Ministry of Land,
Infrastructure and Transport

K O R E A N
Smart Cities

www.smartcity.go.kr
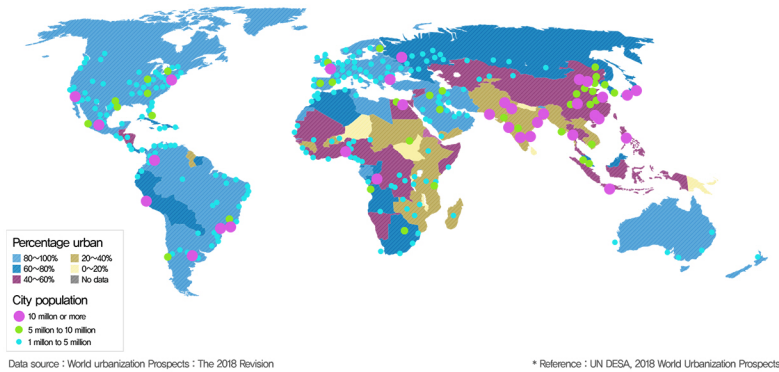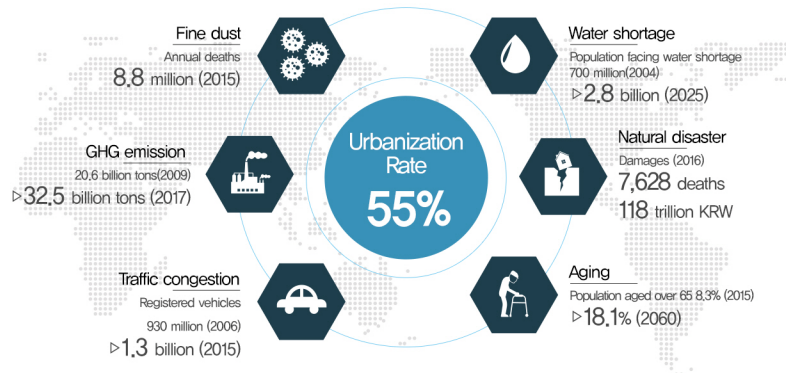
Smart City Korea

## Rapid Urbanization and Consequent Social Problems

According to the UN, by 2050 the world's population will grow from 5 billion to 9 billion, with the urbanization rate reaching up to 70%.

➤ 2018 World Urbanization & City Population



Percentage urban
- 80~100%
- 60~80%
- 40~60%
- 20~40%
- 0~20%
- No data

City population
- 10 million or more
- 5 million to 10 million
- 1 million to 5 million

Data source : World urbanization Prospects : The 2018 Revision

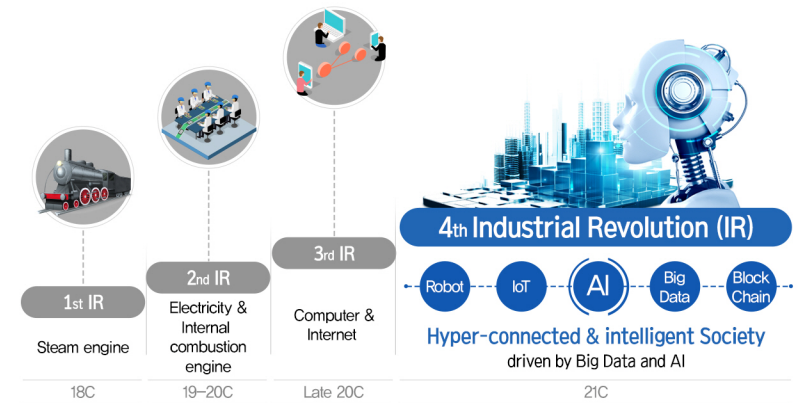* Reference : UN DESA, 2018 World Urbanization Prospects

As population and resource consumption are concentrated in cities due to rapid urbanization, various social problems such as fine dust, traffic congestion, water shortage and disaster safety are intensifying, posing a major threat to the city's sustainability.



**Fine dust**
Annual deaths
8.8 million (2015)

**Water shortage**
Population facing water shortage
700 million(2004)
▷2.8 billion (2025)

**GHG emission**
20.6 billion tons(2009)
▷32.5 billion tons (2017)

**Urbanization Rate 55%**

**Natural disaster**
Damages (2016)
7,628 deaths
118 trillion KRW

**Traffic congestion**
Registered vehicles
930 million (2006)
▷1.3 billion (2015)

**Aging**
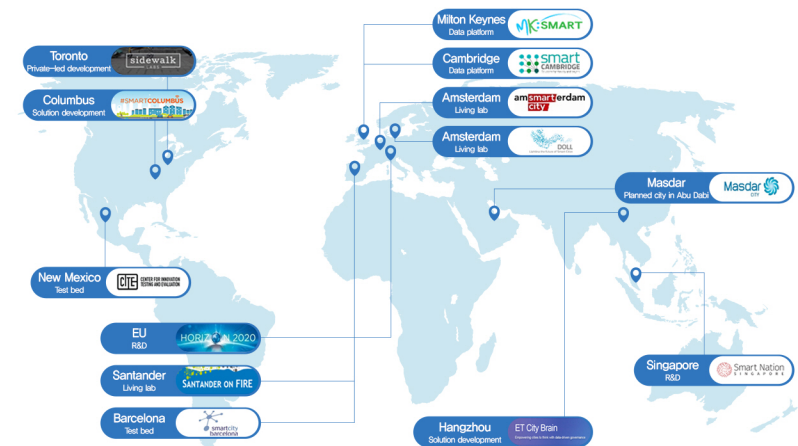Population aged over 65 8.3% (2015)
▷18.1% (2060)

## Use of Innovative Technology to Solve Urban Problems

Countries around the world are paying attention to smart cities as a new alternative to solving urban problems, and making full-fledged efforts to promote smart cities using fourth industrial revolution technologies such as big data and AI.



**1st IR**
Steam engine
18C

**2nd IR**
Electricity & Internal combustion engine
19~20C

**3rd IR**
Computer & Internet
Late 20C

**4th Industrial Revolution (IR)**
Robot — IoT — AI — Big Data — Block Chain
Hyper-connected & intelligent Society
driven by Big Data and AI
21C

As a matter of fact, major countries around the world are pursuing smart cities in a variety of ways, including the creation of Living Labs (Santander, New Mexico), the operation of data platforms (Milton Keynes, Cambridge), and solution development (Columbus, USA)



Toronto — Private-led development — sidewalk
Columbus — Solution development — #SMARTCOLUMBUS
New Mexico — Test bed — CITE
EU — R&D — HORIZON 2020
Santander — Living lab — SANTANDER ON FIRE
Barcelona — Test bed — smartcity barcelona
Milton Keynes — Data platform — MK:SMART
Cambridge — Data platform — smart CAMBRIDGE
Amsterdam — Living lab — amsterdam smart city
Amsterdam — Living lab — DOLL
Masdar — Planned city in Abu Dabi — Masdar
Singapore — R&D — Smart Nation
Hangzhou — Solution development — ET City Brain

