

Addressing system and postcode in Korea

1st Myanmar-Korea ICT Collaboration Conference & Exhibition (M+K ICCE 2019)

September 5th, 2019



Postal & Logistics ICT Research Section
Smart ICT Convergence Research Department,
Intelligent Convergence Research Laboratory

218 Gajeong-ro, Yuseong-gu, Daejeon, 34219, Korea (KOR)

CONTENTS



34129

- Addressing system
- Postcode system
- Address and postcode management
- Conclusion

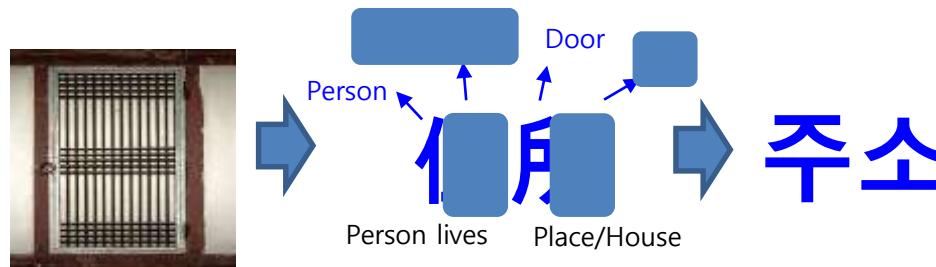
Addressing system in Korea

1st Myanmar-Korea ICT Collaboration Conference & Exhibition (M+K ICCE 2019)

Introduction to address in Korea (1/2)

○ Definition of Address (주소, 住所)

- ❑ **The place** where a **person lives**, an institution, a company, etc. is represented in the administrative district. [2]
- ❑ However, it was also used to express the **land in terms of taxation**



○ Type of addressing system

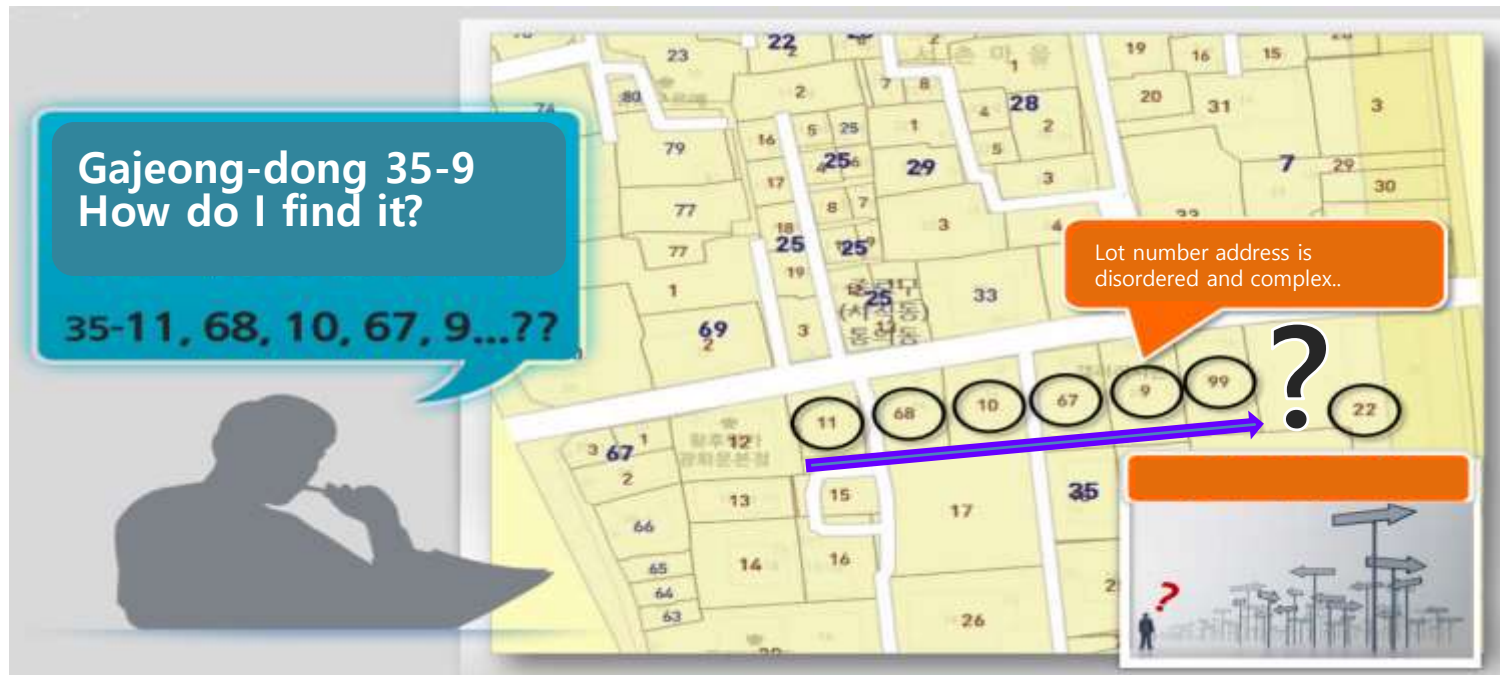
- ❑ Lot number address
 - **Assigns number to land** after dividing a whole into several small size
 - Merging and splitting of land happens change over time
- ❑ Road name address
 - **Assigns number to house** after building it on land
 - Extends or dismantles building happens with time flow
 - Used in most countries around the world

