

CITYHUB

Data-driven Sustainable Smart City Development in Korea

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&

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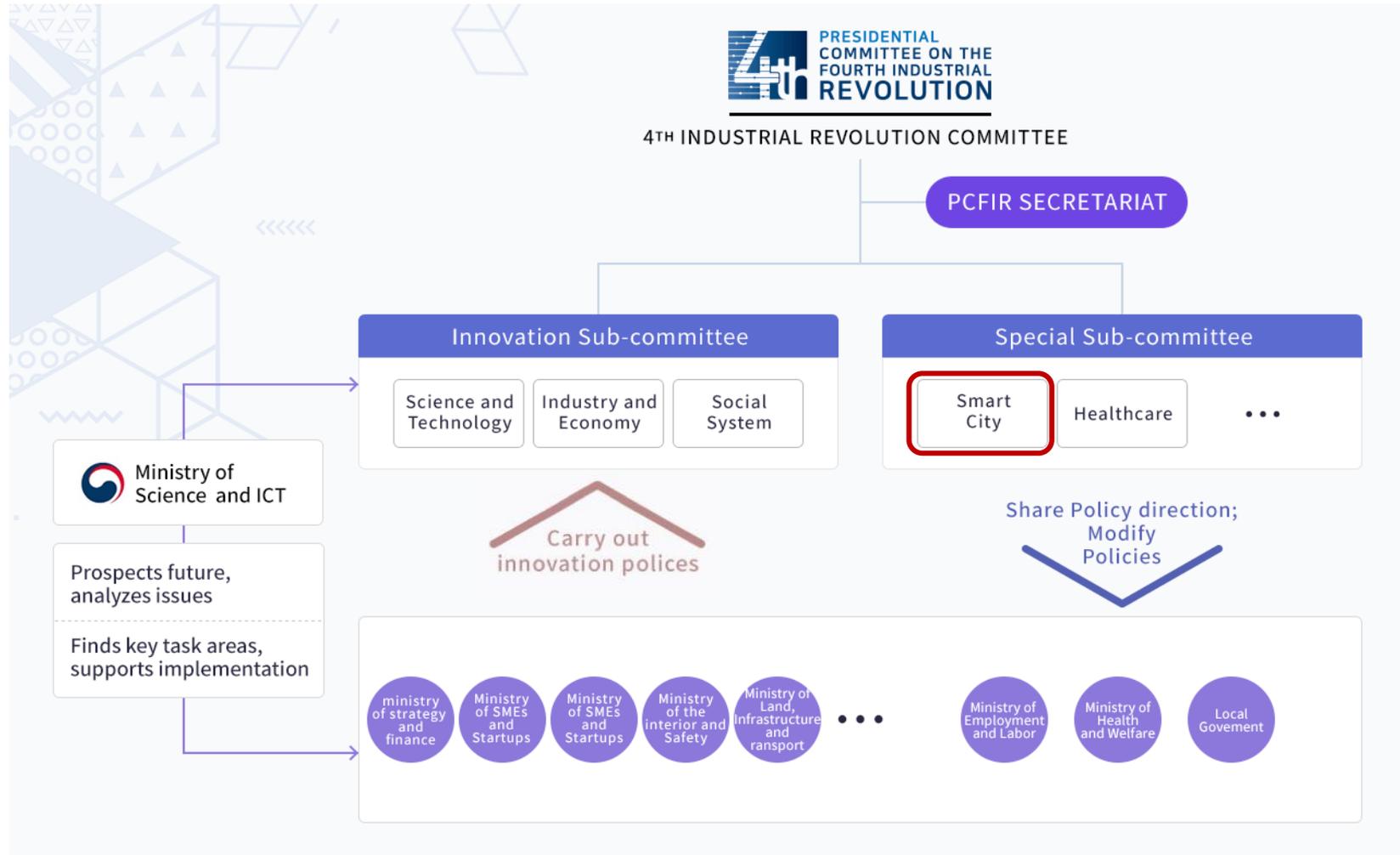
Agenda

- I. Smart City Strategies of South Korea**
- II. National Strategic Smart City Program**
- III. DataHub Project for Smart City**

I. Smart City Strategies of South Korea

- PCFIR and Smart City
- Smart City Strategies of South Korea

Presidential Committee on the Fourth Industrial Revolution (PCFIR)



Apply differentiated approaches based on urban life-cycle

Stage (Life Cycle)	Space features	Strategy	Leading Applied Technology
Development Stage	<ul style="list-style-type: none"> • NO restriction on infrastructure development • Convergence of diverse technologies • Innovative experiments 	<p>National trial cities :Public enterprise business sites (Sejong, Busan, ...)</p> <p>New towns</p>	Advanced future cutting-edge technologies (Core technologies)
City Operation Stage	<ul style="list-style-type: none"> • Limitations on new infrastructures • Sufficient needs for technologies • Excellent participation from citizen 	<p>Datahub and Trials :Local government demonstration (Daegu, Siheung, ...)</p> <p>Complex with specialized features</p>	Technologies at Commercialization stage (On-Demand innovation)
Declining Stage	<ul style="list-style-type: none"> • Occurrence of various city problems • Limitations on new investment 	Smart Urban Regeneration : Annual list of urban regeneration business linkage	Cost-efficient optimal technologies (Problem-solving)

II. National Strategic Smart City Program

- **Overview of National Strategic Smart City Program**
- **Smart City Development Direction in NSSC Program**
- **Projects in NSSC Program**

