



Korea Land Information System



2015.10.05

 **WAVUS** JW.Kim



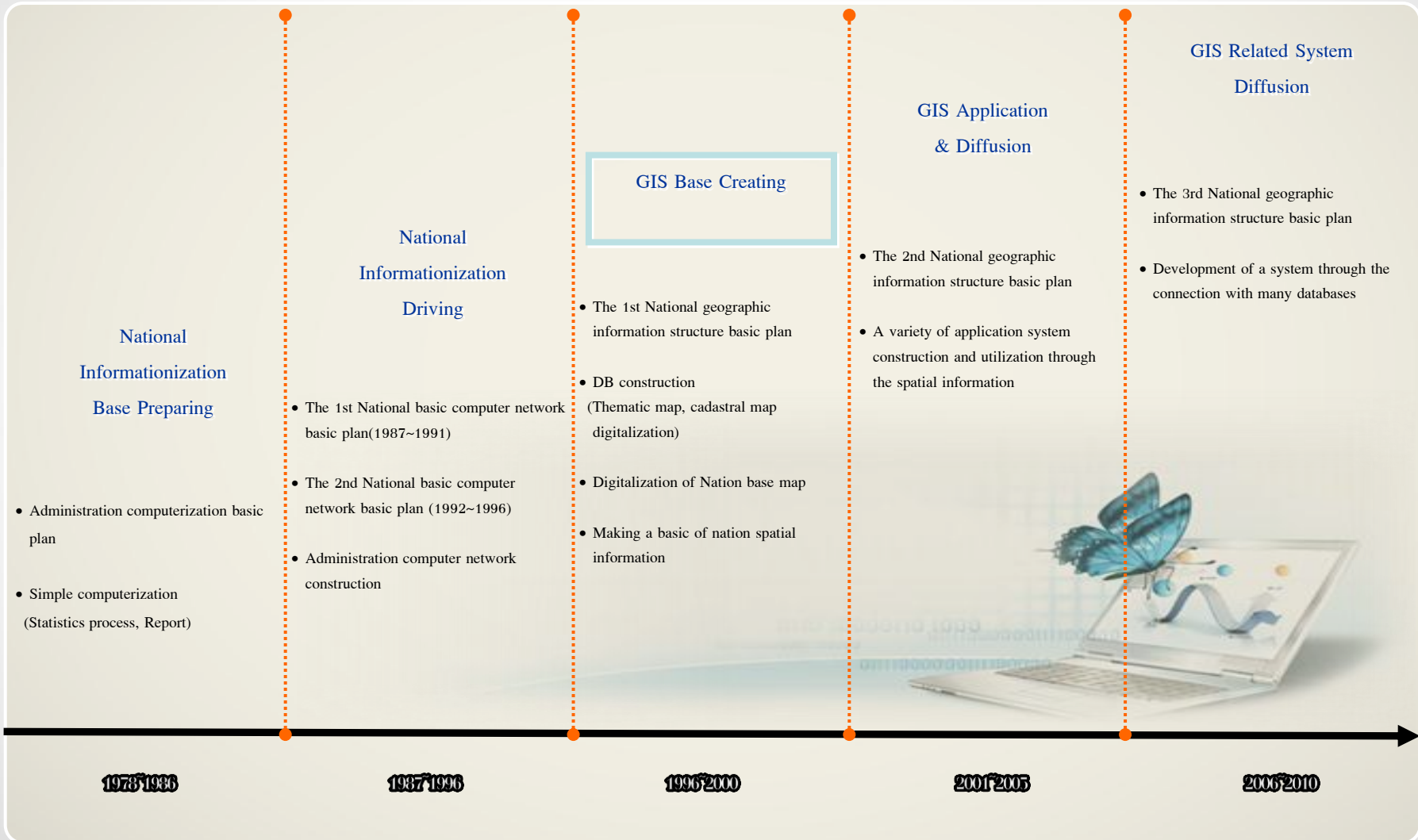
Contents

- I . GIS market of Korea**
- II. Korea Land Information System**
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- IV. Future of KLIS**



An aerial photograph of a coastal city, likely in Korea, showing a large waterfront development area. The foreground features a large body of water, a sandy beach, and a curved breakwater. A wide road with multiple lanes and a bridge crosses a canal or inlet. The middle ground is dominated by a large, rectangular development area with a grid-like street pattern, green spaces, and several tall, thin structures. The background shows a dense urban area with numerous buildings and a large stadium-like structure on the left. The overall scene depicts a modern urban environment with significant waterfront infrastructure.

I. GIS market of Korea



- ▶ 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)



Green

- Spatial data is Based on Green Growth

Everywhere, Everybody

- Utilization of Spatial Data (in Everywhere, Everybody)

New deal

- Open, link, fusion of Spatial Data



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
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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

An aerial photograph of a coastal city. A river flows through the center, with a bridge crossing it. To the left is a large stadium. In the foreground, there is a large green field with a grid pattern, possibly a sports field or a park. The city is built on a hillside, and the sea is visible in the bottom right corner.

