

LH;

Korea Smart City Policy and Project

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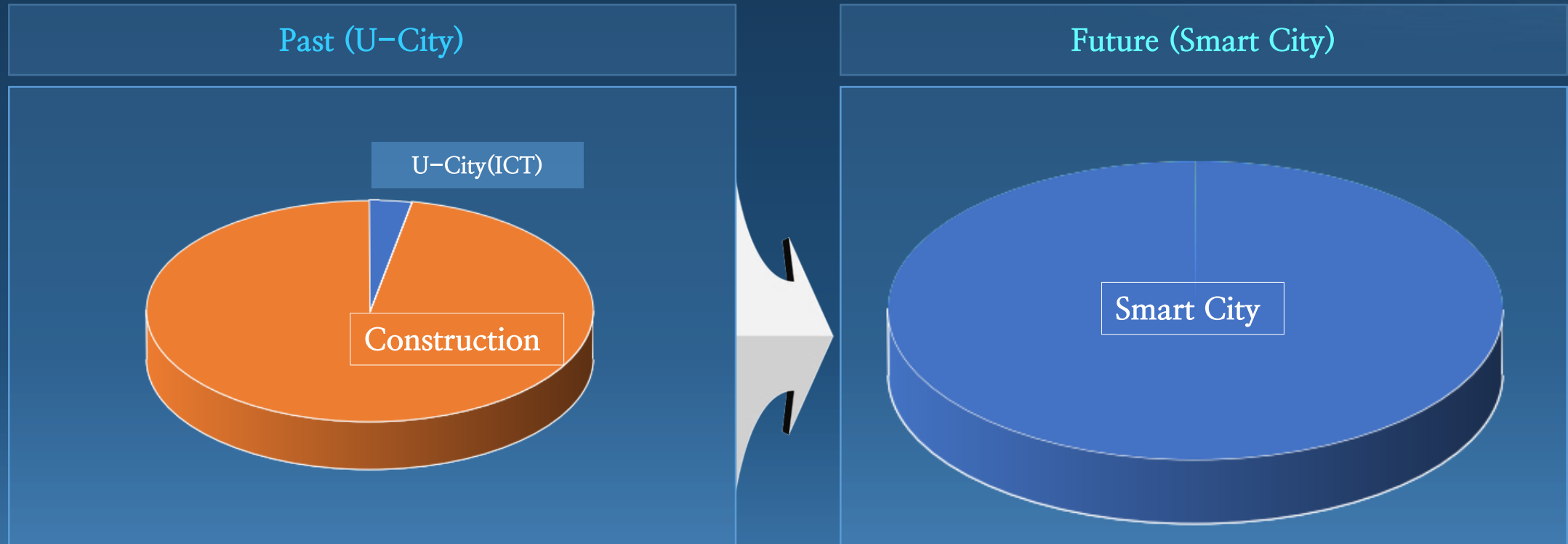
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Smart City, LH

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Smart City Project

Smart City : Construction vs. ICT

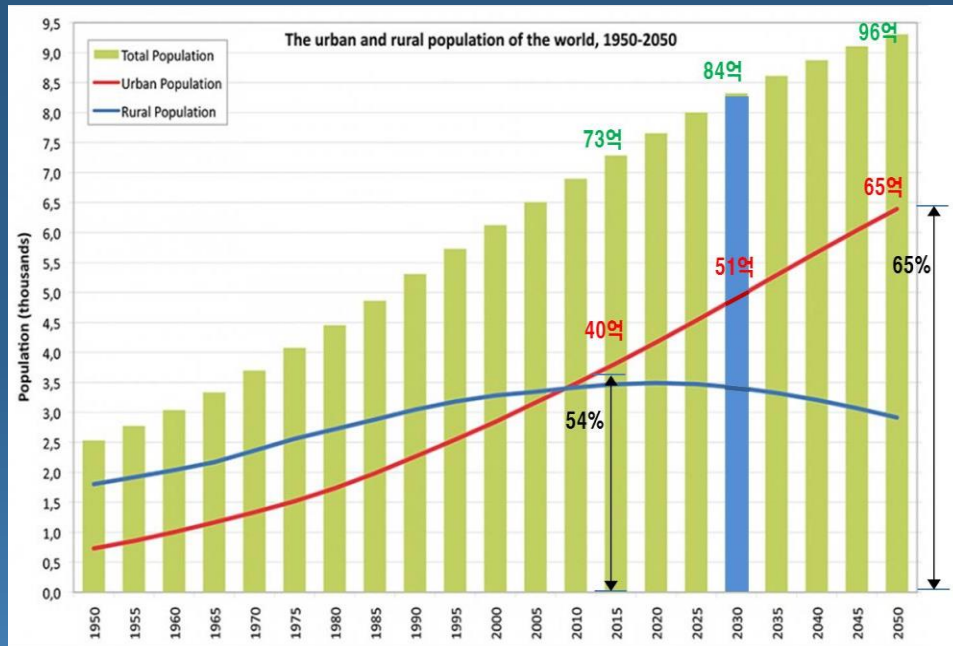


Smart City : **Convergence** of Construction and ICT

*Smart City is an urban area that uses different types of electronic data collection sensors to supply information which is used to manage assets and resources efficiently (wikipedia, 2019)

Rapid Urbanization

Increasing by 1.1 Billion Urban Population



Increasing Urban Problems



Physical Infrastructure Expansion Reaches the Limit for the Solution of Urban Problems

Platform of the 4th Industrial Revolution : **Urban, Smart City**

Entering the Fourth Industrial Revolution



Innovative Growth Engine



Drone



Automatic Driving



Artificial Intelligence



Big Data

Smart City; A Solutions for Urban Problems, A Platform to Fill with Fourth Industrial Revolution

Smart City as a Creative Engine of Urban



Smart Columbus



智慧城市 500



100 Smart Cities

MODI'S
'SMART'
VISION
TAKES
SHAPE



2018 CES Agenda

The Future of Smart City



Smart City Market Expected to Grow to \$1.7 Trillion in 2025

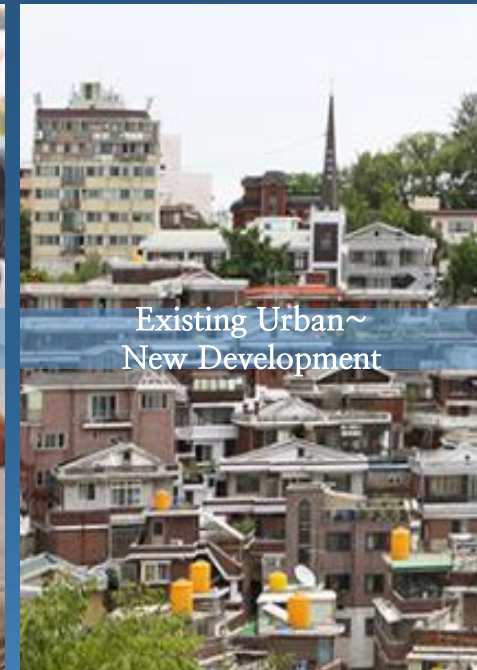
(Mckinsey & Company)

'Open Urban' Based on Human-Centered, 'Customized' City

U-City



Smart City



Take Action of Urban Paradigm Changing , Switch to **Smart City**

Smart City as National Policy(2018, Presidential Committee on the Fourth Industrial Revolution)