Overview of National Strategic Smart City (NSSC) Program

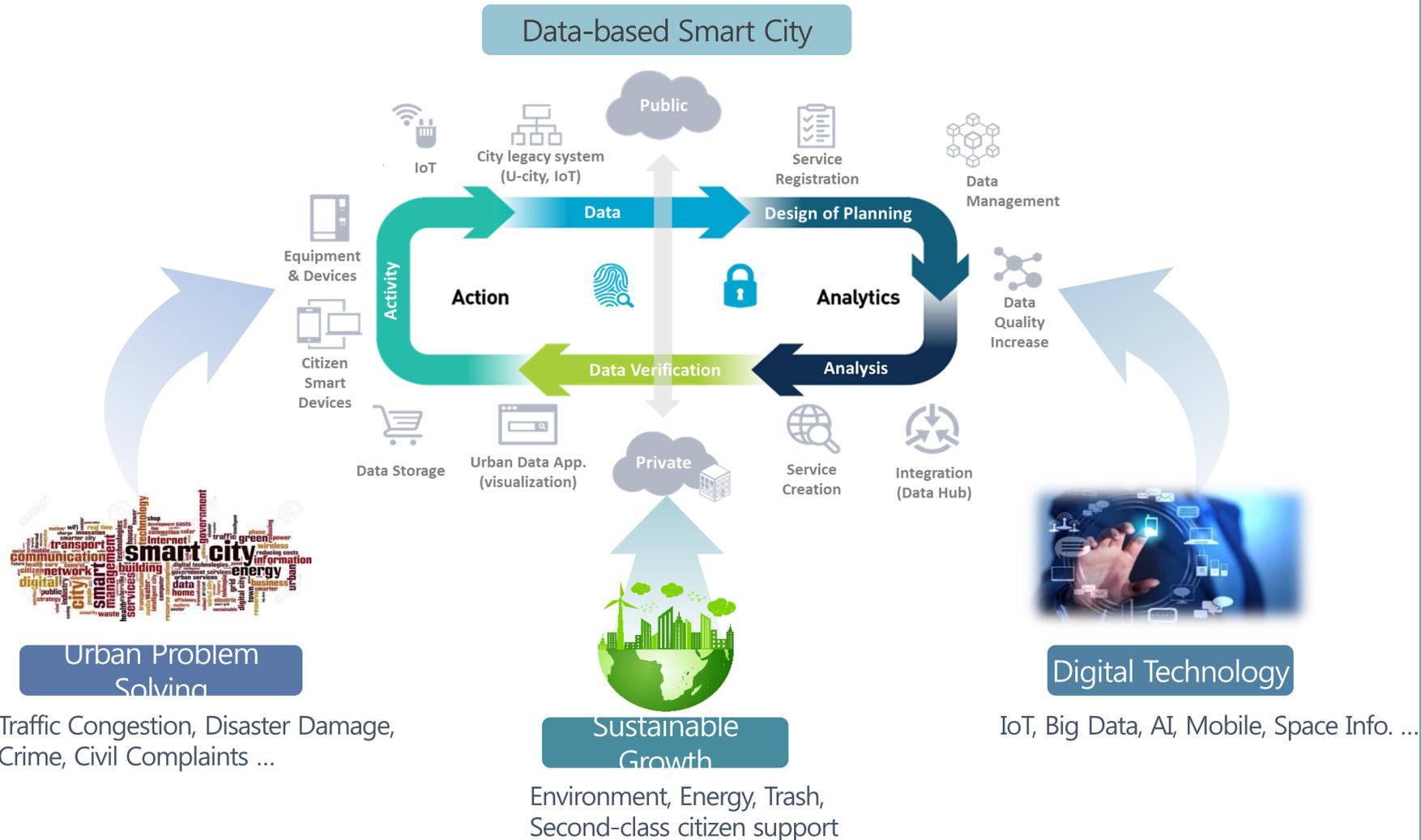


Design and develop data-based smart city innovation model for sustainable development and improvement of citizen's quality of life

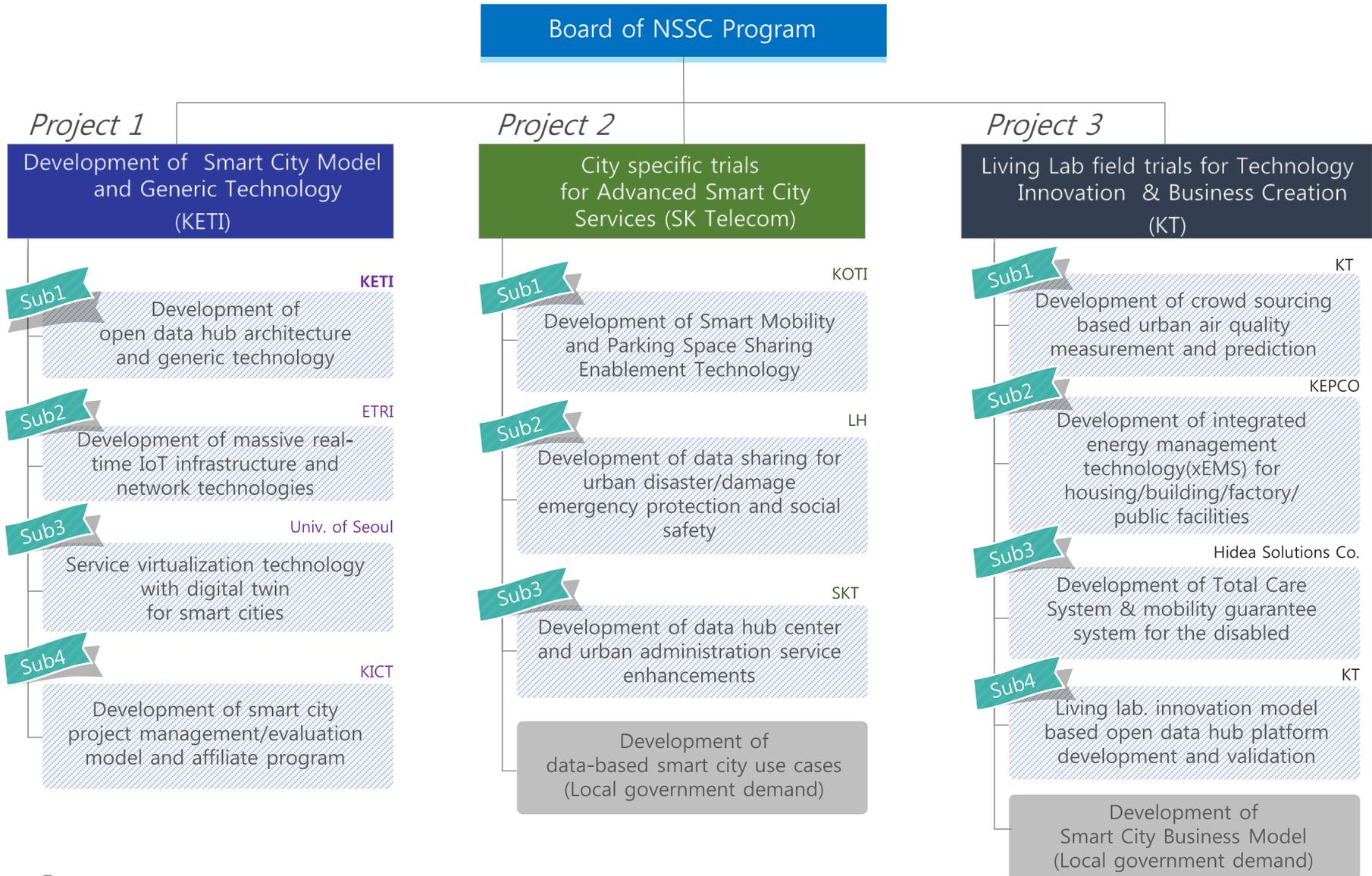
Business Direction	Vision	Data-based smart city for sustainable and improvement of citizen's quality of life	Goal	City-specific problem solving (Traffic congestion, Energy consumption, Disaster damage, Safety...) <hr/> Revitalize the urban economy by developing innovative solutions
	Budget & Term	Budget: 115.9 million \$ Term : 2018.9 ~ 2022.12 (5yr.)	Related Dept.	Leading dept: Ministry of Land, infrastructure and Transport, Ministry of Science and ICT <hr/> Cooperative dept: Ministry of Trade, Industry and Energy, Ministry of Environment, Ministry of Health and Welfare, Ministry of Interior and Safety ...
Project System Composition	Project 1 Smart City Model & Development of Generic Technology (Coordinating Project)			
	Development of key common technologies for building a smart city data hub, an efficient management system for trial projects, a collaboration system, and a governance.			
	Project 2 City specific trials for service advancement (Civic City)			
Apply problem solving approach: Introduction to smart cities focusing on the development of service/technology and its validation for the cities with a basic infrastructure where there is a need to address problems of citizen's inconvenience				
Project 3 Living Lab. field trials for technical innovation and business creation (Inno City)				
Apply sustainable growth approach: Design a smart city model with local community involvement in order to support sustainable growth of urban economy & regeneration. Encouraging new industries or applying digital technology to cities that are in decline phase.				