II. Korea Land Information System

“ 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



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



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~)

Seeking future value through resource sharing

MOLIT



Camadin system

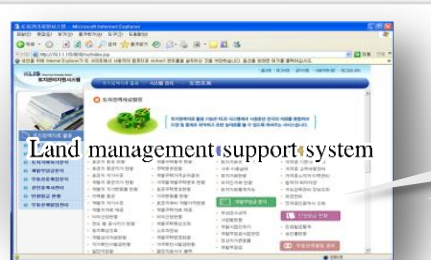
113 external connection systems

Administrative data, Cadastral data, Forest...

Civil service



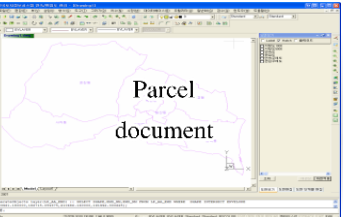
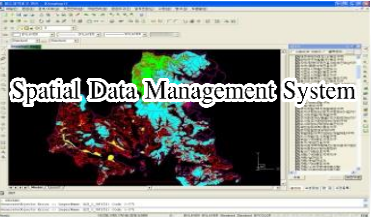
State



Korea information highway

Internet (public network)

District

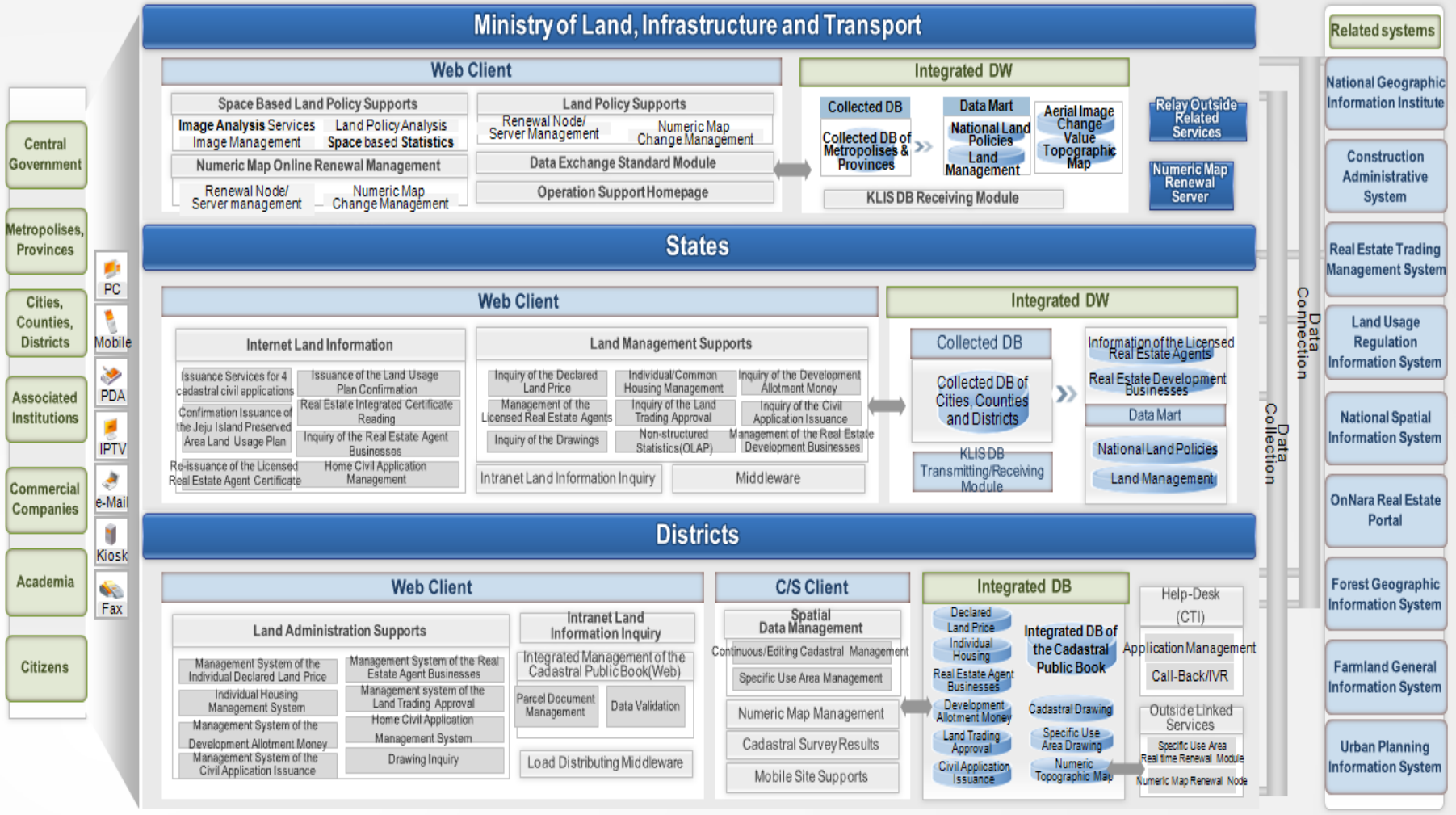




KLIS Main System

- Land Administration Support System
- Parcel Document Management System
- Continulative Compiled Map Management System
- Land Use Zoning Management System
- State KLIS System
- MOLIT KLIS System

