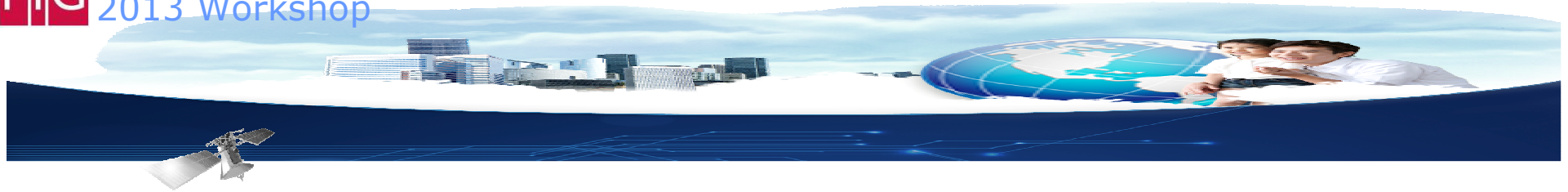




Land Administration Domain Model
2013 Workshop



A Review of Korean LADM based on the Cadastre Reform Project

2013.09.24

Land Administration Domain Model 2013 Workshop

Yoon-Ho SHIN and Byung-Yong KWAK, Republic of Korea





Contents

- ① Introduction
- ② Previous Korea Profile in LADM
- ③ Current cadastre in Korea
- ④ Proposed Korea Profile in LADM
- ⑤ Conclusion



1. Introduction

Background

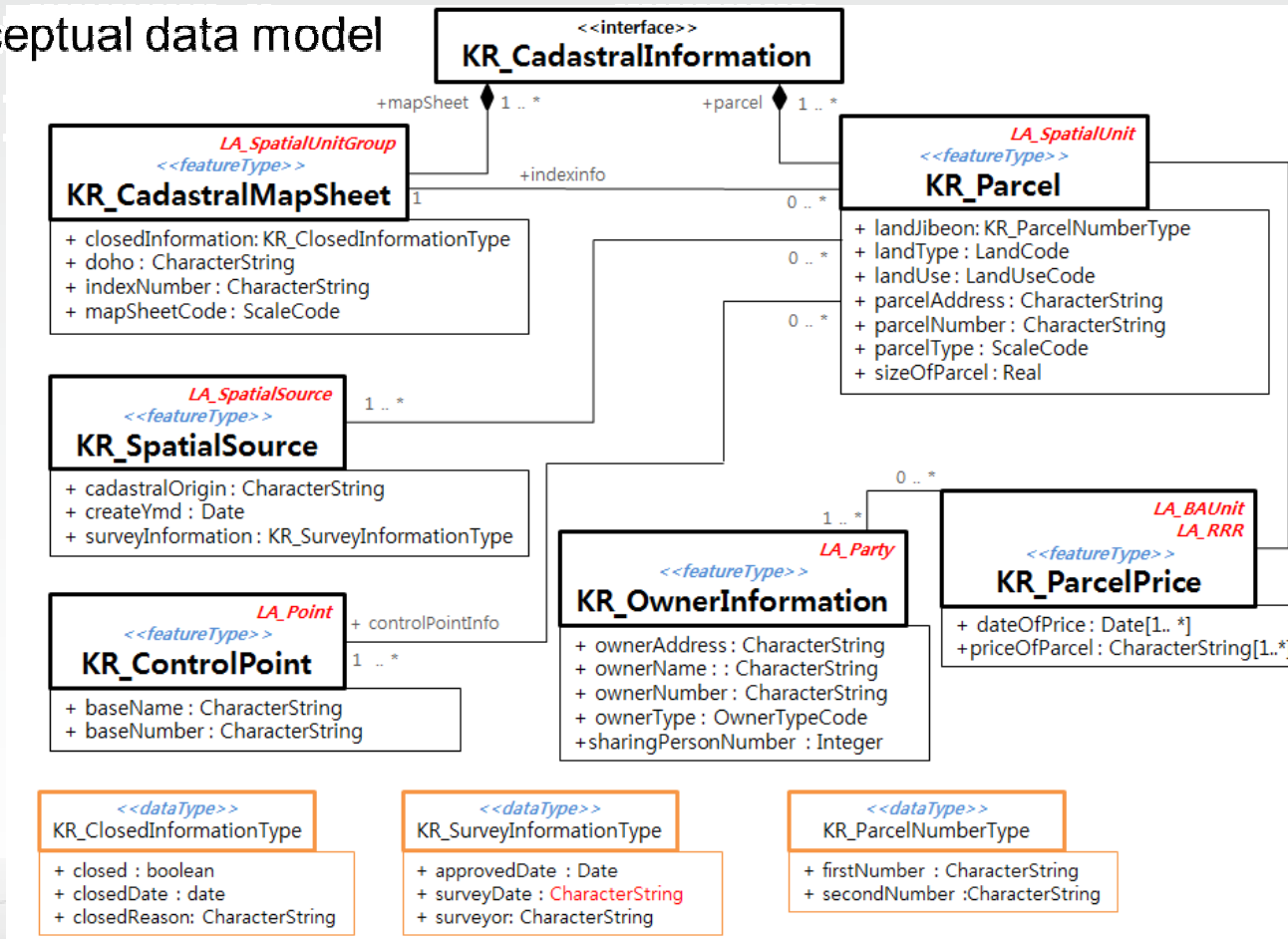
- 1st Draft of LADM was adapted in 2012 as a Korea country profile
- But Cadastre Reform Project started in 2012 in Korea
 - 3D cadastre part are added for land registration