**What is a Smart City?**

**Korea's Strengths**

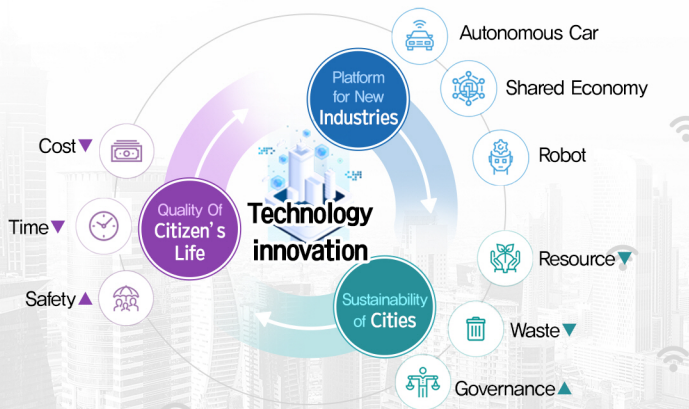Smart City Korea

## Diverse Thoughts on Smart Cities

What is Smart City?
Depending on the level of economic and urban development and urban conditions of each country, smart cities are defined in various ways, and each country's approach to smart cities is varied.

A city running on a mobile platform? In cities, you can get anything with your phone, like shopping, ride-hailing, healthcare, education etc.

A intelligent city that helps residents enjoy more safe and convenient living?

A sustainable city is to use less energy and water and produce less waste and pollution.
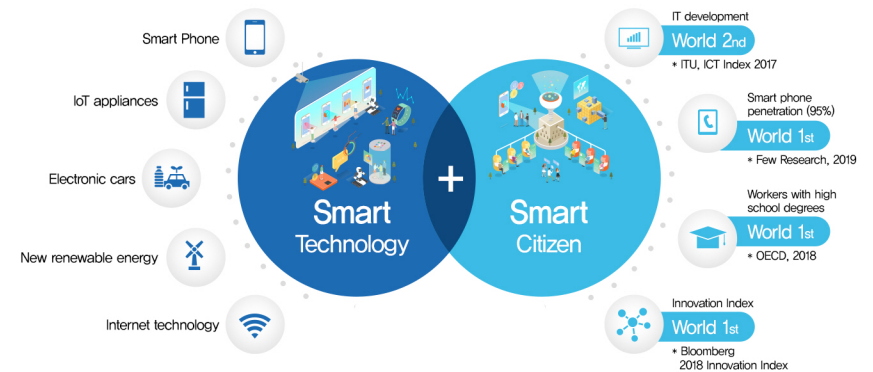
## Our Idea of Smart City

Korea defines Smart City as 'a platform to improve the quality of life for citizens, enhance the sustainability of cities, and foster new industries by utilizing innovative technologies of the 4th Industrial Revolution era'.

Platform for New Industries

Autonomous Car

Shared Economy

Robot

Cost ▼
Time ▼
Safety ▲

Quality Of Citizen's Life

Technology innovation

Sustainability of Cities

Resource ▼

Waste ▼

Governance ▲

## Smart Company, Smart People

Korea's strength in developing smart cities can be explained in two ways.
First, Korea is 'smart'. Korea has world-class ICT technology as well as world-leading companies such as Samsung and LG. In addition, Korea is an IT-friendly country with the world's highest smartphone penetration rate and high internet usage.

Smart Phone
IoT appliances
Electronic cars
New renewable energy
Internet technology

**Smart** Technology + **Smart** Citizen

IT development
World 2nd
* ITU, ICT Index 2017

Smart phone penetration (95%)
World 1st
* Few Research, 2019

Workers with high school degrees
World 1st
* OECD, 2018

Innovation Index
World 1st
* Bloomberg 2018 Innovation Index

## Valuable Experiences in Urban Development

Second, Korea has various experiences in urban development.
Korea has overcome the ruins from the Korean War in the 1950s and has achieved rapid economic growth since the 1960s. Korea has accumulated diverse know-hows in urban development through many trials and errors in the process of new town development for more than 20 years.

Korean War
1950s

Industrial City

Urbanization and infrastructure expansion
1960~70s

New town (phase 1)
1990s

New town (phase 2)
2000s

Sustainable City

70 Year History of Korean Urban Development

Innovation city
2005~

New town (phase 3)
2019~

Smart City

## Smart City Policy Development History

Korea's smart city policy has been gradually expanding and evolving in accordance with changes in circumstances.

### 01 Construction of U-City Phase (~'13)

- It is a project that combines the development of a high-speed ICT Network system with the new town development rojects such as the 2nd Generation New Towns and Happy City and Inno-City. Through the U-Eco City R&D project ('07.8~'13.6, KRW 101.6Bil.), IT infrastructure technologies such as U-City basic service, element technology, and integrated platform were developed.

### 02 System Linkage phase ('14~'17)

- The government implemented information and system linkage projects focusing on the public in order to maximize the utilization of the established smart infrastructure. Based on the Smart City information R&D ('13.12~'19.3, KRW 23.8Bil.), Korea began to distribute the integrated platform** based on 5 major public services*.
  - * ①112 Emergency Video ②Emergency Dispatch ③119 Emergency Dispatch ④Disaster Safety
    ⑤Support for the socially underprivileged

### 03 Smart City Development phase ('18~)

- Korea expanded its policy to encompass new concepts such as testbeds, living labs, innovative ecosystem of the new technologies of the 4th Industrial Revolution. Major innovative growth initiatives, the Korea government is implementing various policies such as developing national pilot cities, smartization of existing cities, and building an industrial ecosystems.
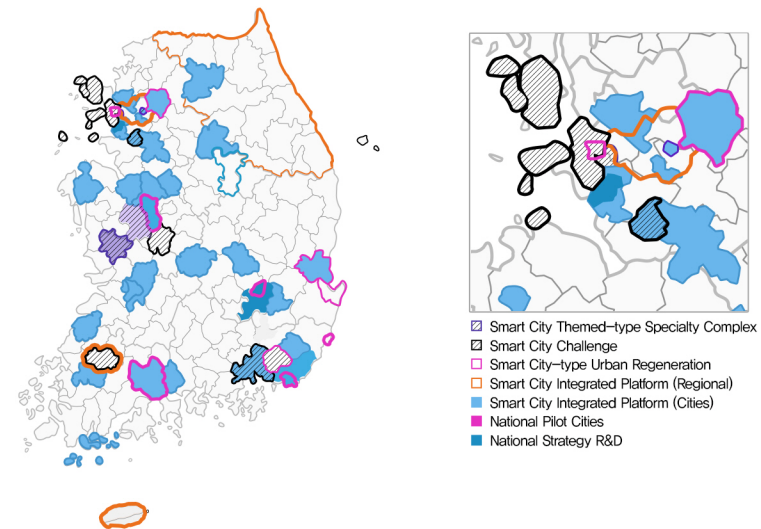
### Korea's Smart City Development Stage

| | 1Phase Construction of U-City('~13) | 2Phase System Linkage('14~'17) | 3Phase Smart City Development('18~) |
|---|---|---|---|
| Goal | Fostering New Growth in Convergence Innovation of Construction and Information Telecommunication Industry | Low-cost High Efficiency Service | Solve Urban Problems Foster Innovation Ecosystem |
| Info | Vertical Data Integration | Horizontal Data Integration | Multilateral, Bidirectional |
| Platform | Closed-type (Silo-type) | Closed-type + Open-type | Closed-type + Open-type (Expansion) |
| System | U-City Act 1st U-City Comprehensive Plan | U-City Act 2nd U-City Comprehensive Plan | Smart City Act Smart City Development Strategy |
| Main Body | Federal Government (MOLIT) | Federal Government (Separately) + Local Government (Partially) | Federal Government (Collaboration) + Local Government (Expanded) |
| Target | New Town (Over 1,650,000㎡) | New Town + Existing Cities (Part) | New Town + Existing Cities (Expanded) |
| Project | Development of Physical Infrastructure such as Integrated Control Center, Communications Network | Public Integrated Platform and Ensure Compatibility and Standardize | Development of National Pilot Cities Implementation of Various Public Contest Projects |