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

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

도지특성정보 관리

기준년월 | 2008년 | 1월 | 1일 기준 | 지역선택 | [단산시] | 가포동 | [전체] | [일방] | 0001 | - | 0000

도지특성정보 | 도지특성이력 | 도지(2008년말)

구분	일반번호	소재지 / 표준지1 / 표준지2	총면적	면적1	면적2	일단지	현황
개별지	1	단산시 가포동 1	3,327	2,327	1,000	000	000
표준지1	16	단산시 가포동 955-4	2,327	2,327	0	000	수익입
표준지2	0		0	0	0	000	000

도지 특성 상세 정보

사업지구	지역	지역1	지역2	지구1	계획	계축률	가타	제군2-1	제군2-2	농지구분	변속도	경지	임대1	임대2
0	15	43	51	00	02	07	00	00	00	00	00	00	00	00
0	01	43	00	26	03	15	00	00	00	00	00	00	00	00

토지용도

토지용도	토지용도(가타)	고저	형상	발생	집면	거리	일도	제기분	사람방식	사업단계	표준지가 (평균)	표준지 용도2지가	표준지 용도2지가
21		02	04	00	01	01	09	09	00	00	70,000	0	0
51		02	05	00	01	01	09	09	00	00	0	0	0

지가 정보

연년지가	용건지가	2006지가	2005지가	2004지가
33	80	35,500	2005지가	0

소유자 정보

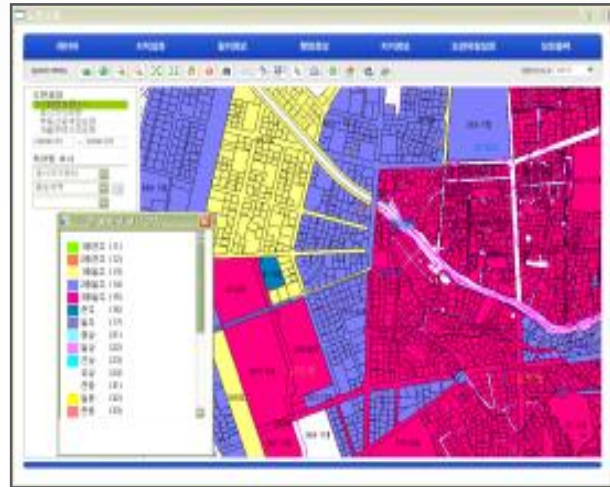
연년지가	용건지가	외관제출	용건지가	이의신청
74,800	20	10	20	30

소유자 정보

주민(법인) 등록번호	성명(법인명)	종결일	소유구분	소유형태
222222	-	2222222	소유구분	1

유한번호 | 무한등록번호 | 주소 | 소유자 정보 | 소유자 정보 | 소유자 정보 | 소유자 정보 | 소유자 정보 | 소유자 정보 | 소유자 정보

도지특성정보 관리 | 신규 | 저장 | 삭제 | 화면출력 | 도지특성정보 | 도지특성정보 | 도지특성정보 | 도지특성정보 | 도지특성정보 | 도지특성정보

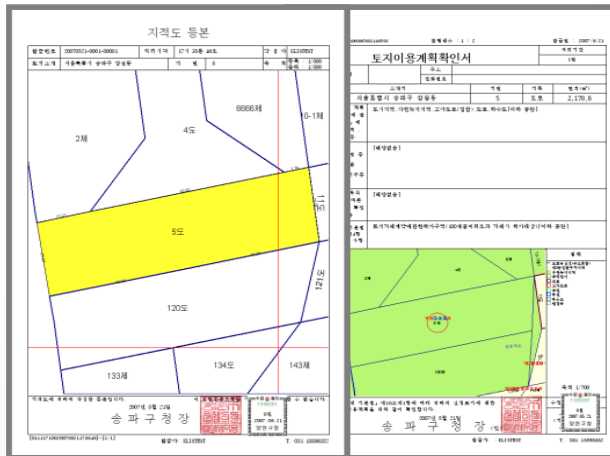


KLIS 도지행정지원 시스템

도지행정지원시스템

도지특성정보 관리

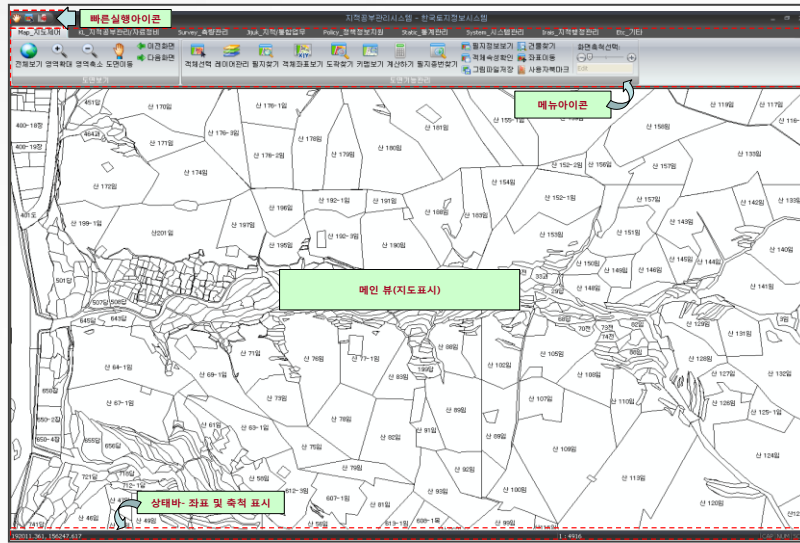
도지특성정보 관리 | 신규 | 저장 | 삭제 | 화면출력 | 도지특성정보 | 도지특성정보 | 도지특성정보 | 도지특성정보 | 도지특성정보 | 도지특성정보