Introduction to address in Korea (2/3)

○ Problem of previous addressing system in Korea [3]

□ Lot number address

- Rapid economic growth leads to explosive land transactions until the 1980s
- Land changes its shape by merging or splitting part of it several times
- **By doing so, searching address in lot number address was difficult**



Introduction to address in Korea (2/2)

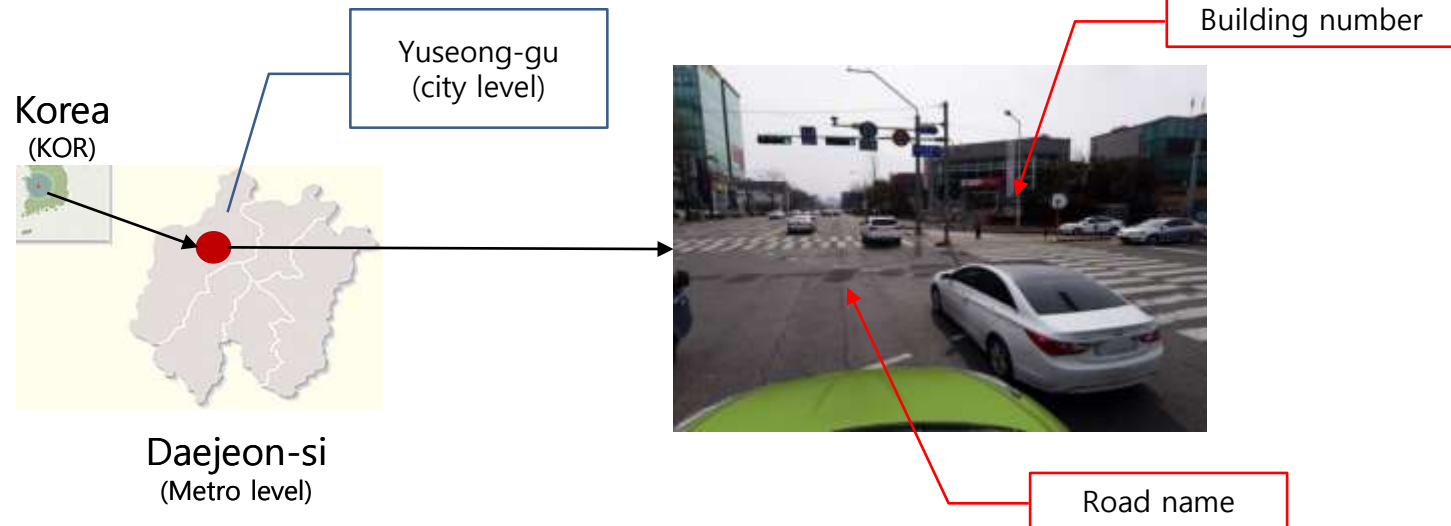
○ New Addressing System in Korea

□ Road name address [1]

- All the roads and streets are assigned to identify names
- Buildings are assigned as building numbers on a regular basis by road name

□ Basic address scheme

[Administrative district name section] + [Road name section]



Assignment of road name address (1/6)

Description about road names and building numbers



Road names

Streets are distinguished by width;

Daero(over 8 lanes), Ro(2~7 lanes), Gil(others)

Building numbers

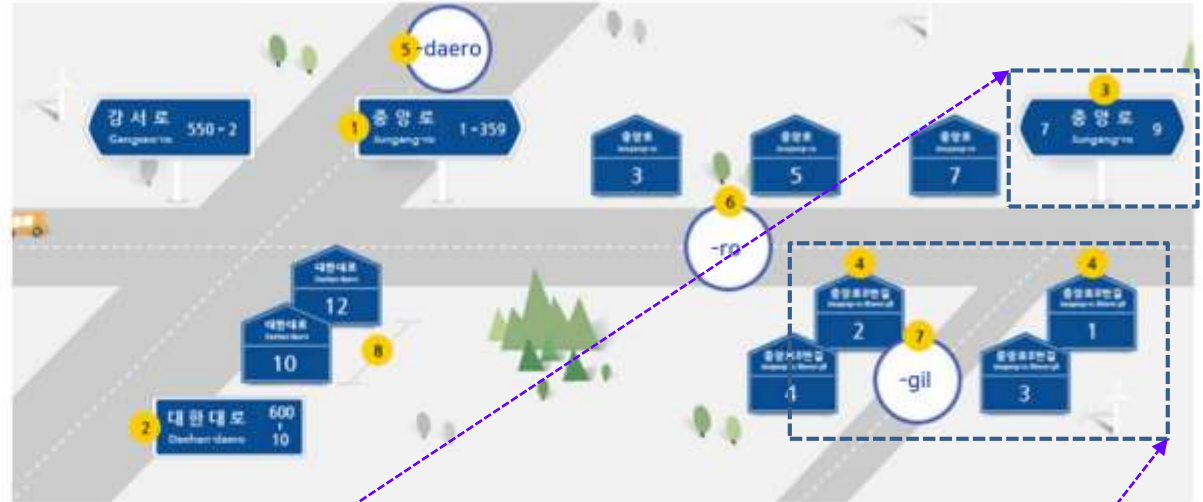
Within every 20m, buildings are assigned numbers in ascending order; Odd numbers on the left side and even numbers on the right side