## Status of Smart Cities by Local Governments

Until now, the Korean government has provided active policy support, such as expanding fiscal investment and drastic deregulation, for the successful development and expansion of smart cities. As a result, many local governments are promoting the development of smart cities. 78 local governments across the country have secured dedicated organization for smart cities (as of June, '19), and a total of 67 local governments are participating in smart city government support projects (as of June, '19). Each local government is stepping up efforts to develop a smart city that fits its local characteristics.

### Status of Smart City Projects by Local Governments



- ☑ Smart City Themed-type Specialty Complex
- ☑ Smart City Challenge
- ☐ Smart City-type Urban Regeneration
- ☐ Smart City Integrated Platform (Regional)
- ■ Smart City Integrated Platform (Cities)
- ■ National Pilot Cities
- ■ National Strategy R&D

| Seoul·Incheon·Gyeonggi (21) | Chungbuk (5) | Daejeon·Sejong·Chungnam (8) | Jeonbuk (3) |
|---|---|---|---|
| ☐ Seoul Special City<br>■ Seoul Mapo-gu, Eunpyeong-gu, Seocho-gu, Seongdong-gu, Goyang-si, Gwangmyeong-si, Namyangju-si, Suwon-si, Siheung-si, Ansan-si, Yongin-si<br>☑ Incheon Metropolitan City, Bucheon-si, Suwon-si<br>☐ Namyangju-si, Bupyeong-gu, Goyang-si<br>☑ Bucheon-si, Seoul Seongdong-gu<br>■ Siheung-si | ■ Yeongdong-gun, Jincheon-gun, Cheongju-si<br>☑ Jincheon-gun<br>☑ Jecheon-si | ☐ Seosan-si, Asan-si, Cheonan-si<br>☑ Daejeon Metropolitan City<br>☑ Daejeon Metropolitan City, Chungnam Gongju, Buyeo-gun<br>■ Sejong Metropolitan Autonomous City (5-1 Living Zone)<br>☐ Sejong Jochiwon-eup | ■ Gochang-gun, Wanju-gun, Jeonju-si |

| Gangwon-do (3) | Daegu·Gyeongbuk (7) | Busan·Ulsan·Gyeongnam (12) | Jeju (1) | Gwangju·Jeonnam (7) |
|---|---|---|---|---|
| ☐ Gangwon-do<br>■ Wonju-si, Chuncheon-si | ■ Gyeongsan-si, Gumi-si, Pohang-si<br>■ Daegu Metropolitan City<br>☐ Buk-gu Daegu, Pohang-si(2) | ■ Gangseo-gu Busan, Gimhae-si, Yangsan-si, Changwon-si<br>☐ Gimhae-si, Saha-gu Busan, Dong-gu Ulsan<br>☑ Changwon-si<br>☑ Gimhae-si, Tongyeong-si, Suyeong-gu Busan<br>■ Busan Metropolitan City (Gangseo-gu, Eco Delta City) | ☑ Jeju-do | ☐ Gwangju Metropolitan City<br>☑ Gwangju Metropolitan City<br>■ Gwangyang-si, Naju-si, Suncheon-si, Wando-gun<br>☐ Suncheon-si |

# 04 Korea's Smart City Development Strategy

## We will make our people's lives happy with our innovative and inclusive smart cities.

The Korean government is pursuing smart city policies with the aim of solving urban problems, developing an inclusive smart city that cares for citizens, and building an innovative ecosystem and strengthening global cooperation utilizing the advanced technologies of the 4th Industrial Revolution.

In June, a five-year mid-to-long term roadmap was established to develop and expand smart cities and prepared 14 detailed tasks in 4 major areas.

**1st** We continue to create smart cities tailored for each stage of urban growth (new–existing–old).

**2nd** We will strengthen the foundation for smart city expansion by simultaneously developing technologies and fostering human resources for city operation based on data and AI.

**3rd** We are establishing a smart city innovation ecosystem through bold regulatory improvements and corporate and civic engagement governance.

**4th** we plan to strengthen our global network to share insights and experiences with countries around the world.

### ▶▶▶ VISION ◀◀◀

### Smart City : a platform that changes people's lives

**VISION 01** + Quality of Life
Offer location & data-based services **to solve urban problems**

**VISION 02** + Inclusive Smart City
Build a city that **embraces all citizens**

**VISION 03** + Smart Eco System
Spur global **collaboration** by creating an innovation eco system

**Strategy 01**
National Pilot Smart City
- National Pilot City

**Strategy 02**
Infrastructure building
- R&D
- Smart Solutions
- Integrated Platform

**Strategy 03**
Ecosystem for innovation
- Regulation Reform
- Governance
- Industrial Eco-system

**Strategy 04**
Global networking
- Global Cooperation
- World Smart City Expo

---

## Developing National Pilot Smart City

The Korean government is developing national pilot cities on greenfield land, in Sejong and Busan as a leading model of future smart cities that combines various cutting-edge technologies of the 4th Industrial Revolution.  With the creation of new urban space, Korea is actively developing innovative smart infrastructures and services, with aim for move-in 2021.

Korea will be applying new technologies such as AI, 5G, Blockchain to develop new industries such as autonomous vehicles, drones, and smart energy. Additionally, the nation is developing innovative industrial ecosystems through the use of various connected urban data, including transportation, energy and environment, and participation of private companies.

### SEJONG
- MP : Prof. Jae-sueng Jung (Brain Scientist)
- Executor : LH corp.
- Area: 2.7㎢
- Population: 22,500
- Completion : 2022~

### BUSAN
- MP : Doctor Jong-sung Hwang (Data & Platform Expert)
- Executor : K-Water corp.
- Area: 2.2 ㎢
- Population: 8,500
- Completion : 2021~

Smart City Korea

# National Pilot Smart City – Sejong

The Sejong Pilot City with the concept of AI-based city, is creating a smart city that changes the daily lives of citizens through 7 innovative factors such as mobility, healthcare, education, energy, and more.  For example, smart transportation optimizes traffic by sharing-based transportation and AI analysis of traffic flow data to provide services that reduce commute time and costs, and introduces various future transportation such as shared cars and autonomous vehicles to be experienced in daily life.

