WHO. WHAT. HOW. MAKES SEOUL SMART

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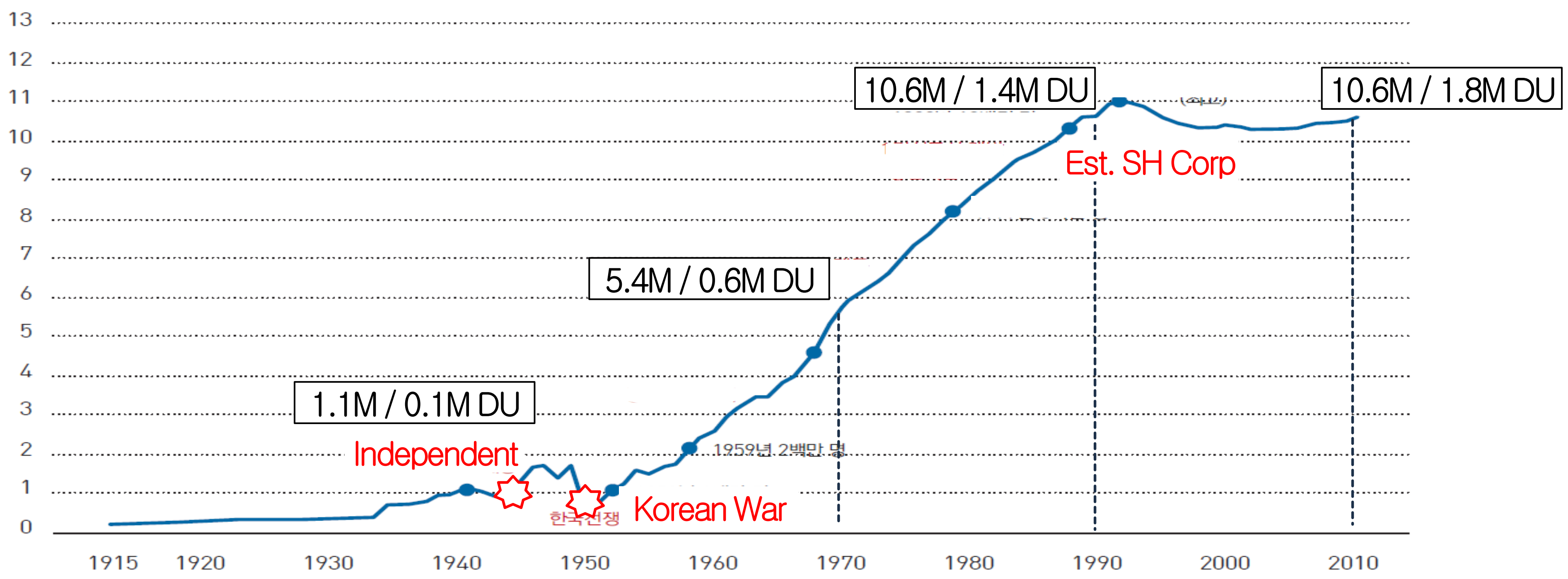
Seoul Housing & Communities Corporation

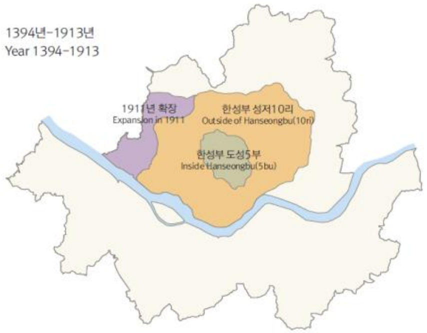
Hongsoo Lee
Executive Director, Office for Urban Development (OUD)

Overview of Seoul

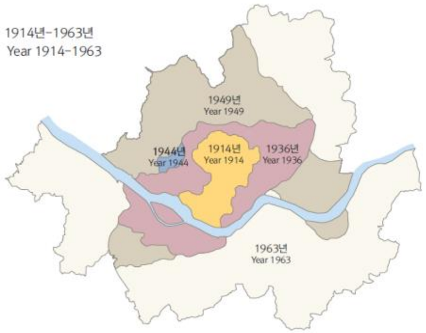
Population Growth / No. of Dwelling Unit



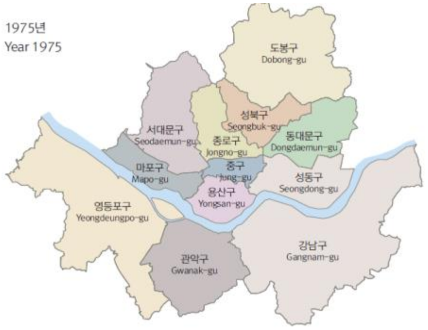
Urbanization of Seoul


1394년-1913년
Year 1394-1913
1911년 확장
Expansion in 1911
한성부 성저10리
Outside of Hanseongbu(10ri)
한성부 도성5부
Inside Hanseongbu(5bu)

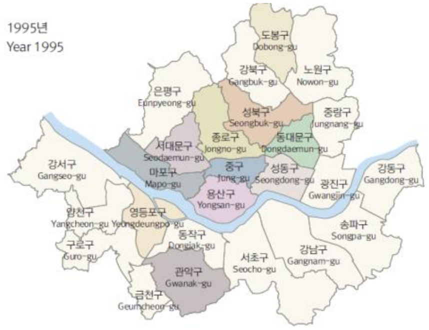
1394


1914년-1963년
Year 1914-1963
1949년
Year 1949
1944년
Year 1944
1914년
Year 1914
1936년
Year 1936
1963년
Year 1963

1914


1975년
Year 1975
도봉구
Dobong-gu
성북구
Seongbuk-gu
서대문구
Seodaemun-gu
종로구
Jongno-gu
동대문구
Dongdaemun-gu
마포구
Mapo-gu
중구
Jung-gu
용산구
Yongsan-gu
성동구
Seongdong-gu
영등포구
Yeongdeungpo-gu
관악구
Gwanak-gu
강남구
Gangnam-gu

1975


1995년
Year 1995
도봉구
Dobong-gu
강북구
Gangbuk-gu
노원구
Nowon-gu
은평구
Eunpyeong-gu
성북구
Seongbuk-gu
중랑구
Jungnang-gu
서대문구
Seodaemun-gu
종로구
Jongno-gu
동대문구
Dongdaemun-gu
강서구
Gangseo-gu
마포구
Mapo-gu
중구
Jung-gu
성동구
Seongdong-gu
광진구
Gwangjin-gu
강동구
Gangdong-gu
용산구
Yongsan-gu
양천구
Yangcheon-gu
영등포구
Yeongdeungpo-gu
동작구
Dongjak-gu
송파구
Songpa-gu
구로구
Guro-gu
서초구
Seocho-gu
강남구
Gangnam-gu
관악구
Gwanak-gu
금천구
Geumcheon-gu