Street Blocks

Considering straightness, directions are established
in west -> east, south -> north

Building numbering

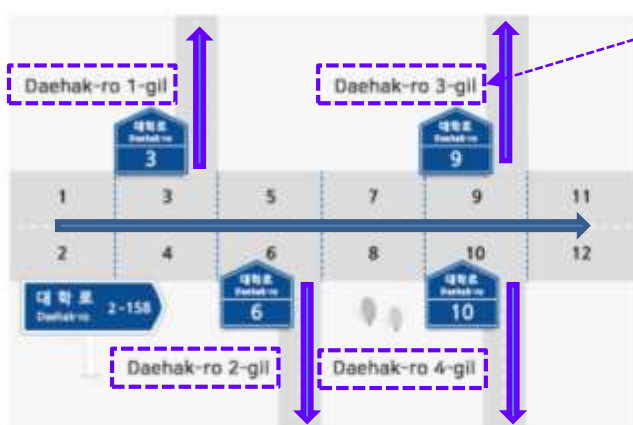
Priority is given to the road name closest to the main entrance of a building (all existing buildings in use are assigned building numbers)



- 1 Current position is the starting point of the 'Jungang-ro'. The starting point is 1 and the end point 359.
- 2 Current position is 'Daehan-daero'. The direction from 10 to 600
- 3 Current position is Intersection. Buildings numbered below 7 are on the left(-), and buildings numbered over 9 are on the right(-)
- 4 Odd numbers on the left side and even numbers on the right side
- 5 -daero is a road with over 8 lanes
- 6 -ro is a road with lanes between 2 and 7 lanes
- 7 -gil is a road narrower than -ro
- 8 The distance between buildings is about 20m

Assignment of road name address (2/6)

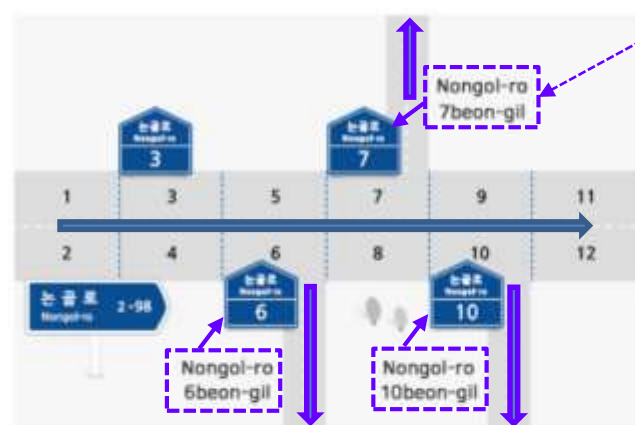
1 Road Name



Serial numbering

-daero/ -ro(road name)
+ serial number + -gil

A serial number is assigned to -gil diverging from -daero/ -ro, based on -daero/-ro in number order



Basic numbering

-daero/ -ro(road name)
+ basic number + -gil

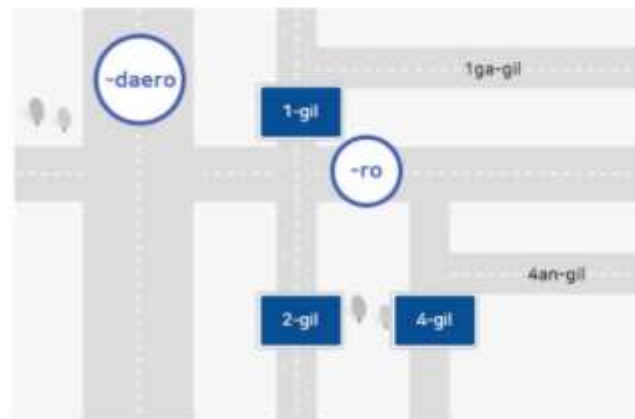
Gil number is assigned based on the -daero/ -ro in number order



Other numbering

1-gil, 2-gil, 3-gil...

A serial number is assigned to '-ro/ -gil' reflecting local characteristics



Numbering for additional divergence

OO-ro 3Ga-gil, OO-ro 3Na-gil...

Ga, Na, Da...-gil names are assigned to the roads diverging from -gil in basic numbers or serial numbers

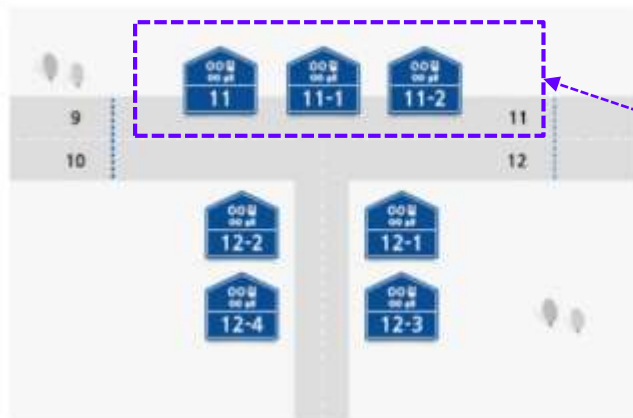
Assignment of road name address (3/6)

