Korea Land Information System

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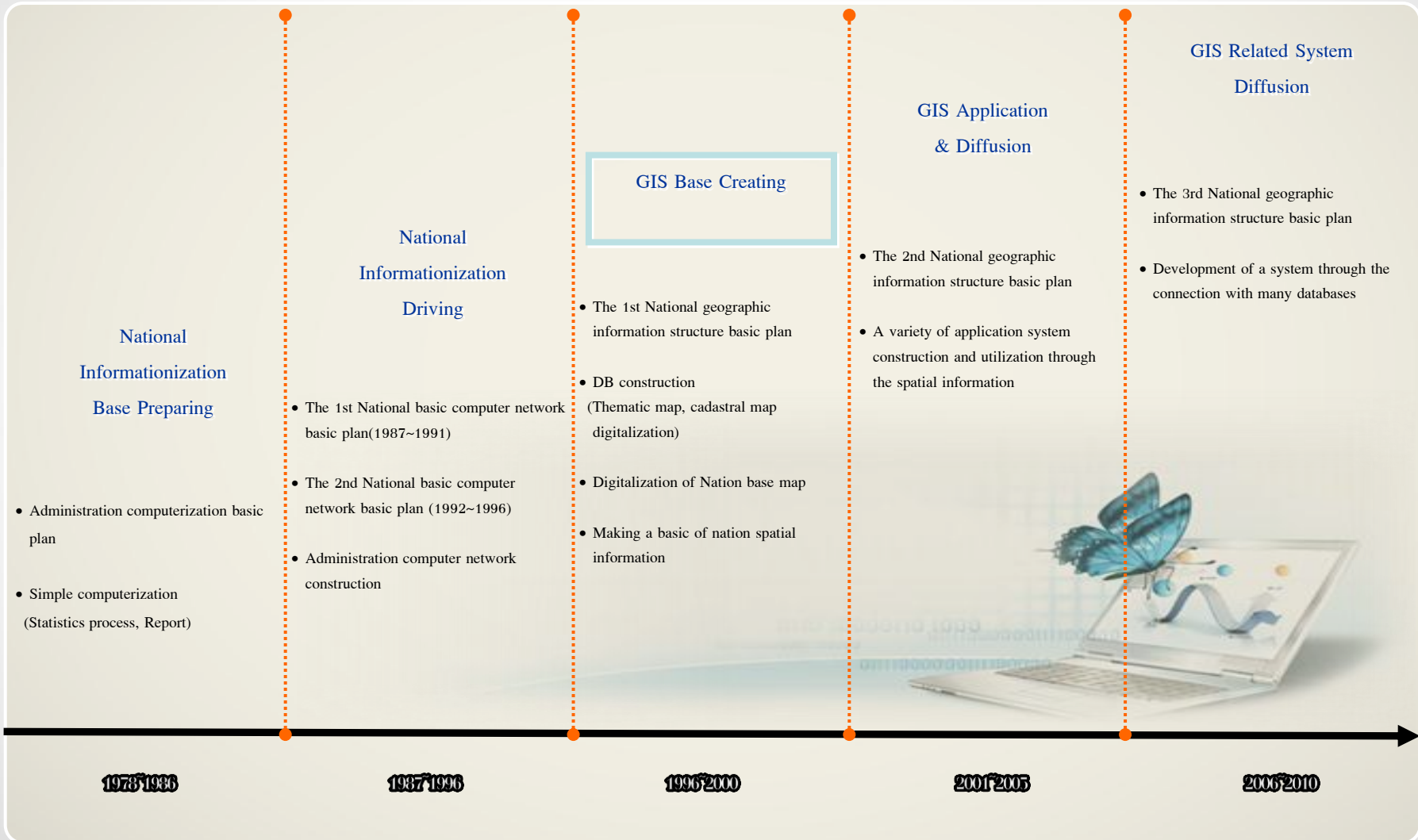# Contents

I.   GIS market of Korea

01 Korea GIS History

National Informationization Base Preparing

- Administration computerization basic plan

- Simple computerization (Statistics process, Report)

National Informationization Driving

- The 1st National basic computer network basic plan(1987~1991)

- The 2nd National basic computer network basic plan (1992~1996)

- Administration computer network construction

GIS Base Creating

- The 1st National geographic information structure basic plan

- DB construction (Thematic map, cadastral map digitalization)

- Digitalization of Nation base map

- Making a basic of nation spatial information

GIS Application & Diffusion

- The 2nd National geographic information structure basic plan

- A variety of application system construction and utilization through the spatial information