2010

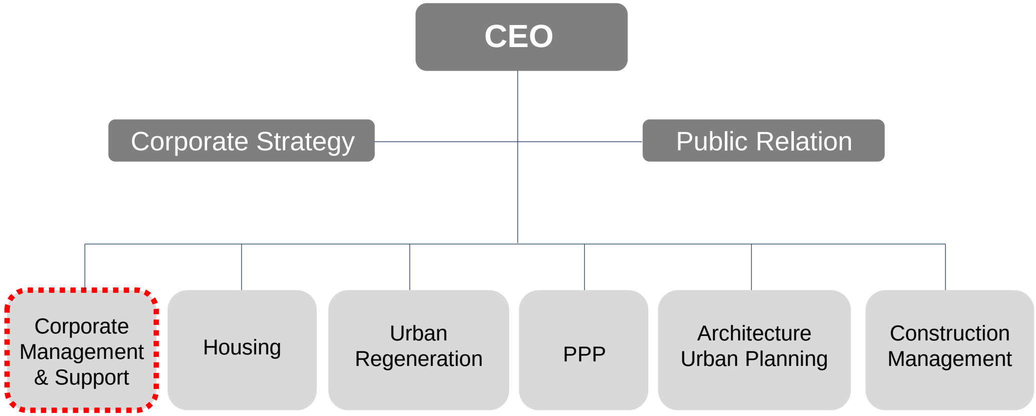
Introduction of SH

- Established in **1989** by

SEOUL METROPOLITAN GOVERNMENT

- Vision : Housing Welfare & Urban Regeneration
- Asset : US$ 22 billion ('17)
- Budget : US$ 5 billion ('17)
- Organization & Personnel

(6 divisions/16 departments/64 offices, **1,300** employees)



CEO

Corporate Strategy

Public Relation

Corporate Management & Support

Housing

Urban Regeneration

PPP

Architecture Urban Planning

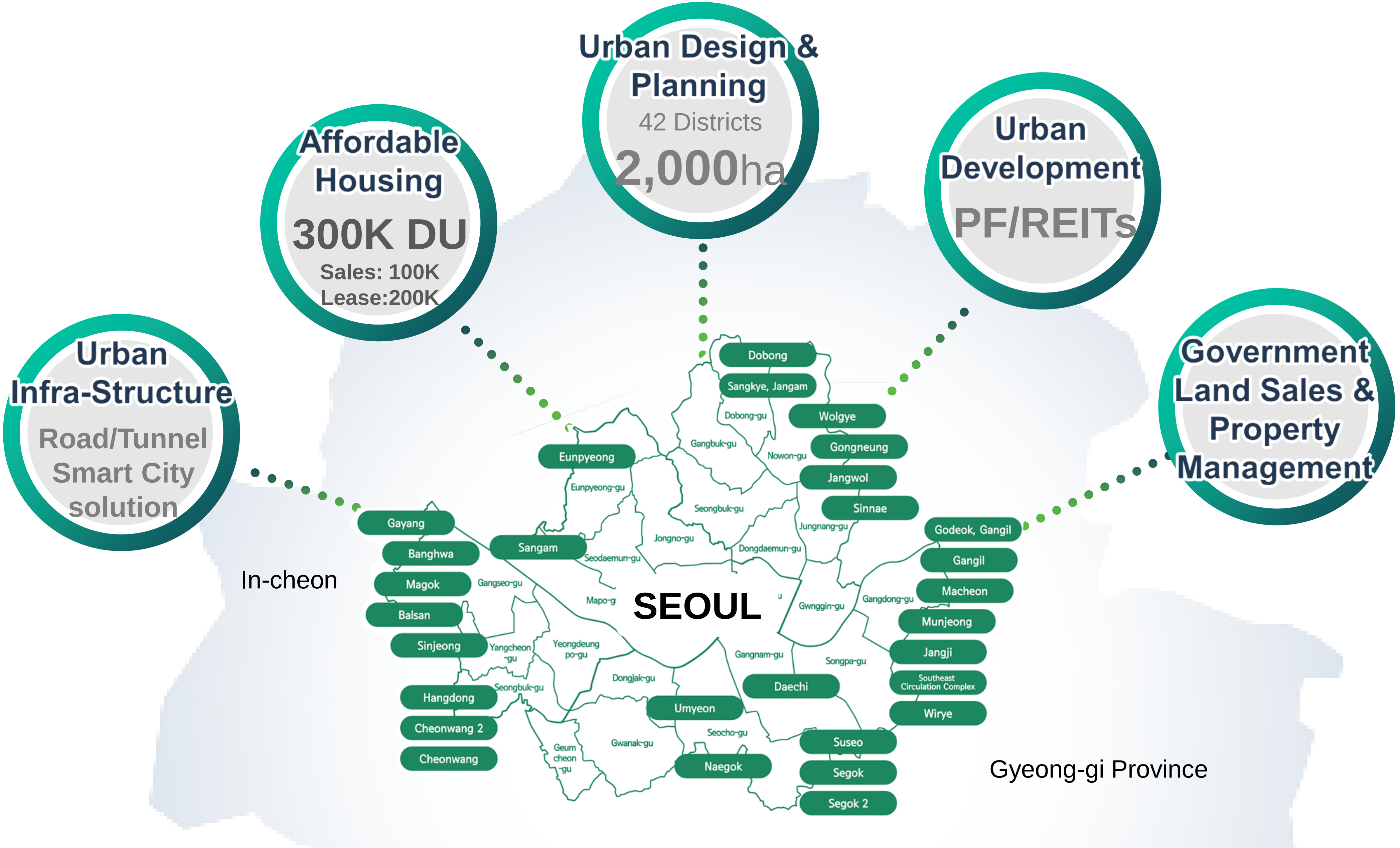
Construction Management

- OUD

(Exporting planning & expertise in urbanization of Seoul)