5-1 District

Sejong City
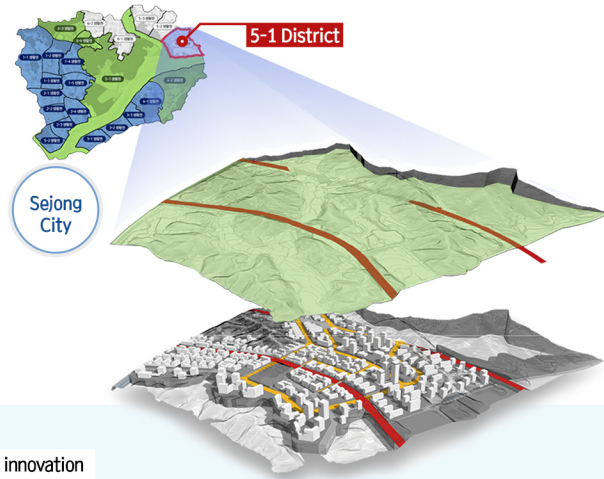
>> 7 areas up for innovation

**Mobility**
Shared mobility(car sharing, ride hailing)
Automated driving(self-driving shuttles, C-ITS)

**Governance**
Digital Twin, M-Voting(block chain based)
Living lab(citizen-led initiative)

**Health Care**
Telemedicine, AI medical examination,
Smart emergency call, Drone rescue

**Culture**
Personalized cultural recommendations
Community currency payment, Unmanned delivery

**Education**
Edu-tech, On-line  education,
Personalized education, Making Space

**Job**
Creation of start-up incubators
Global cross-experiment program

**Energy**
CEMS, Neighborhood Electricity Trading
Zero-energy building

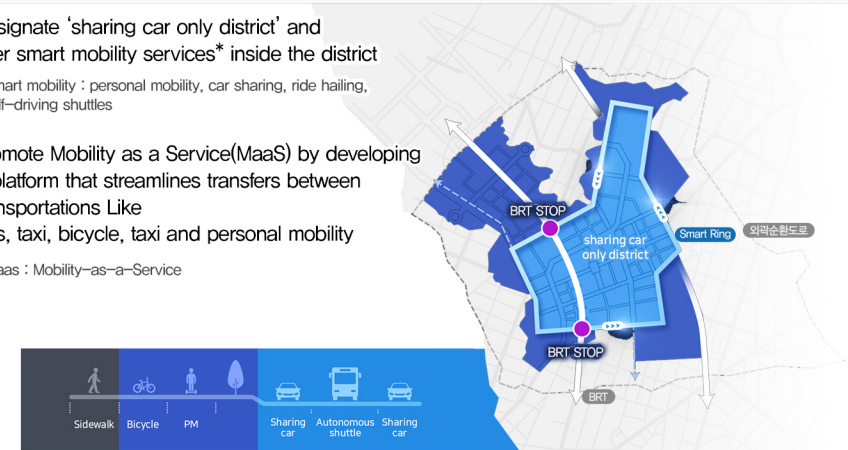# Sejong Pilot City – Core Innovative Factors

**MOBILITY**   A city that ensures access to transportation by introducing **future mobility services** such as automated driving car & personal mobility

☑ Designate 'sharing car only district' and offer smart mobility services* inside the district

\* Smart mobility : personal mobility, car sharing, ride hailing,
   self-driving shuttles

☑ Promote Mobility as a Service(MaaS) by developing a platform that streamlines transfers between transportations Like
bus, taxi, bicycle, taxi and personal mobility

\* Maas : Mobility-as-a-Service

BRT STOP
sharing car only district
Smart Ring  외곽순환도로
BRT STOP
BRT

Sidewalk | Bicycle | PM | Sharing car | Autonomous shuttle | Sharing car

**Healthcare**   A city that develops a platform for **proactive and streamlined health care** service provision for protection of citizens' health and lives

**Prevention**
• Compile patients' health records
• AI analysis to predict illness

**Emergency response**
• Calculate short routes for dispatchers
• Real-time transfer of patient data
• Personalized treatment upon arrival at hospitals

**Management**
• Platform for hospital data sharing (e.g. doctors on-duty, waiting time)
• Personalized hospital recommendation

Step 01
Step 02
Step 03
Step 04
HOSPITAL

# National Pilot City - Busan

The Busan pilot city with the concept of data and augmented reality, is creating of cutting-edge waterfront city through 10 innovative factors such as robots, water, and energy. In particular, it is a city specialized in water by applying smart water management technology in the entire urban water cycle (rainwater-river-sewage-reuse) and will also build zero energy system that achieves 100% energy self-sufficiency by utilizing renewable energy source from nature such as hydro and solar energy.

>> 10 areas up for innovation

**Robot**
Digital assistant, Delivery robot, Rehab robot, Robot industry cluster

**LWP**
Hub place that mixes learning, work and play

**City Admin**
Administration based on AI and augmented reality

**Water**
Water technology exhibition, Low Impact Development(LID),Smart purification plant

**Education**
Smart home, Smart shopping, Smart education

**Health Care**
Healthcare cluster, Real-time personal health monitoring

**Mobility**
Total mobility solution provision by liking all mobility services

**Safety**
Intelligent disaster prediction system Intelligent CCTV for citizen safety

**Park**
Smart park for experiencing innovations in technologies and design

Nakdong river

Mouth of Nakdong river ▶

Old city center

Maekdo river

Pyeonggang lake

Mouth of Seonakdong river ▶

New Busan Port ▶

◀ Gimhae International Airport

Seonakdong river

# Busan Pilot City - Core Innovative Factors

**Energy**

A city that secures energy self-sufficiency by meeting its energy need from new sources like **fuel cell plant, hydrothermal energy**
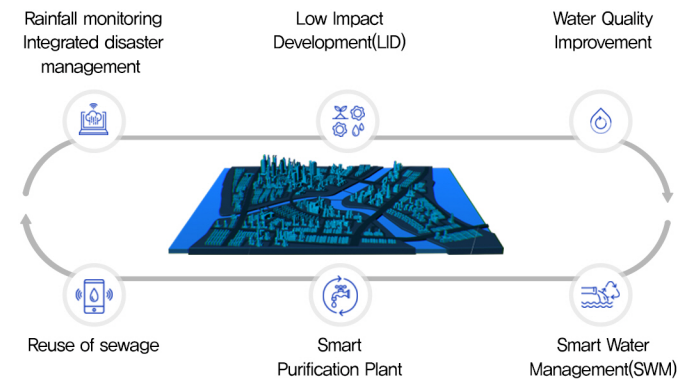
**60MW Fuel Cell Plant**

Produce electricity and energy from fuel cell plants

**Hydrothermal Energy (10% of total energy need)**

Obtain energy for heating and cooling by extracting heat from surface water

---

**Robot**

A global **robot city** with emerging robotic industry and **robot-friendly infrastructure** that integrates robots to daily life

Care robot

Self-check out counter

Medical robot

Delivery robot

Parking robot

Robot Cluster

Robot station, Robot rental service, Robot control center(planned)

Robot Lab/Test bed (planned)

**Water**

**Develop a Korean Water-Specialized City** by implementing all the cutting-edge technologies related to water throughout the entire water cycle(rainwater-river-sewage-reuse)

**100%** Water recycling with
smart water technologies

Rainfall monitoring Integrated disaster management

Low Impact Development(LID)