GIS Related System Diffusion

- The 3rd National geographic information structure basic plan

- Development of a system through the connection with many databases

| 1978~1986 | 1987~1996 | 1996~2000 | 2001~2005 | 2006~2010 |

01 4th National GIS Policy Basic Plan

▶ The 4th National Spatial Information Policy Basic Planning(2010〜2012)

- Rational utilization of National land and resource,
- Comprehensive plan : to maximize utilization of national spatial information

Efficient Management by MOLIT(Ministry of Land Infrastructure and Transport)

Realization of Green Spatial information Society for Green Growth

Green	Everywhere, Everybody	New deal
• Spatial data is Based on Green Growth	• Utilization of Spatial Data (in Everywhere, Everybody)	• Open, link, fusion of Spatial Data

01 5th National GIS Policy Basic Plan

The 5th National Spatial Information Policy Basic Planning(2013～2017)

: The comprehensive plan for promoting the spatial information convergence industry under Government 3.0, the paradigm for government operation and the rapid pace of ICT development.

Promoting the spatial information convergence industry is important for realizing Government 3.0 for supporting creating economy

and

providing personalized services to individual citizens.

S T R A T E G Y	1. Construction of high quality spatial information & Open expansion
	2. Vitalization of spatial information convergence industry
	3. Platform service intension of spatial big data base
	4. R & D propulsion of spatial information convergence tech
	5. Enhancement of cooperative spatial information structure & expansion
	6. Training of spatial information Creativity-HR Division
	7. Driving structure establishment of Convergence spatial information policy

Ⅱ. Korea Land Information System

01 Driving Backgrounds

" Land Administration Scientification & Great Nation Service

Innovation "

| GIS Base Integrated DB Construction | Land Admin-Affairs Computerization | Introduction of Infra (local government) |

Network Construction through the Korea Public Session For Internet

(MOLIT, State, District)

Driving Backgrounds

| Repetition of same work | Civil Application issuance in limited place | Repetition production and management of data |
| Repetition investment of informationization | Delay of civil application service time | Discordance of management data |

02 | Establish Goals

Realization of the Digital

National Land Information

Digitization of the cadastral and land administrative affairs

Leads the innovation of national real estate information services

Speediness and Correctness in civil complaint service	Systematic data management
Prevention of Overlapping IT Investment for Local Governments	Common Use of Data and Budget Savings

- System which supports the national land and real estate policies by adopting IT and GIS technologies to the cadastral and land administrative areas

- Saves budget through common use of spatial information with other systems and prevention of overlapping investment by the standardization of national spatial information and the construction of related services

03 Road Map

Next Generation

Hub & application

System Rebuilding

Construction & Stable

2011~

2011~2013

2006~2010

1996~2006

- Changeover to integrated maintenance system

- Related System services

- Application of various area

- KLIS Enhancement

- Land Policy Support

- On-Line Civil service

- Baseline data survey

- DB & System construction

Progress of KLIS project

- Determination of KLIS driving direction and KLIS integration & driving strategy(2001)

- KLIS development project and diffusion(2003~2006), Enhancement(2006~2010)

- KLIS maintenance project(2011~)

04 Key Roles

Seeking future value through resource sharing

MOLIT

Land policy support system

Connection system

113 external connection systems

Administrative data, Cadastral data, Forest...

Civil service

Internet civil service

State

Land management support system
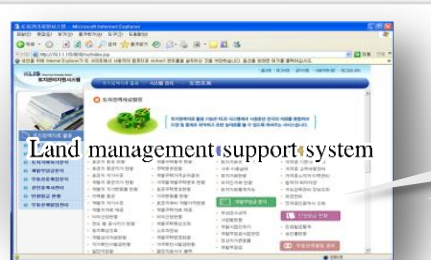
Korea information highway

Internet
(public network)

District

Land Administration Support

Public Price
(land, housing)

Spatial Data Management System
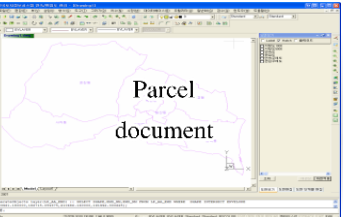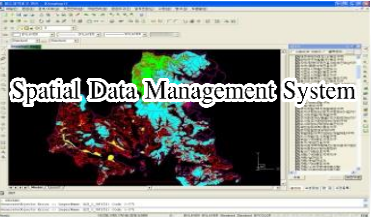
Parcel
document