“Smart City, Where My Life Changes”

Approach for Urban Growth

(New) National Pilot Project (Sejong,Busan) + Regional Hubs

(Operation) Making Existing Urban as a Smart City
⇒National R&D, Challenge, Specialized Complex

(Deterioration) Smart Urban Regeneration New Deal

Customized Technology

Future New Technology

User-Centered Service

Participation of Company and Citizen

Creating an Ecosystem of Innovative Entrepreneurs

Business Model

Governance

Living Lab

Government Support

Legal System

Overseas Project

International Cooperation

Propulsion of “Re-emerge as the World Smart City Leader”

Vision and Values

Sustainable Platform City that Increases Citizen Happiness and Offers Creative Opportunities; Smart City





Smart City by LH



Safety & Relief

5 Connected Safety Service
Smart Care for Elders
Urban Integrated Information
Center



Improvement of Living

Smart Home
Automatic Load Facilities
Smart Recycling



Social Value Realization

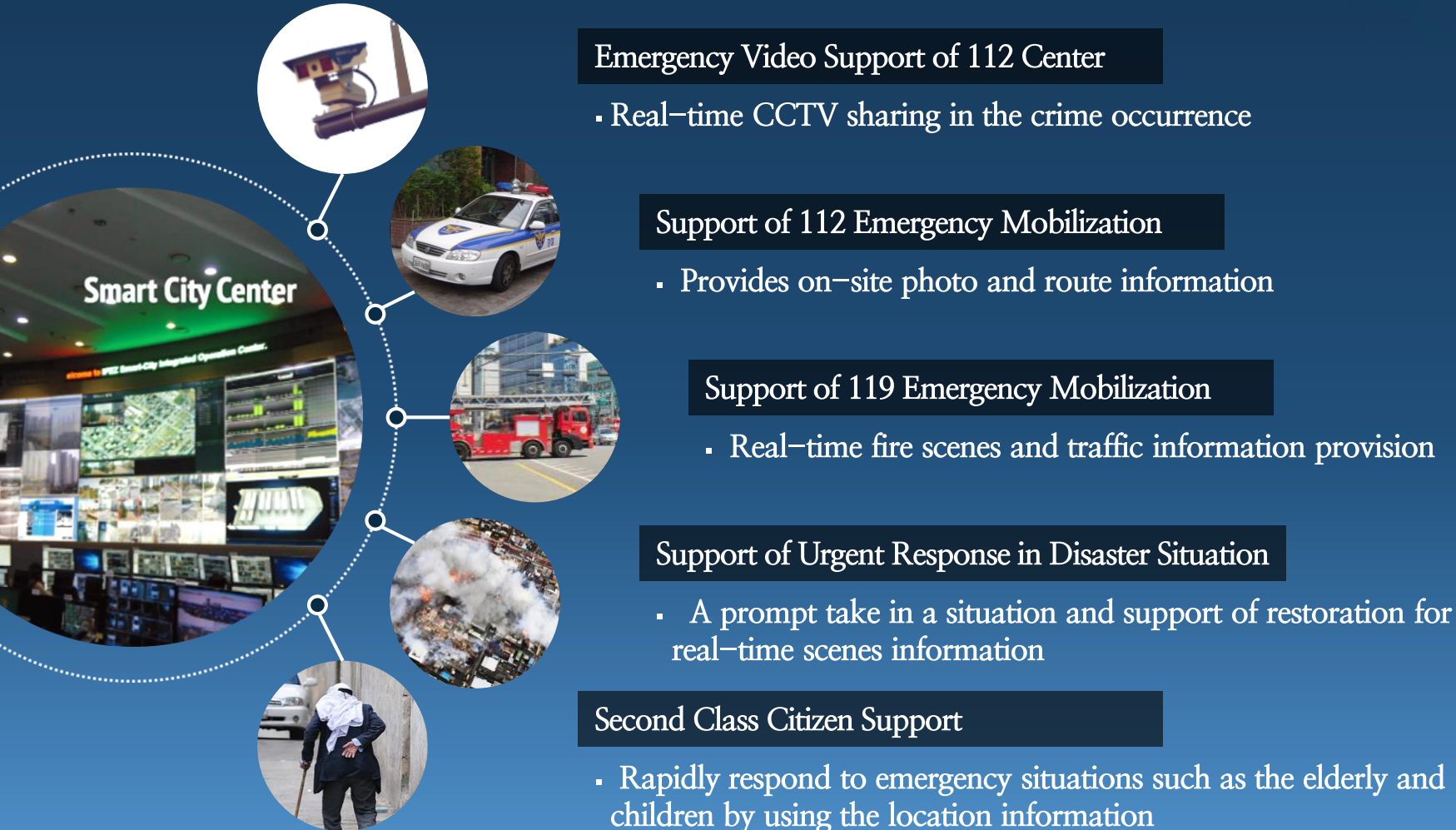
Public WiFi
Smart City Experience Zone
Green Bean



Smart City Promotion

Smartium
World Smart City Week
(WSCW)

