K-City Network : Global cooperation Program 2021
Smart Solution Demonstration Project

K-City Network Solution Program Secretariat
Korea Agency for Infrastructure Technology
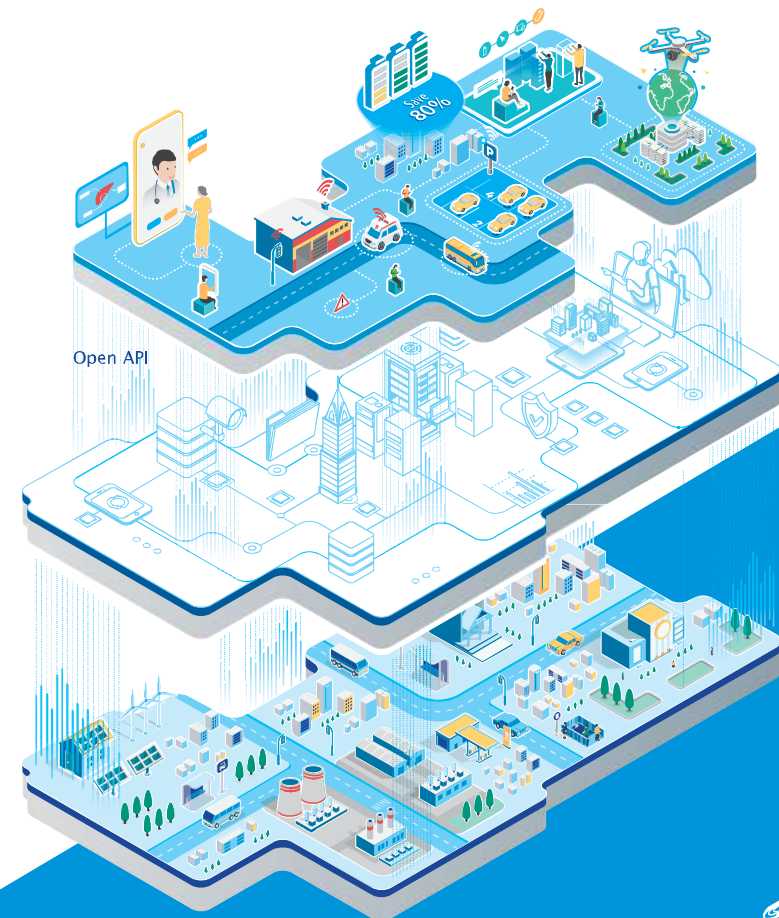Advancement

Ministry of Land,
Infrastructure and Transport

KAIA
Korea Agency for
Infrastructure Technology
Advancement

CONTENTS

Open API

DEAP CITY

스마트시티 혁신성장동력 프로젝트 사업단

I

K-City Network : Global Cooperation Program 2021
Smart Solution Planning Project & Smart Solution Demonstration Project

K-City Network Overview

1 Smart Cities of Korea

1960s-1970s	1980s	1990s	2000s

SEEKING

- 5 YEAR ECONOMIC DEVELOPMENT PLAN

FAST RECOVERY FROM KOREAN WAR

INITIALIZING

- EXPANSION OF SEOUL
- RAPID DEVELOPMENT OF INDUSTRIAL CITIES

RAPID ECONOMIC GROWTH

STABILIZING

- METROPOLITAN NEW TOWN CONSTRUCTIONS

* ONLY 5 YEARS TO COMPLETE BUNDANG NEW TOWN, FROM PLANNING TO CONSTRUCTION

PARADIGM SHIFT FROM DEVELOPMENT TO MANAGEMENT

MATURING

- URBAN REGENERATIONS:
  - CONTESTED SITES
  - DECLINING URBAN CENTERS
  - INDUSTRIAL HERITAGE
- COMMUNITY PLANNING
- SUSTAINABLE / SMART CITY

STAGES OF CITY DEVELOPMENT IN KOREA

CITY DEVELOPMENT IN KOREA PASSES INTO THE MATURITY STAGE

KOREA HAS ACCUMULATED KNOWLEDGE ABOUT SOLUTIONS TO RELEVANT URBAN ISSUES FOR BOTH MATURED CITIES & NEW CITIES

U-City (Ubiquitous)