KLIS Main System

- Land Administration Support System

- Parcel Document Management System

- Continuative Compiled Map Management System

- Land Use Zoning Management System

- State KLIS System

- MOLIT KLIS System

KLIS Main System - Diagram

System which produces, offers and shares the spatial information based on the latest IT services
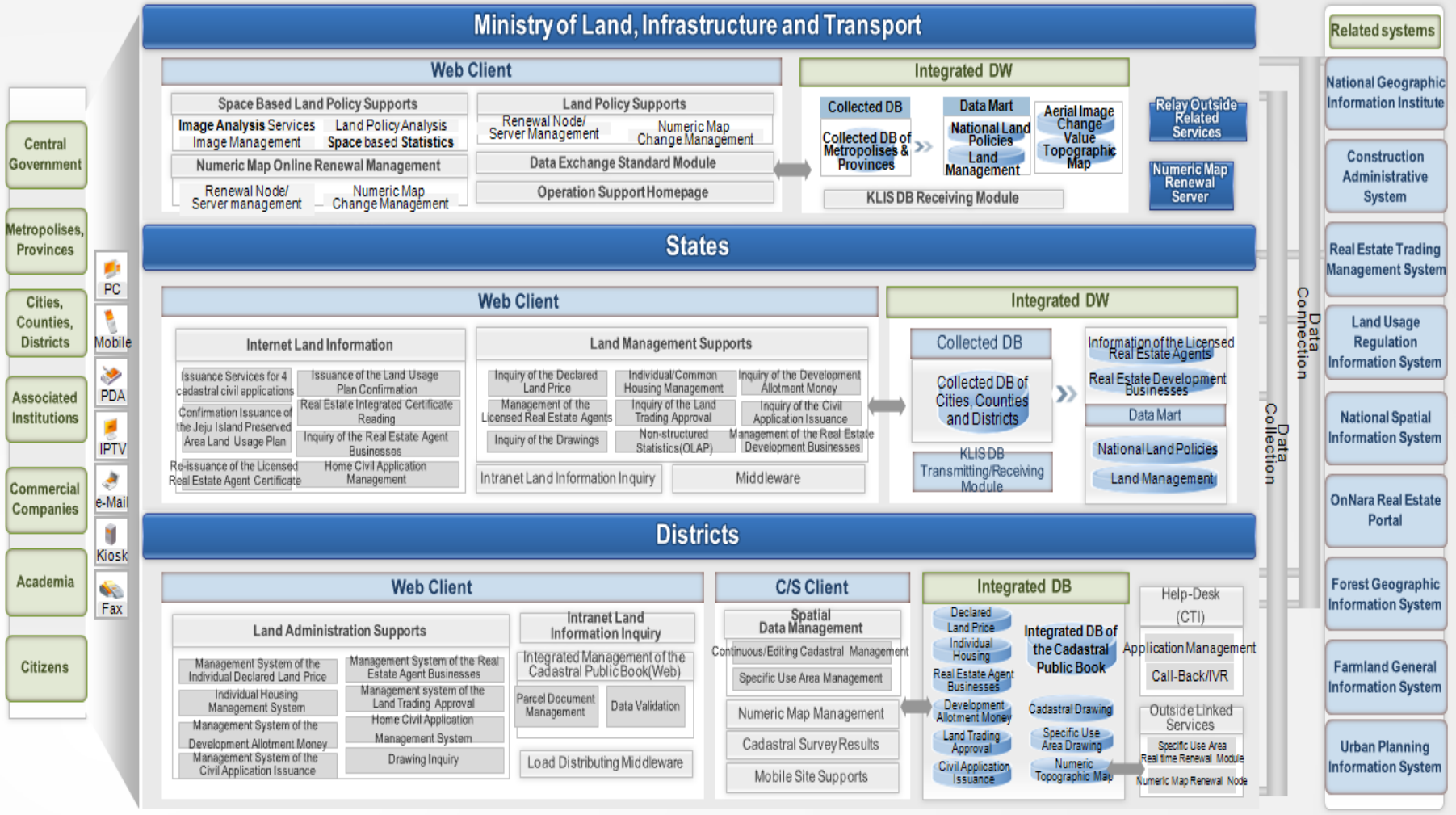
○ Performs the management of land and real estate administrative support affairs

- ▪ Individual Declared Land Price Management

- ▪ Individual House Price Management

- ▪ Real Estate Agent Businesses Management

- ▪ Integrated Civil Application Issuance Management

- ▪ Development Allotment Money Management

- ▪ Land Trading Approval Management

06 KLIS Subsystem-1.Land Administration Support System

Main Function

- Performs a variety of land administrative support affairs like real estate agency businesses based on national spatial information

- Supports the assessment of individual declared land price and individual housing price