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

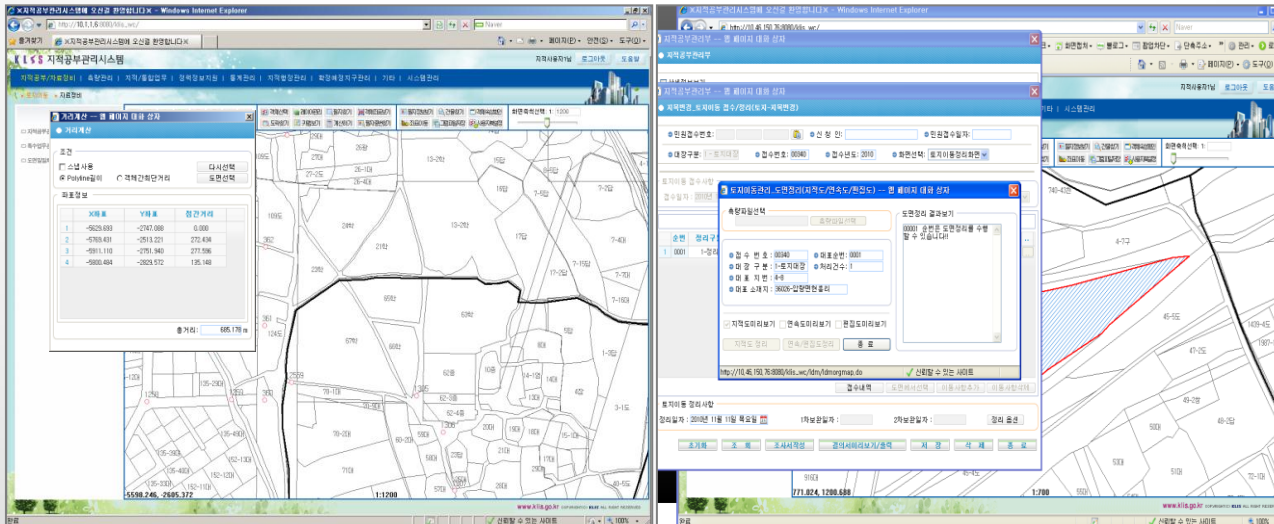
○ Main Function

- Land alteration
- Information maintenance
- Cadastral survey management
- General land affairs
- Policy information management
- Statistics management



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

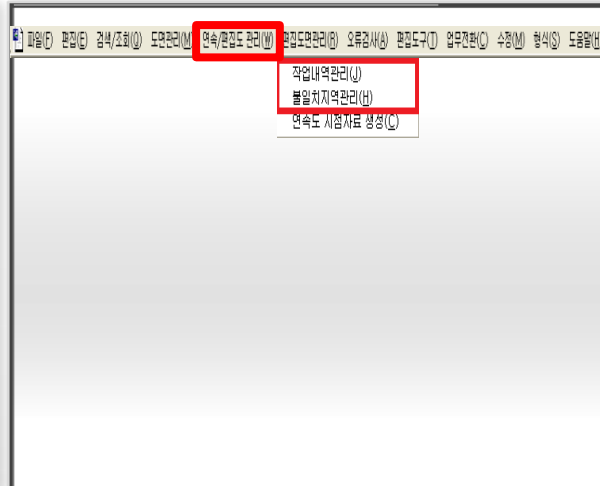
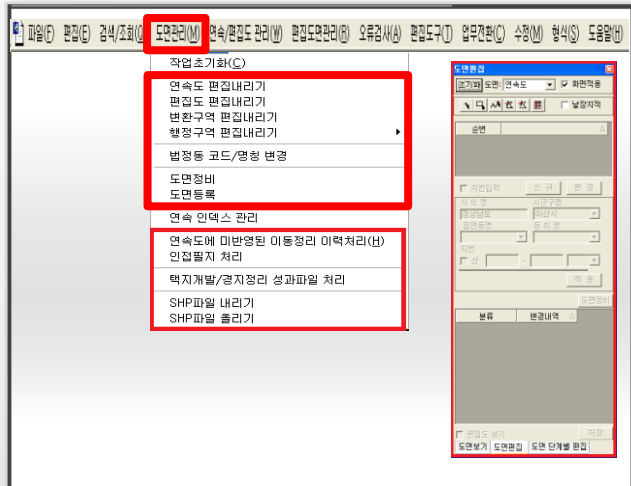
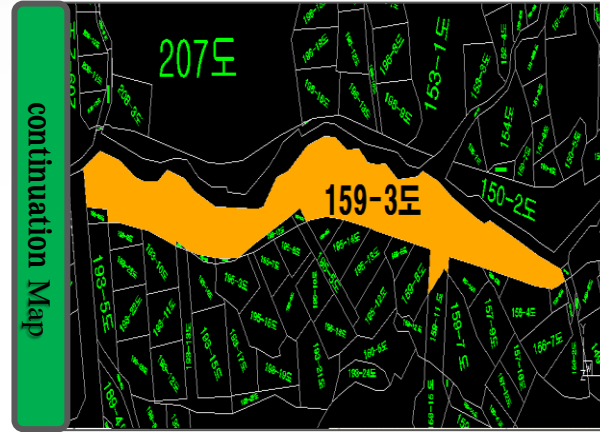
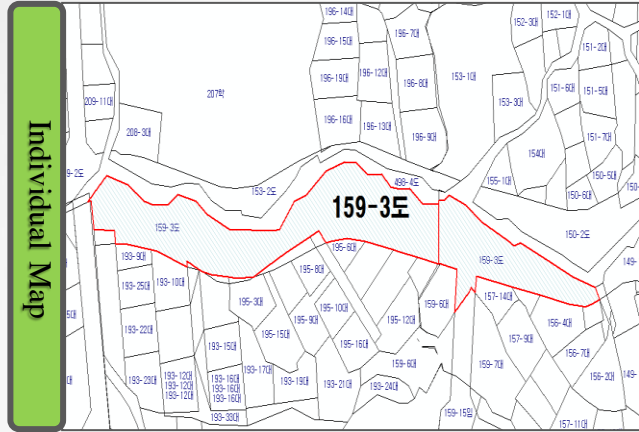