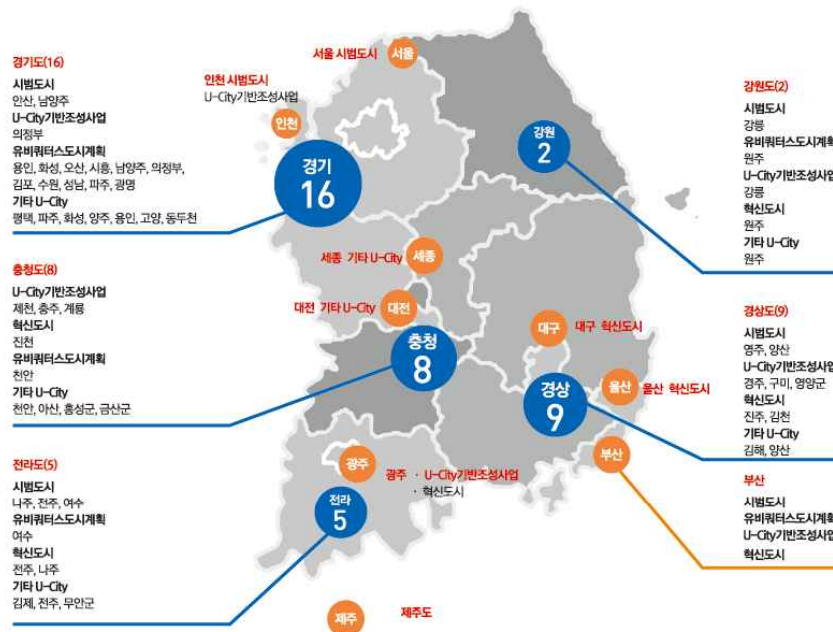**U-eco City (Ubiquitous+Ecological)**

K-Smart City

- A city where ubiquitous services are provided through city infrastructure using ubiquitous city technologies

- A city that promises to provide an environment-friendly urban milieu with advanced ubiquitous infrastructures and services for residents and visitors

- A customized city based on the convergence of ICT (Information and Communication Technology) with city development & management

Smart Cities of Korea

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For new cities, ubiquitous city solutions have been adopted since 2004. Smart grid technology and IoT service solutions were experimented in several sites

Ubiquitous City

경기도(16)
시범도시
안산, 남양주
U-City기반조성사업
의정부
유비쿼터스도시계획
용인, 화성, 오산, 시흥, 남양주, 의정부,
김포, 수원, 성남, 파주, 광명
기타 U-City
평택, 파주, 화성, 양주, 용인, 고양, 동두천

충청도(8)
U-City기반조성사업
제천, 충주, 계룡
혁신도시
진천
유비쿼터스도시계획
천안
기타 U-City
천안, 아산, 홍성군, 금산군

전라도(5)
시범도시
나주, 전주, 여수
유비쿼터스도시계획
여수
혁신도시
전주, 나주
기타 U-City
김제, 전주, 무안군

서울 시범도시 서울
인천 시범도시
U-City기반조성사업
인천

경기 16

세종 기타 U-City 세종

대전 기타 U-City 대전

광주 · U-City기반조성사업 · 혁신도시

충청 8

전라 5

대구 혁신도시

경상 9

울산 울산 혁신도시

부산

제주 제주도

강원도(2)
시범도시
강릉
유비쿼터스도시계획
원주
U-City기반조성사업
강릉
혁신도시
원주
기타 U-City
원주

강원 2

경상도(9)
시범도시
영주, 양산
U-City기반조성사업
경주, 구미, 영양군
혁신도시
진주, 김천
기타 U-City
김해, 양산

부산
시범도시
유비쿼터스도시계획
U-City기반조성사업
혁신도시

*국토교통부, 행정자치부 등 U-City 사업을 추진 또는 계획 중인 지자체는 총 73개 도시로 파악됨 (13.8월 기준)

사업명	수행기간	담당부처	지자체수
U-시범도시사업	09~13	국토교통부	15
혁신도시사업	07~	국토교통부, 행정자치부	11
U-City 계획	~15	국토교통부	25
기반조성사업	05~09	행정자치부	10
기타	~12	국토교통부, 행정자치부, 산업통산 자원부	14

Smart City

IoT TestBed

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.**
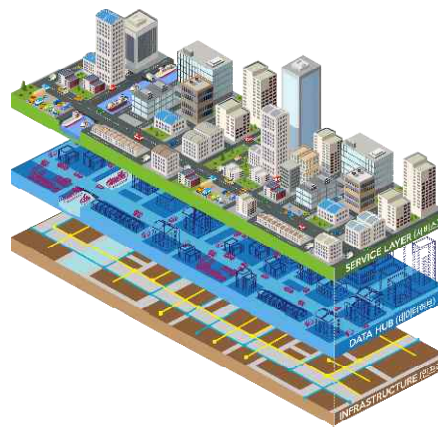
1 Definition of Smart City Solution