- Provides a variety of reports like all sorts of registers related with performing land administrative affairs

- Performs the civil application issuance including drawing information like cadastral drawing and confirmation letter of the land usage plan

⊙ Register the information about all sorts of land to parcel document management system

⊙ Main Function

- Land alteration

- Information maintenance

- Cadastral survey management

- General land affairs

- Policy information management

- Statistics management

06

UNGGIMAP

KLIS Subsystem-2.Parcel Document Management System
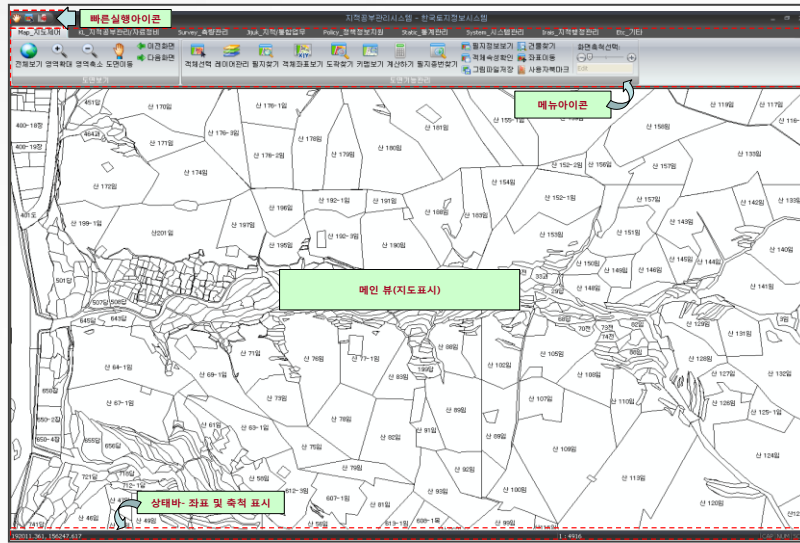
Main Function

- Manage the land movements like land division and merger

- Manage the ownership change like land ownership preservation and transfer

- Manage the cadastral survey reference mark and cadastral (forest land) drawing information

- Provide the cadastral survey file and manages the cadastral survey results

- Provide the cadastral statistics information and report

- Manage the daily closing of cadastral administrative affairs
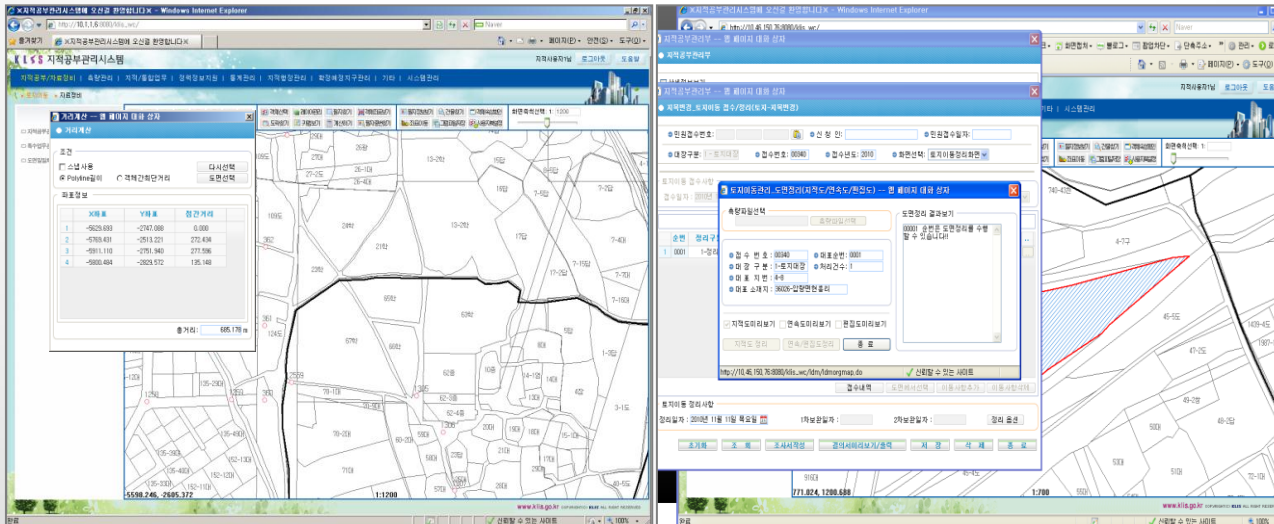
⊙ Performs the management of continuative compiled map to use for land administration support affairs reflecting land alteration

