

## I. Survey on Cooperation Indicator

1. Do you think technological cooperation is necessary among China, Japan, and Korea? ( )

1. Very necessary      2. Necessary  
3. Neutral              4. Unnecessary

2. Do you think technological cooperation among China, Japan, and Korea would be mutually beneficial? ( )

1. Very beneficial      2. Beneficial  
3. Somewhat unbeneficial   4. Completely unbeneficial

3. In terms of quantity, how would you evaluate the level of technological cooperation among China, Japan, and Korea? ( )

1. Very high              2. Somewhat high  
3. Neutral                4. Low

4. In terms of quality, how would you evaluate the level of technological cooperation among China, Japan, and Korea? ( )

1. Very high              2. Somewhat high  
3. Neutral                4. Low

5. What is your opinion on the future prospects for technological cooperation among China, Japan, and Korea? ( )

1. Very optimistic      2. Optimistic  
3. Pessimistic          4. Very pessimistic

## II. Fact-finding Survey

“Smart Cities” are futuristic cities that promote economic competitiveness, improved quality of life, and environmental sustainability through utilizing ICT for enhancing urban administration, transportation, logistics, safety, energy reserves, environmental conditions, housing, and welfare.

### II-1. Smart City Awareness Survey

1. What is the most expected role of Smart City? ( )

1. Enhanced quality of life for citizens  
2. Enhanced economic competitiveness  
3. Enhanced environmental sustainability  
4. Other \_\_\_\_\_

2. What would be an obstacle in realizing Smart City? ( )

1. Lack of physical infrastructure, such as roads, water & sewage, etc.  
2. Lack of infrastructure related to ICT convergence technologies  
3. Lack of practical ways to apply information, including big data.  
4. Conflict with personal privacy protection law  
5. Lack of innovative citizens/enterprises  
6. Administrative inefficiency between private and government institutions  
7. Other \_\_\_\_\_

3. Using the numbers in the box below, please give your opinion by choosing one appropriate level of development for Smart City.

1. Conception level      2. Demonstration level  
3. Early application level   4. Advanced application level  
5. Optimization level

3-1. Which level best describes the current status of your country's Smart City or Cities? ( )

- 3-2. Smart administration ( )  
3-3. Smart safety ( )  
3-4. Smart transportation ( )  
3-5. Smart economy ( )

3-6. Smart energy/environment ( )

3-7. Smart health ( )

3-8. Smart education ( )

3-9. Smart buildings & human settlement ( )

4. For the following questions, please select two areas of Smart City by priority in the box below.

1. Smart Administration      2. Smart Safety  
3. Smart Transportation      4. Smart Economy  
5. Smart Energy, Water, and Waste   6. Smart Health  
7. Smart Education          8. Smart Buildings & Human Settlement  
9. Other \_\_\_\_\_

4-1. What are the most important areas for realizing and developing a Smart City? Primary ( ), Secondary ( )

4-2. Which areas are developing most rapidly? Primary ( ), Secondary ( )

4-3. At present, which areas are currently the most widely utilized in your country? Primary ( ), Secondary ( )

4-4. Which areas are mostly required for China-Japan-Korea cooperation? Primary ( ), Secondary ( )

4-5. Which areas can most easily be cooperated among three countries? Primary ( ), Secondary ( )

### II-2. Survey on Smart City Technologies

In this survey, the Fact-finding Survey primarily focus on three sectors of Smart Safety, Smart Transportation, and Smart Energy, respectively.

5-1. Please select two areas by priority in **Smart Safety** that the three countries can cooperate on.

A. Smart Prevention: Primary ( ), Secondary ( )

1. Real-time risk monitoring technology utilizing sensor networking, etc.  
2. Preventative risk management technology utilizing risk component scanning, etc.  
3. Risk forecast technology utilizing big data  
4. Technology for accelerating mobile inspections and diagnoses  
5. Smart sensing technology, such as safety sensors, etc.

B. Smart Disaster Risk Management:

Primary ( ), Secondary ( )

1. Smart/customized integrated disaster alert system  
2. Development and application of safety robots, such as robots for exploring disaster sites, conducting search and rescue, etc.  
3. Smart real-time disaster site information technology  
4. Smart Emergency Medical Service (SEMS) technology

※ SEMS is an emergency medical service utilizing biometrics.

C. Smart Governance: Primary ( ), Secondary ( )

1. Regulation system that can induce citizen participation and cooperation  
2. Smart platform for real-time disaster information propagation  
3. Safety and disaster management system by opening and sharing information  
4. Smart technology that can protect the elderly and infirm from disaster through citizen participation

5-2. Which areas of **Smart Safety** most urgently require China-Japan-Korea cooperation? Please select two areas by priority. Primary ( ), Secondary ( )

1. Smart prevention  
2. Smart disaster risk management  
3. Smart governance

6-1. Please select two areas by priority in **Smart Transportation** that the three countries can cooperate on.