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Smart solutions refer to **technologies to provide services and related platforms or systems** in the areas of **transportation, energy, environment, security, urban administration, etc.**

Service

Applications designed for the benefit of citizen convenience and administrative efficiency
(e.g. smart parking services)

Platform

Combination of the **software** to collect, store and transfer data with the server to deal with such process
(e.g. video monitoring platform)

System

A set of **various sensors, devices and physical infrastructure** installed on the basis of data platform to carry out specific functions
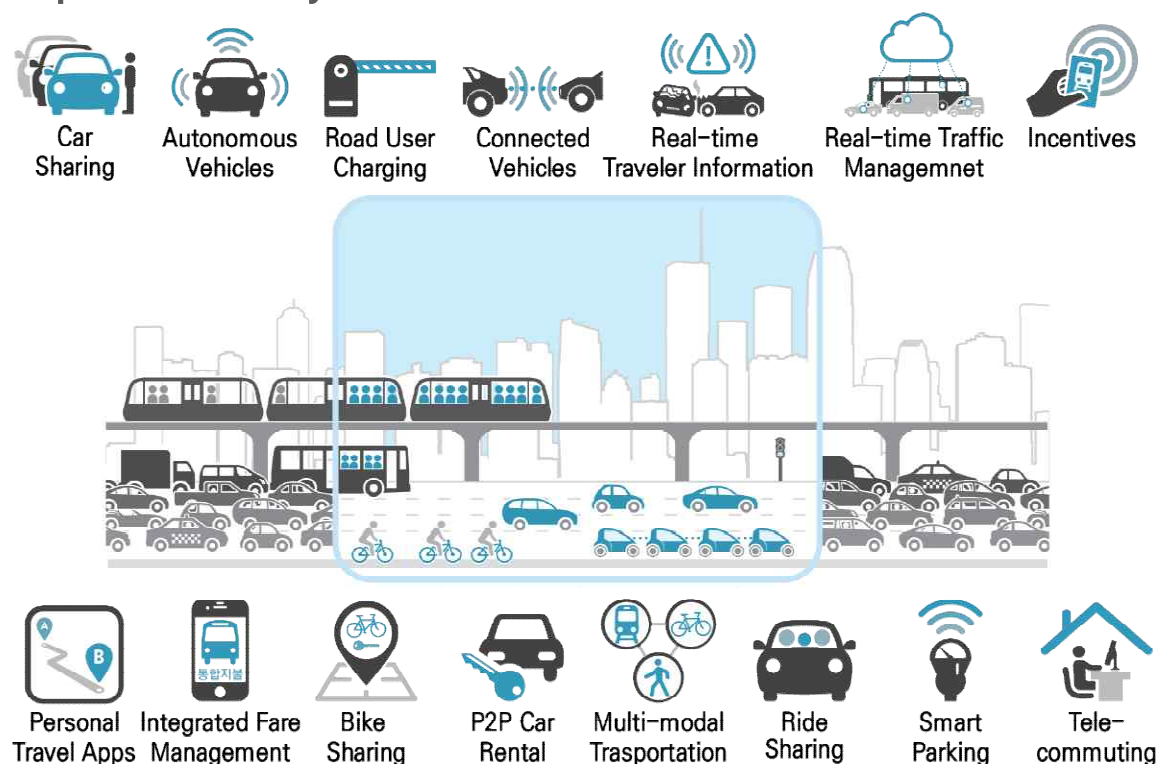(e.g. transportation card system)

Definition of Smart City Solution

Solution Program formulates a plan to develop and operate a **standalone or packaged solution** to address **urban issues** in fields such as **transportation, energy, and the environment in cities overseas.**

Smart City Domains

WELFARE
ENGERGY
MOBILITY
SMART CITY
ENVIROMENT
ADMINISTRATION
SAFETY

Examples of Smart City Solutions

Car Sharing
Autonomous Vehicles
Road User Charging
Connected Vehicles
Real-time Traveler Information
Real-time Traffic Managemnet
Incentives