⊙ Main Function

- Drawing management

- Compiled map management

- Continuative compiled map management

- Error checking

KLIS Subsystem - 3.Continuative Compiled Map Management System

Individual Map

continuation Map

Main Function

- Use for land administration support affairs with continuation of the individual land

- Shp file uploading/downloading

- Users can edit the drawings and store in DB

- Management of the records of work : manages the saved records reflecting land alteration

- Management of nonconforming region

- Checks classification of land

06 | KLIS Subsystem-4.Land Use Zoning Management System
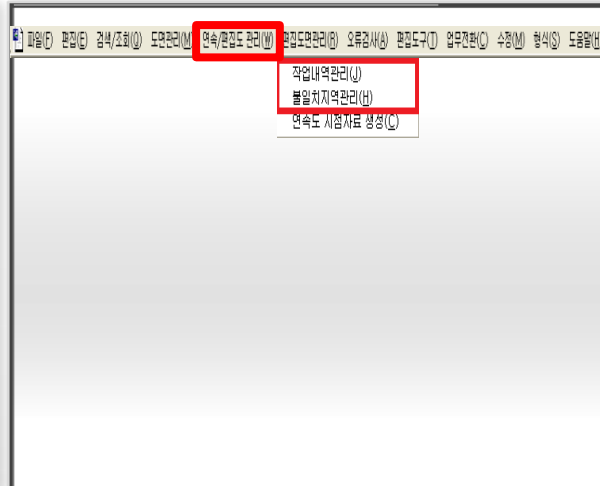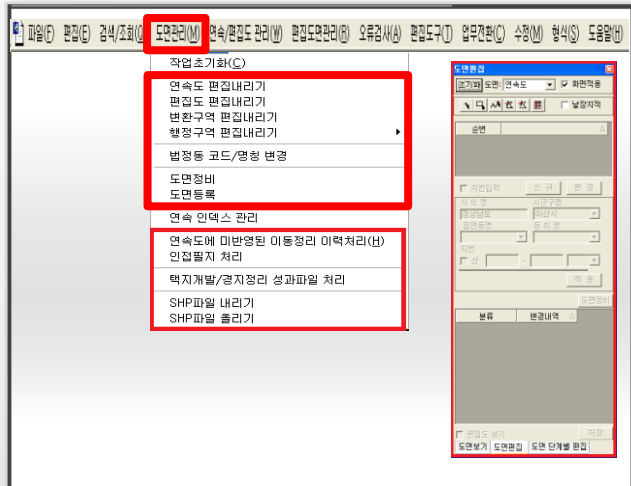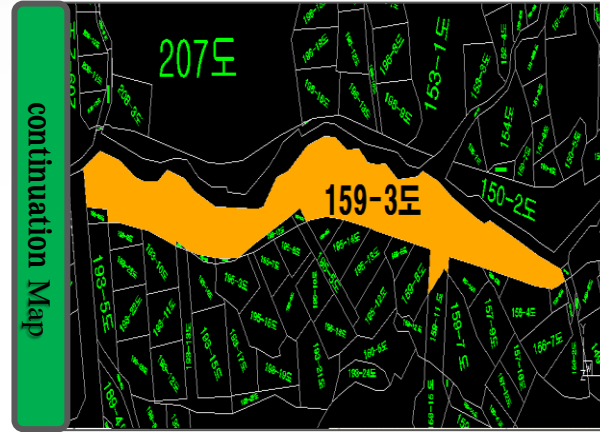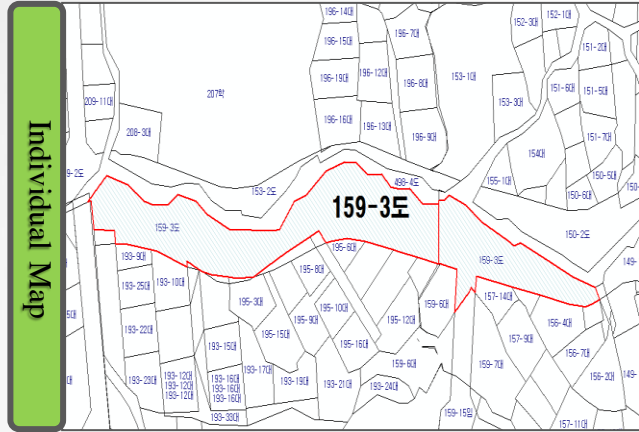
O Provides management functions consist of creating, editing and deleting of use district

O Main Function

- Search queries

- Drawing management

- Work management

- Editing tool

Main Function

- Provides land use zoning management functions included information about the regulation of land use.