Smart City Development Direction in NSSC Program

Building data-based smart cities will solve various urban problems, pursuit sustainable growth, and achieve digital economy growth by smart city expansion

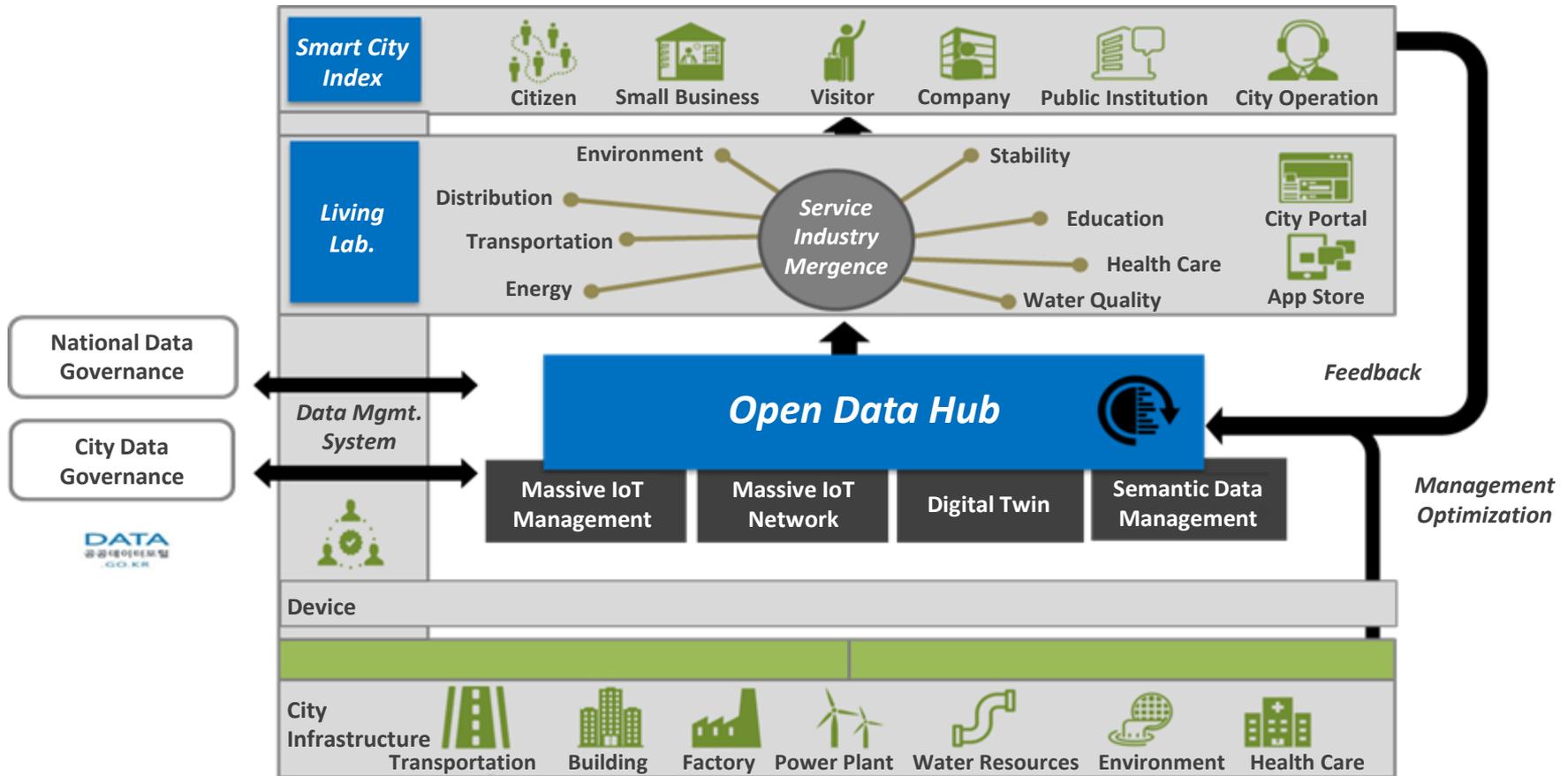


Projects in National Strategic Smart City (NSSC) Program



Project 1: Development of Smart City Model and Generic Technology

Development of data integration technology & common technology for data-based smart city