5 Connected Safety Service(R&D)

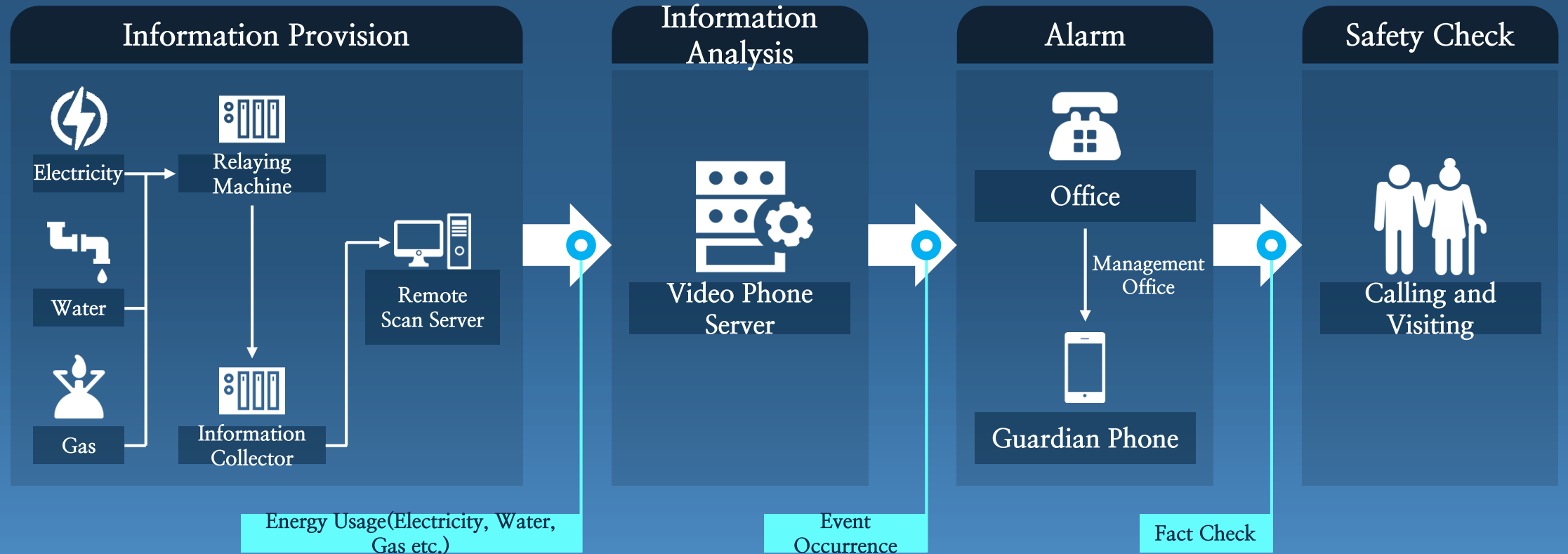


Minimize Deaths and
Property Damage by
Securing a Golden Time

1. Safety & Relief Service

Smart Care for Elders Living Alone

Safety Checking Service for Elders Living Alone by Using Remote Checking System



1. Safety & Relief Service

Urban Information Integration Center



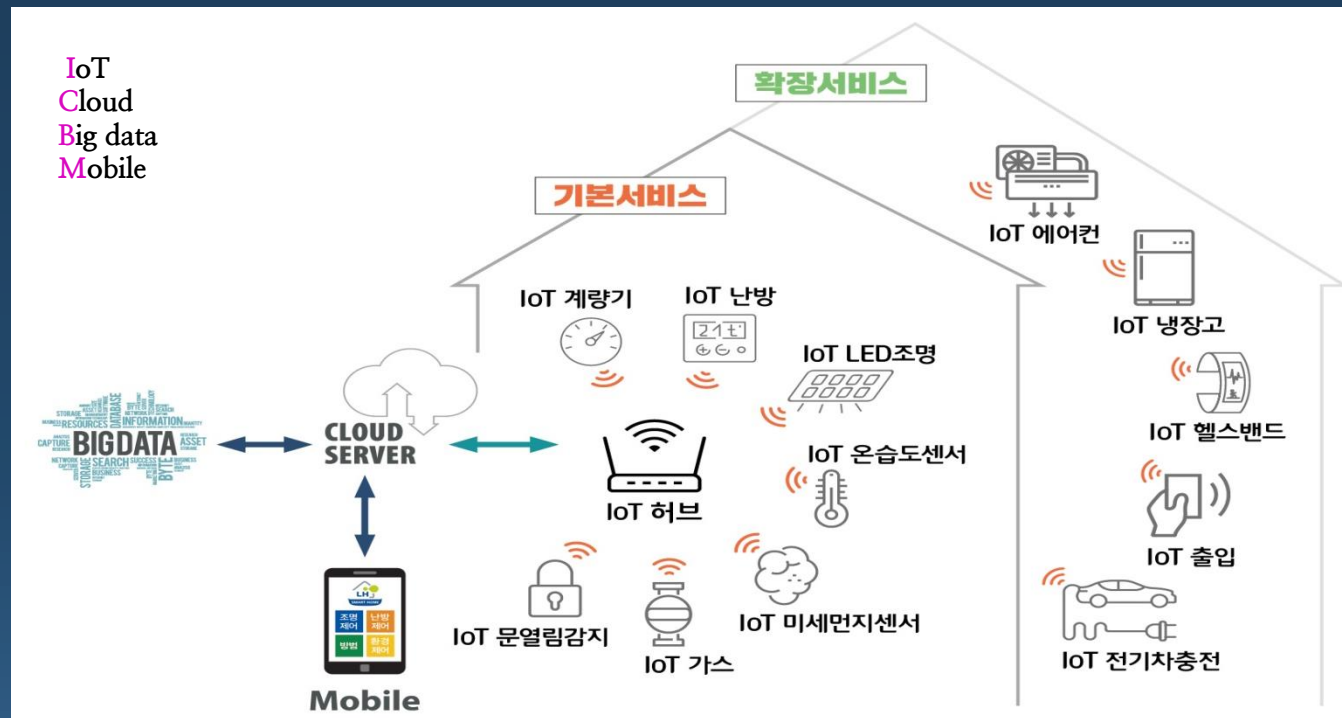
The Main Services

-  Integrated Management System
-  Public Transport Information
-  Parking Enforcement System
-  Streetlamp, Water Supply, Energy Management
-  Citizen Information (Media Board, VMS)

Urban Integrated Information System in 14 Local Governments

2. Improvement of Living

Smart Home



A Development of an ICBM Platform based on
Wireless Communication for New and Existing Houses



Pyeongchang Olympic Athlete's
Village(Smart Home)

2. Improvement of Living

Automatic Cleannet

Automation and Resource Recovery within the Refuse Disposal for Implementation of an Environment-Friendly City



2. Improvement of Living

Innovation of Food Waste Treatment: ‘Smart Recycling’

- | | | | | |
|-------------------------|------------------------------|-------------------------|-----------------------------|------------------------------|
| ① Kitchen Sink | ② Grinding for Kitchen Waste | ③ Drain Pipe for Sewage | ④ Collecting and Connecting | ⑤ Cleaner & Transparent Pipe |
| ⑥ Tank for Flow Control | ⑦ Liquid Separator | ⑧ Biosynthesis Device | ⑨ Discharging Compost | ⑩ A Garden School |



3. Social Value

Public Wi-Fi



install a wireless AP



service schematic diagram



Strengthening Accessibility to Information and Pay Less
Communication Expense for the People

3. Social Value

Smart City Zone(Sejong, Daejeon)



Smart City Zone

Happiness City

Index

-  AR Information(Store Information)
-  Smart Telling
-  Public Bicycle
-  Smart Crosswalk
-  Automatic Cleannet Trash Input
-  Color Shadow
-  Color Flooding light
-  Kiosk/Smart Pole
-  VR Experience Hall
-  Food Resourcing Device
-  Car Sharing/Electric Vehicle Charging Station
-  Real Time Parking Information
-  BIT(Bus Information Guide)
-  Smart Street Lamp
-  Smart Park Lamp
-  Smart Alarm

3. Social Value

.Smart City Zone(Sejong)