Water Quality Improvement

Reuse of sewage

Smart Purification Plant

Smart Water Management(SWM)

# Develop Smart City Foundation

## R&D

The Korean government is pursuing R&D for smart city innovation and growth engine combining technology development and demonstration to build a smart city based on data and AI. Korea has been supporting KRW 128.7 billion for 5 years from 2018 to 2022, and has developed and demonstrated data hubs and models in two locations in Daegu and Si-heung, Gyeonggi-do.
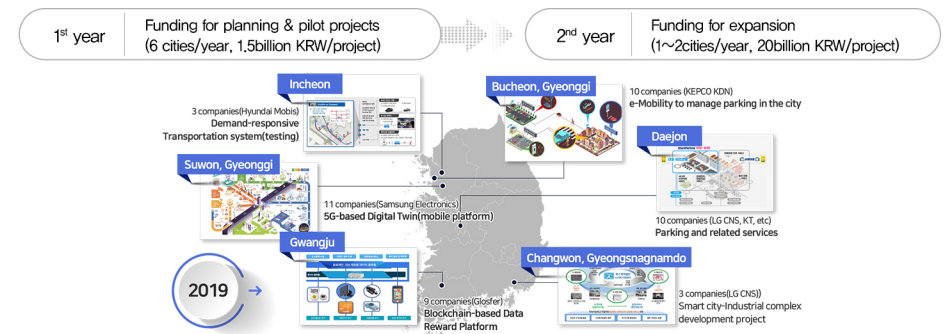


- ☑ National priority project
  130 million dollars investment(18–22)
  - Government (84.3billion) + Private sector (23.5billion) + Municipal governments (20.9billion)

| Phase 1 | '18~'19 | Data hub technology development (18-19) |
| Phase 2 | '19~'21 | Pilot introduction to Daegu and Siheung (19-21) |
| Phase 3 | '22~ | Spread and expansion (22-) |

- ☑ Participants:76
  - companies, universities, research institutes
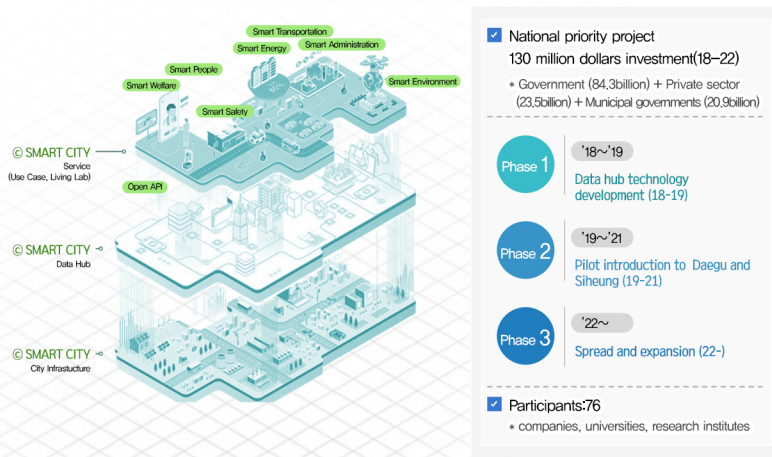
**R&D** — Smart City **Model & Base Technology** Project and 2 Demonstrative Projects for **Use Case & Living Lab** being Interconnected
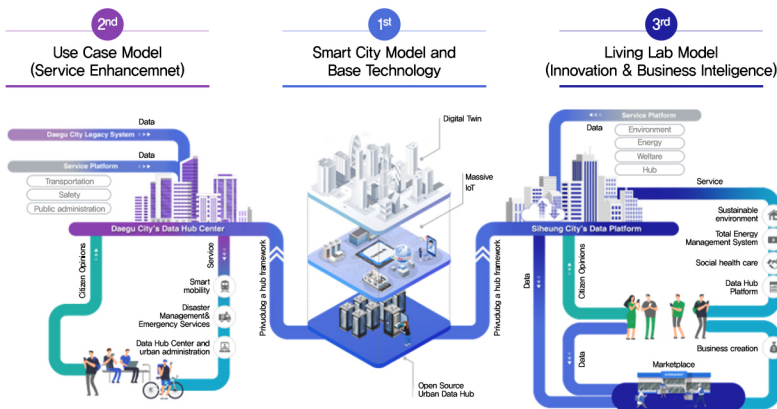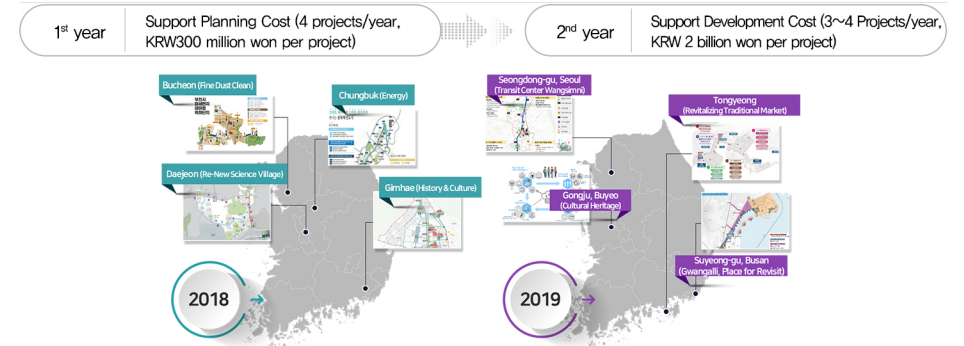


## Development of Smart Solutions

### Smart City Challenge | City

Smart City Challenge (City) is a bottom-up type of project that encourages participation of private sector such as companies and universities, and reflects the demands from local governments and citizens. We will develop creative solutions for urban problems and demonstrate them at the 'city' level.

| 1st year | Funding for planning & pilot projects (6 cities/year, 1.5billion KRW/project) | 2nd year | Funding for expansion (1~2cities/year, 20billion KRW/project) |



### Smart City Challenge | Village

Smart City Challenge (Village) is helping to identify and demonstrate smart services optimized for small-scale local demands centered on local governments and local living labs. For example, we support the planning and development services in conjunction with local characteristics such as fine dust reduction, cultural tourism and revitalization of traditional market.

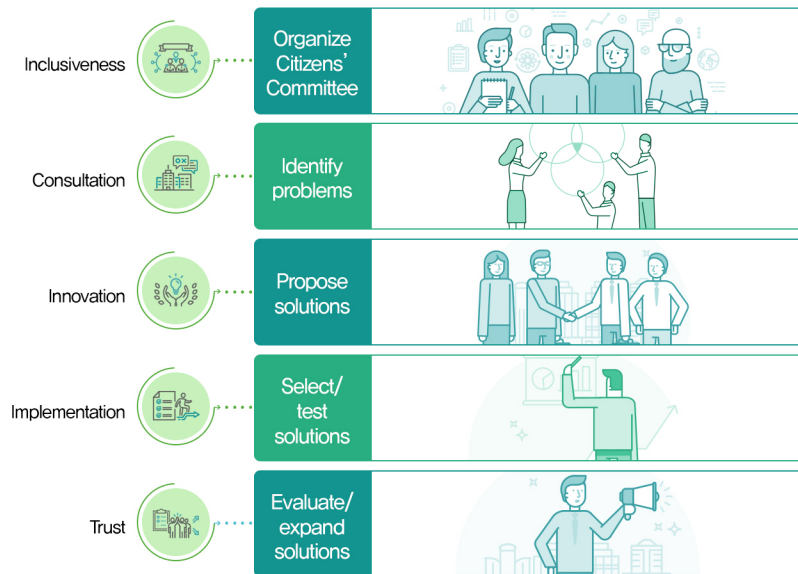| 1st year | Support Planning Cost (4 projects/year, KRW300 million won per project) | 2nd year | Support Development Cost (3~4 Projects/year, KRW 2 billion won per project) |

# Smart City Living Lab

Living Lab is a series of processes and governance where citizens come together to find urban problems and solve them with private smart technologies.
The Korean government is also actively operating Living Labs so that citizens, businesses, and local governments can work together to create smart cities.