Personal Travel Apps
Integrated Fare Management
Bike Sharing
P2P Car Rental
Multi-modal Trasportation
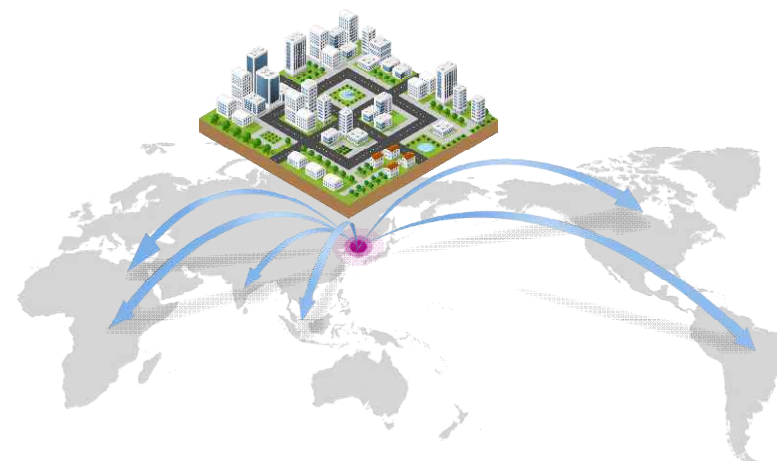Ride Sharing
Smart Parking
Tele-commuting

K-City Network : Solution Program

K-City Network : Solution Program is intended to share smart city experiences with cities outside Korea willing to adopt Korean-style smart city development and **support outstanding smart city solutions** developed by Korean businesses to access international markets

Solution Planning Project

Analysis of project conditions of the candidate city, **recommending suitable solutions**, reviewing project details, and considering **feasibility for project implementation**
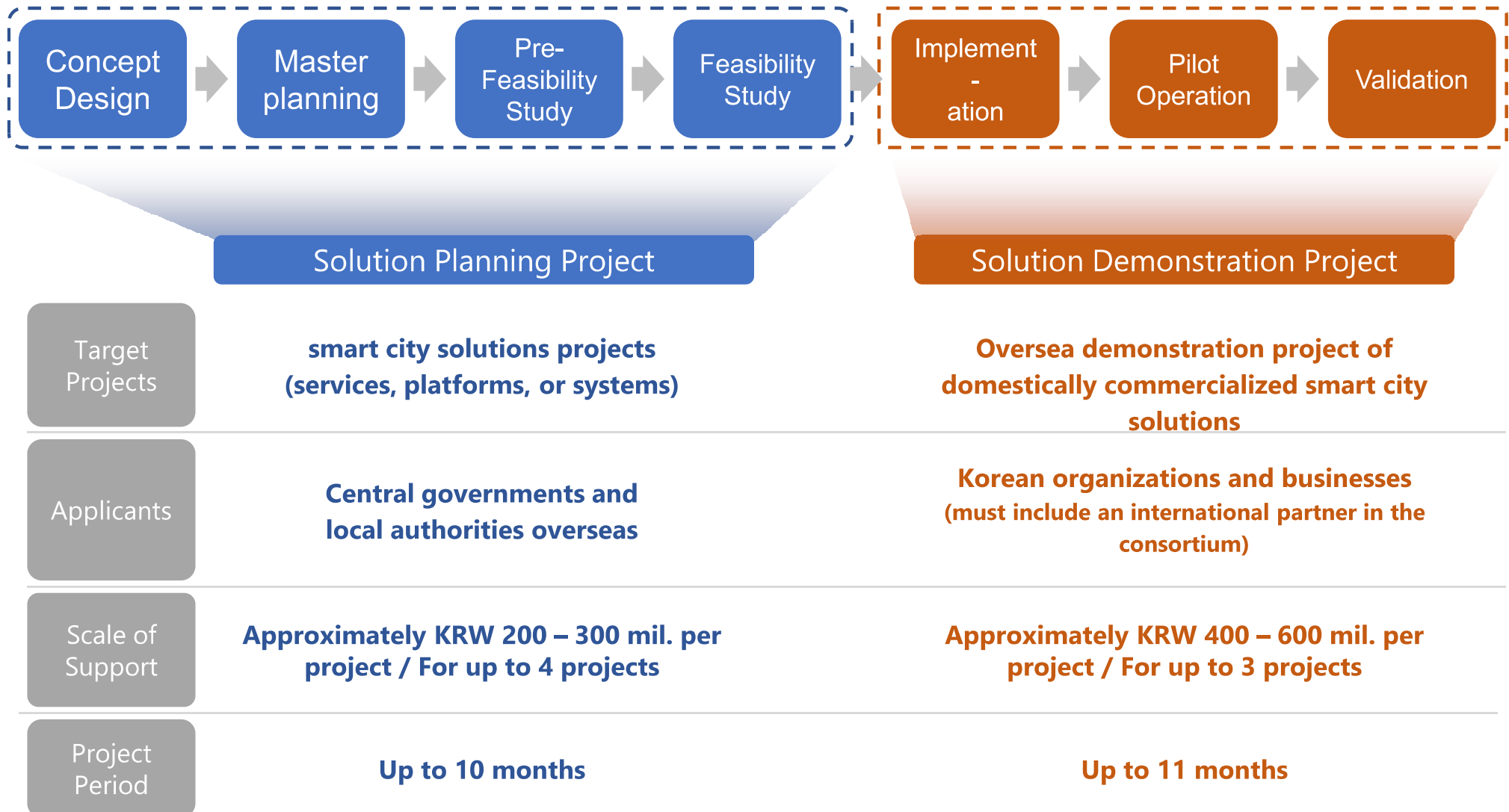
Solution Demonstration Project

Smart city technologies which has already proven its effectiveness or been commercialized in and outside Korea will be **implemented and demonstrated** in oversea cities.