Smart Street Lamp



Normally 50%
Person Motion Sensors 100%



Smart Park Lamp



Normally 30%
Person Motion Sensors 100%

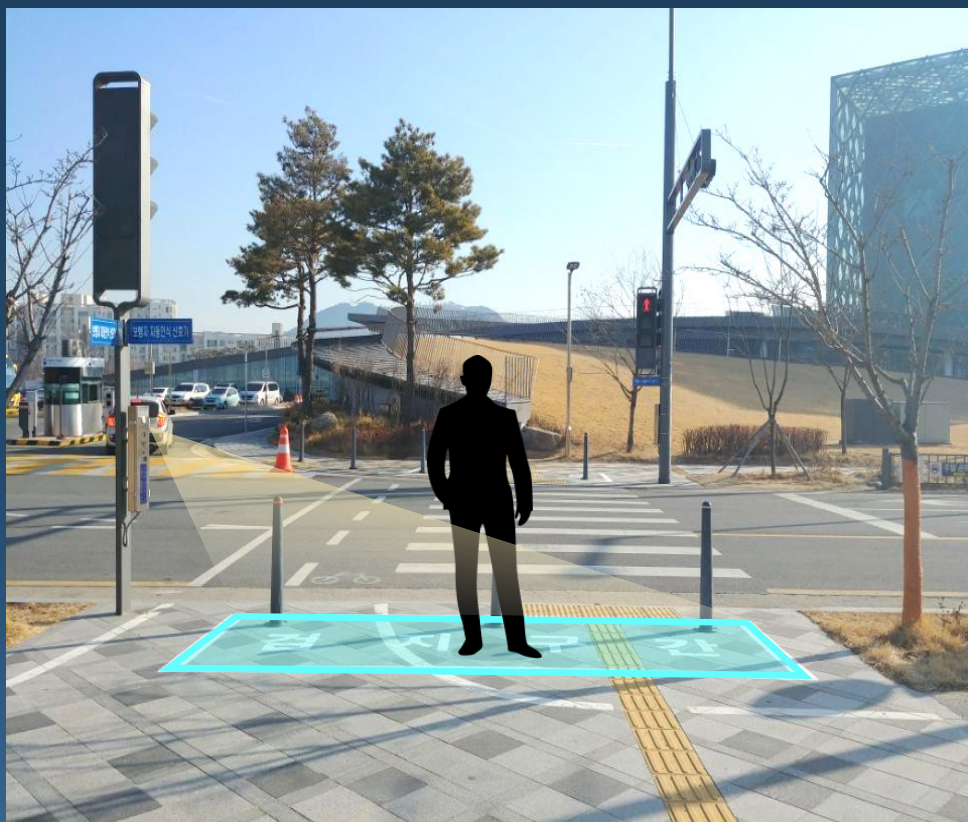


Smart Pole

Streetlamp + CCTV + WiFi +
Motion Sensors

3. Social Value

Smart City Zone(Sejong)



Smart Crosswalk



Transmission Equipment



Sensor(Enter/Exit Car)

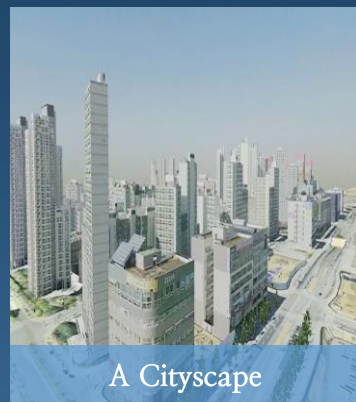


Location-based number of parking spaces displayed

Real Time Parking System

3. Social Value

Smart City Zone(Sejong)



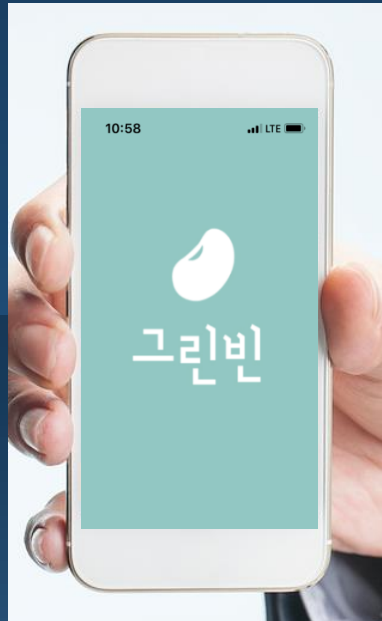
VR Experience Booth



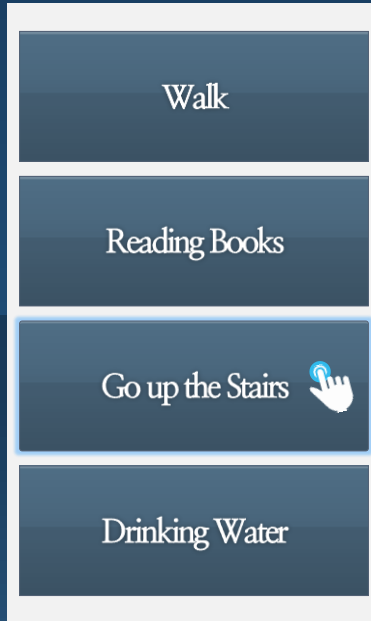
AR Scan Search

3. Social Value

Donation Platform 'Green Bean'



App Main Display



Program Select
(Social Enterprise)



Accumulation of
Donation Point



Donation Campaign
Select



Donation Point Funding
(Public Institute etc.)



Donation

Promoting the Health of Citizens and Realizing Social Values
through Donations

4. Smart City Promotion

Smart City Information Center 'Smartium'



150 Smart City Technology Experience through Interactive Multimedia, Hologram, VR

4. Smart City Promotion

WSCW(World Smart City Week)

1st WSCW



- 13,000 Visitors from 57 Nations

2nd WSCW



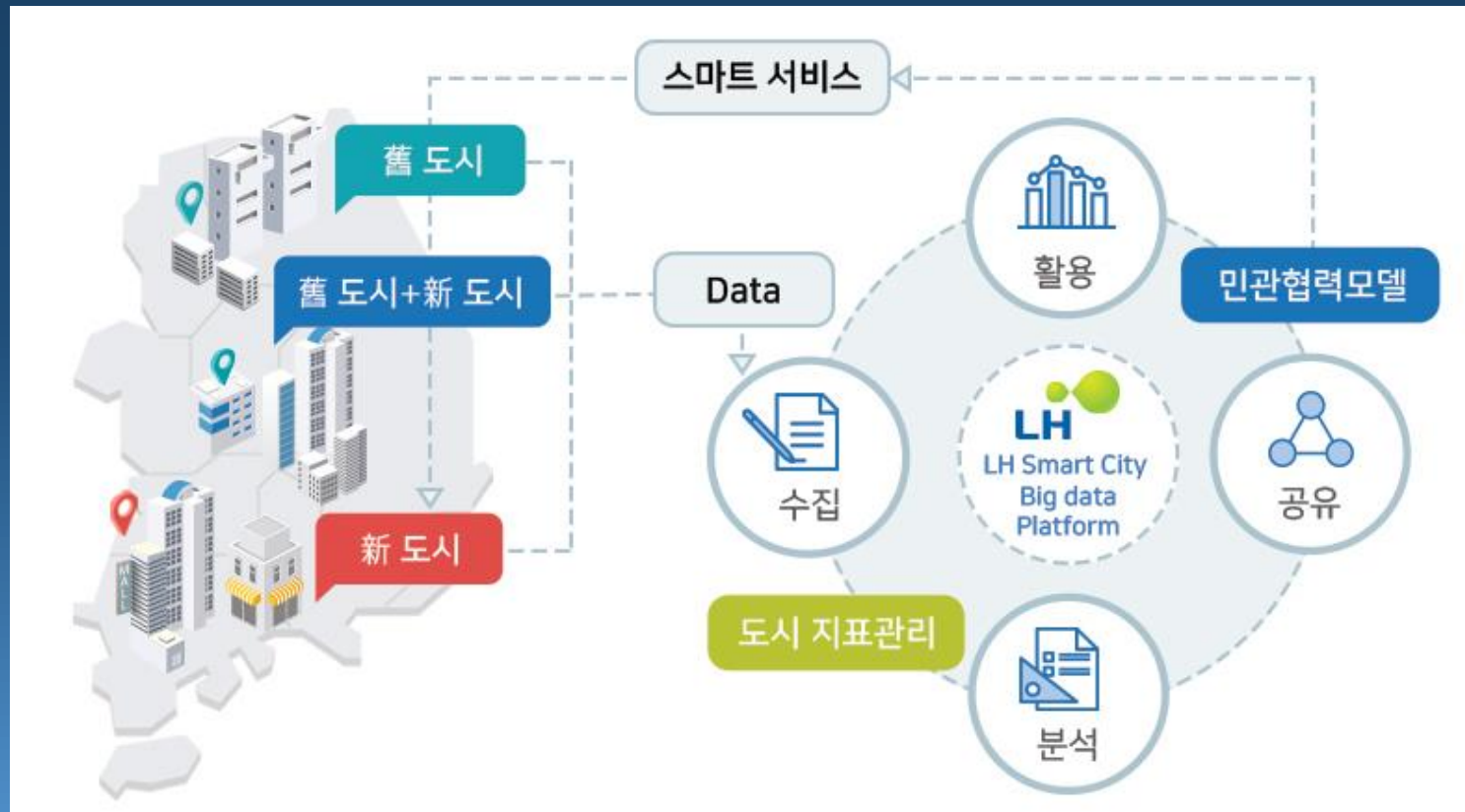
- 2018. 09.18 ~ 09.20
- Kintex, COEX
- 20,000 Visitors from 60 Nations