- Performs the management of continuative compiled map to use for land administration support affairs reflecting land alteration

- Main Function
 - Drawing management
 - Compiled map management
 - Continuative compiled map management
 - Error checking

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



- Provides management functions consist of creating, editing and deleting of use district

- Main Function
 - Search queries

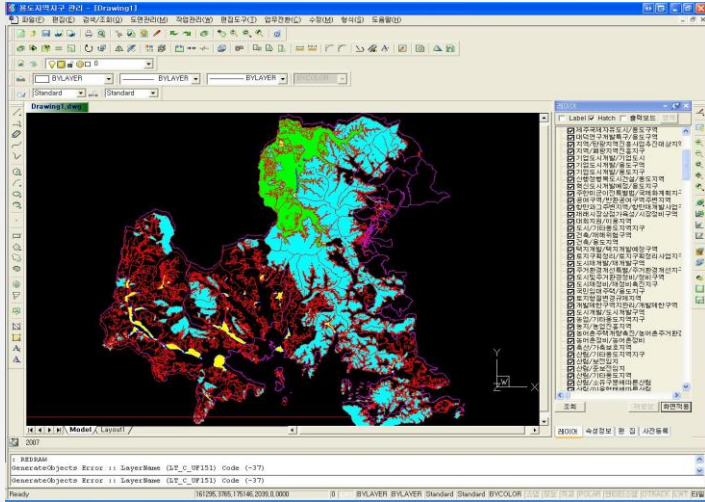
 - Drawing management

 - 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.

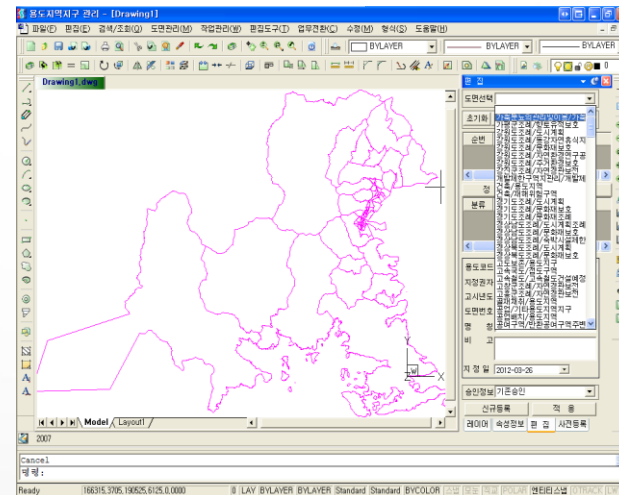
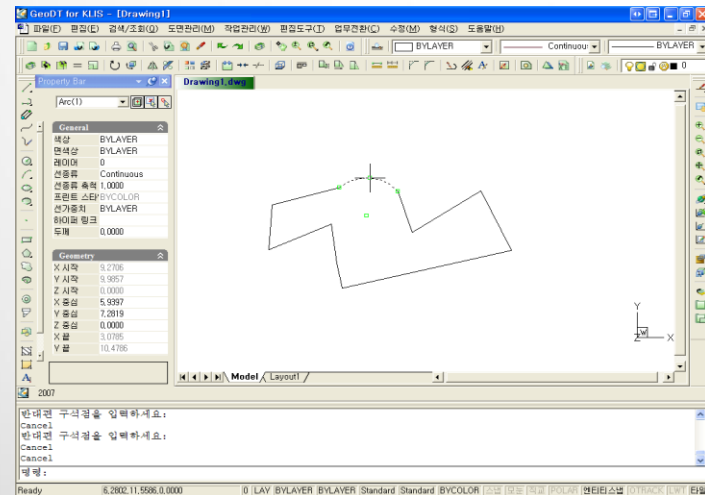
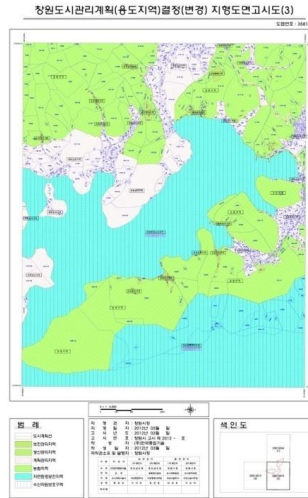