**Governance [Living Lab]**

Living Lab : a network where **citizens** identify urban problems and **businesses** present solutions to fix the problems

| | |
|---|---|
| Inclusiveness | Organize Citizens' Committee |
| Consultation | Identify problems |
| Innovation | Propose solutions |
| Implementation | Select/ test solutions |
| Trust | Evaluate/ expand solutions |

Organize Citizens' Committee

Offer session on Smart City/Living Lab (for Citizens' Committee)
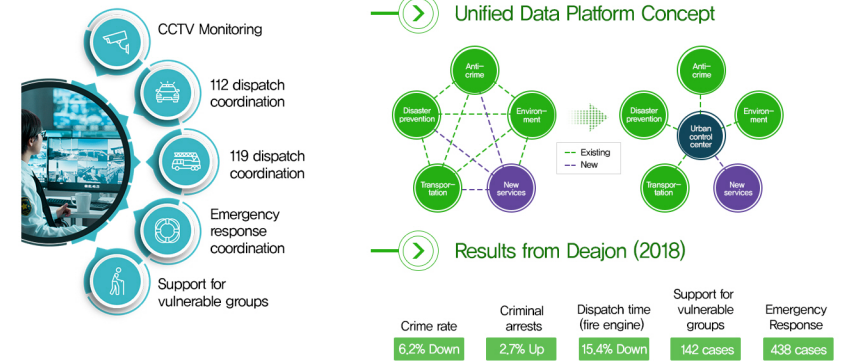
Living Lab Workshop

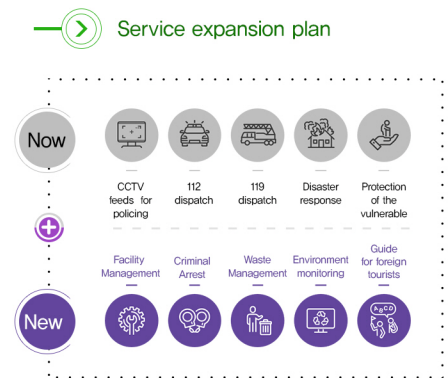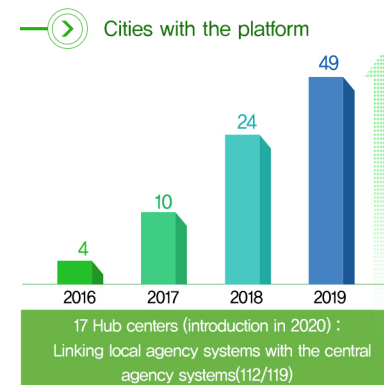Evaluate solution (by the Committee)

# Distribution of Integrated Platform

The smart city integrated platform project is a major achievement of U-City R&D. It is a project to increase the efficiency of urban management by linking various information systems such as crime prevention, disaster prevention, and traffic operated by local governments to the integrated platform.
Especially, the integrated platform,112,119, disaster networks, and socially underprivileged support services make the city a safer and more convenient living place. The government plans to expand the integrated platform distribution to 229 local governments nationwide by '23 and to establish a regional center that will serve as a hub by linking the basic local government with 112, 119 centers.

CCTV Monitoring
112 dispatch coordination
119 dispatch coordination
Emergency response coordination
Support for vulnerable groups

**Unified Data Platform Concept**

Anti-crime / Disaster prevention / Environment / Transportation / New services

Existing
New

**Results from Deajon (2018)**

| Crime rate | Criminal arrests | Dispatch time (fire engine) | Support for vulnerable groups | Emergency Response |
|---|---|---|---|---|
| 6.2% Down | 2.7% Up | 15.4% Down | 142 cases | 438 cases |

**Platform**

Expansion smart city integrated platform **to a total of 229 local governments by 2023** diversifying public services using this

**Cities with the platform**

| 2016 | 2017 | 2018 | 2019 |
|---|---|---|---|
| 4 | 10 | 24 | 49 |

17 Hub centers (introduction in 2020) : Linking local agency systems with the central agency systems(112/119)

**Service expansion plan**

Now
CCTV feeds for policing / 112 dispatch / 119 dispatch / Disaster response / Protection of the vulnerable

New
Facility Management / Criminal Arrest / Waste Management / Environment monitoring / Guide for foreign tourists
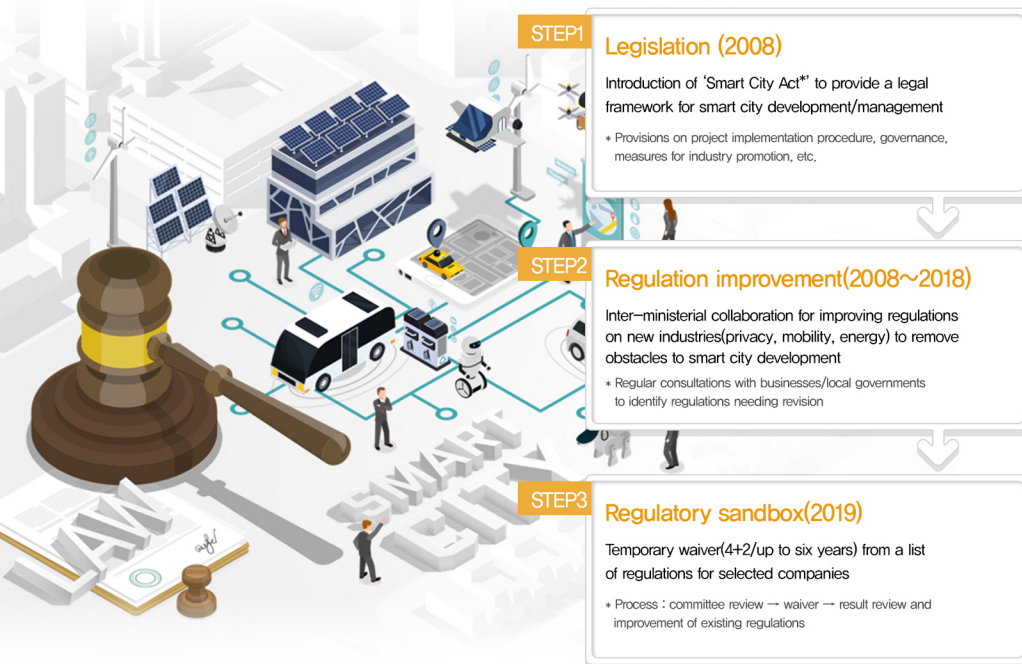
Smart City Korea

## Drastic Regulatory Improvement

The Korean government is actively pushing for institutional improvements, including deregulation, to develop and expand smart cities. Particularly, we have developed special cases to foster new industries such as autonomous vehicles, drones, and renewable energy so that national pilot cities can serve as testbeds for new technologies and to expand the use of personal information and ease restrictions on participation by large corporates. Further, we have amended the Smart City Act twice ('18.7, '19.4) to diversify smart city projects and services targeted for existing cities, and to introduce private proposal projects. At the same time, we are also pushing ahead with drastic deregulations by introducing 'Smart City-type Regulatory Sandbox' that eliminates all relevant regulations that are constraining the implementation of smart city projects.