Smart City International Events Representing the Asia-Pacific Region

5. Data-Driven Smart City

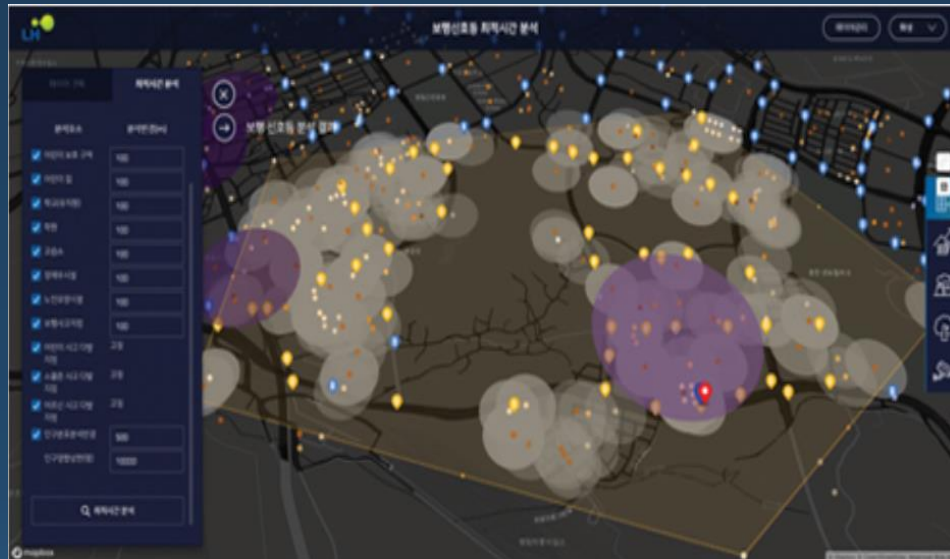
Smart City Big Data Platform

Fix the Urban Problem and Function of City to Maximize through
Big Data Collection and Analysis is Produced in City



5. Data-Driven Smart City

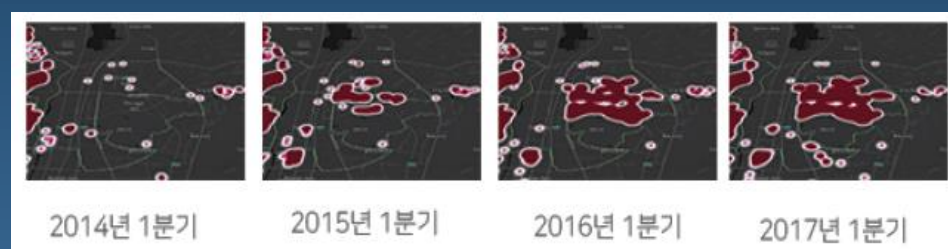
Smart City Big Data Platform



보행 신호등 분석 결과

구분	구분	구분	구분	구분
종합가동원 사거리	27	27	어린이보호구역(학교유치원)	이동
종합가동원 사거리	24	43	어린이보호구역(학교유치원)	이동
종합가동원 사거리	24	46	어린이보호구역(학교유치원)	이동
동화동 사거리	27	28	학교(유치원)	이동
동화동 사거리	30	45	학교(유치원)	이동
동화동 사거리	28	41	학교(유치원)	이동
화성교동삼거리 교차로	27	25		이동
화성교동삼거리 교차로	27	41		이동
화성교동삼거리 교차로	25	28		이동

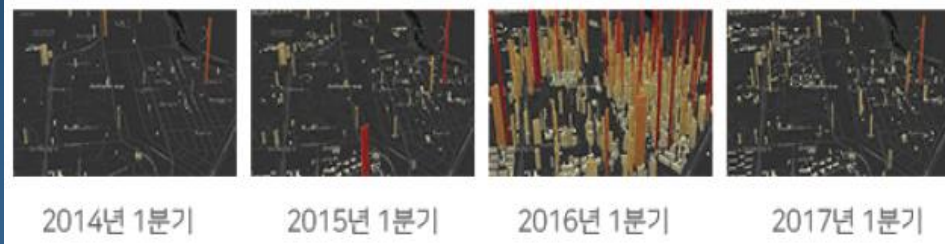
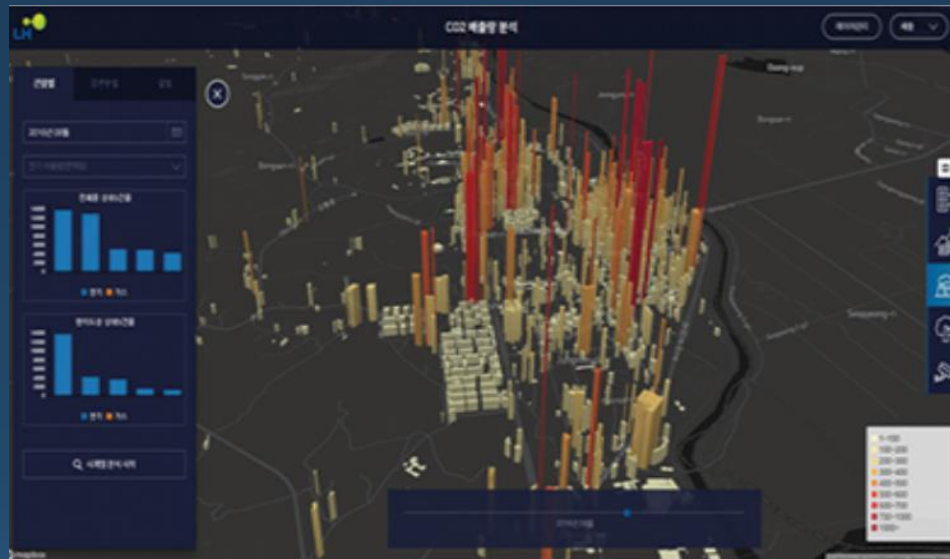
Optimization of Crosswalk Walking Time