창원시 고시 제2012-09호

창원 도시관리계획(용도지역, 로보랜드 제2종지 및 지형도면 고시

1. 우리 시 마산합포구 구산면 구북리, 반동리 일원의 도시관리계획(단위계획)에 대하여 「국토의 계획 및 이용에 관한 법률」 제30조 및 그 아래와 같이 결정(변경) 고시하고.
2. 이를 「국토의 계획 및 이용에 관한 법률」 제32조 및 같은 법 시행령, 제8조 및 같은 법 시행령 제7조의 규정에 의거 지형도면을 고시·시청 도시경계획과에 비치된 관계서류를 열람하시기 바랍니다.

첨부 : 120313_지형도면(용도지역)-1.jpg (13,379 KByte)
 120313_지형도면(용도지역)-2.jpg (13,082 KByte)
 120313_지형도면(용도지역)-3.jpg (12,395 KByte)
 120313_지형도면(지단)-1.jpg (13,571 KByte)
 120313_지형도면(지단)-2.jpg (13,408 KByte)
 120313_지형도면(지단)-3.jpg (13,118 KByte)
 20120915 도시관리계획결정고시문.rmp (75 KByte)



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

The screenshot displays the KLIS web interface. The top navigation bar includes options like '민원안내 및 신청' (Guidance and Application) and '부동산 종합정보' (Real Estate Comprehensive Information). The main content area features a map and a detailed view of a land parcel with the following information:

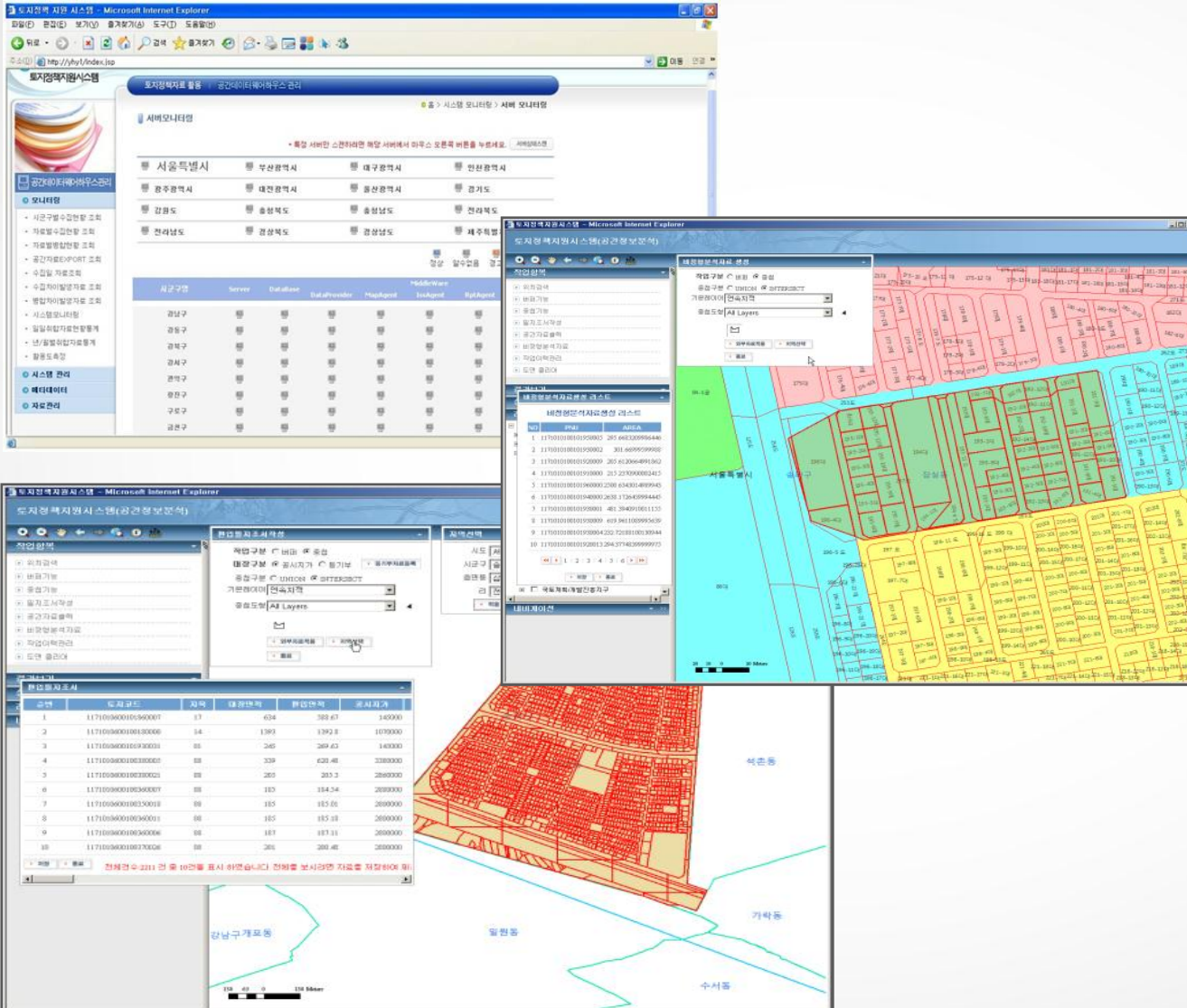
- 토지소재지:** 경기도 안양시 동안구 관양동 (Gyeonggi-do Anyang-si Dongan-gu Gwan-yang-dong)
- 지번:** 1588-8
- 면적 (㎡):** 1705.3
- 지목:** 마 (Field)
- 지용지역:** 1종일반주거지역 (1st General Residential Zone)
- 지정지역:** 1종일반주거지역 (1st General Residential Zone)
- 지정면적:** 1588-8 (10M-12M)