**Law System**

**Regulatory Sandbox :** a mechanism for granting temporary waivers to businesses for new technology testing and pilot service introduction

**STEP1**

### Legislation (2008)

Introduction of 'Smart City Act*' to provide a legal framework for smart city development/management

\* Provisions on project implementation procedure, governance, measures for industry promotion, etc.

**STEP2**

### Regulation improvement(2008~2018)

Inter-ministerial collaboration for improving regulations on new industries(privacy, mobility, energy) to remove obstacles to smart city development

\* Regular consultations with businesses/local governments to identify regulations needing revision

**STEP3**

### Regulatory sandbox(2019)

Temporary waiver(4+2/up to six years) from a list of regulations for selected companies

\* Process : committee review → waiver → result review and improvement of existing regulations
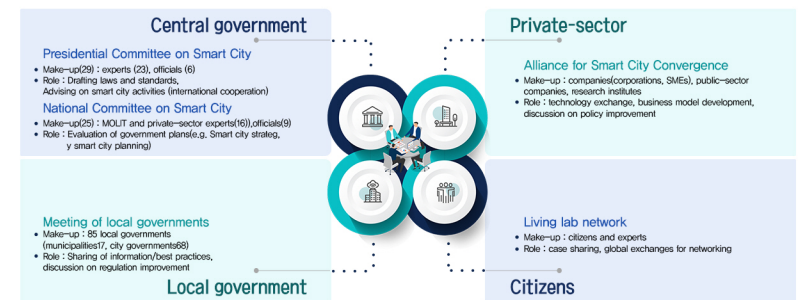
## Create an Industrial Ecosystem

The Korean government, together with Ministry of SMEs and Startups, supports about 100 young entrepreneurs per year in order to create an innovative industrial ecosystem related to smart cities, and supports incubating start-ups with startup space and startup programs. Furthermore, we plan to launch an online solution market operation to better match demand and supply in the smart city market.

**Support for young entrepreneurs** 01
- Provide seed funding (up to 100mil. KRW) for start-ups in the smart city field
- Offer consulting/training/mentoring Support in the smart city sector: 110 /400 case in 17 technology areas (A joint initiative between MOLIT and MSS, 19.3.)

**Build an online marketplace** 02
- Create an online market to match solution developers with solution users
- Build a database that tracks records of solution development/assessment

**Smart city 'group buying'** 03
- Encourage group buying of smart technologies and services developed for a smart city project
- Develop a new procurement model that gives preference to companies with new technologies/solutions

## Build Cooperative Governance

Korea is establishing various governance system, including ministries, local governments, businesses and citizens in order to foster new industries related to the 4th Industrial Revolution using Smart City as a platform. Particularly, we are expanding the convergence alliance to expand the participation of private companies in smart cities, and developing business models and discovering regulatory matters centered by our member companies (359 companies). We also plan to launch the 'Smart Living Lab Network' to accumulate living lab assets and create synergy.

**Central government**

**Presidential Committee on Smart City**
- Make-up(29) : experts (23), officials (6)
- Role : Drafting laws and standards, Advising on smart city activities (international cooperation)

**National Committee on Smart City**
- Make-up(25) : MOLIT and private-sector experts(16),officials(9)
- Role : Evaluation of government plans(e.g. Smart city strategy, smart city planning)

**Meeting of local governments**
- Make-up : 85 local governments (municipalities17, city governments68)
- Role : Sharing of information/best practices, discussion on regulation improvement

**Local government**

**Private-sector**

**Alliance for Smart City Convergence**
- Make-up : companies(corporations, SMEs), public-sector companies, research institutes
- Role : technology exchange, business model development, discussion on policy improvement

**Living lab network**
- Make-up : citizens and experts
- Role : case sharing, global exchanges for networking

**Citizens**

# Create an Innovation Ecosystem

## Smart City National Business Support Consignment Status (as of 2019.9)

To facilitate smart city policies and projects, the Korean government has established and operated governance with government-affiliated public organizations under the Ministry. Through an organic cooperation system, we are carrying out smart city-related policies and projects, including smart city policy support and research, human resources development, development of smart city contents and services and support for overseas export.

| | Consignment/Support/ Responsibilities | Agency |
|---|---|---|
| National Pilot City | Sejong 5−1 Living Zone Project Development | Land & Housing Corporation |
| | Busan EDC Project Development | K−water |
| Contents and Service Development Project | Digital Twin | Land & Housing Corporation |
| | | LX |
| | Data & AI Center | National Information Society Agency |
| | Smart IoT | |
| | Smart Transportation | Korea Transport Institute |
| | Healthcare Education | National IT Industry Promotion Agency |
| | | Korea Education and Research Information Service |
| | Energy·Environment | Land & Housing Corporation |
| | | K−water |
| | Safety·Living | Land & Housing Corporation |
| | | K−water |
| | Robot | Korea Institute of Robot and Convergence |
| | Attract Global Innovative Companies | National IT Industry Promotion Agency |
| | Build Innovative Ecosystem | |

| | Consignment/Support/ Responsibilities | | Agency |
|---|---|---|---|
| Existing Cities | Smart City Challenge | City | Korea Research Institute for Human Settlements |
| | | Complex | Land & Housing Corporation |
| | | Solution | |
| Establishing Foundation | Smart City Urban Regeneration | | LH, KHUG, Korea Appraisal Board, KRIHS |
| | Integrated Platform | | Smart City Association |
| | Innovation Growth Engine R&D | | Korea Agency for Infrastructure Technology Advancement |
| | Smart City Info Portal | | Architecture &urban Research Institute |
| Fostering Industry | Regulatory Sandbox | PM | Korea Agency for Infrastructure Technology Advancement |
| | | Regulation | Architecture &urban Research Institute |
| | Smart City Certification System | City | Korea Research Institute for Human Settlements |
| | | Service | Korea Institute of Civil Engineering and Building Technology |
| | Innovative HR Development | | Korea Agency for Infrastructure Technology Advancement |
| | Smart City Solution Market | | Smart City Association |
| | Smart City Convergence Alliances | | Korea Agency for Infrastructure Technology Advancement |
| International Cooperation | Smart City Expo | | LH, K−Water, KINTEX |
| | Overseas Export Support | | International Contractors Association of Korea, KIND, KOTRA |
| | Tour Program | | Smart City Association |

한국수자원공사 K water | 든든한 국민생활 파트너 with LH | NIA 한국정보화진흥원 | KERIS 한국교육학술정보원 | LX 한국국토정보공사

nipa 정보통신산업진흥원 | KOTI 한국교통연구원 | KIRO 한국로봇융합연구원 | KRIHS 국토연구원 | kotra 대한무역투자진흥공사

HUG 주택도시보증공사 | 스마트도시협회 Smart City Association | 한국감정원 Korea Appraisal Board | KAIA 국토교통 과학기술진흥원 | ( auri ) 건축도시공간연구소

KICT 한국건설기술연구원 | 해외건설협회 International Contractors Association of Korea | KINTEX | KIND 한국해외인프라도시개발지원공사

---

# Global Network

## Smart City We Build Together

Korea is building a smart city global network to open the future of sustainable smart cities with countries around the world.
We share each country's policies and experiences and carry out various projects ranging from personnel exchange, joint projects, and cross-examination of solutions.