➔ the update of LADM is needed



2. Korea Profile in LADM in 2012

Conceptual data model





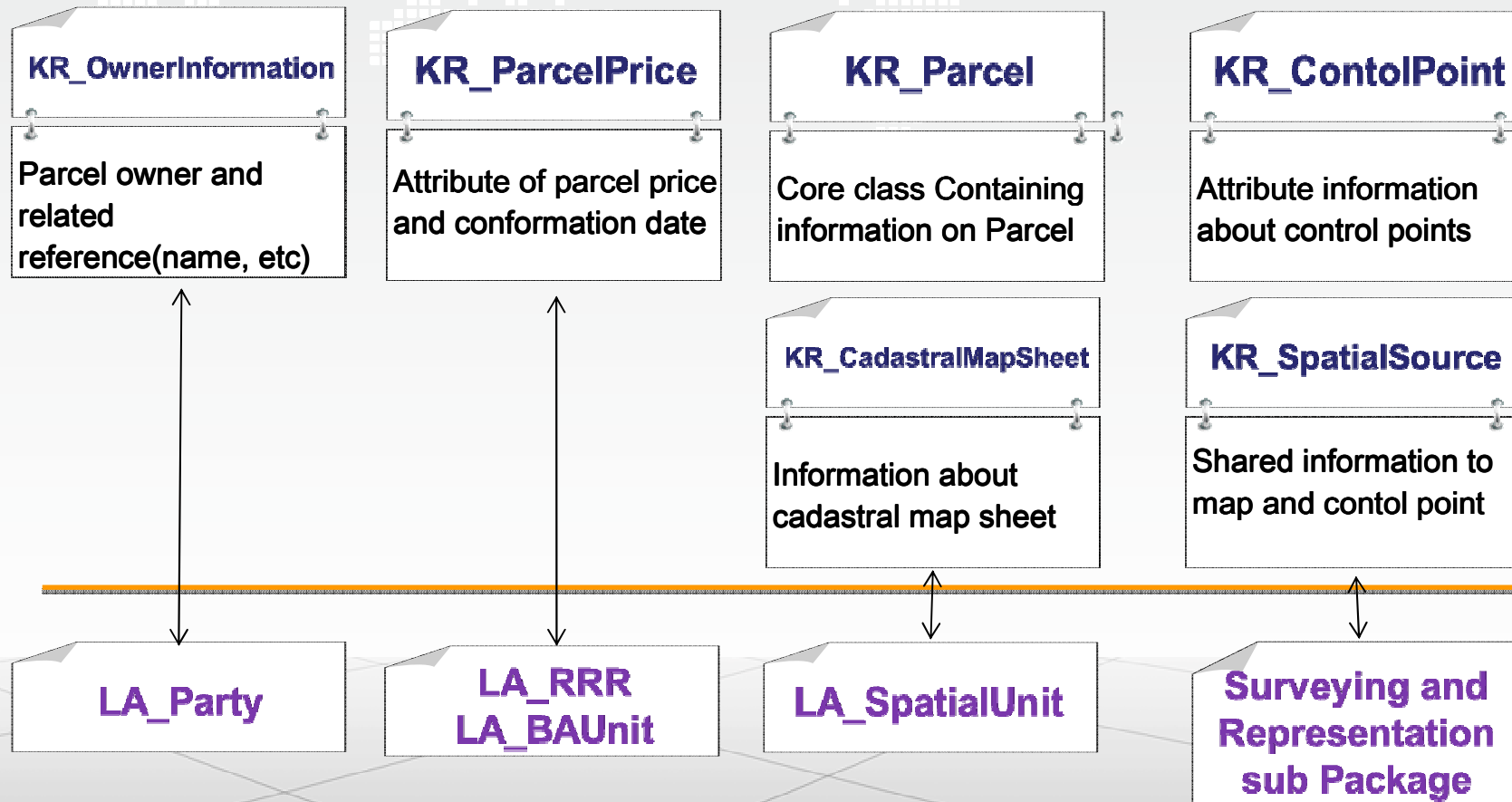
2. Korea Profile in LADM in 2012

- **Cadastral data model in Korea(2011)**
- **Minimal information for cadastral system**
- **Flexible and Extensible to related systems**
- **6 essential classes**