2 Building number



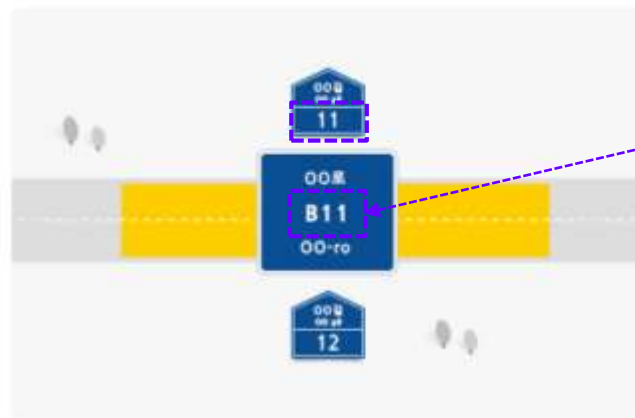
A building number is assigned following the bigger street's name in case there are two main entrances on two different streets

※Upon request from a building owner, the main entrance and building number can be changed.



[] Sub-numbering**

- In case of several buildings in one block
- In case of a diverging road in one block



Underground

In case of a store located underground, 'B' or 'Jiha' sign is added in front of a building number

Assignment of road name address (4/6)

3 Detailed Address (1/3)

-dong number

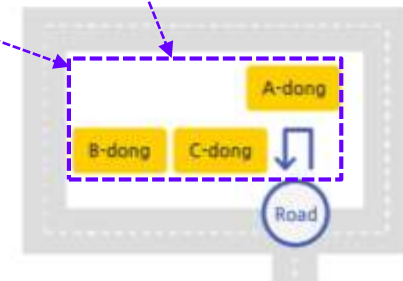
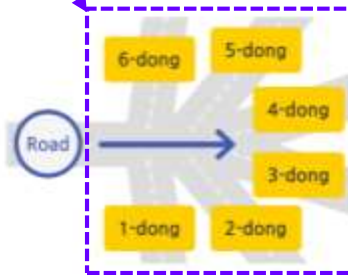
※ Starting from the main entrance, numbers are assigned in counterclockwise direction [remarks] → : Direction of entry

Serial numbers are assigned in Arabic numerals or Korean letters (101-dong, 102-dong, 103-dong/ Ga-dong, Na-dong, Da-dong--)

Line Pattern

Tree Pattern

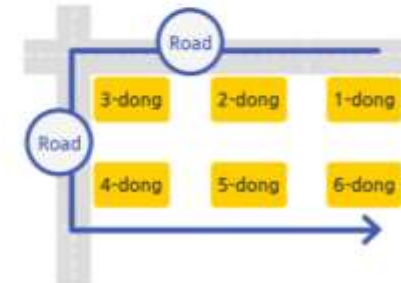
Square Pattern



Parallel Pattern

Circle Pattern

Matrix Pattern



[1] ____, "Introduction Road Name Address", Ministry of the Interior and Safety, 2019.

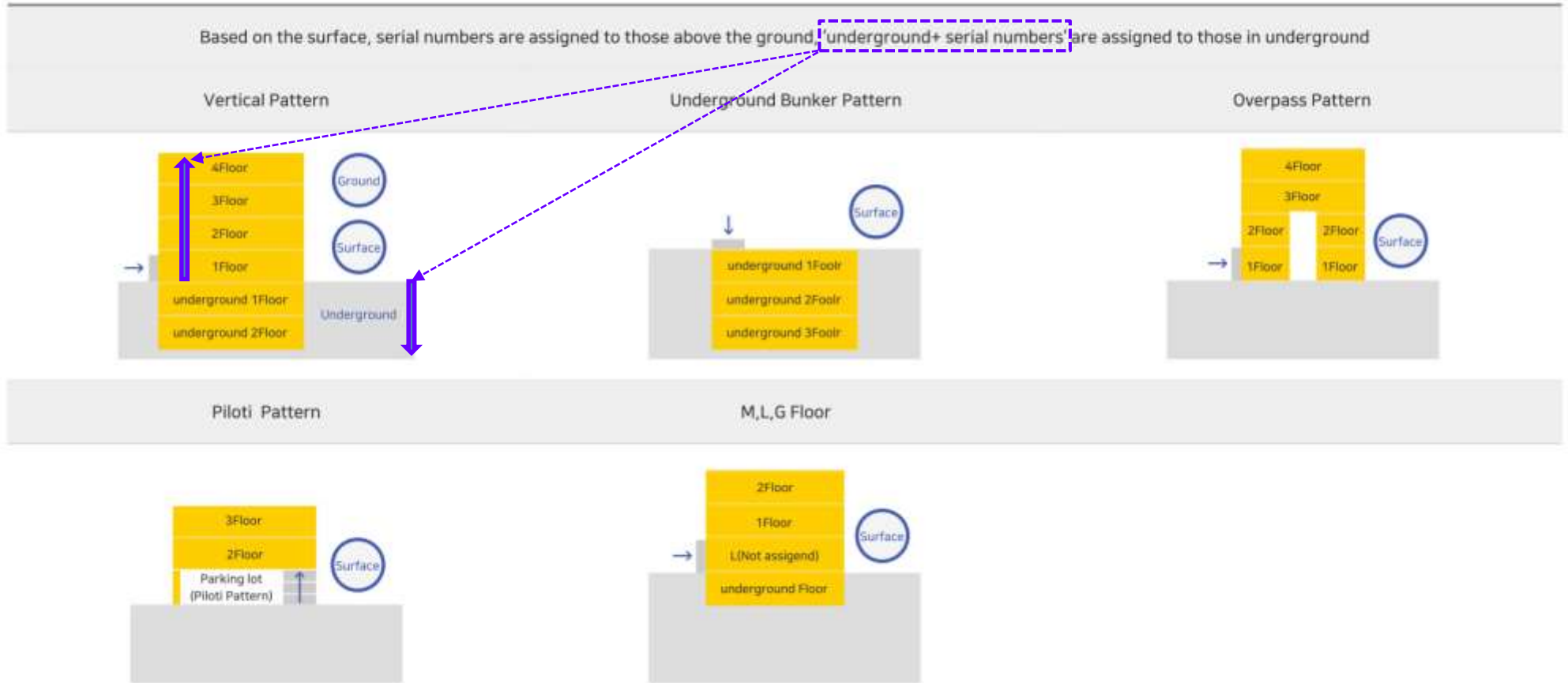
- dong stands for sequential number of buildings in block. (synonym is wing)