Project 2: City specific trials for Advanced Smart City Services

Service validation by implementing scenario-based use cases to solve problems that are causing inconvenience to citizens, such as traffic, stability and administration, by utilizing and linking existing urban infrastructure

Use Case

Smart City Use Case Development based on City Demands

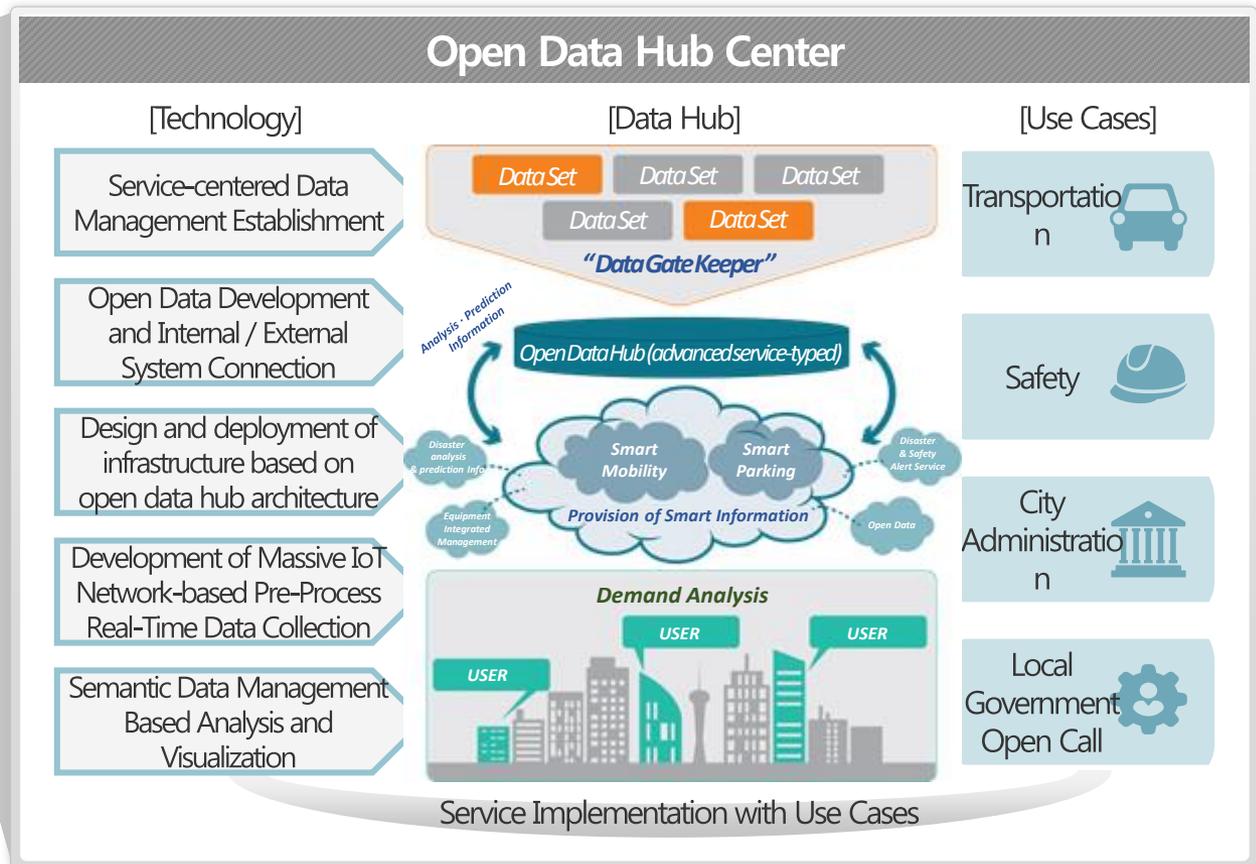
- 1 Transportation
- 2 Safety
- 3 City Administration

Data Hub Center

Open Data Hub (City specific trials)

Governance Additional Public Service

Development for City Problem Solutions



Project 3: Living Lab trials for Technology Innovation & Business Creation

Living lab-typed validation by combining economic factors for urban growth and regeneration, environmental and energy aspects for sustainability, and living and welfare aspects for balanced development.

Living Lab.

Demonstration of Living Lab for Development of Industrial Ecosystem

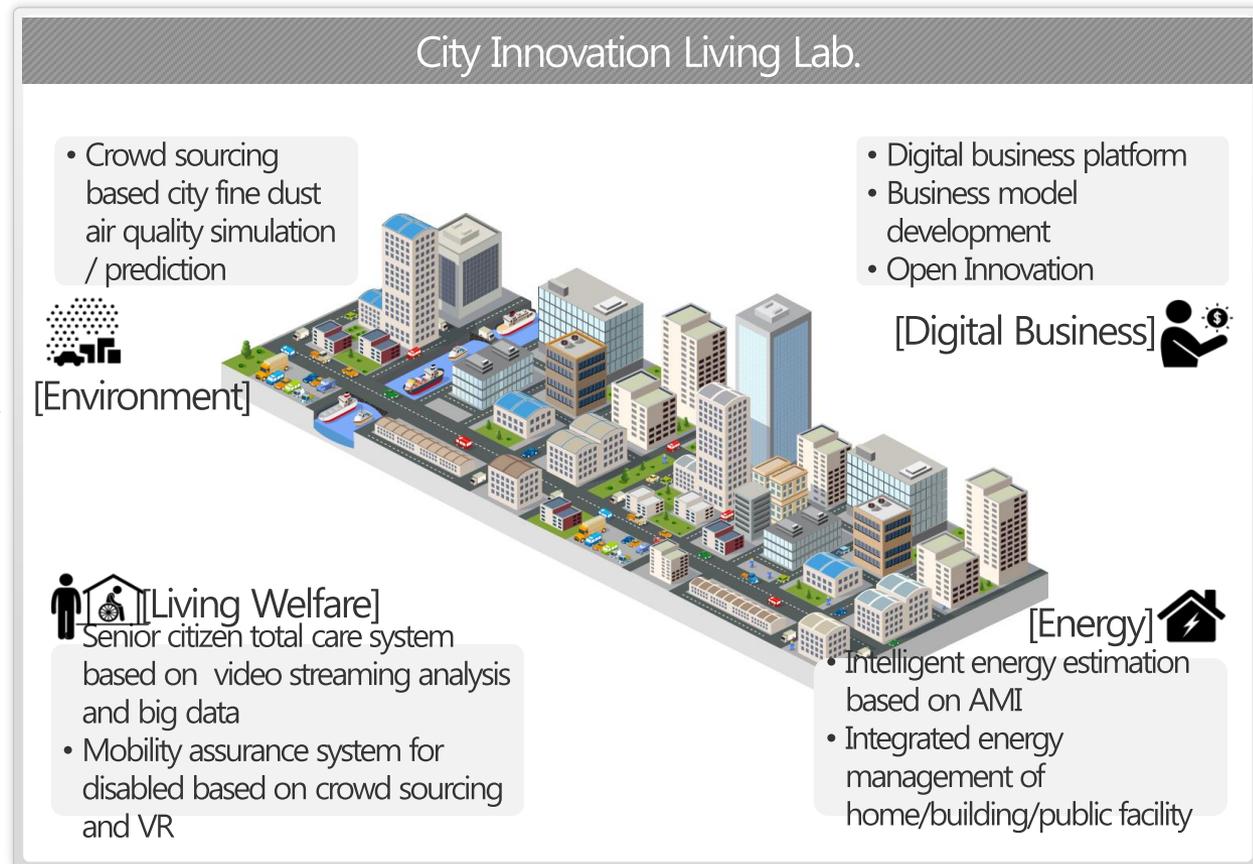
- 1 Environment
- 2 Energy
- 3 Living Welfare