A Study on the Urban Polarization Index Model

5. Data-Driven Smart City

Smart City Big Data Platform



Carbon Analysis in City



Green Space Analysis

5. Data-Driven Smart City

Smart City Big Data Platform



□ Analysis of Traffic Flow Based on Deep Learning



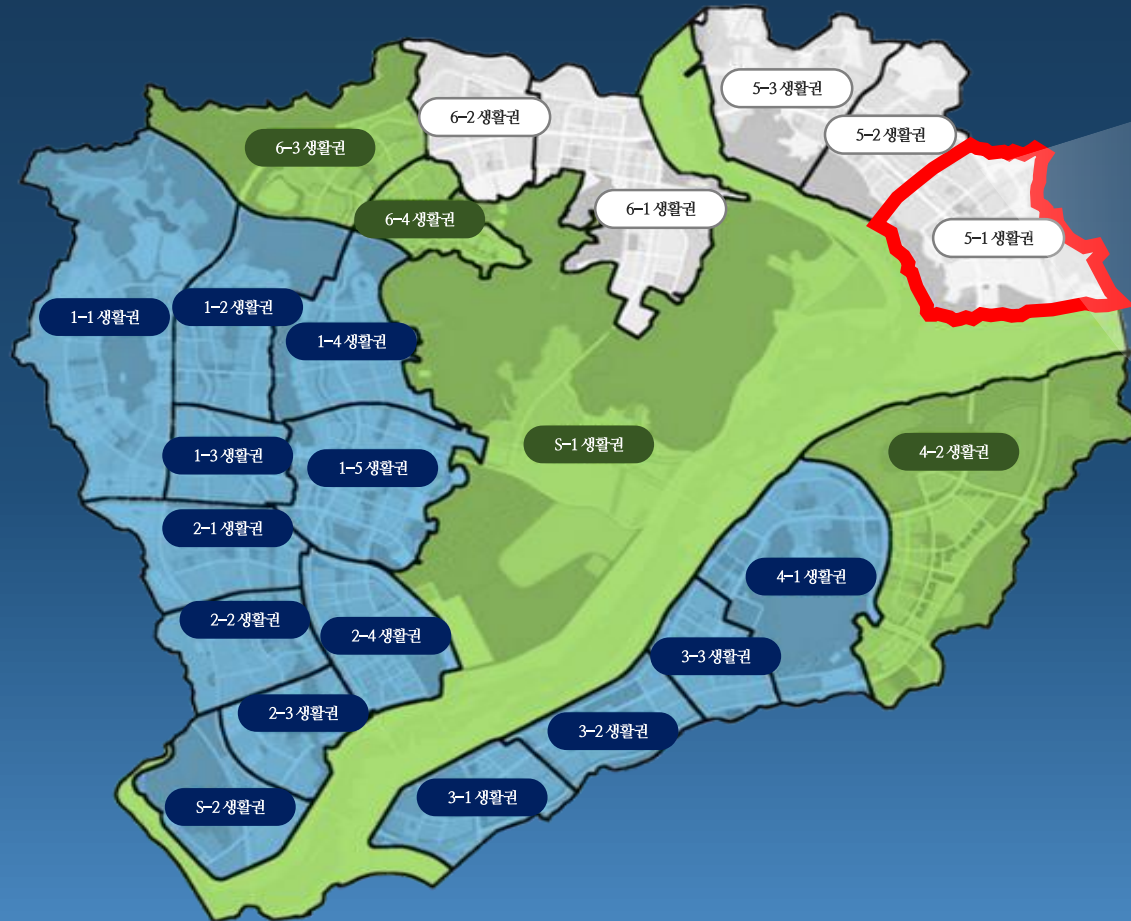
Smart City by LH



Smart City Diffusion and National New Growth-Engine Role

1. National Pilot Project; Sejong 5-1

Convergence of Innovative Test-bed



Sejong 5-1 National Pilot Project



Area

2.74km²



Population

23,000 People



Resident Move

2021 year

Sejong Administrative Complex

Area : 72.91km²(1/8 of Seoul)

Population : 500,000 People

Business Period : 2005~2030 year

1. National Pilot Project; Sejong 5-1

Innovative Factor

[Happy Citizen]



[Creative Opportunity]

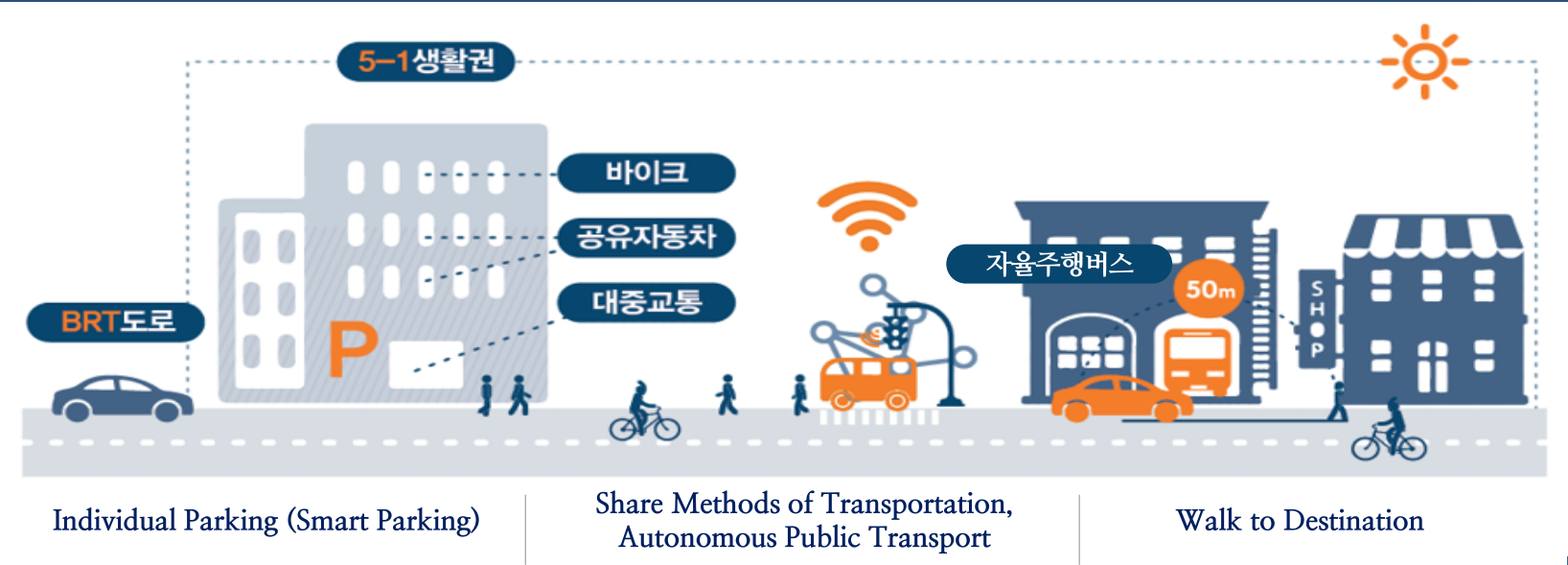


[Sustainable City]





Mobility



Non-Traffic Jams

Environment-Friendly City

Test-bed of Cars for the Future

Happy City to Easy Commute in a Automatic Driving and Share-Based Smart Transportation



Health Care



Emergency Drone

Emergency Respond
(Rapid and Accurate Action)

Emergency Supporting by
Using Drone
Emergency Care Based on IoT



Smart Farm

Healthy Life
(Order-Made Medicine,
Relieved Food)
Medical Service Based on Data
Smart Farm, Farmers' Market