www.i-SH.co.kr
SH
SH공사
SH CORPORATION
SH공사 사옥(2008.9

Public Developer for Seoul City



Urban Design & Planning
42 Districts
2,000ha

Affordable Housing
300K DU
Sales: 100K
Lease:200K

Urban Development
PF/REITs

Urban Infra-Structure
Road/Tunnel
Smart City solution

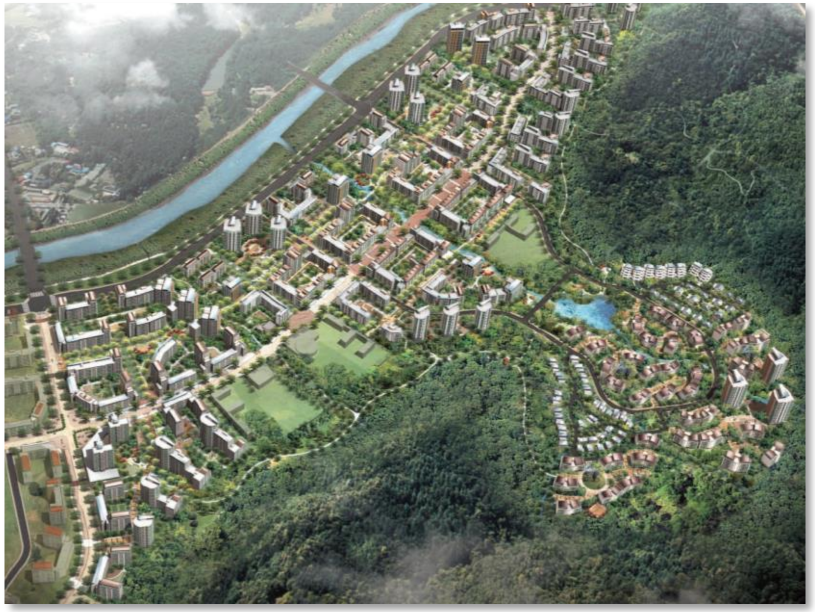
Government Land Sales & Property Management

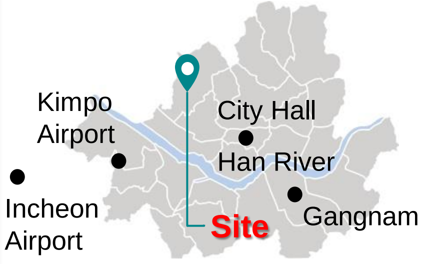
SEOUL
In-cheon
Gyeong-gi Province
Dobong
Sangkye, Jangam
Dobong-gu
Wolgye
Gangbuk-gu
Nowon-gu
Gongneung
Jangwol
Sinnae
Eunpyeong
Eunpyeong-gu
Seongbuk-gu
Jungnang-gu
Jongno-gu
Dongdaemun-gu
Godeok, Gangil
Gangil
Macheon
Gangdong-gu
Gayang
Banghwa
Sangam
Seodaemun-gu
Magok
Gangseo-gu
Mapo-g
Gwnggin-gu
Balsan
Sinjeong
Yangcheon-gu
Yeongdeungpo-gu
Gangnam-gu
Songpa-gu
Munjeong
Jangji
Southeast Circulation Complex
Wirye
Hangdong
Seongbuk-gu
Dongjak-gu
Daechi
Umyeon
Cheonwang 2
Cheonwang
Geumcheon-gu
Gwanak-gu
Seocho-gu
Suseo
Naegok
Segok
Segok 2

Best Practice : Eunpyeong New Town (Mixed-Density Project)

Overview

- Location : Eunpyeong-Gu, Seoul
- Area : **350ha**
- Status : 100% completion (2003~2011)
- Housing : 17,464 DU(Sales: 10K, Lease: 7K)





Main Development Features

Korean Traditional Housing Construction

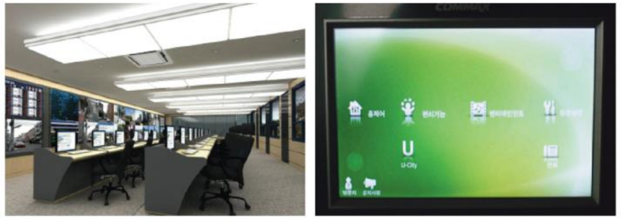
- Area: 36,150㎡(95 lots)
- Urban Korean traditional housing model presentation

Incineration Plant

- If garbages are put into a drop hole, they move through transport pipelines and into incinerator automatically

Smart City

- Creation of CCTV, wireless & wired networks and integrated control center
- Operation of security CCTV systems, U-Home Information provision service, illegal parking crackdown service, digital library system



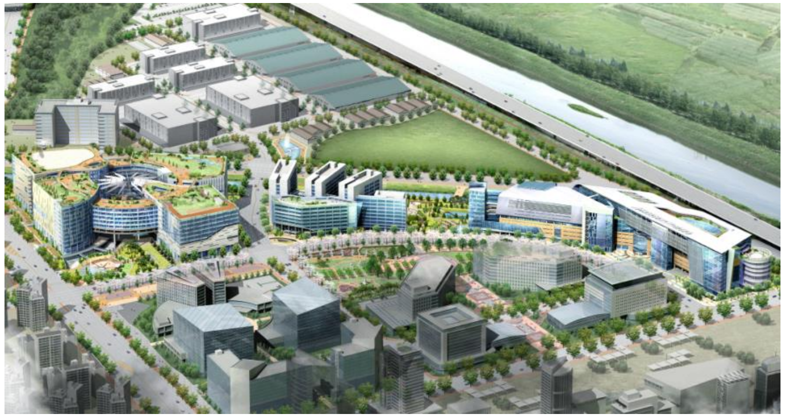
Best Practice : **Garden 5** (The Southeastern Logistics District)

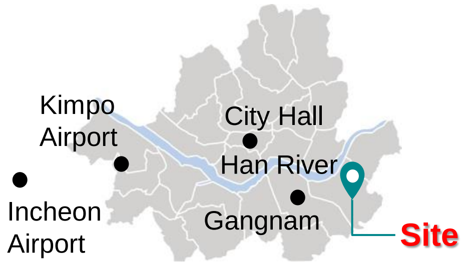
Overview

- Location : Songpa-Gu, Seoul
- Area : **56ha**
- Status : 100% completion (2004~2010)
- Total Cost : US$ 1.17 Billions

Character

- This project was initiated for the relocation of merchants, as the Cheongyecheon restoration project was promoted.
- Establishment of advanced logistics complex and activation of local economy





Garden5 **Life**

- Use : Shopping & Cultural Facilities
- Area : 41K㎡, B5~11F
- GFA : 426K㎡
- Stores : 5,366ea