Data Hub Platform

Open Data Hub Development (Living Lab. trials)

Local Government Recommended Projects

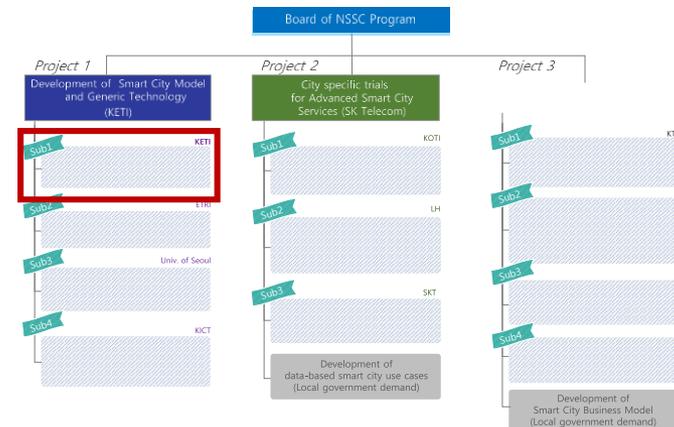
Sustainable Business Creation with Open Innovation



III. Smart City Data Hub Project



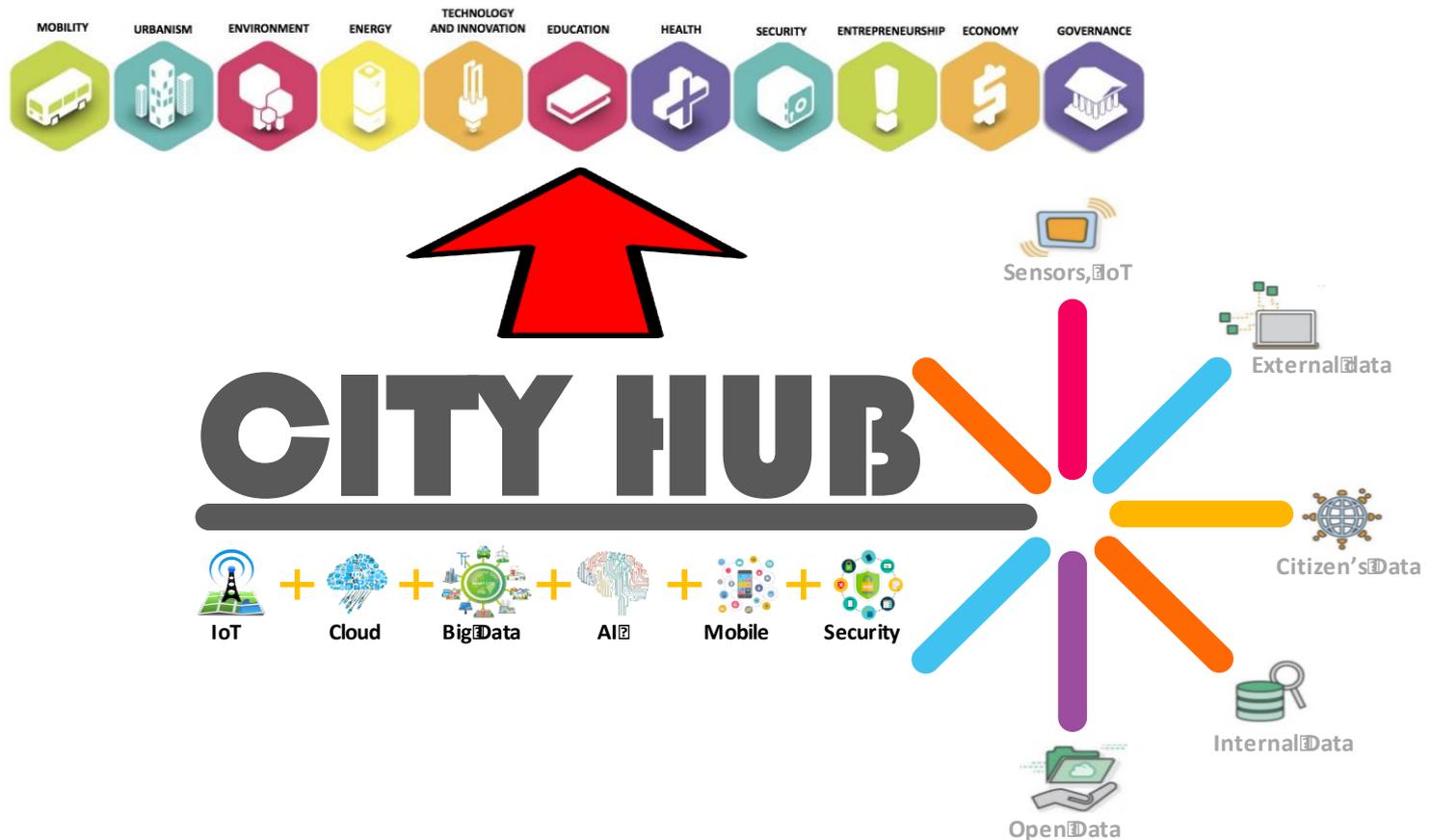
- Concept of Smart City Data Hub
- Strategies of City Hub Project
- City Hub Architecture
- Structure & Consortium of City Hub Project
- Open source and Ecosystem



