

# The Completion of the Cadastre 2014 through a Case Study on the South Korea

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**Key words:** Cadastre 2014, Real Estate Integrated Public Registration System, Numerical Area, Public and private cadastral surveying sectors.

## SUMMARY

The Cadastre 2014, published 20 years ago, is a booklet packed with a vision for a future cadastral system. In the case of South Korea, the predicted statements 1-6 are entirely consistent with current Korean cadastral system. Many of cadastral experts say that the Cadastre 2014 was written for only targeted in Korea. This paper focuses on the statement 2 and 5.

### ***Statement 2: The separation between maps and registers will be abolished.***

The South Korea, Ministry of Justice and Ministry of Land, Infrastructure, and Transport, has administered cadastral and registration information respectively since the early 1910s. Those national informations, which are isolated and managed for a long period of time, resulted in many problems such as inconsistent data base, increased management costs and the inconvenience of the people. In 2013, in order to solve these shortcomings, the Korean government has completed a system which is called Real Estate Integrated Public Registration System. The system consolidated 18 official books, managed by two ministries in the four different systems, into one document. Although it did not achieve the integration between the two ministries' work which have been continued 100 years, the first system in the world can issue all 18 different types of information on one unified document by online or offline.

### ***Statement 5: Cadastre 2014 will be highly privatized. Public and private sectors are working closely together.***

The Korean cadastral system has a very unique history. The Korean government decided to form the Joseon cadastral association which will carry out cadastral surveying exclusively all over the country since 1938. However, from 2004 up to now, the Korean government allowed private organization to implement cadastral surveying on the numerical area. In this sense, the cadastral surveying market was opened.

According to official statistics, from 2005 until 2013, Korea Cadastral Survey Corporation (public sector) carried out 5.4 billion U.S. dollars (76%) worth of service and the private sector carried out 1.7 billion dollars (24%). Moreover, currently 164 private organizations are working in Korea. One of the unprecedented phenomena is the co-order obtain project from public and private sectors. From 2009 to 2013, co-order obtained amount is over 81 million dollars (11%) and this phenomenon is growing very rapidly. In the near future the cadastral market is expected to expand and the joint execution project must be rapidly developed as the win-win model.

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## 1. INTRODUCTION

The year of 2014 is the time when FIG commission 7 predicted development of the Cadastre 2014 mainly presented visions for a future development of cadastral system all over the world. The main contents of the Cadastre 2014 can be summarized with 6 statements. In this booklet, the 6 statements have been applied as the evaluation index for assessing the current Korean cadastral system. Over the last 20 years, many people experienced a lot of changes and technical development in the cadastral domain. Most of the developments and achievements came into the same line with the Cadastre 2014.

However as this paper previously mentioned, Korea cadastral system is entirely consistent with the predicted statements of the Cadastre 2014. Nevertheless, this paper has discussed only statement 2 and 5 due to the limitation of space.

## 2. REAL ESTATE INTEGRATED PUBLIC REGISTRATION SYSTEM

### 2.1 Outline the System

The current Korea cadastral information service was established by land survey law which was enacted as the 7th Korean law in August 23, 1910. The cadastral information has since been managed by this law and the revised cadastral law enacted in December 1, 1950 during over 100 years (today the information is managed by Ministry of Land, Infrastructure, and Transport).

The cadastral information, registered and managed by KLIS (Korea Land Information System), includes 37,530,000 parcels of information and is under controlled by 258 competent authorities of the cadastral records. Moreover, Korea Cadastral Survey Corporation and private companies conduct cadastral surveying.

National area	Parcel volume	Land categories	Authorities	Government employees	K.C.S.C employees	Private employees
100,037 km <sup>2</sup>	37,530,000	28	258	3,404	3,599	1,746

**Table 1: Outline of the Korea cadastral system**

In contrast, the current Korea registration information was constructed by the Joseon real estate registration ordinance announced in 1912. After that, the registration information has been managed by Korean government over 100 years on the basis of the Real Property Registration Act enacted in January 1, 1960 (today the information is managed by Ministry of Justice). The registration information managed by Registration Information System of the Supreme Court and contains parcels, real estate, buildings information of 60 million and corporation information of 1.6 million.

Consequently, the Korea cadastral and registration information were built by different laws in the early 1910s and, these are operating not only by different ministries but also different systems over 100 years. For these reasons, these systems have many problems. The biggest problem is the inconsistency of each data base. Inaccurate information incurs damage to the public. The purpose of the information system is to protect the rights of the people. However, discordance between two informations of the data base significantly lowers the reliability of the administration. The other problem is the increase in administrative costs and the inconvenience of the people.