Below the map, a table lists 23 application services:

번호	신청명	신청
1	거래가격신고	신청
2	개발비 환산율내역서신고	신청
3	개발부담금납부신고	신청
4	개발부담금납부기일연기신청	신청
5	개발부담금보통납부신청	신청
6	개발부담금고지연상세신고	신청
7	개발주체자격의견제출	신청
8	개발주체자격의견신청	신청
9	개발주체자격발달 (발급)요류신고	신청
10	토지거래계약허가신청	신청
11	토지허수구	신청
12	개발공시자격의견제출	신청
13	개발공시자격의견신청	신청
14	개발공시자격발달(발급)요류신고	신청
15	부동산중개사주요개입특약신청	신청
16	분사주 소멸지 신고	신청
17	분개사주 소멸지 신고	신청
18	중개계약제입비용실정 변경신고	신청
19	부동산중개업, 분사주 소멸, 해입, 재개, 휴업기간변경신고	신청
20	소속권인용계사등 등록비용회고료, 해고신고	신청
21	중개사주 소멸특등, 분사주 소멸특지 신고발행허가부신청	신청
22	변경인정신고	신청
23	발달지정의견제출	신청

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



The image displays two screenshots of the KLIS Subsystem-6 interface. The top screenshot shows a data table with columns for various administrative areas and their corresponding statistics. The bottom screenshot shows the main dashboard of the system, featuring a header with the KLIS logo and a navigation menu.

	총용지수	승인총용지수	승용지수/총용지수	일반용지수	승인일반용지수	일반용지수/승인일반용지수
+서울특별시	1,024,413	987,904	96.4%	1,807,239	973,795	96.1%
+부산광역시	646,419	615,149	95.2%	627,242	599,796	95.6%
+대구광역시	428,041	378,797	88.3%	412,862	367,066	88.9%
+인천광역시	345,750	318,097	92%	325,725	302,095	92.7%
+광주광역시	482,705	378,536	78.4%	374,869	350,249	93.4%
+대전광역시	297,238	242,919	81.4%	280,915	239,678	85.3%
+울산광역시	197,059	144,178	73.2%	180,895	140,124	77.5%
-광역시	1,464,392	1,012,249	68.1%	1,371,489	955,271	69.7%
+경기도	395,157	228,997	58.3%	304,677	214,535	70.4%
+충청북도	257,211	185,930	72.3%	244,167	180,667	73.9%
+충청남도	295,212	173,472	58.8%	247,674	159,144	64.3%
+경상북도						

The bottom screenshot shows the main dashboard of the KLIS Subsystem-6. The header features the KLIS logo and a navigation menu with links to '소개마당' (Introduction), '공지마당' (Notice), '문의마당' (Inquiry), '학습마당' (Learning), and '자료마당' (Data). The main content area is divided into three columns: '공지사항' (Notice), '자료실' (Data Room), and 'KLIS Q&A'. The '공지사항' column contains a list of notices with dates ranging from 2012-01-17 to 2012-01-18. The '자료실' column contains a list of documents with dates ranging from 2012-01-09 to 2012-01-18. The 'KLIS Q&A' column contains a list of questions and answers with dates ranging from 2012-01-18 to 2012-01-18. The footer of the dashboard includes the KLIS logo, copyright information (Copyright © 2001-2009 KLIS. All rights reserved. KLIS Help Desk: 1588-6332), and logos for the Ministry of Land, Urban Planning and Construction (LH) and the National Institute of Urban Planning and Construction (NUPC).

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



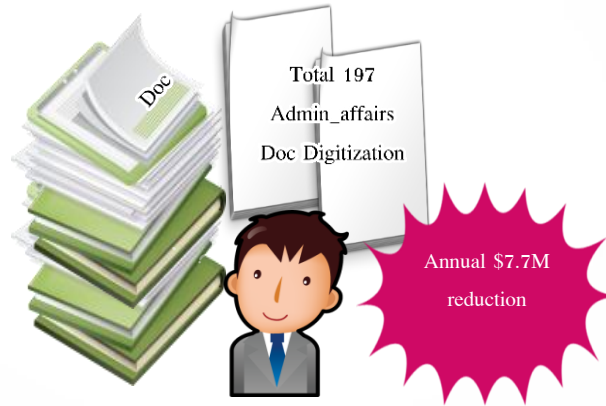
Digitization of documents to 197 administrative affairs