1 K-City Network : Solution Program

Process of Smart City Projects

| Concept Design | → | Master planning | → | Pre-Feasibility Study | → | Feasibility Study |

| Implement-ation | → | Pilot Operation | → | Validation |

Solution Planning Project

Solution Demonstration Project

	Solution Planning Project	Solution Demonstration Project
Target Projects	smart city solutions projects (services, platforms, or systems)	Oversea demonstration project of domestically commercialized smart city solutions
Applicants	Central governments and local authorities overseas	Korean organizations and businesses (must include an international partner in the consortium)
Scale of Support	Approximately KRW 200 – 300 mil. per project / For up to 4 projects	Approximately KRW 400 – 600 mil. per project / For up to 3 projects
Project Period	Up to 10 months	Up to 11 months

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III

Smart Solution Demonstration Project

3 Solution Demonstration Project

What is Solution Demonstration?

This project will render support for demonstration projects in order to roll out or expand Korean smart city solutions in cities overseas that seek to adopt a smart city approach.

What are the main Goals?

Ⅰ **build a platform** to promote and spread superior solutions overseas

Ⅱ **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)

Solution Demonstration Project
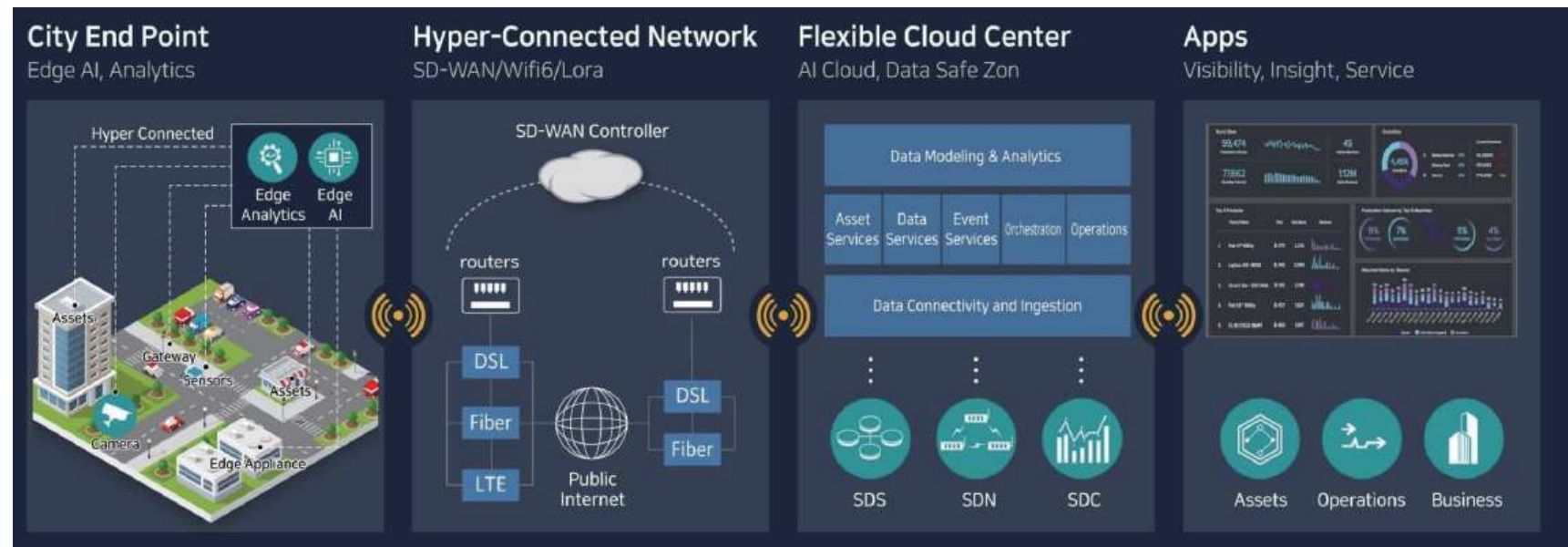
Eligible Solutions and examples