In order to solve these problems, the Korean government has completed the Real Estate Integrated Public Registration System in 2013 and started the service in January 2014.

## 2.2 History of the System Development

The Korean government discussed a unified policy of the two sources of the data from cadastral and registration information in 1973 and it was the first time they had ever met. However, due to the lack of understanding between the two ministries, the policy was failed to be finalized. In 1999 after the series of discussion, the Real Estate Administrative Information Unified Project stated and, finally the Real Estate Integrated Public Registration System was developed in 2013 and started its service in 2014.

1973	First discussion for unified policy
1999	Started the Real Estate Administrative Information Unified Project
1910	Establishment of an information strategic planning
2009	Strategy action plan drawn through ISP(Information Strategy Planning)
2010	Enhancement and technology-based verification of core business through experimental projects
2011	Promotion of plot projects
2012	Combining 11 different types of real estate related public ledgers into a single comprehensive real estate public ledger.
2013	Completed development the Real Estate Integrated Public Registration System
2014	Started on line and off line service

**Table 2: History of the system development**

## 2.3 Description of the System

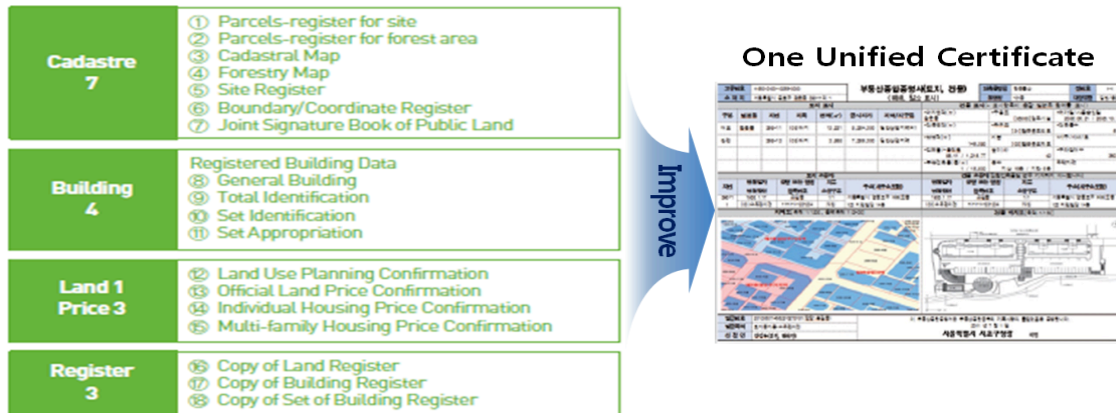
The Real Estate Integrated Public Registration System combined 18 types of real estate related public ledgers into one official ledger including cadastral maps, building registries, land use planning, registration and real estate price etc. All 18 types of the information will now be issued in one unified document for the general public upon request.

In 2013, 15 types of real estate related public ledgers were integrated by the Ministry of Land, Infrastructures and Transport Affairs. After 2013, 15 types of real estate were integrated to provide a custom real estate comprehensive information service for the nation's 37 million parcels of land and 7 million neighborhood buildings.

For real estate administrative information basic data organization the development of Korea Real Estate Administration Intelligence System, diffusion construction depending on the type of business phase, and law revision and public relation for system, four strategies can be

defined to improve and promote the system. However, for the accuracy of real estate administrative information, organization of basic data must be pursued first.

**Current 18 Doc.**



**Figure 1: Outline of the Real Estate Integrated Public Registration System**

Accordingly, the Ministry of Land, Infrastructure and Transport Affairs initiated the cadastral-based real estate administrative information data organization. Hence, for each error type, through the full utilization of data organization standardization system, the cost is expected to drop. Not only spatial information based real estate information management but also the development of a consistent real estate policy and the enforcement of comprehensive management for the real estate public ledger is possible. The necessity to file a complaint individually is now obsolete, and every complaint can be done at once.

Figure 1 shows outline of the system and the system has the benefits as follows;

- By developing a single real estate administration information management system (cadastral, building, land) the time spent working was reduced.
- To reinforce the real estate industry, new growth mechanism was developed.
- High quality land planning, development of policy support.
- Through the distribution of digital cadastral-based real estate information, spatial information industry became more active.
- A more accessible way for citizens to register real estate complaints.