Concept of Smart City Data Hub

Developing a smart city data hub that provides:

- integrated management and operation of urban data
- service infrastructures through integration of IoT, Cloud, BigData, AI, Mobile and Security technology



Strategies of the CITY HUB Project



AS-IS

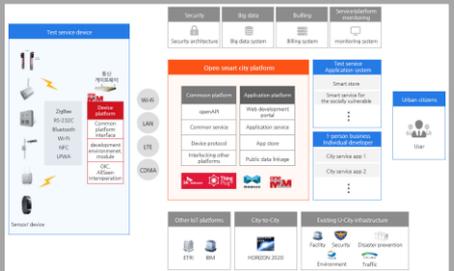
Ministry of Land, Infrastructure and Transport U-City Platform



Ministry of the Interior and Safety Open Data Portal



Ministry of Science and ICT K-Smart City



City Services



City Hub Service APIs



City Hub Data APIs

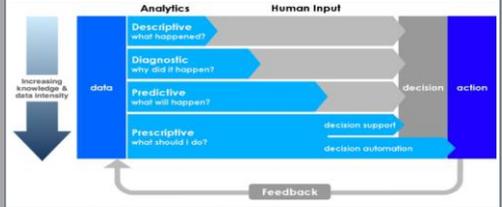


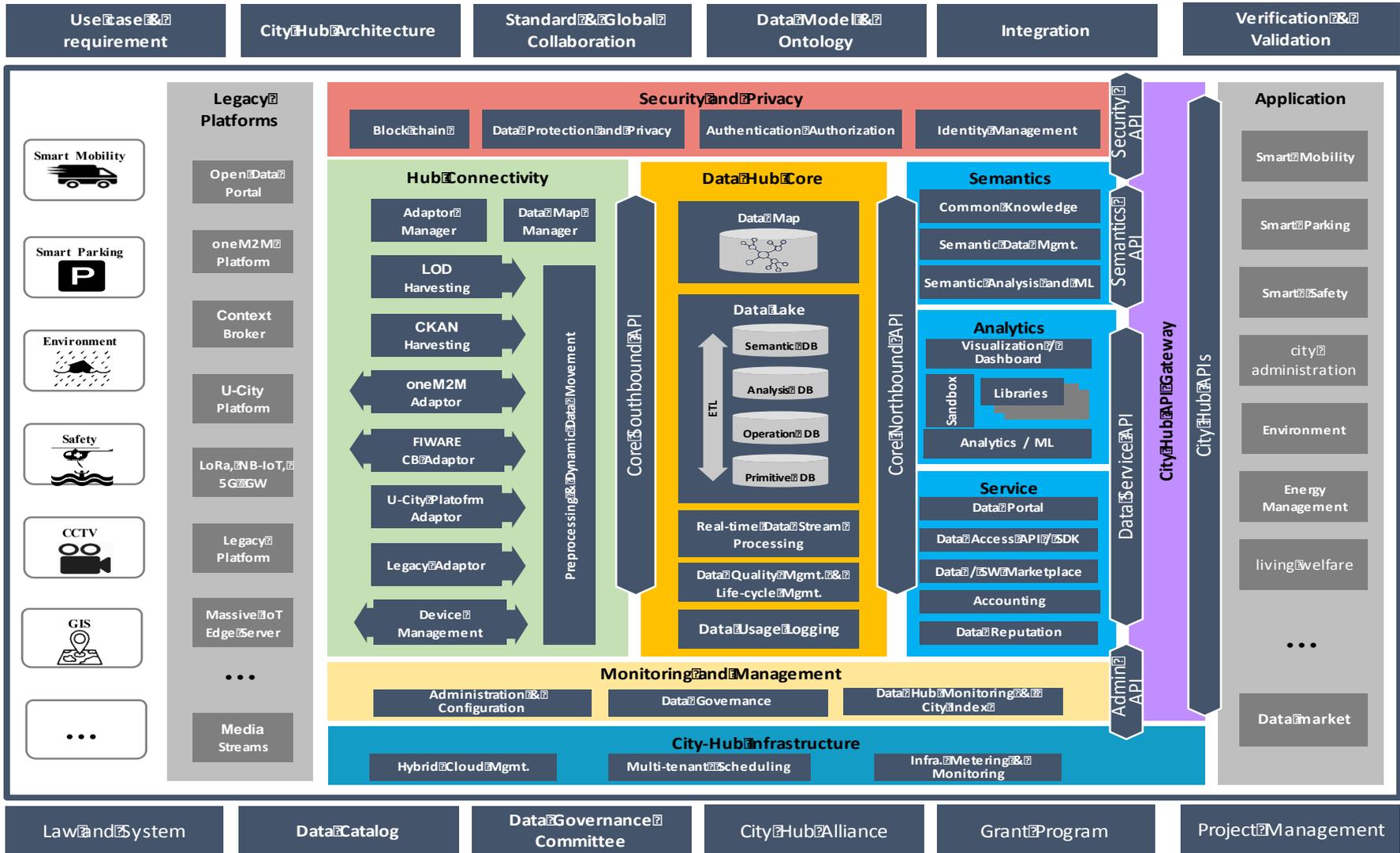
TO-BE

National Strategic Smart City

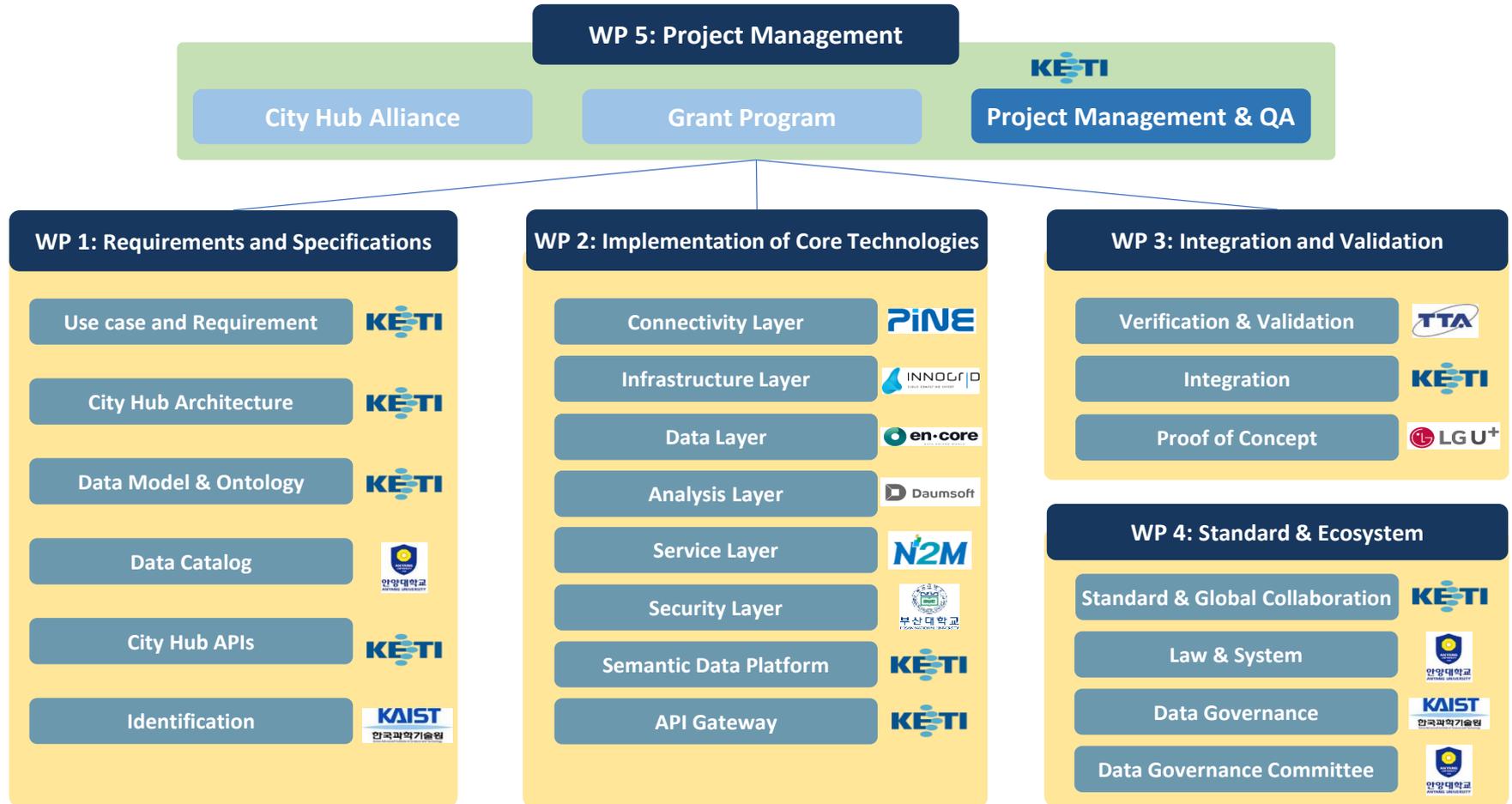
Stage	Space feature	Strategy	Leading Applied Technology
Development Stage	<ul style="list-style-type: none"> Unconstrained development of infrastructures Easiness of diverse technology-convergence Experimental research 	National trial cities -Public enterprise business sites (Sejong, Busan, ...) New towns	Advanced future cutting-edge technology (Critical technology creation)
City Operation Stage	<ul style="list-style-type: none"> Limitations on new infrastructures Sufficient needs for technology Excellent citizen participation 	Databus Model -Local government demonstration (Daegu, Siheung, ...) Theme-based specialized complex	Commercialization stage technology (Demand-based innovation)
Declining Stage	<ul style="list-style-type: none"> Various city problems Limitations on new investment 	Smart Urban Regeneration - Annual list of urban regeneration business linkage	Cost-efficient optimal technology (Problem-solving)

Future City (Autonomous City)