 - Parcel, Cadastral Map Sheet, spatial source, control point, owner information, parcel price class
- **3 type classes**
 - Closed Information type, Survey information type, Parcel number type



. Korea Profile in LADM in 2012

- Comparison with LADM





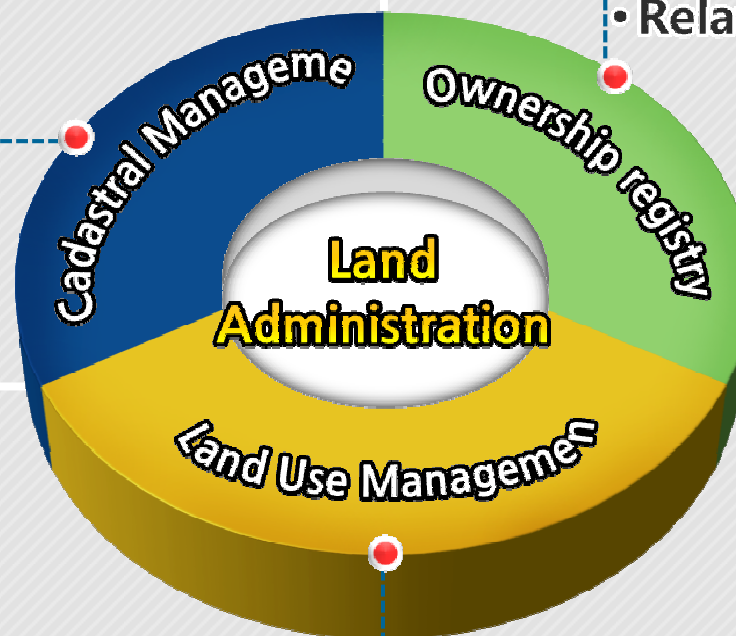
3. Current Cadastre in Korea

Ministry of Land, Infrastructure and Transport of Korea(MOLIT)