A. Smart Connected Eco-mobility

Primary ( ), Secondary ( )

1. Hybrid and plug-in hybrid car technology
2. Electric car technology
3. Hydrogen vehicle technology
4. Self-driving car technology
5. Car infotainment system technology

※ **Infotainment** is a compound word that blends “information” with “entertainment.” Its meaning includes integrated internal car systems, such as navigation, on-board instrument panels, audio systems, etc.

B. User-oriented Management:

Primary ( ), Secondary ( )

1. Smart regional center and networking technology
2. Car/ride sharing system
3. Smart traffic toll system
4. Self-driving car infrastructure development, such as smart traffic lights, parking lots, etc.

C. Public Transportation: Primary ( ), Secondary ( )

1. Personal Rapid Transit (PRT) technology
2. Bus Rapid Transit (BRT) technology
3. Light Rail Transit (LRT) technology
4. Integration of various transportation-related technologies

※ **PRT** uses automated guideways to transport passengers without making additional stops.

※ **BRT** allows for rapid bus travel by utilizing bus-only lanes, optimal transit routes, etc.

※ **LRT** is urban transportation utilizing trains and guideways

D. Integrated Traffic Management:

Primary ( ), Secondary ( )

1. Integrated city-wide smart platform
2. Personalized traffic assistance for people with special needs
3. Integrated smart mobility technology
4. Integrated traffic management technology

6-2. Which areas of **Smart Transportation** most urgently require China-Japan-Korea cooperation? Please select two areas by priority.

Primary ( ), Secondary ( )

1. Smart connected eco-mobility, such as self-driving cars, electric cars, etc.
2. User-oriented management, such as a car/ride sharing system, smart traffic toll system, etc.
3. Public transportation, such as linked buses/rails, etc.
4. Integrated traffic management, such as personalized assistance for people with special needs, integrated smart mobility, etc.

※ **Smart connected eco-mobility** refers to eco-friendly cars that operate based on a combination of the Internet of Things, big data, and cloud computing.

7-1. Please select two areas by priority in **Smart Energy** that the three countries can cooperate on.

A. New and Renewable Energy:

Primary ( ), Secondary ( )

1. Solar energy
2. Gas energy
3. Electric power
4. Energy self-sufficiency
5. Energy saving system
6. Energy service

B. Smart Grids: Primary ( ), Secondary ( )

1. Monitoring and control technology
2. Optimized and autonomous IoT technology
3. SCADA(Supervisory Control and Data Acquisition) technology
4. Big Data
5. AI(Artificial Intelligence)

C. Energy Utility: Primary ( ), Secondary ( )

1. Transmission and distribution system
2. DES (Distributed Energy System) Interface Technology
3. Electric Vehicle
4. Smart grid Technology

D. Integrated Energy Management:

Primary ( ), Secondary ( )

1. AI (Artificial Intelligence) or Machine Learning
2. Big Data Analysis
3. IoT
4. Customer Behavior Analysis
5. AMI(Advanced Metering Infrastructure)

※**Advanced Metering Infrastructure (AMI)** enhances energy efficiency and promotes the operational efficiency and reliability of energy networks by applying bi-directional data communication between consumers and power suppliers.

7-2. Which areas of **Smart Energy** most urgently require China-Japan-Korea cooperation? Please select two areas by priority.

Primary ( ), Secondary ( )

1. New and renewable energy
2. Smart grids
3. Energy Utility
4. Integrated energy management

### III. Personal Information

1. Have you participated in some form of technological cooperation with Korea, China, or Japan during the last five years? If yes, how many times?

If you are from Japan, please fill in the blanks below.

1. China: ( ) case(s)
2. Korea: ( ) case(s)
3. China-Japan-Korea: ( ) case(s)

2. Your profession ( )

1. Professor
2. Researcher
3. Business employer or employee
4. Government official or public sector employee
5. Other ( )

3. Your area of specialty ( )

1. Civil and environmental engineering
2. Mechanical engineering
3. Technology management
4. Material and energy resource engineering
5. Electric/electronic engineering & ICT
6. Chemical and biomedical engineering
7. Other ( )

4. How long have you been engaged in your research field? ( )

1. Less than 5 years
2. 5-10 years
3. 10-20 years
4. More than 20 years

5. Your age ( )

1. 35-49
2. 50-59
3. 60-69
4. 70-79
5. 80 and older

\*\* If you have any suggestions or feedback on this survey, please comment below.

Thank you very much for your input. Your information will not be used for any purpose apart from this survey.