Cities that Offer Personalized Health Care and Expedite Emergency Care



Resident Health Check in the
Artificial Intelligence Smart
Home



Control of the Temperature,
Humidity of House and
Ventilation



Personalized Medical Service
Based on Data



Intelligent Care Robot Service
(Appointment of Hospital Care
in Necessary)



In Case of an Emergency, the Drone
Delivers Accident Situation and
Provides Optimal Medical Support



Culture/Shopping

Customized Service Delivery to Lifestyle
By Data Analysis

Smart Payment/Delivery/Local Currency



 Education

Creative Knowledge City

Value

Fostering Critical Thinking



Respecting Diversity



Enhancing Creativity



Service

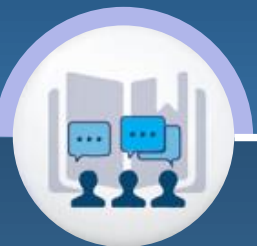
- Discussion-Oriented, Qualitative-Evaluation-Oriented Educational Environment

- Education Environment That is Tailored to Individual Level
- Edu-tech

- Neural for Brain Development
- Maker(3D Printer, Robot Arm) Machine



International Bacallore
Introduction of Education System



Discussion and Descriptive
Education in the Class



Use of Maker Equipment
in The Class



Preparation for Learning
at Home Online



Evaluation of Descriptive Essays
and Creation of Teaching
Guide by Using AI



Job Opportunity

Innovative City in a Raised Citizen Participation

Value

Service

Create a Various Job



- Innovative Companies, Treat of Moving in
- Produce Outstanding Individuals

Working Environment to Induce Innovation



- Faster Change through Citizen Data to Product and Service
- Provide Co-working Space of Various Industries

Public-Private Partnerships



- Extend citizen services through hugely imaginative company of product and service

Start up – the Symbiosis of a Big Company



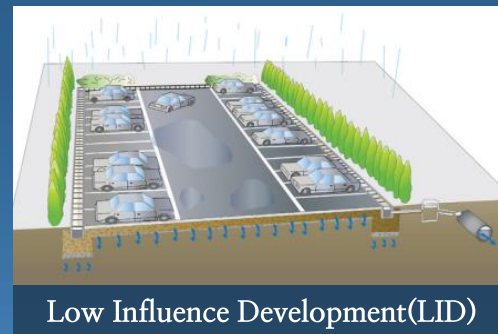
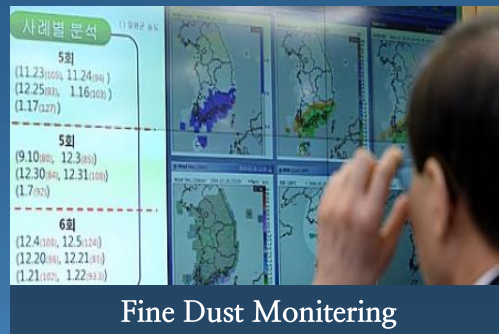
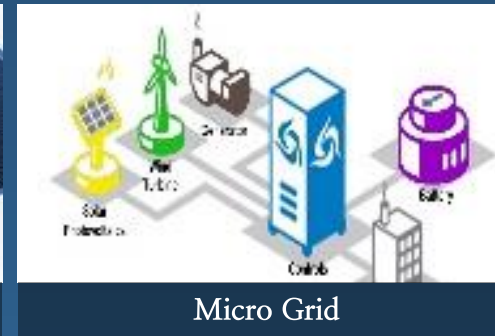
- Offer Collaborating and Teamwork Opportunity
- Bring in a Foreign Company such as Google and Amazon

Prepare Good Company Environment for a Invest



- Bring in a Foreign and Domestic Venture Capitalist
- Reflect the Government has Expanded the Budget for R&D

Energy and Environment



Eco-Friendly City of Self-Sufficient Energy and Resource Smart Recycle



Governance

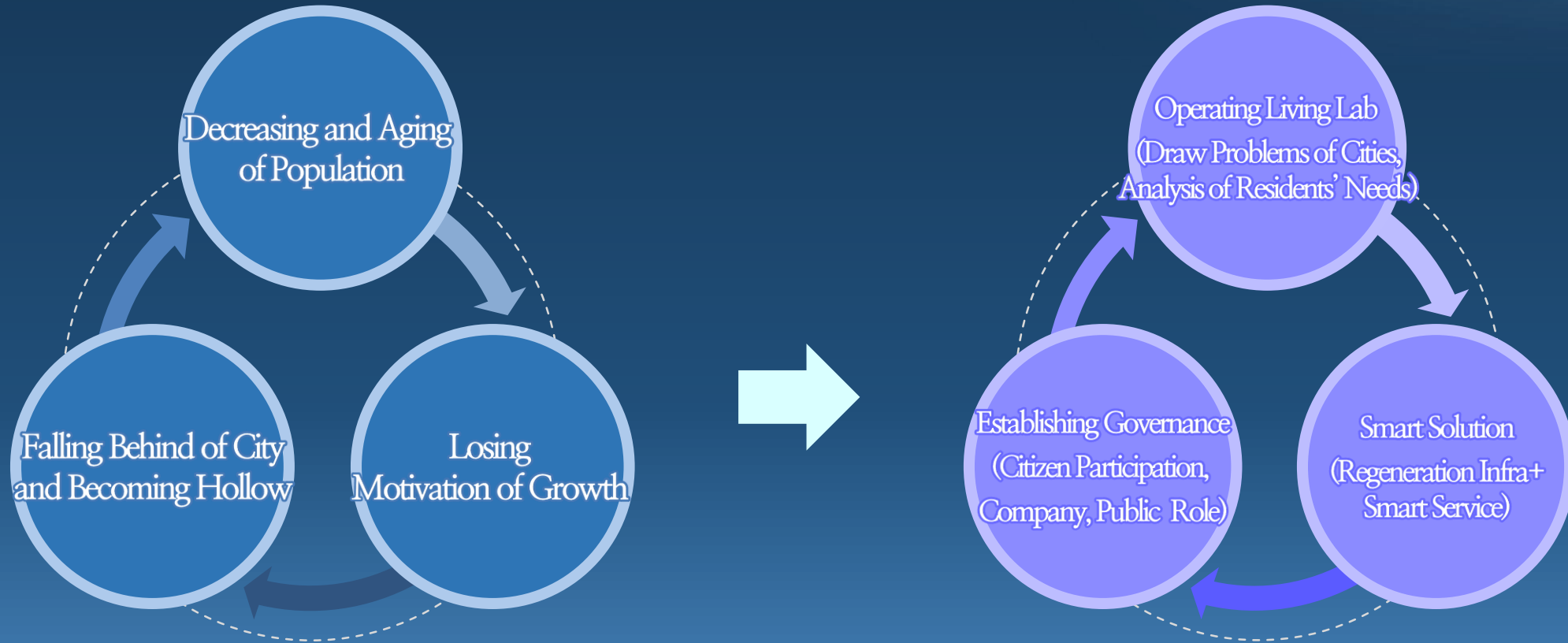


Smart Administrative City Reflect the **Opinion of the Residents** Quickly



2. Smart Urban Regeneration

Regeneration of Declined Cities



Build Low Cost and High Efficiency Circulation Structure with Smart Solution

2. Smart Urban Regeneration

Smart Urban Regeneration Model (Pohang)

Decline of Downtown

Move Municipal Office and Railway Station,
Weaken Industrial Competitiveness

Population Outflow, Decline Visitors, Declining Trade Area

A Street Crowded with Empty Shops



Deterioration of Residential Environment



A City Full of Vitality : Pohang

Convenient Downtown Approach,
Creating a Pleasant Environment

Introducing Smart Services with a High Sense of Citizens

Open Smart Lounge



Ubiquitous Parking Information System



Revitalize Downtown by Creating a Start-up and Culture, Art Space

3. Citizen Participation

Smart City Making with Citizen

Expanding Opportunity of Citizens' Participation (the Design Phase)

Reflecting Citizens' Idea
(Urban Simulation, Contest of Naming/Slogan, Survey etc.)