- Land Registry
- Cadastral Map

Supreme Court

- Real Estate Registry
- Relationship of Ownership



Ministry of Land, Infrastructure and Transport of Korea(MOLIT)

- Land Use, Planning
- Land Appraisal, Trading



3.1 Cadastre Reform Registration Item

- 1st List for Land
 - Land category
 - Area
 - Owner name
 - Owner address

WRITTEN INVESTIGATION FOR PARCEL

List for Land	classification	Land Category	Area	Owner Information		note
	land book	Site	200	Name	Address	
	land ownership registry	Site	210	Shin Yoon ho	880-4, bangbe 4-dong, seocho gu, SEOUL	n

List for Building	classification	Parcel Number associated	structure	use	number of stories (above/below)	building area (m ²)	land ratio	floor area ratio	Owner Information		note
	building book								Name	Address	
		880-4	concrete	house	2/1	400	200 %	150 %	Kim Ok-Gil	570-1, sawoo-dong, gimpo,	-
					/		%	%			
					/		%	%			
					/		%	%			

List for Landuse	land use zoning	development plan
	second level urban distict, general residential zone	building right zone, school facility zone

List for Land	classification	Land Category	Area	Owner Information		note
				Name	Address	
	land book	Site	210	Shin Yoon ho	880-4, bangbe 4-dong, seocho gu, SEOUL	n
	land ownership registry	Site	210	Shin Yoon ho	880-4, bangbe 4-dong, seocho gu, SEOUL	n



3.2 Cadastre Reform Registration Item

- 2nd List for Building
 - Associated Parcel Number
 - Structure
 - Use
 - Area
 - Number of Stories, Ratio
 - Owner name, address

WRITTEN INVESTIGATION FOR PARCEL

※ Administrative Unit

List for Land	classification	Land Category	Area	Owner Information		note
	land book	Site	200	Name	Address	
	land ownership registry <th>Site</th> <td>210</td> <td>Shin Yoon ho</td> <td>880-4, bangbe 4-dong, seocho gu, SEOUL</td> <td>n</td>	Site	210	Shin Yoon ho	880-4, bangbe 4-dong, seocho gu, SEOUL	n

List for Building	classification	Parcel Number associated	structure	use	number of stories (above/below)	building area (m ²)	building to land ratio	Owner Information		note
	building book	880-4	concrete	house	2/1	400	200 % 150 %	Name	Address	
					/		%	Kim Ok-Gil	570-1, sawoo-dong, gimpo,	-
					/		%			
					/		%			

List for Landuse	land use zoning	second level urban district, general residential zone	
	developing plan	building height zone, cultural facility area	

List for Building	classification	APN ¹⁾	structure	use	NOS ²⁾	area (m ²)	BTLR ³⁾	Owner Information		note
	building book	880-4	concrete	house	2/1	400	200 % 150%	Name	Address	
								Kim Ok-Gil	570-1, sawoo-dong, gimpo,	-

※ this information should be confirmed by an investigation

- 1) Associated Parcel Number
- 2) number of stories (above/below)
- 3) building to land ratio



3.3 Cadastre Reform Registration Item

- 3rd List for LandUse
 - Land use zoning
 - Developing plan

WRITTEN INVESTIGATION FOR PARCEL

※ Administrative Unit

List for Land	classification	Land Category	Area	Owner Information		note
	land book	Site	200	Name	Address	
	land ownership registry <th>Site</th> <td>210</td> <td>Shin Yoon ho</td> <td>880-4, bangbe 4-dong, seocho gu, SEOUL</td> <td>n</td>	Site	210	Shin Yoon ho	880-4, bangbe 4-dong, seocho gu, SEOUL	n

List for Building	classification	Parcel Number associated	structure	use	number of stories (above/below)	building area (m ²)	building to land ratio	Owner Information		note
	building book	880-4	concrete	house	2/1	400	200 % 150 %	Name	Address	
					/		%	Kim Ok-Gil	570-1, sawoo-dong, gimpo,	-
					/		%			
					/		%			
					/		%			