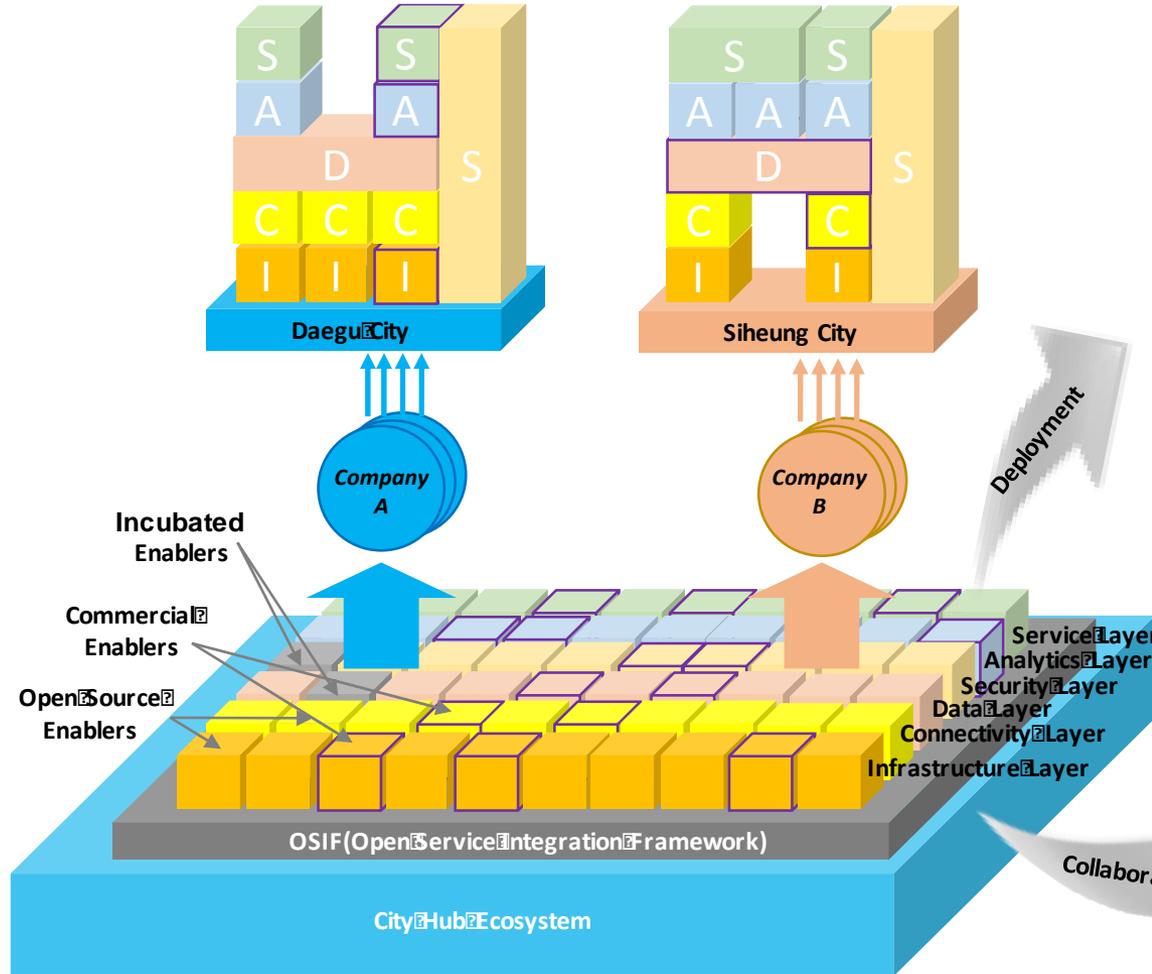




Structure & Consortium of the CITY HUB Project



Open source and Ecosystem



(2018~2022년)

시흥 실험도시(비즈니스 창출형)

- 신규 산업에 적용하기 위해 중소도시에서 '러닝랩' 형태로 운영
- 고령화, 도시 과밀 등 중소도시의 보편적 특성을 갖고 있음
- 자율주행버스 연구 및 신규 산업 창출

대구 실험도시(도시문제해결형)

- 교통, 안전 등 도시문제를 해결하기 위한 연구 시행
- 지평형 성장 기반 분석 연구
- CCTV와 빅데이터를 활용한 실시간 교통 제어
- 시민 중심의 스마트 시티 기술 연구

세종 신규 개발

세종 5-1 생활권
사업 시행자 : 한국토지주택공사
마스터 플랜너 : 정재승 카이스트 교수

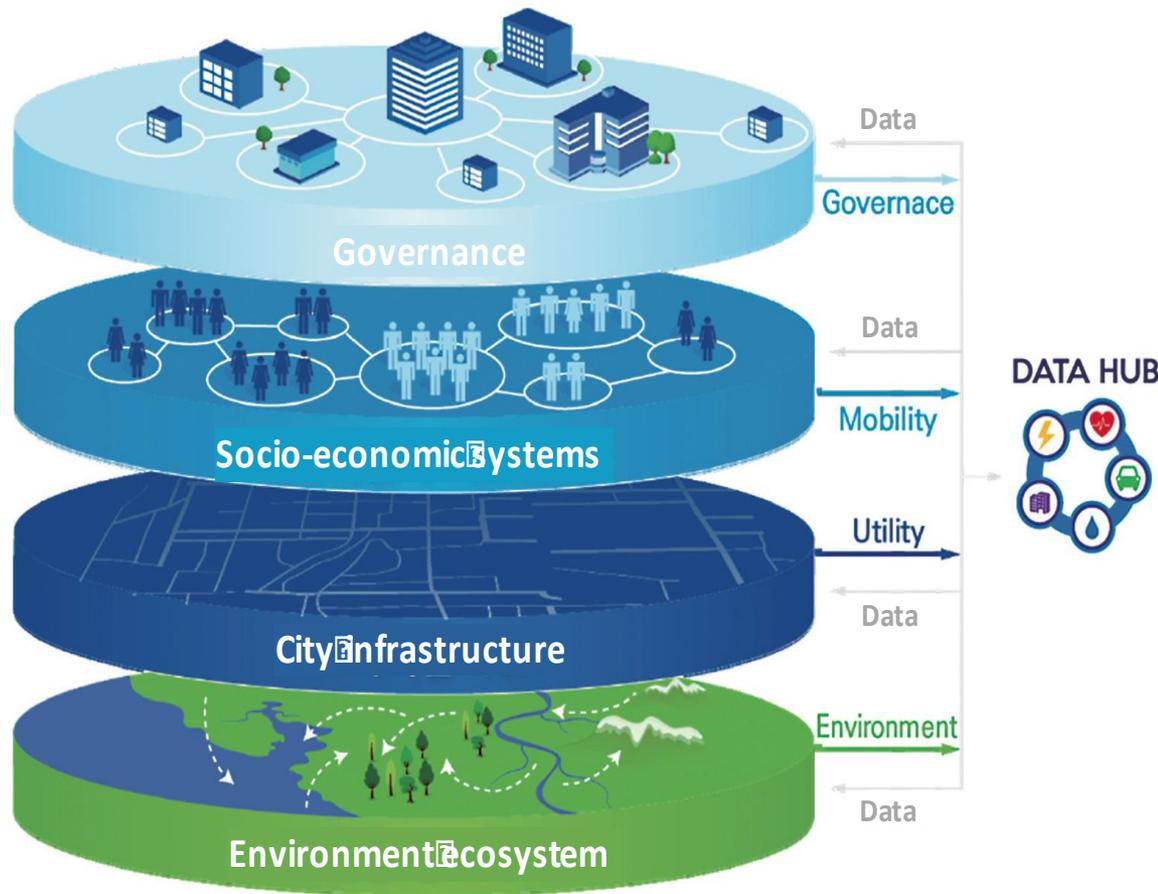
부산 신규 개발

부산 에코델타시티
사업 시행자 : 한국수자원공사
마스터 플랜너 : 친재범 엑센티비 대표

- OCEAN
- FIWARE
- one IVM
- ETSI
- W3C
- tsds
tsds | telcel.com | SDG
- SYNCHRONICITY
- GS1
- OPEN & AGILE SMART CITIES
- GLOBAL CITY TEAMS CHALLENGE

Conclusion

- City Data Hub → Citizen-centric, Smart and Sustainable Cities!



Civic City:
Development of pilot cities to improve quality of life for citizens



City Data Hub:
Development of a Data Hub Model for Smart City



Inno City:
Development of living city labs for technology innovation and business creation