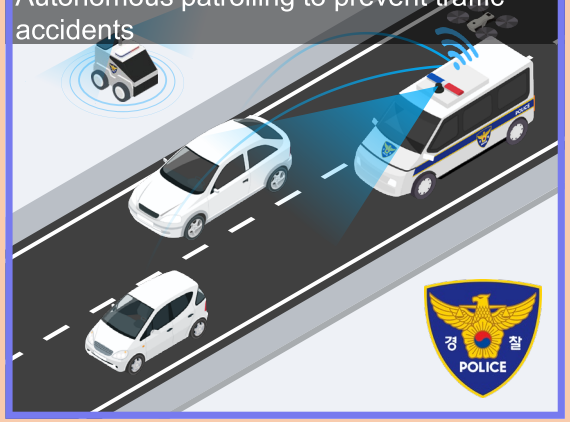
Emergency Vehicle Priority Support

For emergency rescue, road closures, and path information



Traffic Accident Prevention Patrol

Autonomous patrolling to prevent traffic accidents




4. K-City
Network

What is K-City Network?

K-City Network is a global cooperation program that offers packaged support,
Including identification and development of a Korean smart city project and technology transfer for cities overseas, on the basis of inter-governmental cooperation.

What are the main Goals?

- Build a platform to promote and spread superior solutions overseas
- Create an opportunity for global cooperation projects

Who can apply?

- Korean organizations or corporations seeking to access the international market with their own smart solution developed and demonstrated in Korea
  (consortium with a local institution from a candidate city is required)

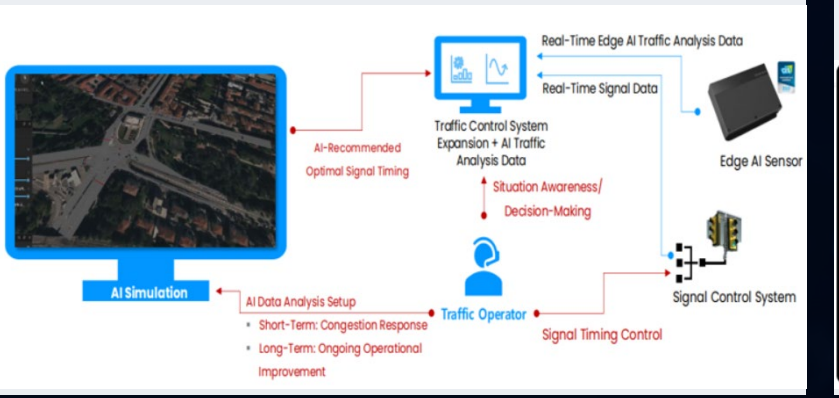
K-City Network : Selected Projects (2025)

AIoT-based smart waste collection

- Location : Milan, Italy
- Project Description : Installation Solar-Powered Waste Compactor, AIoT Fill-Level Sensor, and Total Monitoring Platform

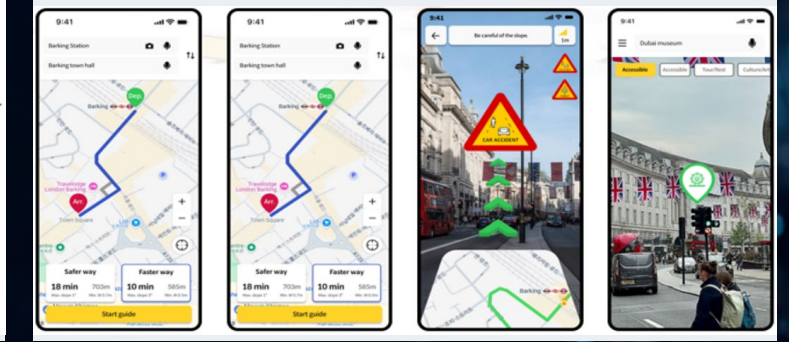
Edge AI Traffic sensor and AI simulation-based traffic management system

- Location : Verona, Italy
- Project Description : Demonstration of a Traffic Management System based on AI Traffic Simulation and Big Data constructed using Edge AI Traffic Sensors (Radar –Camera – AI Fusion Sensors)



AR-based barrier-free Pedestrian Navigation service

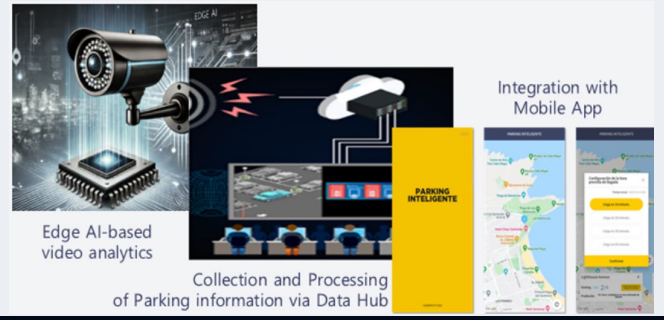
- Location : Birmingham, United Kingdom
- Project Description Construction of customized pedestrian GIS and pedestrian environment image data for individuals with physical disabilities, AR-Based Navigation Service