Smart city solutions developed and integrated in Korea and aimed at demonstration overseas **(services, platforms, or systems either as a standalone solution or as a package)**

Field	Solution	Details
Transpor-tation	Smart crosswalk	Smart crosswalk provides accident-related information to pedestrians and drivers and controls traffic signal timing
	Demand responsive transport	This service adjusts the allocation and routes of public transit upon the request of the users.
	Shared smart parking	This parking service allows the sharing and linking of individual parking spaces by making private car parks available and sharing parking information.
Security and safety	Smart Pole	Light poles that incorporate CCTV cameras, and various sensors as part of integrated IoT solutions for smart city services
	Intelligent CCTV	Intelligent CCTV extends services such as urban surveillance monitoring based on intelligent video analysis, behavioral analysis, and metadata.
	Extensive disaster surveillance system	This service captures a city's status at a glance with high-resolution CCTVs installed in skyscrapers and landmarks and helps respond to a disaster.
Environ-ment	Fine Dust monitoring network	This service monitors and collects the PM level data in the downtown area using IoT technologies and provides the information to citizens.
	Smart bus stop	Bus stop with advanced technologies, which offers a waiting space for people in response to abnormal climate changes such as a heatwave, severe cold, and find dust
	Ecosystem monitoring	This service monitors ecological areas by measuring vital levels, disease, and insect pests and analyzing the spatial distribution of landscape plants using IoT technologies.

3 Past Projects – City Challenge(Daejeon - Korea)

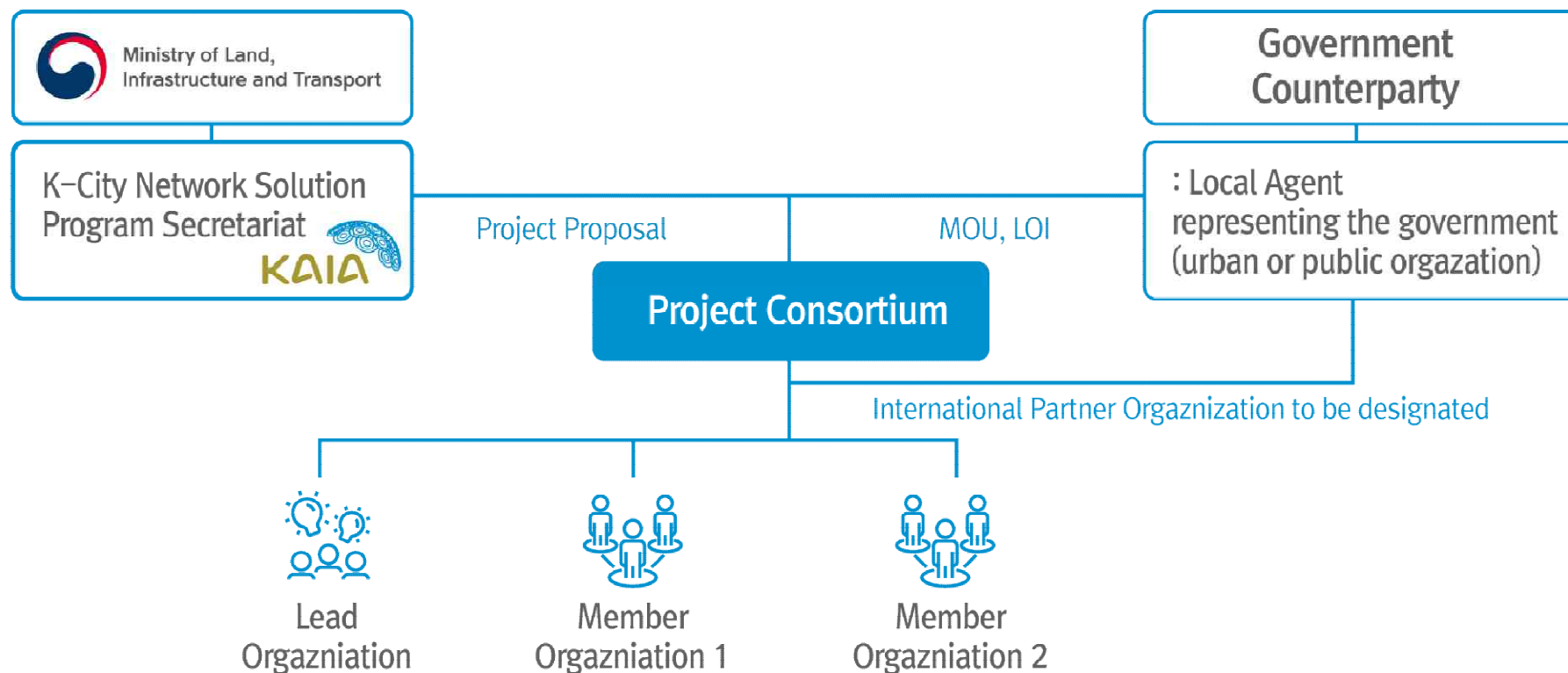# 3 Past Projects – City Challenge(Bucheon - Korea)

Photovoltaic system

Smart parking service

Electric car charging service

3 Implementation Structure

* The above shows a sample structure to pursue the project that may vary upon the proposal.