- Announces cadastral information according to the Framework Act on the Regulation of Land Use.

- Records the data through KLIS system after obtains approval of person in charge.
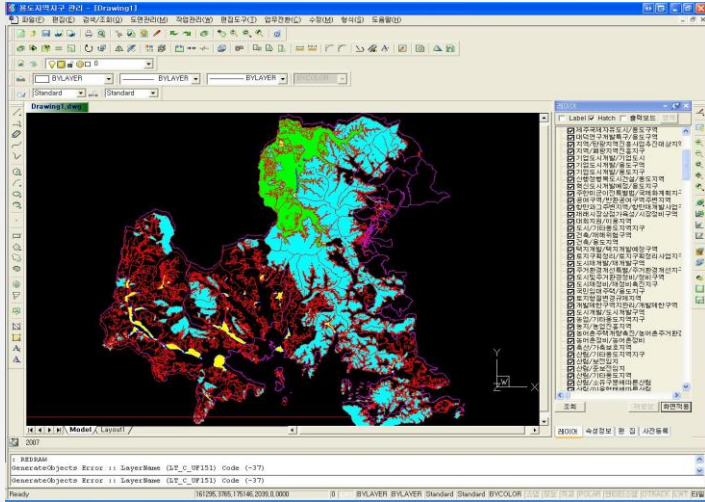
06 KLIS Subsystem – 5.System for State
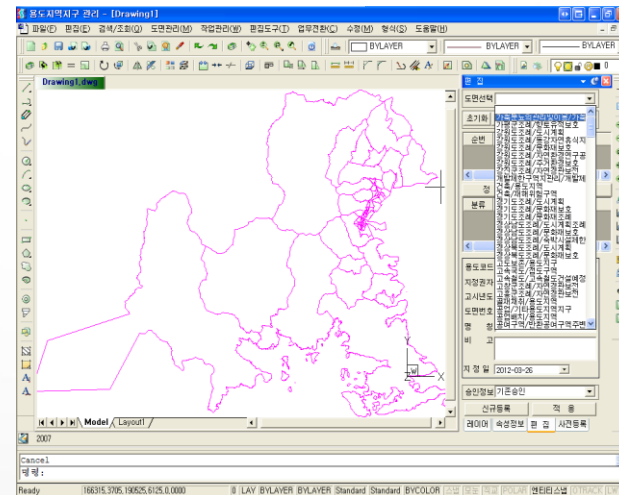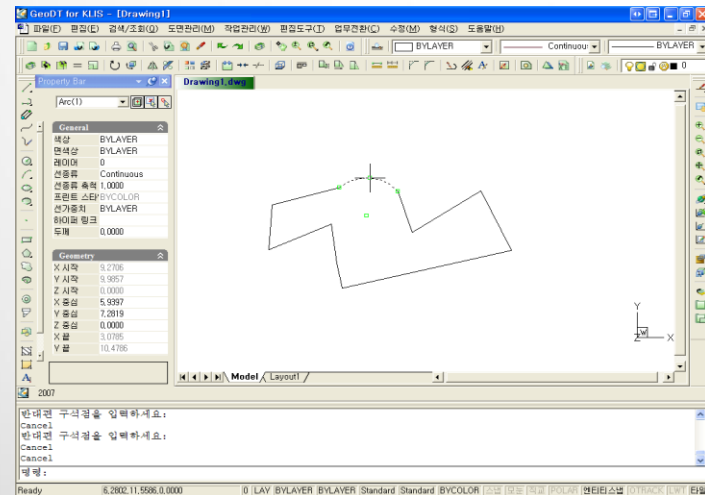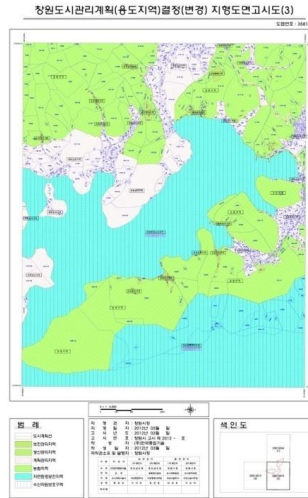
Main Function

- Reads and issues of 13 civil application services like the confirmation letter of land usage plan

- Provides 23 home civil application services like objection application for an individual declared land price via internet

- Issues the confirmation letter of land usage plan, certified copy of cadastral drawing and confirmation letter of an individual declared land price

- Provides the comprehensive real estate information

- Manages the civil applications like individual declared land price, objection application for an individual housing price