Garden5 **Works**

- Use : Industrial Offices
- Area : 13K㎡, B5~10F
- GFA : 120K㎡
- Stores : 734ea

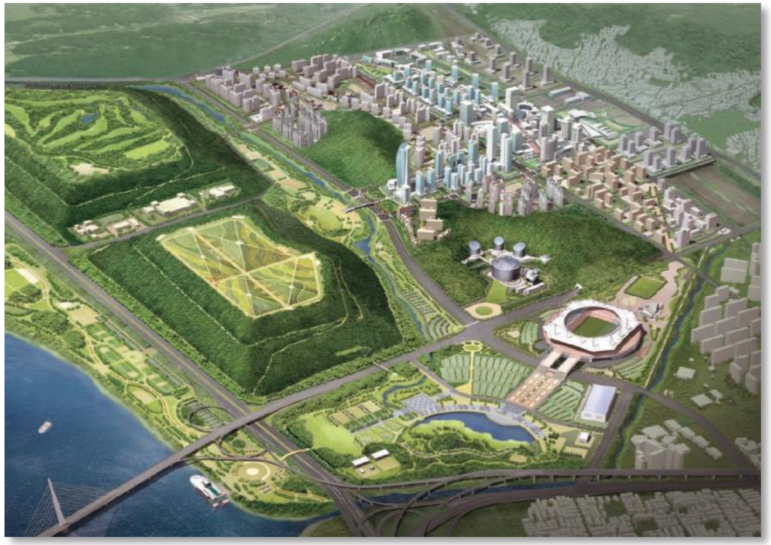
Garden5 **Tool**

- Use : Warehouse/Sales/Culture
- Area : 28K㎡, B5~10F
- GFA : 274K㎡
- Stores : 2,270ea

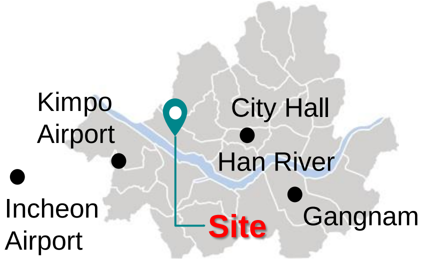
Best Practice : **Sangam DMC** **(Digital Media City)**

Overview

- Location : Mapo-Gu, Seoul
- Area : **170ha**
- Status : 90% completion (1998~2010)
- Housing : 5.2K DU(Sales: 3.6K, Lease: 1.6K)



Before
위험
Waste Landfill


Kimpo Airport
City Hall
Han River
Incheon Airport
Site
Gangnam

Main Development Features

DMC Media Industry Complex
- Area : 337,000㎡
- Promoting IT industry, digital media and entertainment industry
- Tenants
: MBC, CJ E&M, YTN, Samsung SDS, LG CNS, National IT Industry Promotion Agency, etc.

Rental Housing for foreigners (DMC Ville)
- Area : 9,313㎡
- Capacity : total 175 units, 30,535㎡ floor area
- Available to foreign residents in Seoul

High-Tech Industry Center
- Area : 17,070㎡
- Capacity : over 225 tenants, floor area 77,191㎡
- Provide tenants with spaces for manufacturing facilities

Best Practice : **Magok District** (Mixed-use Industrial Complex)

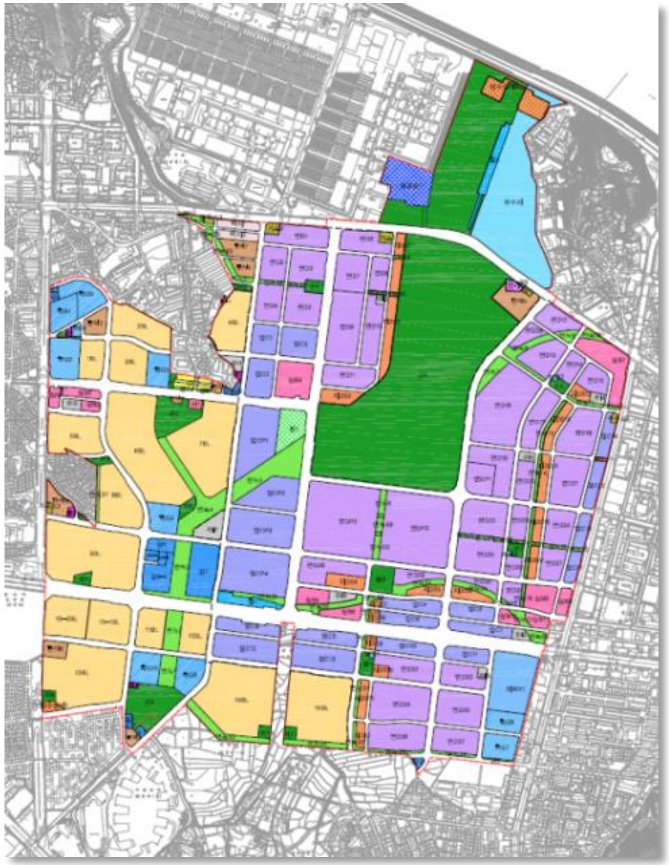
Overview

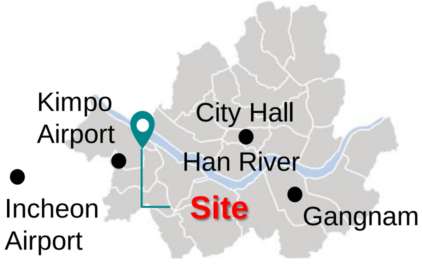
- Location : Gangseo-Gu, Seoul
- Area : **367ha**
- Status : 70% completion (2007~current)
- Housing : 12K DU(Sales: 6K, Lease: 6K)

Magok District is a self-sustainable city containing a global R&D cluster, LG, E-land and Lotte Headquarters, Ehwa Womans University Medical center, MICE and commercial facilities

Land Use

- Industrial Complex : 81ha
- Business & Commercial : 39ha
- Residential Area : 60ha
- Infrastructural Facilities : 187ha




Kimpo Airport
City Hall
Han River
Incheon Airport
Site
Gangnam

Before

After

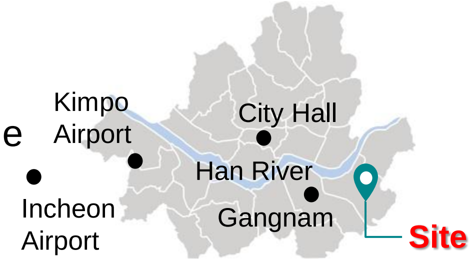
Planning : **Redevelopment for Prison Site**