3 Project Details

Scale of Support

Up to 400 to 600 million Korean won per project,
for up to **3 projects**.

Support Details

The program consists of support for **field research, application of technologies, and demonstration** for Korean-style smart city solutions in cities overseas and extends support for activities aimed at demonstration such as **technology deployment and distribution as well as the selection of test sites.**

Follow-up Support

After completion of this Project, outstanding projects will be granted follow-up support through such as **a joint international program**, including matching funds to further expand the relevant solutions and upgrade the technologies

3 How to Apply

Deadline

The applications must be submitted to the K-City Network Solution Program Secretariat (Korea Agency for Infrastructure Technology Advancement ("KAIA") **by 6 p.m. on Tuesday April 20, 2021, Korea Standard Time (KST) by post or by a person.**

Contacts

Address : 6th floor B-dong, 25 Hangang-daero 30 gil, Yongsan-gu, Seoul, Korea 04376
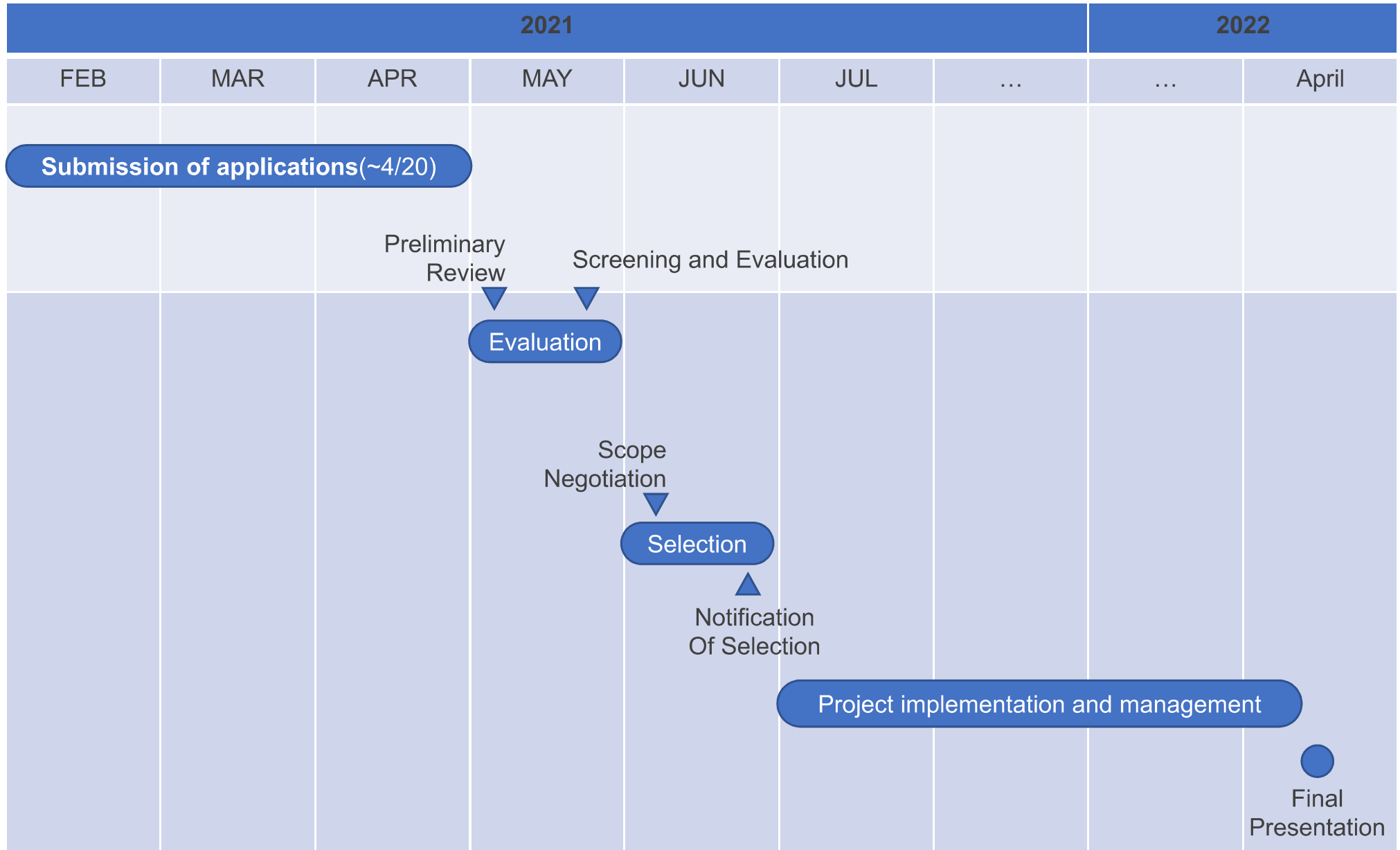e-mail : kcitysolution@kaia.re.kr
Phone : +82-02-798-9725