List for Landuse	land use zoning	second level urban district, general residential zone	
	developing plan	building high zone, cultural facility area	

21.0cm x 29.7cm (A4용지) 80g / m² (재질: 일반종이)

List for Landuse	land use zoning	second level urban district, general residential zone
	developing plan	building high zone, cultural facility area



3.4 Cadastre Reform Registration Item

- 4th List for LandUse State
 - Land use situation
 - Road condition
 - Terrain
 - Other Structure

Actual Condition Investigation for LAND	Actual Condition	Road Condition	terrain	other structure
	commercial area	one sided contact	gentle slope	-

Actual Condition Investigation for BUILDING	Parcel Number associated	structure	use	number of stories (above/below)	building area (m²)	Owner information		note
						Name	Address	
	880-4	concrete	shopping	2/2	200 / 200	MI-Won	570-1, sawoo-dong, gimpo,	-
				/	/			
				/	/			
				/	/			

Actual Condition Investigation for UNDERGROUND STRUCTURE / UTILITIES	Parcel Number associated	Name	Superficies				Structure				etc	
			purpose	area	scope	period	track	M.F	passage way	shopping center		use · profit
	880-4	Kon MI-Won	lease	100	30	10 year	-	-	-	-	-	-

contents of investigation	data	date	2012. 1. 1	COMMENT	date of notification	- . .	reason / comment	unsettled reason
	investigation	name	Park Jawon		date of resurveying	. . .		
field	date	2012. 3. 1	date of 2 nd notification	. . .				
investigation	name	Song MinJu	date of 2 nd resurveying	. . .				
Comment	-		date of 3 rd notification	. . .				
			date of 3 rd resurveying	. . .				
			survey	surveyor				
			inspection	date of inspecting				

Actual Investigation for LAND USE	Land Use Actual Condition	Road Condition	terrain	other structure
	commercial area	one sided contact	gentle slope	-



3.5 Cadastre Reform Registration Item

5th List for Underground / Facilities

- Associated Parcel Number
- Name
- Superficies
 - Purpose, Area, scope, Period
- Structure
 - Track, Management facility
 - Passage way
 - Shopping center information
 - Use/Profit

Actual Condition for LAND	Actual Condition	Road Condition	terrain	other structure							
	commercial area	one sided contact	gentle slope	-							
Actual Condition Investigation for BUILDING	Parcel Number associated	structure	use	number of stories (above/below)	building area (m ²)	Owner information		note			
	880-4	concrete	shopping	2/2	200 / 200	Name	Address				
				/	/						
				/	/						
Actual Condition Investigation for UNDERGROUND STRUCTURE / UTILITIES	Parcel Number associated	Name	Superficies				Structure			etc	
			purpose	area	scope	period	track	M.F	passage way		shopping center
	880-4	Kon Mi-Won	lease	100	30	10 year	-	-	-	-	-
contents of investigation	data	date	2012. 1. 1	COMMENT	date of notification	-	-	reason / comment	unsettled reason		
	investigation	name	Park Jawon		date of resurveying	-	-				
	field	date	2012. 3. 1		date of 2 nd notification	-	-				
	investigation	name	Song MinJu		date of 2 nd resurveying	-	-				
					date of 3 rd notification	-	-				
					date of 3 rd resurveying	-	-				
					survey	surveyor		surveyor comment			
						date of surveying					
					inspection	inspector					
						date of inspecting					

UNDERGROUND STRUCTURE UTILITIES	associated	Name	Superficies				Structure					etc.
	Parcel Number		purpose	area	scope	period	track	M.F	Passage Way	shopping center	use · profit	
	880-4	Kon Mi-Won	lease	100	30	10 yr	-	-	-	-	-	-