Overview

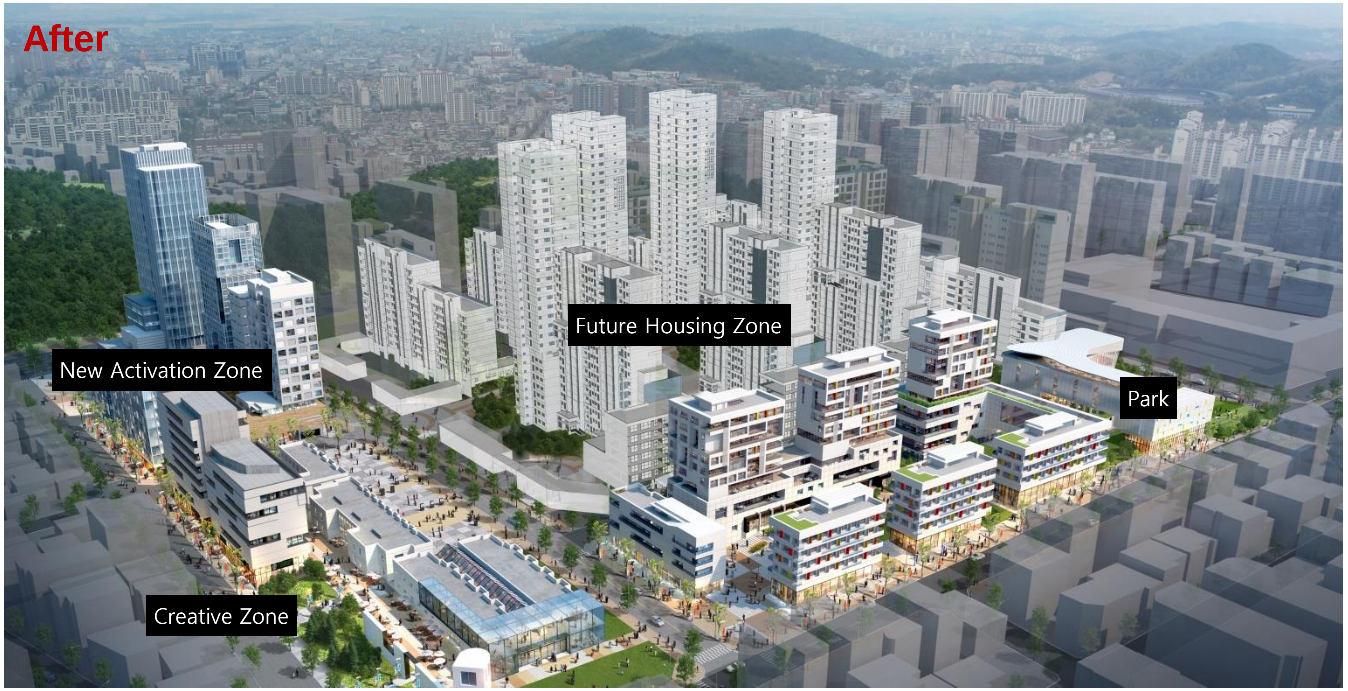
- Location : Songpa-Gu
- Area : **8.4ha**
- Housing, Industrial Complex, Office, Park Connection

Character

- Redevelopment planning for vacated prison site
- Open to all development uses to rejuvenate the area and provide affordable housing and start-ups space for young people


Kimpo Airport
City Hall
Han River
Incheon Airport
Gangnam
Site

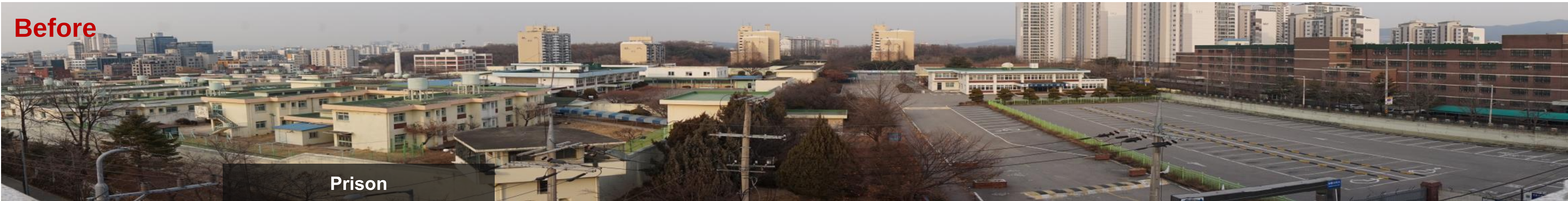
Knowledge Industry Center


After
Future Housing Zone
New Activation Zone
Park
Creative Zone

Residential Complex

Young Entrepreneurial zone & Exhibition

Community Facilities


Before
Prison

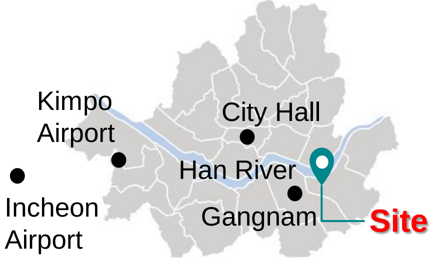
Planning : Redevelopment at Jamsil / Samsung District

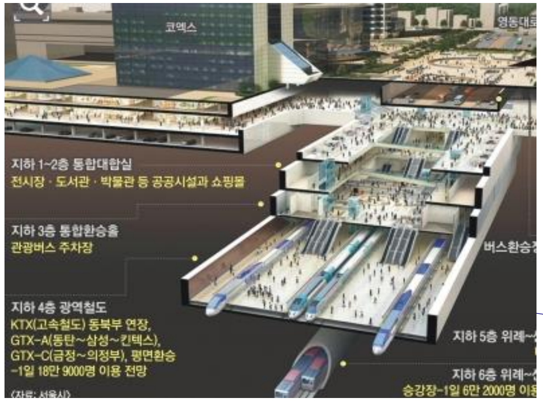
Overview

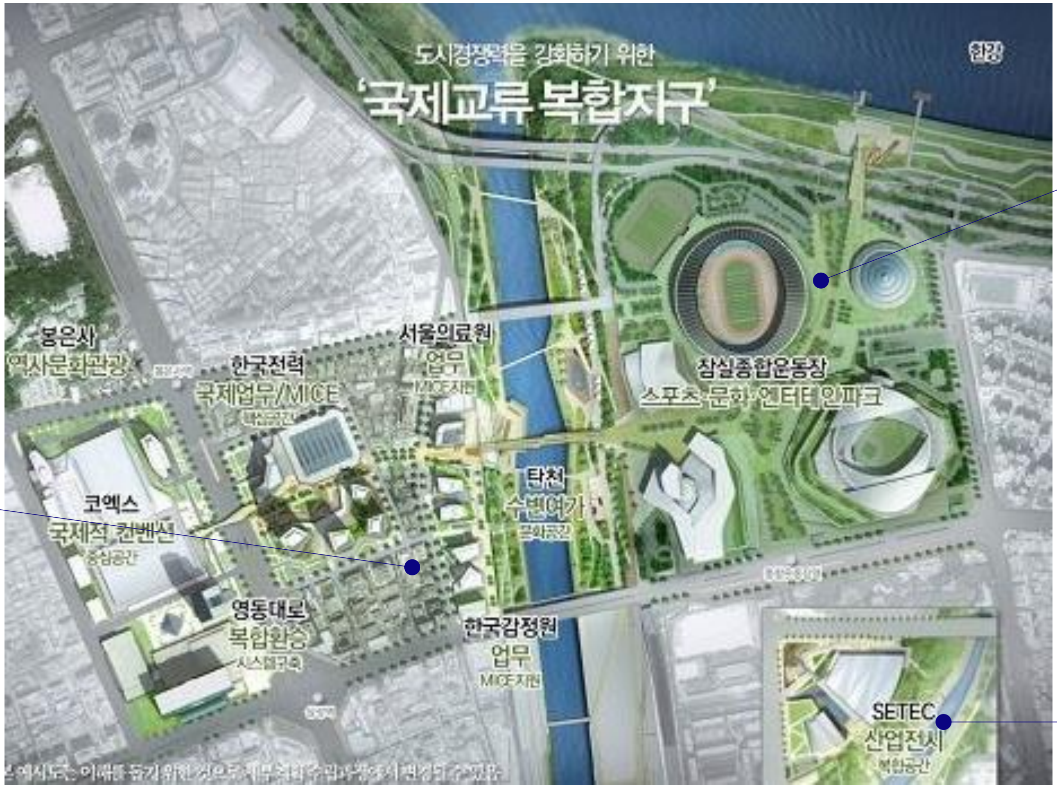
- Location : Gangnam-Gu
- Area : **166ha**
- Use: MICE, Sports Complex, Commercial, Hotel, Public Space, etc