Assignment of road name address (5/6)

3 Detailed Address (2/3)

Floor

※in case there's only one basement, Only 'B'(without floor number) is assigned to the basement, [Remarks] → : Main entrance



[1] ____, "Introduction Road Name Address", Ministry of the Interior and Safety, 2019.

- -cheung stands for floor.

Assignment of road name address (6/6)

a Detailed Address (3/3)

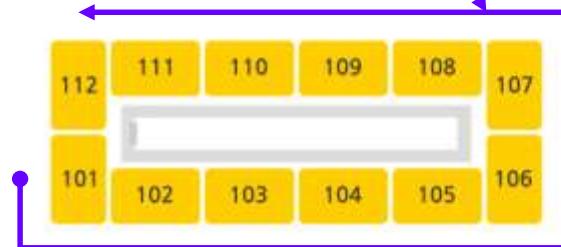
-ho

※ Starting from the main entrance, numbers are assigned in counterclockwise direction [remarks]  : Main entrance

Arabic numerals are assigned in orders (101-ho, 102-ho.../1-ho, 2-ho.../B1-ho, B2-ho.../B101-ho, B102-ho...)

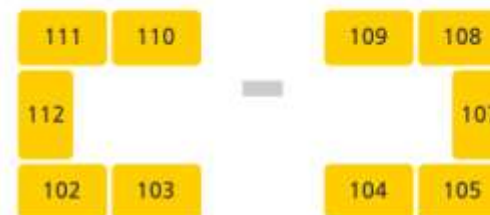
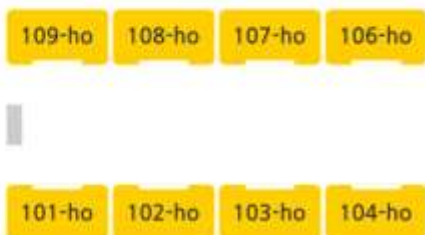
Line Layout

Spiral Layout



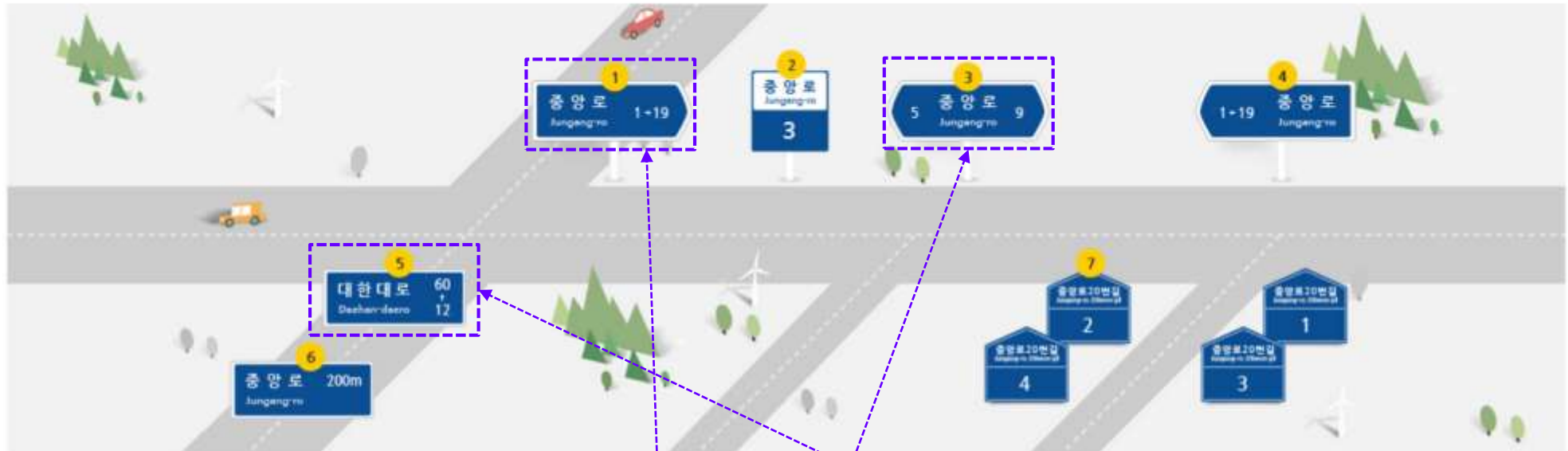
Parallel Layout(except nonpreferred number)

