

A Study on the Service Method of Parcel-Boundary Information suitable for the Ubiquitous City Operation

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• Korea Cadastral Survey Corporation

- Established 70 years ago.
- The largest surveying company in the world.
109 local offices and 3,600 surveyors

• Business Scope

- Providing a wide range of **survey services**
- Performing **overseas projects** and promoting global cooperation
- Education & training cadastral survey
- Conducting **R&D** for improving cadastral systems & technologies



- Diverse demands of information and world class level IT infrastructure, provides a **perfect environment for a U-City (Ubiquitous City)**.

- Many government agencies of Korea have adopt many **policies for ubiquitous cities**.

- Various research has been conducted to find **appropriate deployment methods and service models**.



Objectives

- ④ Find an appropriate method to process and distribute cadastre information for the cadastre information service project.
- ④ Which cadastre information can be used and utilized for the U-City?
- ④ Which form of the information should be processed?
- ④ Which service model is suitable for the information service?
- ④ Current U-City status and information systems of KCSC are examined and analyzed.



Concept of U-City

• Ubiquitous

- ④ Meaning "God exists everywhere and always"
- ④ Mark Weiser used the words "ubiquitous computing" first in his book, "Study on Easy to Use Computer (1998)".

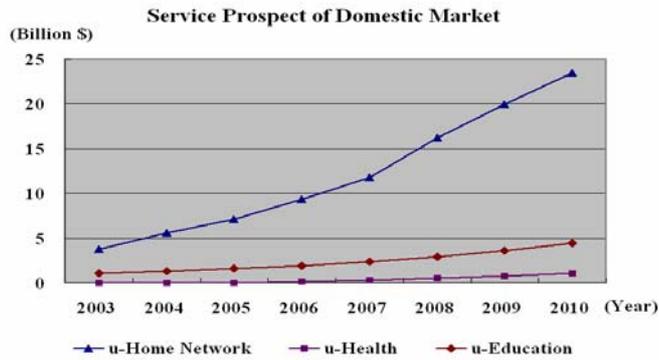
• U-City

- ④ New urban form, where ubiquitous computing technologies are applied, and where the quality of a citizen's life is improved.
- ④ Information can be communicated anytime anywhere, regardless that the citizen recognizes it or not.



Prospect of Info. Service Market

- Ⓢ Installed infrastructure can be utilized to create various **value added services** such as U-Home Network, U-Health and U-Education.
- Ⓢ **U-Home Network** is expected to grow by **32% annually** in Korea.



Status U-City Projects in Korea

• U-City is under construction

- Ⓢ Song-Do in Incheon
- Ⓢ Heung-Deok in Yong-In
- Ⓢ Dong-Tan in Wha-Seong
- Ⓢ Un-jeong in Paju

• Song-Do in Incheon

- Ⓢ Construction of **IFEZ** as a **hub of international business and trade**.
- Ⓢ ITS, home-network, remote-treatment, disaster prevention system and environment pollution management system.



Status U-City Projects in Korea(Cont.)

④ Incheon Free Economic Zone Development Plan (IFEZ, 2007)



- Composed of 3 areas
 - Song-Do
 - Young-Jong
 - Cheong-Ra
- Total Area : 209 km²
- Population : 497,000
- Complete by 2020

Korea Cadastral Survey Corp.,



Status of International U-City Projects

❖ Cyber Port in Hong Kong



❖ One North in Singapore



❖ Crossroads in Denmark



❖ Arabianranta in Finland



Korea Cadastral Survey Corp.,



SIMC of KCSC

SIMC(Survey Information Management Center)

- ④ KCSC launched 3-year plan (from 2007 to 2009) for **SIMC** to construct DB with **digital data** collected from field surveys.

When SIMC is constructed...

- ④ KCSC will be able to **collect and process** cadastre information.
- ④ **Customize** the information **suitable for the need** of relevant institutes as well as to distribute the information.



Roll of Cadastre Info. in CUIC

CUIC(City Unified Information Center)

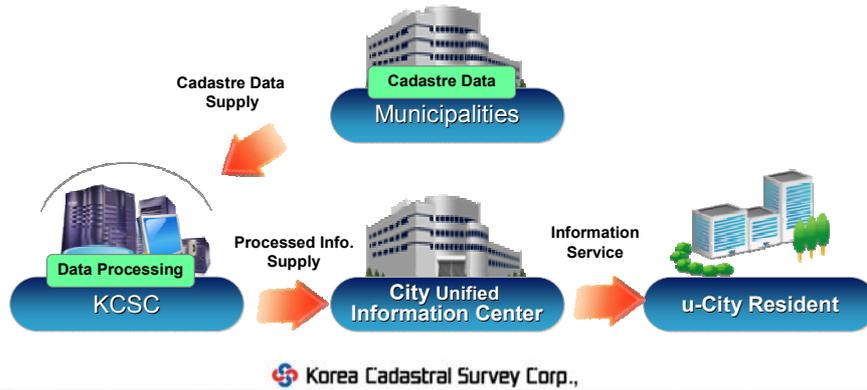
- ④ CUIC in U-City manages the infrastructure of the city in real time.
- ④ Provides public services to the city.
- ④ **Collects and analyzes** city information for a more effective city.
- ④ Plays the role as **the hub of information**.

Cadastre information

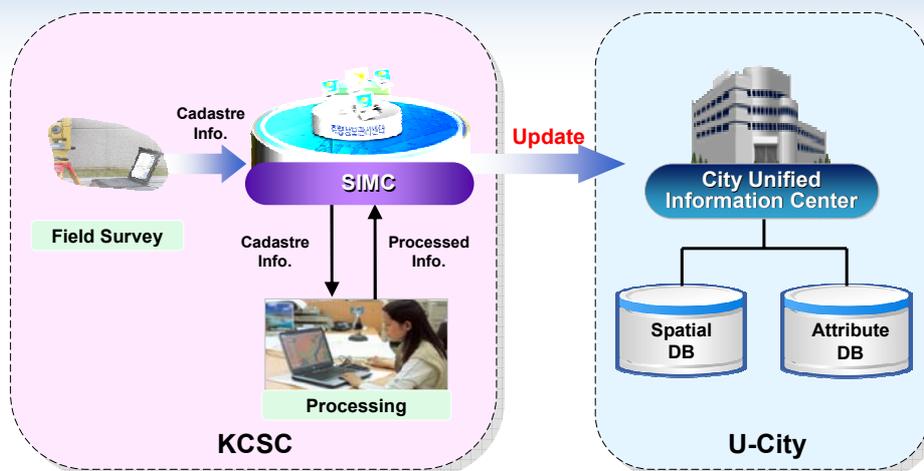
- ④ The most **frequently used** information in GIS.
- ④ Contains the location of land parcel, boundary, number and category.
- ④ Can be used to **search space quickly** and search land affected by the urban plan or public facilities.

Suggestion of Info. Service Flow

- Receive data from the municipality that operates the U-City
- Process the data and then, provide to the CUIC.
- The GIS of the CUIC can be serviced in various forms via Internet and utilized at kiosks in the public areas or at important strategic points.



Suggestion of Info. Update Flow





Conclusion



KCSC can perform the role of information **processor**.



The CUIC supervising U-City will **require accurate information** in the spatio temporal aspect.



KCSC should continue to **update the information** even after the construction of the center, in cooperation with SIMC.

Future of Cadastre is in the Cadastre Research institute of KCSC

Thank You !