Character

- Almost the last major waterfront project fronting Han River at Gangnam Area, including underground developments
- GTX-A (high speed rail) station will be completed and connected with the developments and together with Yongsan IBD, it will be second major transportation node in Seoul


Kimpo Airport
City Hall
Han River
Incheon Airport
Gangnam
Site


코엑스
영동대로
지하 1~2층 통합대합실
전시장 · 도서관 · 박물관 등 공공시설과 쇼핑몰
지하 3층 통합환승홀
관광버스 주차장
버스환승
지하 4층 광역철도
KTX(고속철도) 동북부 연장,
GTX-A(동탄~삼성~킨텍스),
GTX-C(금정~의정부), 평면환승
-1일 18만 9000명 이용 전망
지하 5층 위례~
지하 6층 위례~
승강장-1일 6만 2000명 이
(자료: 서울시)

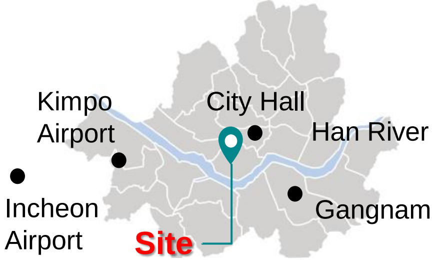

도시경쟁력을 강화하기 위한
'국제교류 복합지구'
한강
봉은사
역사문화관광
한국전력
국제업무/MICE
복합공간
서울의료원
업무
MICE지원
잠실종합운동장
스포츠·문화·엔터테인파크
코엑스
국제적 컨벤션
중심공간
탄천
수변여가
문화공간
영동대로
복합환승
시스템구축
한국감정원
업무
MICE지원
SETEC
산업전시
복합공간

Planning : **Regeneration at Yongsan & Sewoon District**

Yongsan International Business District

Overview

- Location : Yongsan-Gu, Seoul
- Area : **51ha**
- Status : Planning
- Total Cost : US$ 30 Billions

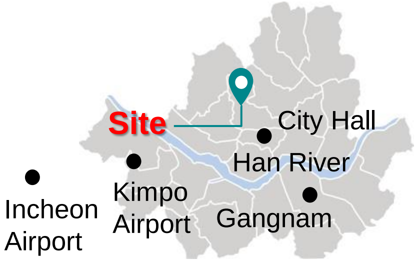

Kimpo Airport
City Hall
Han River
Incheon Airport
Gangnam
Site

Sewoon District Urban Regeneration

Palace
Jongmyo Shrine

Overview

- Location : Jongro-Gu, Seoul
- Area : **44ha**
- Status : Planning
- Total Cost : US$ 14 Billions


Site
City Hall
Han River
Incheon Airport
Kimpo Airport
Gangnam

Sharing lessons from the cities in Singapore & Korea for Smart City

Singapore : 5.6M ppl in 100% urbanized city

Korea : 52M ppl in 162 cities approx. 87% urbanized
(9K ~ 10M / 25M for Seoul Metropolitan)

Smart City

- **Resolve or Provide Solution for Urban Issues**
  - It does not have to be the latest technology

- **Analyze 4P**
  - Understand different context requires different strategy
  (e.g. Urbanization, industry, culture, structure of population, living pattern)

- **Build Platform**
  - New city and existing city

Public – Private – People Partnership

Character of 4P (Public-Private-People Partnership)

- **Public** (e.g. central or local government or special development agencies)
  - Understand city or urban context (i.e. economical, social and cultural context) for direct implementation, mid/longer-term planning
  - Decide topic for implementation (e.g. boost economy, resilient city, crime free town, zero-energy town, walkable city)

- **Private** (e.g. service provider for implementation of public policy or to meet people needs)
  - Analyze district, city, urban context and people behavior to provide technology or anything people needs for business profit
  - Select the fields of technology (e.g. Google for searching engine, Facebook for social communication, Amazon for e-commerce)

- **People**
  - Act as parameters (i.e. both client and customer) for Public and Private as City with Smart City is required to be people centric

- **Partnership for 3P**
  - System based on the transparent process for obtaining, analyzing and sharing data