KLIS Subsystem –6.System for MOLIT #1

Main Function

- Compiles statistics and performs spatial analysis needed for policy decision based on the nationwide continuous cadastral drawing and specific use area drawing
- Analyzes the usage rate by monitoring KLIS operating status
- Inquires spatial information like nationwide continuous cadastral drawing and administration boundaries
- Extracts the specific use area data
- Analyzes the comprehensive real estate information
- Non-structured statistics analysis like annual land price change rate
- Spatial analysis for each status of the development planned sites
- Printing of the spatial analysis data report

KLIS Subsystem–6.System for MOLIT #2

Main Function

- Monitors KLIS operating status

- Analyzes the city/county/district KLIS usage rate

- Provides the statistics for nationwide land administrative affairs

- Supports maintenance of KLIS System and provides information about KLIS System included instruction, schedule, notice contents, etc.

- http://www.klis.go.kr

III. Expected Effect

01 | Save the Money — digitization of documents

Digitization of documents to 197 administrative affairs

Parcel Document Management	Integrated Civil Application Issuance Management	Individual Declared Land Price Management
39 administrative affairs	19 administrative affairs	52 administrative affairs

Development Allotment Money Management		Real Estate Agent Businesses Management
23 administrative affairs	Total 197 Admin_affairs Doc Digitization	20 administrative affairs
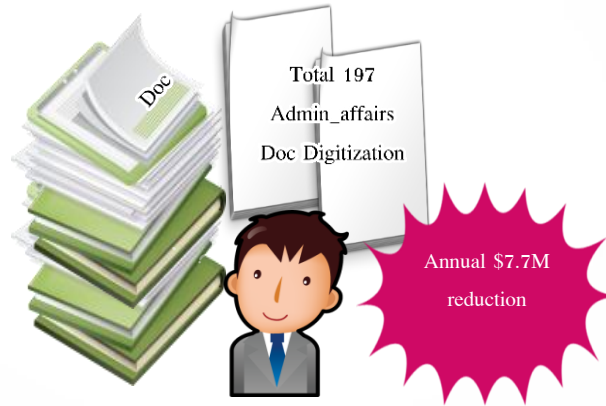
Individual House Price Management	Annual $7.7M reduction	Land Trading Approval Management
37 administrative affairs		7 administrative affairs

Classification	2008	2009	2010	2011	2012
# of local governments	232	232	232	230	229
Cost reduction(Million $)	7.8 M$	7.8 M$	7.8 M$	7.7 M$	7.6 M$

➤ 230 local governments * 197 documents * average costs (170$)

01 Save the Money – related system reading services

Related system reading services

Annual average **100M cases**

Nation

State Admin

KLIS

Local Admin
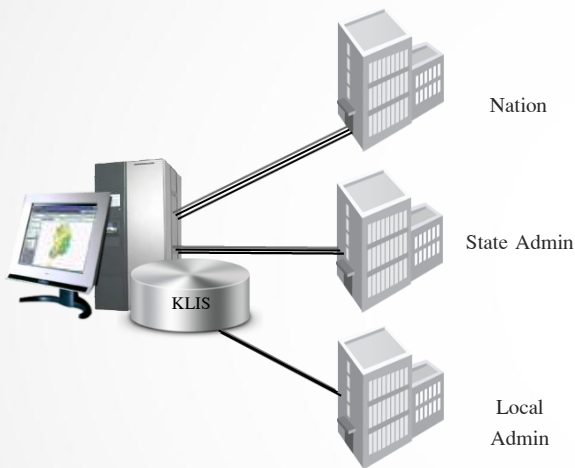
Land usage plan and confirmation reading services

Annual average **55.4M cases**

2009 (51.2M)
2010 (48.1M)
2012 (63.1M)
2011 (59.3M)
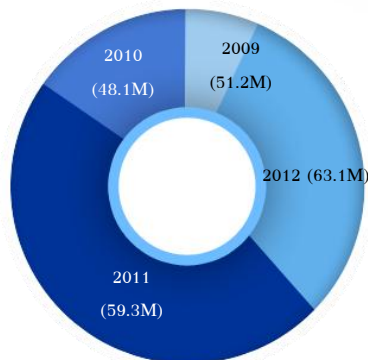
individual declared land price reading services

Annual average **23.3M cases**

2012 (10.7M)
2009 (21.6M)
2010 (20.6M)
2011 (40.1M)
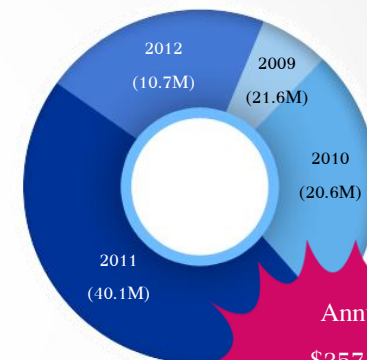
Annual $357.4M reduction