☑ Cooperation with World Bank, Inter−America Development Bank, and the OECD
Project discovery, co−financing, knowledge sharing

☑ Expansion of G2G cooperation with countries in Asia, America, Europe
Policy/institution sharing, joint forums, staff exchange

☑ Joint smart city projects(development & implementation)
Cross−testing of smart city solutions
Work plan/MP development, cross pilot project

☑ International seminars/academic conferences to share study results and foster interest in the field
Archive for research sharing, open lectures
Publication of studies/research

GLOBAL NETWORK — G2G Cooperation — Multilateral Cooperation — Academic Networking

## Export of K-Smart Cities

In order to proactively respond to the rapidly growing global smart city market, the Korean government announced plans to promote smart city overseas expansion in July 2019 with related ministries. Accordingly, we plan to actively implement comprehensive support plans such as financial support, network building, and collaboration between large and small companies.

▶ ▶ ▶ 4 Key Policies to Promote Smart City Export ◀ ◀ ◀

| | | | |
|---|---|---|---|
| 01 | Strengthening Financial Support for Overseas Orders | ·Enhance financial support through PIS Funds<br>Concentrating Global Plant, Construction, Smart City (PIS) Funds on Smart City<br>·Expansion of financial support for overseas orders<br>Expansion of Market Development Funds (70~90%), KEXIM and K−Sure Special Accounts Set Up | |
| 02 | Build Network and Information System | ·K−Smart City Open Network<br>Supporting MP and FS to ASEAN, Latin America countries through International Tendering<br>·Information Database<br>Collect and provide information such as smart city development plan and legal system for each countries | ·Global Cooperation Base<br>Establishment of smart city support centers in KIND Global Infrastructure Center (4) and KOTRA offices (30)<br>·Strengthening International Organization Cooperation<br>Expand cooperation with World Bank, IDB, etc. |
| 03 | Strengthening omnidirectional diplomatic cooperation | ·Strengthen Smart City Order Support<br>Supporting Overseas Export Marketing & Roadshows of companies, expanding G2G, etc.<br>·Create New Smart City KSP Model<br>Establish and operate Smart City specialized knowledge sharing program | ·Establish Team Korea Support Infrastructure<br>Establish Smart City Subcommittee under the Overseas Order Support Association (MOEF) composed of Ministries, Public entities and Private Companies |
| 04 | Joint export of SMEs and Large companies through solution export support | ·Strengthen Smart City Convergence Alliance support<br>Large&SME&Startups jointly build an integrated smart solution business model<br>Build a member company database and produce sales material kit<br>·Establish Country Solution Entry Strategy<br>Prepare strategies for differentiation of country−specific strategies, including exports of cities and solutions | ·Inbound Marketing<br>Hold international events like 'World Smart City Expo'<br>·Outbound Marketing<br>Expand the support to Large&SMEs Consortium overseas export project, Support Overseas Roadshow Participation |

## Overseas Cooperation – New Town Development

The overseas export of city models is carried out by the public developer, LH. The first K-Smart City export model, Abdullah Smart City project in Kuwait has been executed with the government of Kuwait since 2016. Bolivia, Santa Cruz New Town is the first Smart City export in Latin America, carried out a detailed design in 2016. Since May 2019, we have been developing the basic concept design for Malaysia's Kota Kinabalu Smart City in conjunction with Sejong and Busan pilot cities.

| Kuwait | South Saad Al Abdullah New Town |
|---|---|
| Project name | South Saad Al Abdullah New Town |
| Location | 30km west from Kuwait City Center |
| Size | 64.5㎢ ($4billion, 25,000~40,000units) |
| Concept | Smart Energy, Smart Environment, Smart transportation, Smart Living |
| Korea's role | (LH) PMC, Service contract management, Setting up structured finance for investment (Korean company) Master plan, Detailed design service performance |

| Bolivia | Santa Cruz New Town |
|---|---|
| Project name | Santa Cruz New Town |
| Location | 15km North-east from Santa Cruz City Center |
| Size | 54㎢ ($3billion, 128,000 units) |
| Concept | Waste collection and waste-to-energy facilities, ITS Outer Ring Road |
| Korea's role | (LH) Project Management : Masterplan, Detailed Design, Cm, Marketing etc (Korean company) Basic & Infrastrutre planning, Detailed design service performance |

Smart Grid   Smart Home   Safety System

Waste-to-Energy Facility   ITS

## Overseas Cooperation – Solutions Export

The following are the examples of exporting smart city solutions by the private companies. Company A has developed a transportation system in Bogota, Columbia and later exported to Athens, Greece. Company B, a city integrated platform supplier, exported city integrated platform programs to 23 countries including China, the Middle East, and ASEAN countries, while startup company C develops smart waste bins and focuses on overseas expansion based on references accumulated in Korea.

One Pass Transit Card System   Smart Integrated Control System   Smart Waste Bin

## World Smart City Expo

WSCE WORLD SMART CITY EXPO 2019 KINTEX.KOREA

The Korean government also holds large international events to secure global initiatives. We will re-launch the [World Smart City Week] event that was held twice from '17~'18, as the [Word Smart City Expo], in efforts to foster it as a world-class smart city event, a venue for international cooperation networks and business exchanges. Also, we plan to hold various citizen participation events such as university student idea contests and Make-A-Thon, so that citizens can easily understand smart cities and experience smart solutions.

▶▶▶ Features ◀◀◀

| New International Conference | G2G Cooperaiton | B2B Event | Public Event |
|---|---|---|---|
| Brand recognition | Taking global initiative | Industry promotion and economic growth | Venue for sharing innovation/vision |
| Expand the WSCW platform with the launch of World Smart City Expo | Pursue G2G cooperation via diplomatic missions, international organizations, KOTRA's branch offices, | Expand business exhibition, Arrange business meetings | Explore possibilities by discussing convergence and new ideas in the smart city field |

2017

2018

WORLD SMART CITY EXPO 2019

Smart City, Connecting Tomorrow

September 4th(Wed) ~ 6th(Fri), 2019
Exhibition Center 1, KINTEX

2019

Let's Build Together
**Smart City**

Smart Society

Smart Mobility

Drone

Smart Building

Smart Working

Smart Retail

Big Data

Smart Energy