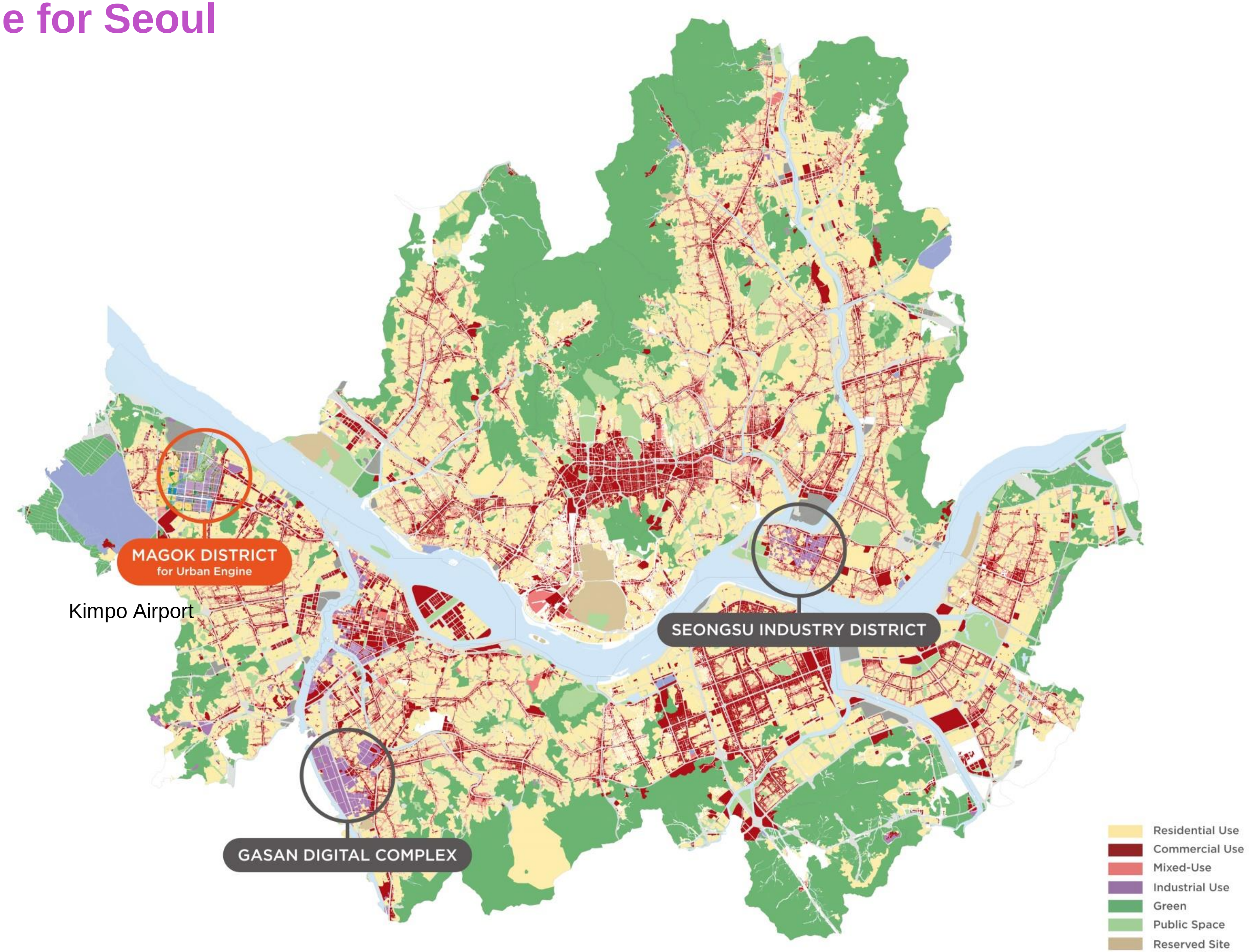
Smart City in Korea

Holistic approach in limited area > **Connected approach by independent system**

	U-City (1st Generation)	Smart City
Driven by	Central government / Local development corporation (top down)	3P (top down + bottom up)
Basic Concept	Separated ICT system (no sharing data)	System for systems (platform based data sharing for seamless network)
Target (solution)	New town development (e.g. construct more road)	Resolve urban issues (alleviate traffic jam by traffic system)
Field	Transportation, Safety, Urban Disaster	+ Environment, administration, education, employment, etc

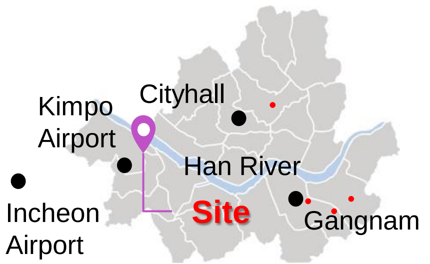
3 Major Industrial Complex in Seoul

Urban Engine for Seoul


MAGOK DISTRICT
for Urban Engine
Kimpo Airport
SEONGSU INDUSTRY DISTRICT
GASAN DIGITAL COMPLEX
Residential Use
Commercial Use
Mixed-Use
Industrial Use
Green
Public Space
Reserved Site