K-City Network : Selected Projects (2025)

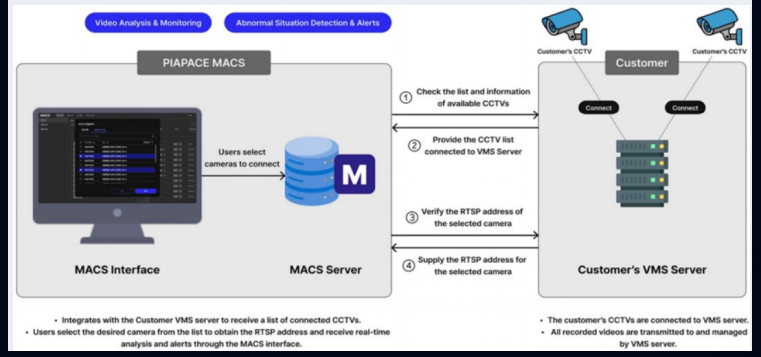
Edge AI and Data hub-Based Smart Parking Service for Urban Congestion Relief

- Location : Kuala Lumpur, Malaysia
- Project Description : Real-time parking detection via Edge AI video analysis. Integrated parking demand and supply information via Data Hub connectivity. Provision of location, fee, and prediction information through mobile app.



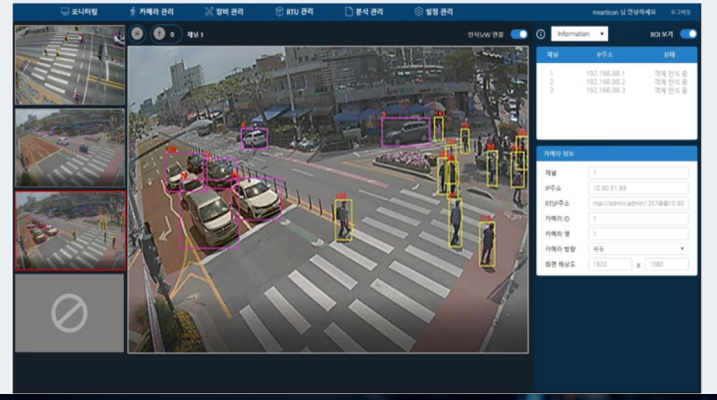
AI CCTV Based Real time Anomaly Detection for Enhancing Traffic and Public Safety

- Location : Khon Kaen, Thailand
- Project Description : ProvidesVLM-based intelligent CCTV Solution and AI analytics module ; conducts demonstration using existing CCTV system in Khon Kaen



Smart Traffic Safety System for Pedestrian Accident Prevention and Traffic Safety

- Location : Lima, Peru
- Project Description : Establishment of Smart Unmanned Control (signal, speed, etc.) system and Smart Crosswalk System by selecting the optimal demonstration site according to the type of accident