H-shape Layout



Interpretation of road name address sign (1/3)

Interpretation of Road Name sign



1 START POSITION Current position is the starting point of the 'Jungang-ro'.

2 BASIC NUMBER SIGN Location signs based on the Road Name address. Current position is 'Jungang-ro 3'

3 INTERSECTION It is installed at an intersection, Buildings numbered below 5 are on the left(←), and buildings numbered over 9 are on the right(→)

4 END POSITION Current position is the ending point of the 'Jungang-ro'.

5 CURRENT ROAD Current position is 'Daehan-daero 12'. The direction from 12 to 60(↑)

6 ROAD AHEAD SIGN Jungang-ro is 200m ahead from the current position

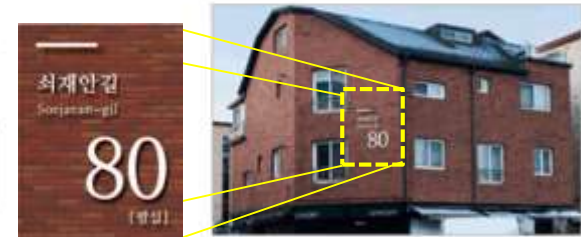
7 BUILDING NUMBER SIGN It consists of a road name and a building number

Interpretation of road name address sign (2/3)

Building number sign



Various Building number signs



[1] ____, "Introduction Road Name Address", Ministry of the Interior and Safety, 2019.

- [A] Road name [B] Building number

Interpretation of road name address sign (3/3)

Road Name sign

	<p>START POSITION</p> <p>Gangnam-daero</p> <p>'-daero' means a boulevard, starting position</p> <p>1 →</p> <p>Current position is a street starting position '1'</p> <p>1 → 699</p> <p>The length of 'Gangnam-daero' is 6.99km (699 X 10m)</p>		<p>END POSITION</p> <p>Daejeong-ro 23beon-gil</p> <p>A road diverging beside 230m of 'Daejeong-ro' starting point</p> <p>← 65</p> <p>Current position is the end of Street '65'</p> <p>1 ← 65</p> <p>The length of 'Daejeong-ro 23beon-gil' is 650m (65 X 10m)</p>
	<p>Intersection</p> <p>Jungang-ro</p> <p>'Jungang-ro' is at the intersection ahead</p> <p>92</p> <p>Buildings numbered under 92 are on the left</p> <p>96</p> <p>Buildings numbered over 96 are on the right</p>		<p>Direction</p> <p>Saimdang-ro</p> <p>This position is in the middle of the street 'Saimdang-ro'</p> <p>92 →</p> <p>Current position is Street 92</p> <p>92 → 250</p> <p>The remaining distance is 1.5km ((250-92) X 10m)</p>

English notation of road name address

Notation format is from detailed address -> to big district.

Complements such as a neighborhood name or an apartment-name can be eliminated for brief notation. If necessary, complements are written in brackets in front of the detailed address.

Example) (Gwangjang-Dong, Sindo APT), 101-Dong 102-ho, 78,
Gwangnaru-ro 507-gil, Gwangjin-gu, Seoul

Notation Format for main districts

District Name

Following Romanization rules for Korean letters, district names are written in Romanization.
In case of Seoul (called a special city) and metropolitan cities, -si can be eliminated.

Example)

서울특별시 강남구 강남대로10길 109
109, Gangnam-daero 10-gil, Gangnam-gu, Seoul

[E] When '-si' exists in the highest level, it can be omitted (Ex) Seoul-si → Seoul

Road Name Address

Road Name Address is written in Romanization.
Road Name Address includes '-daero, -ro, -gil(beon-gil)
※ If necessary, English abbreviations (Bld. St. Rd.) are applied.

Example)

경기도 양주시 시민로5번길 18
18, Simin-ro 5beon-gil, Yangju-si, Gyeonggi-do

[1] ____, "Introduction Road Name Address", Ministry of the Interior and Safety, 2019.

Detailed Address

'-dong', 'floor', '-ho' are written in Romanization.

Example)

대구광역시 수성구 달구벌대로323번길 56, 705동 1104호
① 705-dong 1104-ho, 56, Dalgubeol-daero 323beon-gil,
Suseong-gu, Daegu
② 705-1104, 56, Dalgubeol-daero 323beon-gil, Suseong-gu, Daegu
강원도 춘천시 퇴계로77번길 42, 3층
③ 3-cheung, 42, Toegye-ro 77beon-gil, Chuncheon-si, Gangwon-do

[A] 5th building of 7th apartment complex (block)

[B] 11th floor, 4th house (main entrance)

[C] Abbreviation of "705-dong 1104-ho"