Required Documents

Required documents below shall be submitted on or before the deadline.

✓One (1) copy of the official cover letter and one (1) set of the whole application documents (signed or sealed by the representative of the Lead Organization)
✓Twenty (20) copies of Project Plan
✓The electronic version of the whole application documents carried via USB

Application & Evaluation Process

2021								2022	
FEB	MAR	APR	MAY	JUN	JUL	…	…	April	

Submission of applications(~4/20)

Preliminary Review

Screening and Evaluation

▼ ▼

Evaluation

Scope Negotiation

▼

Selection

▲

Notification Of Selection

Project implementation and management

● Final Presentation

19

Guide for Applicants - Project proposal contents

Ⅰ. Project Overview

1. Background

2. Need for the project

3. Direction for the smart city solution demonstration project

Ⅱ. Analysis of Conditions

1. Smart city policy and technological trends of the candidate county

2. Field conditions of the candidate city

3. How to connect the demonstration project with the smart city policy of the candidate country

4. Cooperation with the candidate city for the demonstration

5. Domestic and international trends regarding the proposed solution

6. Similar projects such as a Smart Challenge Project in Korea undertaken by the applicant and the consortium

7. Reference projects outside Korea undertaken by the applicant and the consortium

Ⅲ. Smart City Solution Demonstration Plan

1. Preliminary analysis of the environment of and regulation over the target site

2. Scope of demonstration (in terms of location, space, technology)

3. Goals and implementation strategy

4. Details of the smart city solution

5. Scenarios for preparation and application

6. Phase-specific action plans for the field demonstration

7. Timeline of the demonstration project

Ⅳ. Project Management Plan for Smart City Solution Demonstration

1. Project management plan

2. How to operate the project after the completion of demonstration

Ⅴ. Project Implementation System and Cooperation Measures for Stakeholders

1. Project implementation system and roles and responsibilities among participating organizations

2. Measures to promote cooperation among stakeholders, including the international partner organization

Ⅵ. Project Budget and Execution

1. Plan to secure and execute the project budget

2. Disbursement schedule of project expenses

Ⅶ. Expected Benefits and Expansion Plan

1. Expected benefits

2. Measures to ensure technological cooperation between the candidate city and the Korean consortium

3. Follow-up plan to leverage the success of the demonstration

Ⅷ. Others (if needed)

• **The proposal shall be up to <u>60</u> pages(summary up to 4 pages)**

• **Recommended to write in <u>Korean</u>**

- Purpose and direction of the application of target solution

- Level of smart solution technologies and track records

- Appropriateness and readiness of demonstration site

- Reliability and efficiency of project management

- Plausibility of solution dissemination

Q1 Is there a limit on the number of project proposals for each organization?

A1 There is no restriction.

Q2 Can private company participate as'an international partner organization'? Does 'an international partner organization' only include government, public organization, or university?

A2 An international partner organization shall be an public institutions(e.g., government, public organization, university, etc.), and requires to submit the Letter of Intent or the Memorandum of Understanding.

Q3 The amount of contract supporting each demonstration project is stated as KRW 400~600 million according to the public notice. Please explain how the final contract amount will be determined and whether there is any expenses that needs to be born by participating organizations.

A3 The amount of contract supporting each project is subject to change according to the selection results.
There will be additional points to be given in the case of corporate matching funds from Korean companies or international financing from the candidate country. Please refer to the Chapter Ⅲ. Evaluation Process and Selection Criteria described in the public notice.

Q4 Are project expenses distributed directly to overseas country/ organization?

A4 The project expenses will be distribute directly to the lead organization(Korean company)of the consortium.

Thank you

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