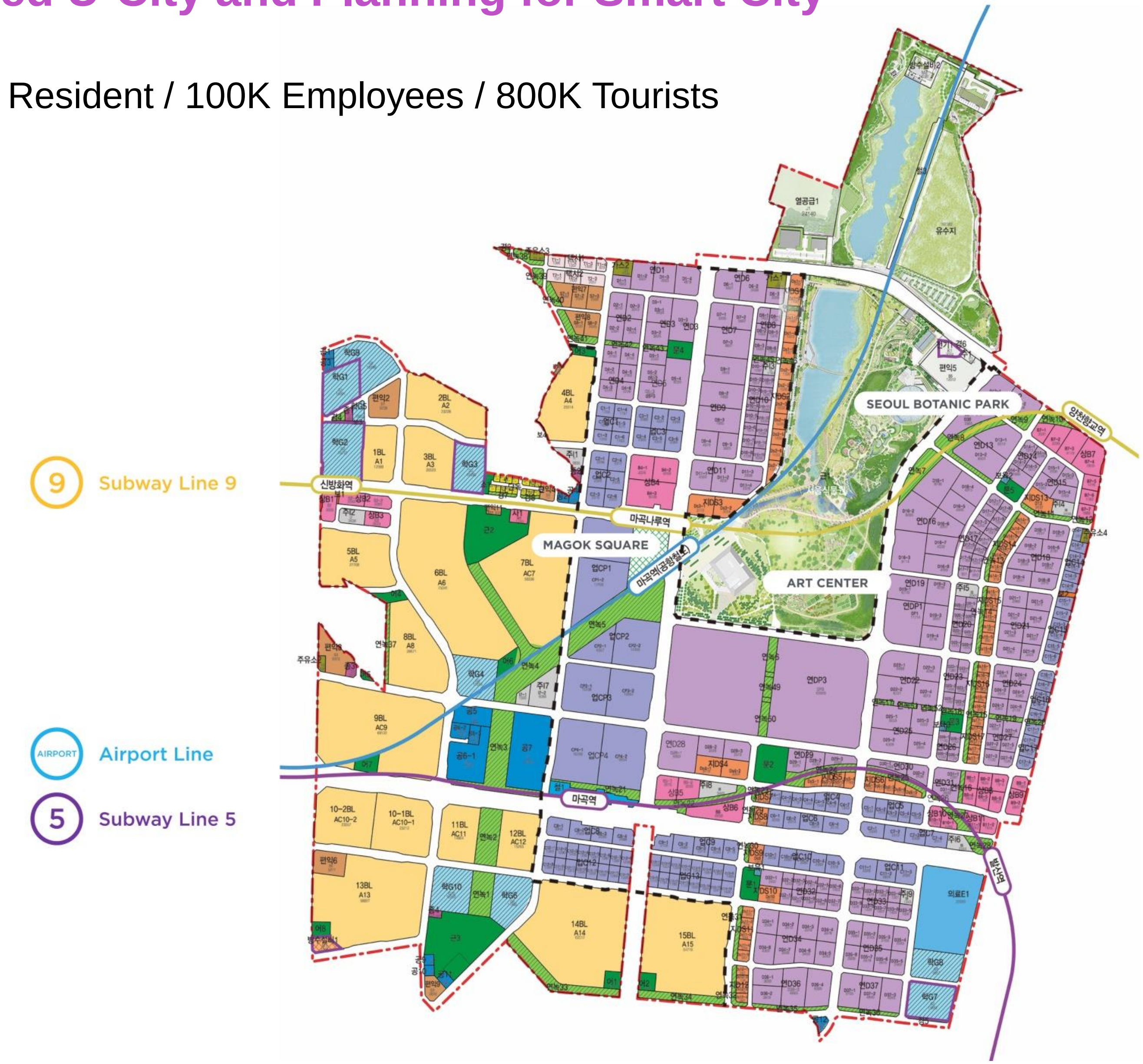
Incheon Airport

Magok District


Cityhall
Kimpo Airport
Han River
Incheon Airport
Site
Gangnam

Completed U-City and Planning for Smart City

- 12K Units Resident / 100K Employees / 800K Tourists

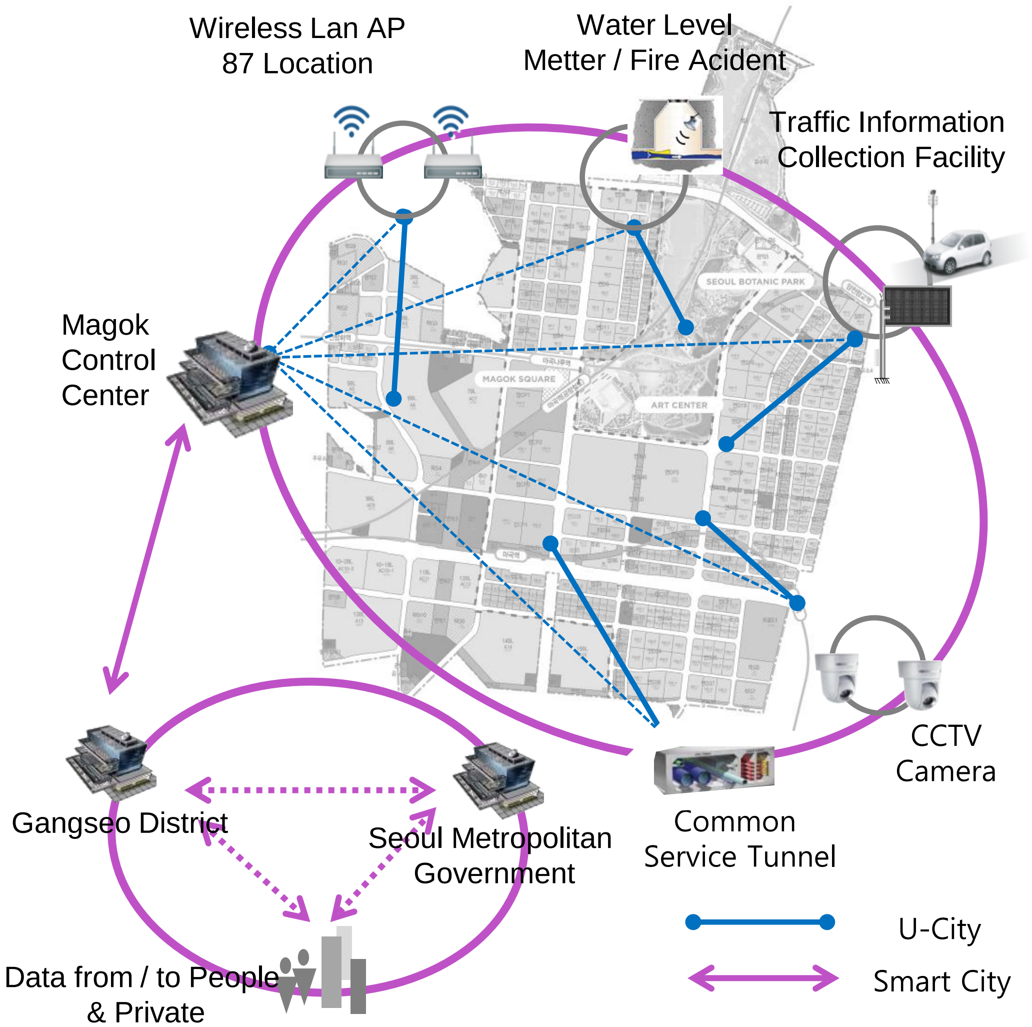

9 Subway Line 9
AIRPORT Airport Line
5 Subway Line 5
SEOUL BOTANIC PARK
MAGOK SQUARE
ART CENTER
신방화역
마곡나루역
마곡역(공항철도)
양천향교역
마곡역
발산역

- 🟨 Residential Use
- 🟥 Commercial Use
- 🟦 Mixed-Use
- 🟪 Industrial Use
- 🟩 Green
- 🟧 Support Facilities
- 🟦 Public Office

Smart City in Magok District

Core Services for Integrated System from U-City to Smart City

Core Services	Infra Network Diagram
Crime Prevention **Separated camera system** >>> Integrate camera system and sharing the information **Reducing forecasting crime**	
Transportation **Analyzing real time mass transportation data** >>> private participate to share transportation data **Planning transportation for both**	
Working Environment **Analyzing individual home, office, factory data separately** >>> Integrate all the data **Providing best amenity and environment for the district**	
Energy Efficiency **Constructing Smart Grid (e.g. common service tunnel)** >>> Integrate with living & working pattern info **Finding most energy efficient solution for living and working**	
Disaster Management **Detecting disaster situation through sensors** >>> Integrate camera system and sharing the info **Forecasting disaster situation to minimize the damage**	


Wireless Lan AP
87 Location
Water Level
Metter / Fire Acident
Traffic Information
Collection Facility
Magok
Control
Center
SEOUL BOTANIC PARK
MAGOK SQUARE
ART CENTER
CCTV
Camera
Common
Service Tunnel
Gangseo District
Seoul Metropolitan
Government
Data from / to People
& Private
U-City
Smart City

Smart City in Magok District

Magok Integrated Control Center

(e.g. operation, analysis, forecast, response, networking)

중단없는 도약 명품도시 강서

5 Elements for Successful (Smart City based) Urbanization

- Area-based Expertise on Urban Planning & Design (Public)
- Seamless Collaboration (Public)
- Negative Regulatory System for Flexible Administration and Social Dynamics (Public)
- Building Transparency with Citizen through engagement or community feedback (3P)
- Data Collection, Distribution & Sharing for Understanding (for Public),

  Analysis (for Private) and Improvement of Quality of Life (for People)

Building Platform for City Smart

Thank You

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ashley.park@i-sh.co.kr (Ashley Park)
oms0907@i-sh.co.kr (Minsik Oh)
oud@i-sh.co.kr