GANGNEUNG
2026 ITS WORLD CONGRESS

Date & Venue

October 19 - 23, 2026 / Gangneung Olympic Park

Hosted by

Ministry of Land, Infrastructure and Transport(MOLIT), Gangneung City

Organized by

2026 Gangneung ITS World Congress Organizing Committee, ITS Korea

Theme

Beyond Mobility, Connected World

Program Highlights

Ministerial Roundtable, Academic sessions, Exhibition,

Technical Visits & Demonstrations, Official & Social Programs, Side Events

Ministerial Roundtable with Delegations from 20+ Countries

Oct. 19(Mon)|Seamarq Hotel

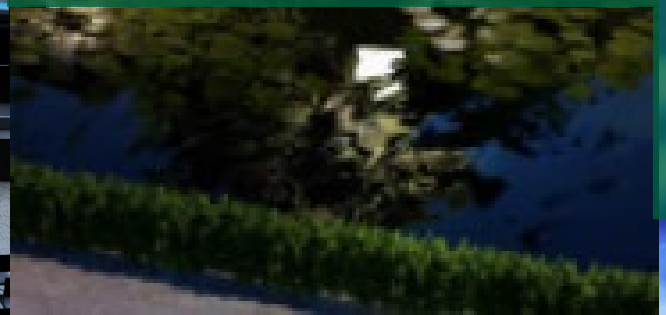
Lighting Up the Night Sky
Drone Show

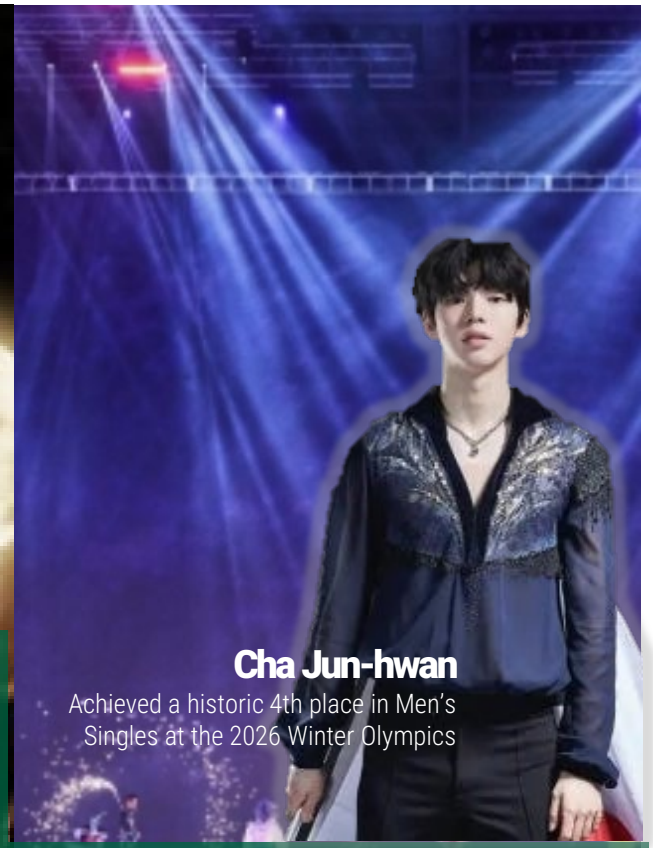
Welcoming around 2,500 participants and delivering the Congress theme message

Oct. 19(Mon)|Convention Center

VIP Dinner Showcasing Korea's Timeless Heritage and Culture

October 20(Tue) | Seongyojang





Cha Jun-hwan
Achieved a historic 4th place in Men's Singles at the 2026 Winter Olympics

Olympic Legacy Ice Show with the Public

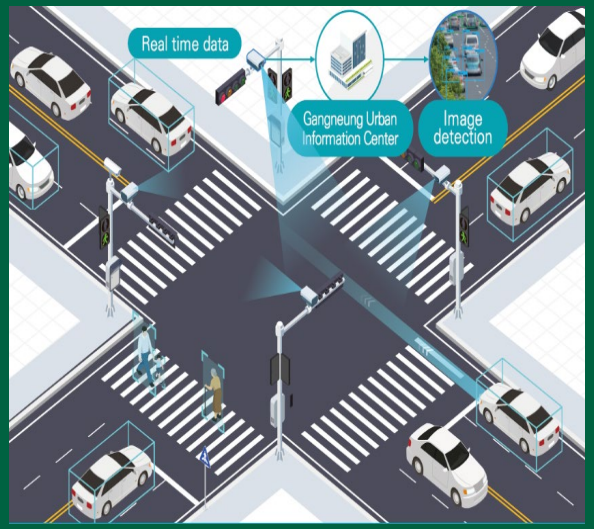
October 22(Thr) | Hockey Center

Key 1. Gangneung ITS System

A Living Laboratory for Mid-Sized City ITS Innovation

Gangneung Urban Information Center & ITS Implementation

Smart Intersection, Smart Corsswalk, ITS Transfer-Hub Center, etc.



Emergency Vehicle Priority System

Autonomous Vehicle Pilot Program

Key 2. Korea's Advanced ITS Technologies

Beyond Gangneung: Public & Private ITS in One Place

Category	Contents	Company Organization
Confirm	AI-based integrated control using LiDAR fusion for ground and aerial mobility (delivery robots, drones)	beyless
	AI-powered parking guidance using LiDAR sensors	SOSLAB
	AI-based seatbelt detection system	GnT Solution
	Smart Crosswalk System for pedestrian safety	Hangil HC
	V2X communication demonstration	LG Electronics
	Indoor crowd management and smart intersection traffic control using LiDAR	Ouster
	Camera-based autonomous single-passenger micro pod	Picker Project
Discussion	Autonomous driving technology demonstration	KADIF
	Outdoor autonomous parking robot	HL Robotics
	Indoor autonomous parking robot	Hyundai WIA


GANGNEUNG
BEYOND MOBILITY CONNECTED WORLD
SAVE THE DATE
2026 Gangneung ITS World Congress
October 19-23, 2026 | Gangneung Olympic Park
May 2026
Registration Open
- Technical Visits, Gala Dinner Registration
August 2026
Detailed Schedule Announcement
- Official & Social, Academic, Side Events, etc.

Thank you