[D] 3rd floor

Facilities of road name address in Korea

Building number sign in front of building



Road name sign on the road



Volume of road name address data



Number of road name address

6, 2 7 0, 7 2 2

As of June 30th, 2019

<https://www.juso.go.kr/statis/statisMain.do>



Number of road name

1 6 4, 2 1 1

- ✓ Total : 164,211
- ✓ daero : 294
- ✓ ro : 15,724
- ✓ gil : 148,193

Postcode system in Korea

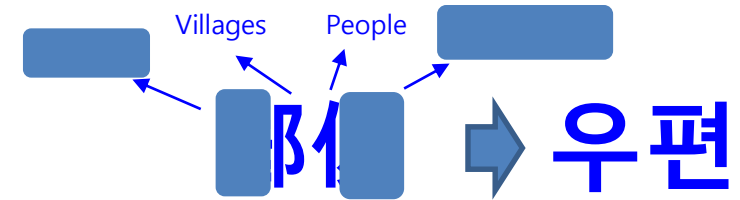
1st Myanmar-Korea ICT Collaboration Conference & Exhibition (M+K ICCE 2019)

Introduction to postcode in Korea (1/3)

○ Postal service (Mail, 우편, 郵便)

- **Sending mail or other goods** to the country or the world under the jurisdiction of the government

• <https://ko.dict.naver.com/#/entry/koko/62f2a8736cd442918cf8e8cd37e8782b>



○ History of Korea Post

- **Open Postal office(우정총국, 郵政總局) in Korea : April 22nd 1884**
- Introduction to Postcode (5 digit) : July 1st 1970
- Amendment of Postcode : February 1988 (6 digit), May 2000 (Ext. 6 digit)
- **New version of Postcode : August 2015 (5 digit)**



• <http://www.koreapost.go.kr/postmuseum/index.do>

Introduction to postcode in Korea (2/3)

Problem

Different systems are used in many government department

Cause difficulty

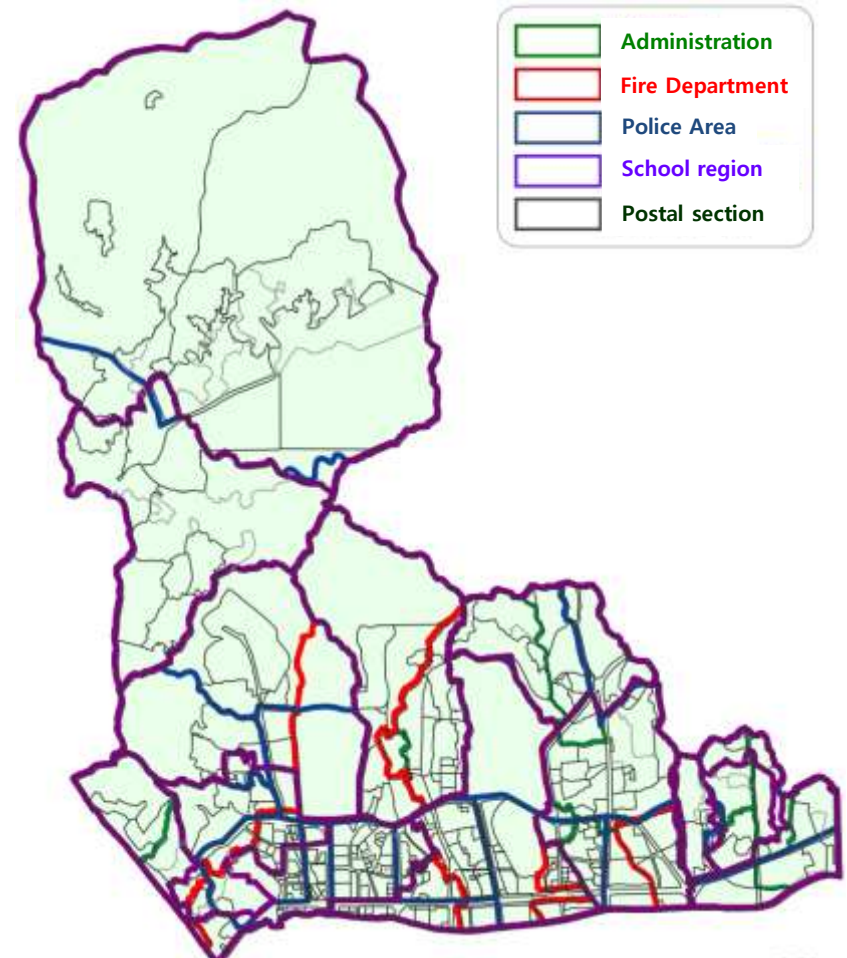
- **in sharing statistics** on block because of lack of common rules

Low information utilization

- Limitation due to broad basic administration service areas

Adjustment-related cost

- Increase owing to frequent changes in administrative sectors



Introduction to postcode in Korea (3/3)