**2.4 Concluding Remarks**

What this section comes into the perfectly same line with the Cadastre 2014 statement 2. In other words, the cadastral information (map) and registers were integrated into one system which is called the Real Estate Integrated Public Registration System and started service on January 2014.

**3. JOINT EXECUTION OF CADASTRAL SURVEY**

**3.1 Current State of Cadastral Survey**

Korean cadastral surveying market is opened to the public and private sector for the only numerical area and cadastral confirmation survey area from 2004. However, the graphical area doesn't allow the private sector to enter because this area requires homogeneous surveying results between two sectors.

Since the cadastral survey market was opened, 49 private companies have started their own business from the second year (2005). Today in 2014, 164 private companies and 1,746 employees are working for a cadastral surveying industry. (See the table 3 an annual status of the private companies)

Items	2005	2006	2007	2008	2009	2010	2011	2012	2013
Amount of private companies	49	65	75	83	102	130	140	155	164
Number of employees	444	564	794	913	1,110	1,470	1,590	1,820	1,746

**Table 3: Annual status of the private companies**

According to official statistics, in 2005, the public sector (Korea Cadastral Survey Corporation) carried out cadastral confirmation survey about 40 million dollars (89% of the total). On the other hand, private sector performed 4.8 million dollars (11% of the total) on the opened area. After 8 years, percentage of the performance ratio was significantly changed. Public sector has conducted 50 million dollars (70%) and private sector carried out 21 million (30%, three times growth as compared to 2005). The past 9 years from 2005 to 2013, public sector carried out 5.4 billion dollars (76%) and private sector carried out 1.7 billion dollars (24%).

Money unit: thousand dollars

Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	Total
Public	40,839	24,429	49,138	49,977	65,734	70,117	95,571	99,114	50,256	545,175
Private	4,848	12,774	18,275	13,706	16,131	25,921	25,082	31,795	21,166	169,697
Total	45,688	37,203	67,413	63,683	81,865	96,037	120,653	130,909	71,422	714,872
Ratio	89 : 11	66 : 34	73 : 27	78 : 22	80 : 20	73 : 27	79 : 21	76 : 24	70 : 30	76 : 24

**Table 4: Annual status of the total sales for cadastral surveying opened area**

However, one of the most unprecedented phenomena is the joint execution of the cadastral surveying with public and private sector together. This phenomenon perfectly matched with Casastre 2014 statement 5 (Cadastre 2014 will be highly privatized. Public and private sectors are working closely together). As mentioned earlier, less than a decade later, total sales of the private sector grew more than three times. Moreover, through the joint execution of the cadastral surveying, public and private sectors are working closely together. In other words control point surveying, which is required a highly accurate surveying, is carried out by public sector. On the other hand, detailed survey is carried out by private and public sector together because detailed survey is does not require high accuracy and special procedures.

Table 5 indicates the results of the total amount of sales from joint execution project of cadastral confirmation survey from 2009 to 2013 (5 years). According to table 5, the total amount of sales is increased by 1.5 times from 10 million dollars to 16 million dollars.

Money unit: thousand dollars

Items	2009	2010	2011	2012	2013	Total
Area(ha)	2,235	3,293	3,580	4,694	3,961	17,762
Amount of sales	10,350	15,385	14,545	22,751	15,944	81,492

**Table 5: Annual status of total amount sales about joint execution project**

### 3.2 Concluding Remarks

As predicted in the Cadastre 2014 statement 5, Korea cadastral surveying market is rapidly becoming privatized. Moreover, public and private sectors are working very closely together. In addition, viewed in this light, in the near future, the private sector is expected to expand and the joint execution will most likely be developed rapidly as the win-win model with highlights on each advantages.

## 4. CONCLUSION

In South Korea, the cadastral map and registration information have been administrated respectively by two different government departments for more than 100 years from 1910. However, the 18 types of real-estate-related public ledgers were integrated by the Ministry of Land, Infrastructure, and Transport in 2013. According to the Korean government, the first system in the world can issue all 18 different type of information on the only one unified document. It is perfectly matched as predicted in the Cadastre 2014 Statement 2.

Moreover, the Korean cadastral survey market, which has been monopolized by a public sector (KCSC; Korea Cadastral Survey Corporation), was opened to the private sector from 2004. Currently, 24% of all cadastral survey market was opened. Furthermore, joint execution of the cadastral surveying with public and private sector is significantly increasing from 2009. This phenomenon coincided exactly with the Cadastre 2014 Statement 5.

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