Parcel Document Management
39 administrative affairs

Integrated Civil Application Issuance Management
19 administrative affairs

Individual Declared Land Price Management
52 administrative affairs

Development Allotment Money Management
23 administrative affairs



Real Estate Agent Businesses Management
20 administrative affairs

Individual House Price Management
37 administrative affairs

Land Trading Approval Management
7 administrative affairs

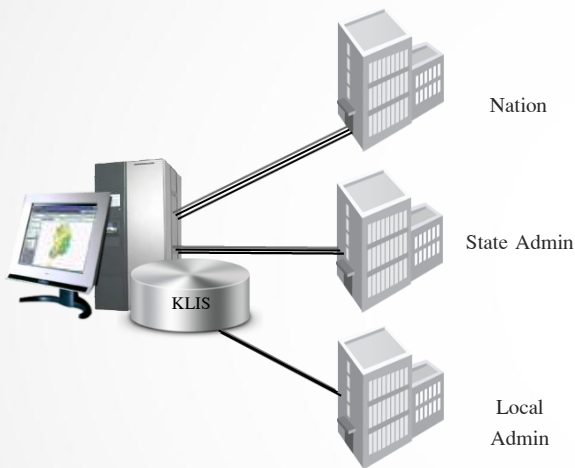
Classification	2008	2009	2010	2011	2012
# of local governments	232	232	232	230	229
Cost reduction(Million \$)	7.8 M\$	7.8 M\$	7.8 M\$	7.7 M\$	7.6 M\$

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

Related system reading services

Annual average

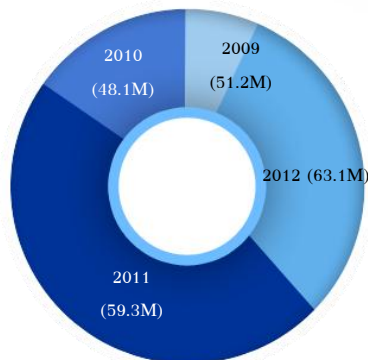
100M cases



Land usage plan and confirmation reading services

Annual average

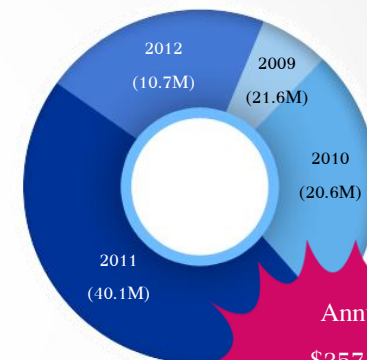
55.4M cases



individual declared land price reading services

Annual average

23.3M cases



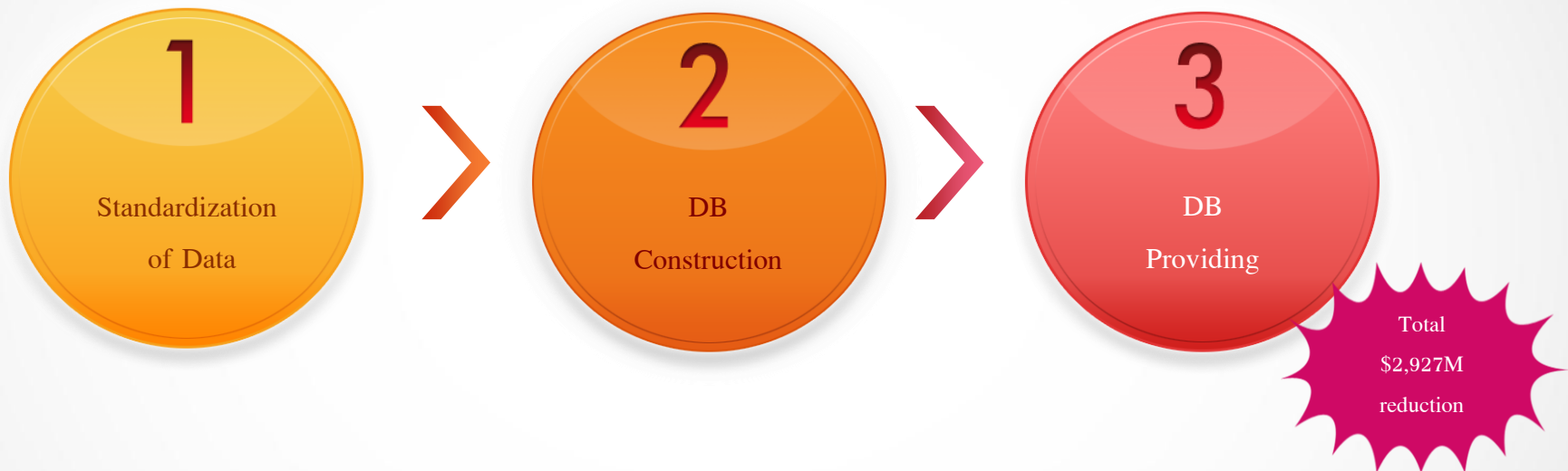
Annual \$357.4M reduction

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)

“Prevention of DB redundant construction” for Local Governments through the DB Providing



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)

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





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.





Thank You !