3.6 Cadastre Reform Registration Item

6th List for Surveying

- Survey Date
- Surveyor
 - Name, comment
- Inspector
 - Name, comment
- Comment

Actual Condition Investigation for LAND	Actual Condition commerical area	Road Condition one sided contact	terrain gentle slope	other structure -
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Actual Condition Investigation for BUILDING	Parcel Number associated	structure	use	number of stories (above/below)	building area (m²)	Owner information		note
	880-4	concrete	shopping	2/2	200 / 200	Name	Address	
				/	/			
				/	/			

Actual Condition Investigation for UNDERGROUND STRUCTURE / UTILITIES	Parcel Number associated	Name	Superficies				Structure				etc
			purpose	area	scope	period	track	M.F	passage way	shopping center	
	880-4	Kon Mi-Won	lease	100	30	10 year	-	-	-	-	-

contents of investigation	data	date	2012. 1. 1	CONTENT OF SURVEY	date of notification	-	reason / comment	unsettled reason
	investigation	name	Park Jawon		date of resurveying	-		
	field	date	2012. 3. 1		date of 2 nd notification	-		
	investigation	name	Song MinJu		date of 2 nd resurveying	-		
					date of 3 rd notification	-		
					date of 3 rd resurveying	-		

contents of investigation	data	date	2012. 1. 1	CONTENT OF SURVEY	date of notification	2013. 2. 1	reason / comment	unsettled reason	Boundary conflict
	investigation	name	Park Jawon		date of resurveying	2013. 2. 15			
	field	date	2012. 3. 1		date of 2 nd notification	2013. 2. 16			
	investigation	name	Song MinJu		date of 2 nd resurveying	2013. 3. 1			
					date of 3 rd notification	2013. 3. 15			
					date of 3 rd resurveying	2013. 3. 16			
	Comment	Mismatched			surveyor	Shin Yun Ho		surveyor	need to coordinated boundary
					date of surveying	-		comment	
					inspector	Kim Ok GIL			
					date of inspecting	-			



3.6 The needs of update

- **Integration or Extension Information for land physically and legally**
- **New Cadastre information Start(2012)**
 - **List for Land**
 - **List for Building**
 - **List for Landuse**
 - **List for Underground / facilities**

=> Update of Korea Cadastre Model 2012



4. Proposed Korea Profile in LADM

- Korea Country profile(2012) is extended the Cadastre Reform Project Model



Owner Address	- Right	Parcel Price	Parcel ID	Original Control Code
Owner Name	-	Parcel Price Date	Parcel Number	Control Point Name
Owner ID	-		ParcelType	Control Point Number
Owner Type			Category	Survey Date of Control point
Share			Land Use	Survey Information
			Address	
			Scale	
			Area	
			MapSheetcode	
			IndexNumber	

KLIS(LADM Korea Profile)



- Right(Superficies...)	Building Price	Building Parcel Number	Survey Metadata
- Constraint	Building Price Date	Building structure	
- Responsibility		Building Use	
	KR_AddressType	Building Area	
		Building Volume	

Cadastre Reform Project

- Utilities information
- TerrianLevel
- Land Shape
- Land Aspect
- Topology
- Parcel Centroid



4.1 Proposed Korea Profile in LADM

- RRR



Owner Address
Owner Name
Owner ID
Owner Type
Share

- Right(Superficies...)
- **Constraint**
- **Responsibility**
Parcel Price
Parcel Price Date

Parcel ID
Parcel Number
ParcelType
Category
Land Use
Address
Scale
Area
MapSheetcode
IndexNumber, doho

Original Control Code
Control Point Name
Control Point Number
Survey Date of Control point
Survey Information

Cadastre Reform Project

5th List for Underground Facilities

UNDERGROUND STRUCTURE / UTILITIES	associated Parcel Number	Name	Superficies				Structure					etc.
			purpose	area	scope	period	track	M.F	Passage Way	shopping center	use · profit	
	880-4	Kon Mi-Won	lease	100	30	10 yr.	-	-	-	-	-	-