Classification	Related system reading services	Land usage plan and confirmation reading services	individual declared land price reading services	Total
Annual cases(Million cases)	100.0	55.4	23.3	178.7
Cost reduction/case($)	2.0$	2.0$	2.0$	2.0$
Total cost reduction(Million $)	200.0 M$	110.8 M$	46.6 M$	357.4 M$

» Time-reduction : 60minutes/Issuing one document(visiting time 40m + queuing time 20m)

» Cost-reduction : number of annual cases * cost reduction per case (Economic statistics from Korea Bank)

01

Save the Money — Standard Database

"Prevention of DB redundant construction" for Local Governments through the DB Providing

1 Standardization of Data

2 DB Construction

3 DB Providing

Total $2,927M reduction
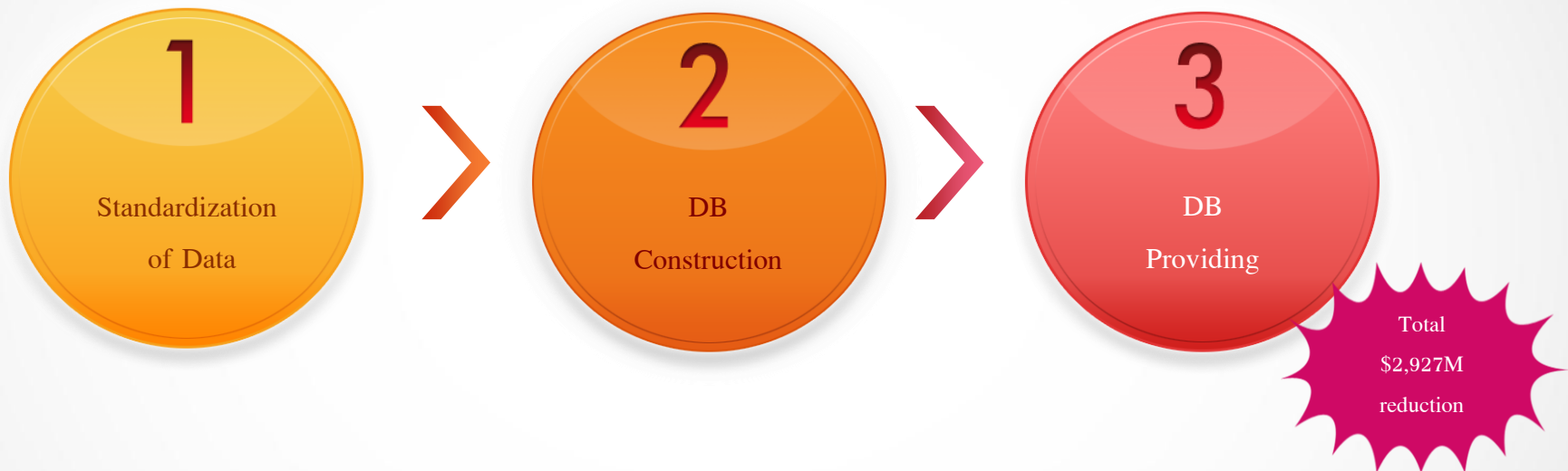
Classification	Before 2010	2010	2011	2012	Average	Total
DB Providing (case)	41,697	5,127	6,846	7,313	6,430	60,983
Cost reduction	2,001 M$	246.1 M$	328.6 M$	351 M$	308.6 M$	2,927 M$

≫ DB Construction Cost per District ($160,000),

≫ DB Reconstruction Cost($48,000 = 30% of Construction Cost)

Expected Effect

Provide parcel based land information to nation, local government, central department and related

organization

1. Support land administrative support affairs & informatization oriented project of local government

2. Provide information is connected with field of land

3. Provide valuable public service (annually over 100 million cases)

4. Maintenance of spatial & attribute data

IV. The Future of KLIS

01 The Future of KLIS – Land Management Tech

Survey Paradigm Change-Development of High Tech Equipment

- Easy to Measurement - Development of Surveying Tech. (GPS, Electronic Plane Table)

- One Stop System from Survey to Data processing

Data Digitalization & High capacity Data Processing Tech. Development

- Digital data makes useless analog data.

- The data acquisition, processing, storage technology (System structure revolution)

Convergence of IT & GIS

- IT Trends : Digital Convergence

- Data Communication Service via Smart Phones are widespread.

01 The Future of KLIS

Thank You !