Citizen-Driven Problem Solving (Operational Phase)



3. Citizen Participation

Combination of Virtual and Reality for Citizens



A City where Citizens **Actively Participate** in City Administration

4. Global Cooperation

Korea Wave of Smart City(韓流)

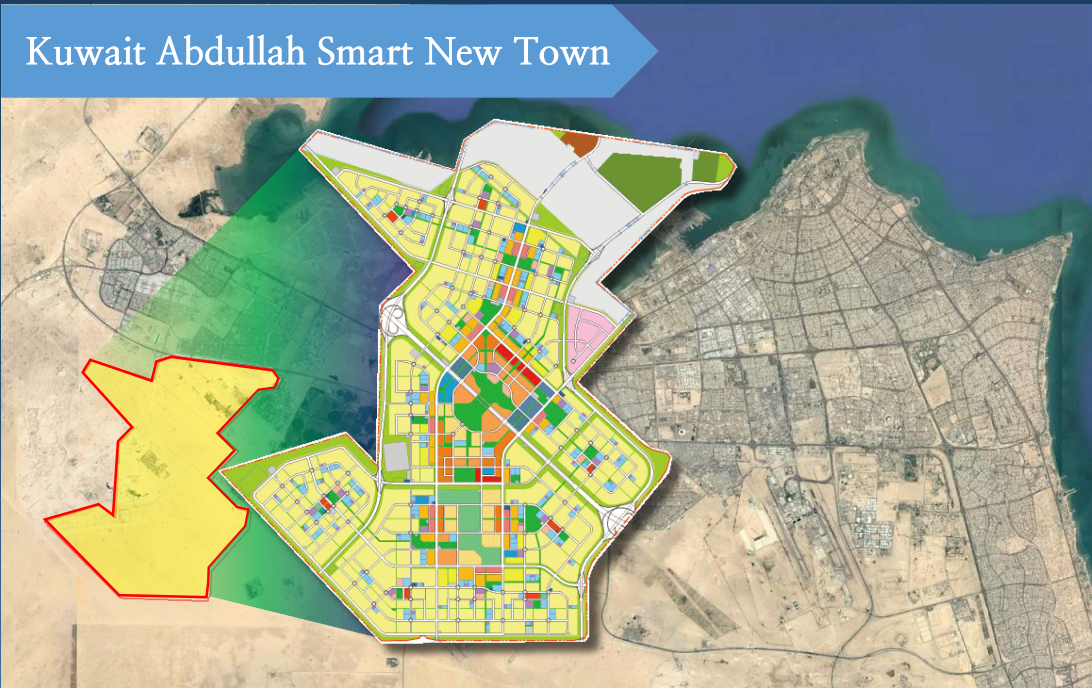
Main Business



4. Global Cooperation

Cooperated with Public and Private Enterprises

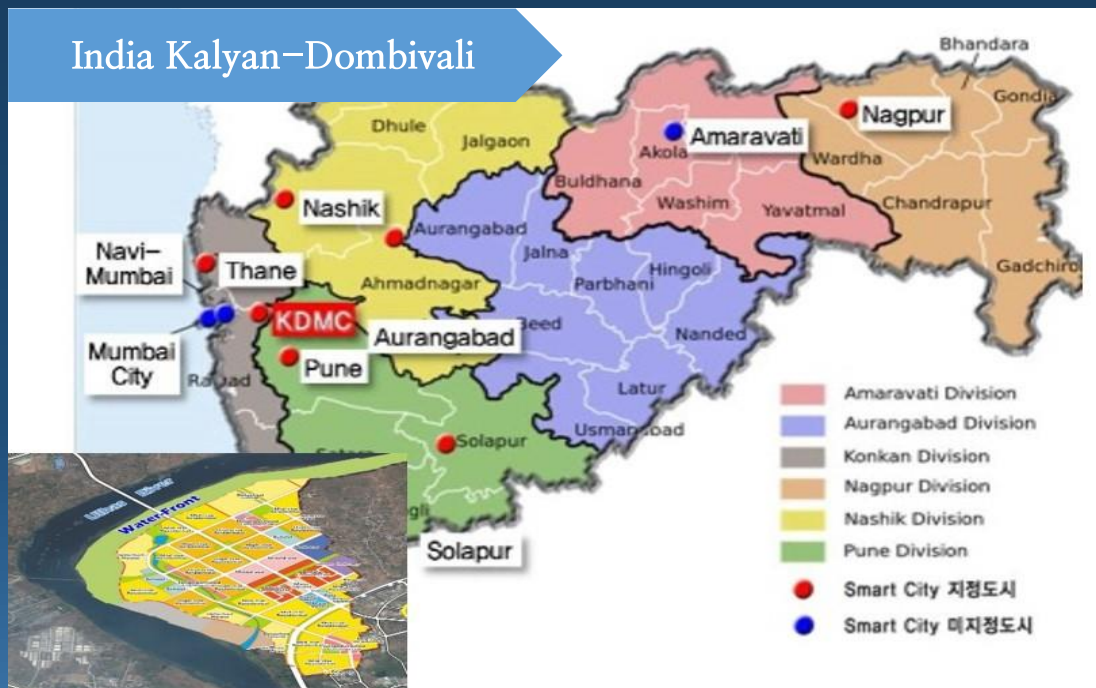
Kuwait Abdullah Smart New Town



- Site : Kuwait City West 30km
 - * the best of the nine new cities in the country's plan
- Scale : 64.5km², 2.5thousand~4.0thousand
- Expenses : About 4 Trillion Won
- Timeline
 - '17. 4 Contract for MP Planning and Design
 - '18. 下 Contract of Framework Convention on Business
 - '19. 内 SPV Establishment and Construction

LH : Planning-Design-Construction-Management

4. Global Cooperation

Establishing the Foundation of **Korean Smart City Business Participation** for the First Time in India

- Location : Mumbai North-East side 30km
- Size : 2.5km², 25,000~40,000 Houses
- Expenses : About 380 Billion Won (374 Million \$)
- Timeline
 - '17. 3 Executing the MOU between LH and KDMC
 - '18. Draft TPS and Deciding Participation of Business

Securing the **Status of the First Implementer** of a Foreign Company,
Selected as a **Representative Organization** in the Field of Smart City

Smart City ;

Make Together, Innovate, Growing City



Whole Business Phase : Public and Private Cooperation



LH is Making the Bowl, Businesses Fill Smartly

Connecting Between People and Technology Smart City

KOREA & LH Makes it