4.2 Proposed Korea Profile in LADM

- BAUnit



Owner Address Owner Name Owner ID Owner Type Share	- Right(Superficies...) - Constraint - Responsibility	Parcel Price Parcel Price Date Building Price Building Price Date KR_AddressType	Parcel ID Parcel Number Parcel Type Category Land Use Address Scale Area MapSheetcode Index Number, dodo	Original Control Code Control Point Name Control Point Number Survey Date of Control point Survey Information
--	---	--	--	--

Cadastre Reform Project

2nd List for Building

Listfor Building	classification	APN ¹⁾	structure	use	NOS ²⁾	area (m ²)	BTLR ³⁾	Owner Information		note
								Name	Address	
buildingbook	buildingbook	880-4	concrete	house	2/1	400	200%	Kim Ok-Gil	570-1, sawoo-dong, gimpo,	-
							150%			

- 1) Associated Parcel Number
- 2) number of stories (above/below)
- 3) building to land ratio



4.3 Proposed Korea Profile in LADM

■ SpatialUnit



Owner Address	- Right(Superficies...)	Parcel Price	Parcel ID	Original Control Code
Owner Name	- Constraint	Parcel Price Date	Parcel Number	Control Point Name
Owner ID	- Responsibility	Building Price	ParcelType	Control Point Number
Owner Type		Building Price Date	Category	Survey Date of Control point
Share		KR_AddressType	Land Use	Survey Information
			Address	
			Scale	
			Area	Building Parcel Number
			Map Sheet Code	Building Constructure
			Index Number	Building Use
				Building Area
				Building Volume
				Utilities information

Cadastrre Reform Project

2nd List for Building

List for Building	classification	APN ¹⁾	structure	use	NOS ²⁾	area (m ²)	BTLR ³⁾
	buildingbook						FAR ⁴⁾
		880-4	concrete	house	2/1	400	

Building Parcel Number
Building Constructure
Building Use
Building Area
Building Volume
Utilities information

TerrianLevel
Land Shape
Land Aspect

Topology*
Parcel Centroid*

4th List for LandUse State

Name	Land Use	Road Condition	terrain	other structure
Actual Investigation for LAND USE	Actual Land Use	one sided	gentle	-
	commerical	contact	slope	



4.4 Proposed Korea Profile in LADM

Surveying and Representation



Owner Address Owner Name Owner ID Owner Type Share	- Right(Superficies...) - Constraint - Responsibility	Parcel Price Parcel Price Date Building Price Building Price Date KR_AddressType	Parcel ID Parcel Number ParcelType Category Land Use Address Scale Area Building Parcel Number Building Constructure Building Use Building Area Building Volume Uilities information	Original Control Code Control Point Name Control Point Number Survey Date of Control point Survey Information Survey Metadata
--	--	---	---	---

Cadastre Reform Project

6th List for Surveying

contents of investigation	data	date	2012. 1. 1	CONTENT of SURVEY	date of notification	2013. 2. 1	reason of comment	
	investigatn	name	Park Jawon		date of resurveying	2013. 2. 15		
	field	date	2012. 3. 1		date of 2 nd notification	2013. 2. 16		
	investigatn	name	Song MinJu		date of 2 nd resurveying	2013. 3. 1		
					date of 3 rd notification	2013. 3. 15		
					date of 3 rd resurveying	2013. 3. 16		
	Comment	Disatched			survey	surveyor		Shin Yun Ho
						date of surveying		-
						inspector		Kim Ok GIL

TerrianLevel
 Land Shape
 Land Aspect

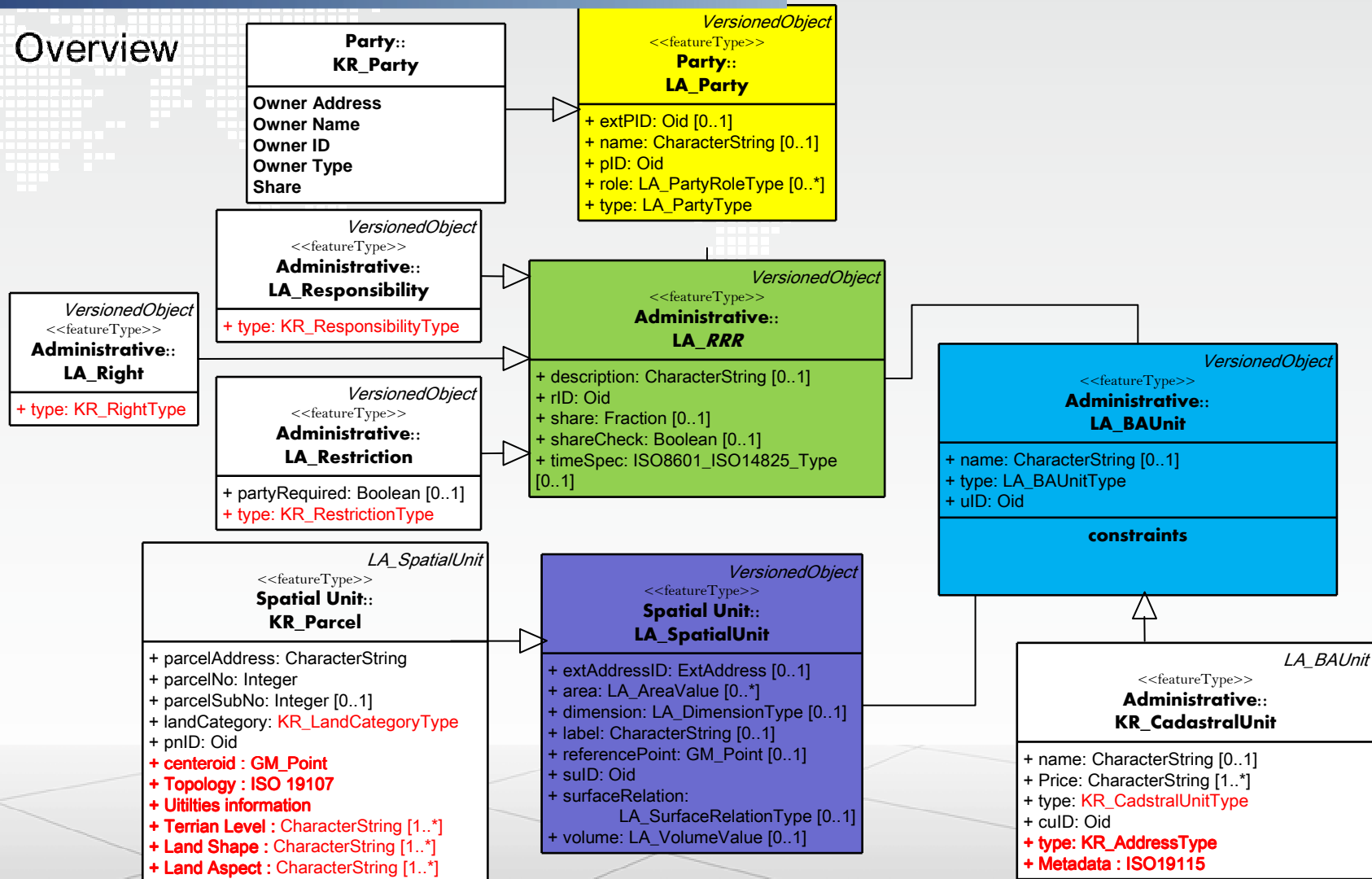
Topology*
Parcel Centroid*





4.5 Proposed Korea Profile in LADM

Overview





5. Conclusion

- **Proposed Cadastre Model reflects the extension of Korea Reform Project on Land**
 - List for Lands
 - List for Landuse
- **3D cadastre parts are added for land registration**
 - List for Buildings
 - List for Underground facilities
- **Further Studies**
 - Korea Address system is on the way to New address system
(parcel information is integrated to Road address system)