Solution

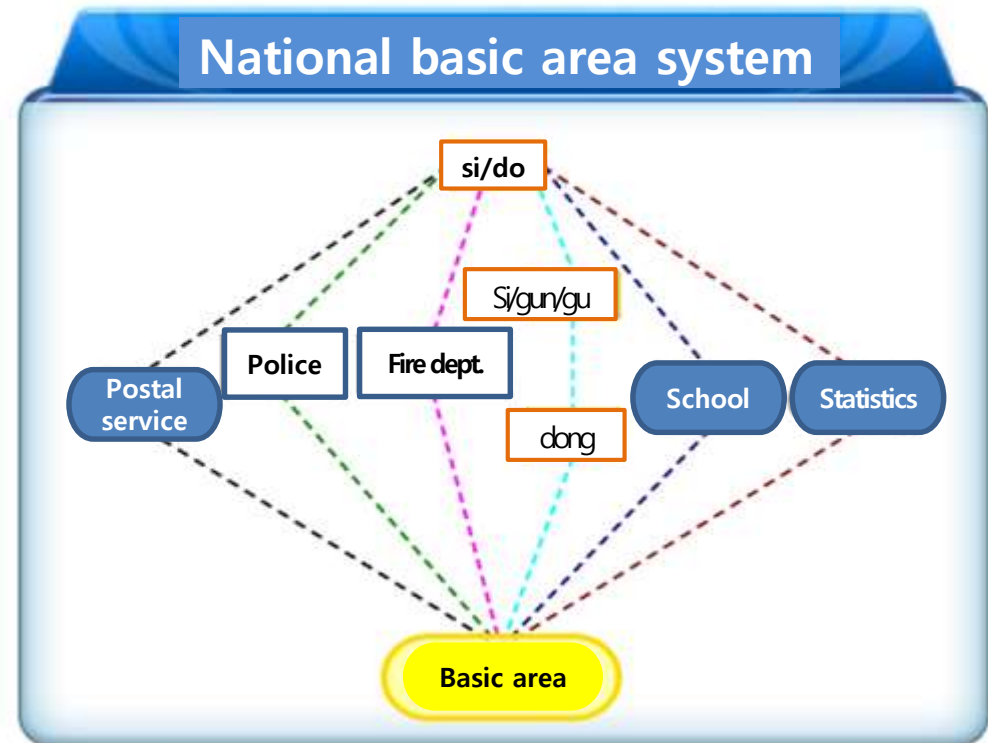
National basic area system
by MOIS on Dec. 2012

Assignment rule

- Division of the nation into minimal **district areas**
- Based on both geographical layouts and administrative boundaries
- Approximately **34,443** (01000~63643)

Profit

- Provide a common district area unit for public and private sectors



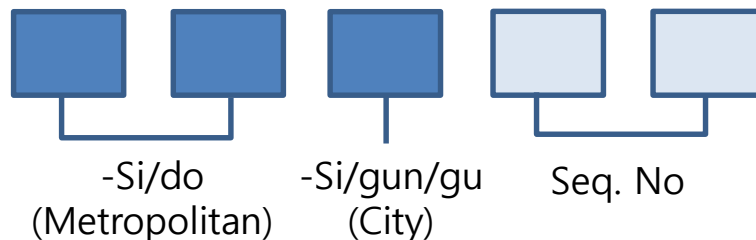
Korea Post uses the national basic area code as new postcode since August 2015.

- MOIS : Ministry of the Interior and Safety

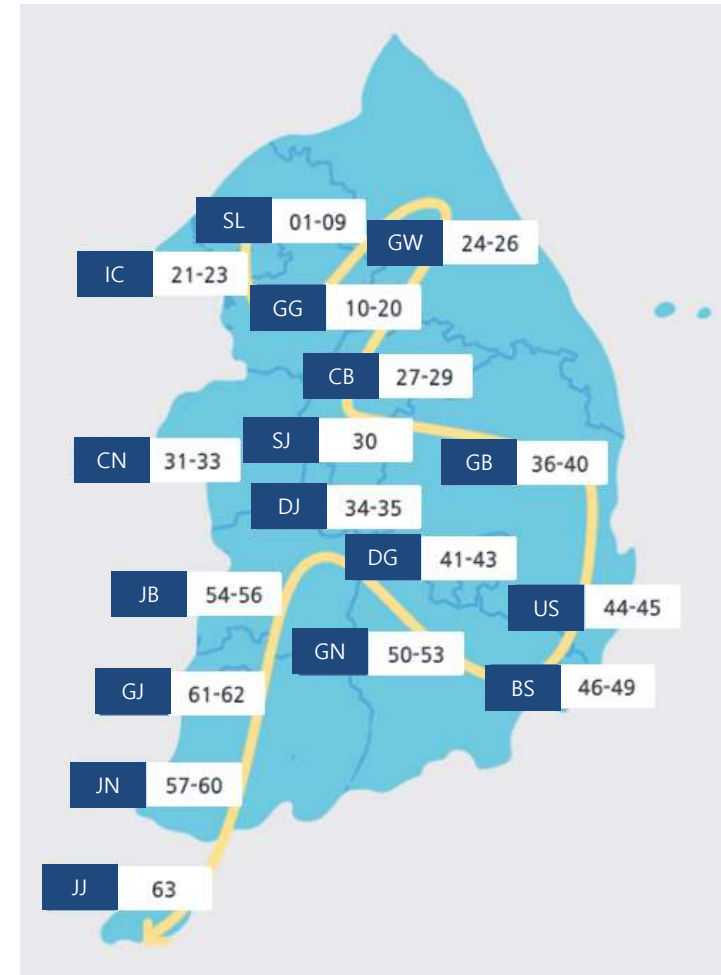
National basic area code (1/2)

○ Assignment rule

Item	Contents
Method	<ul style="list-style-type: none"> From "NORTH' to 'SOUTH' Snake route
Definition	<ul style="list-style-type: none"> Smaller area than district area (-Eup/-Myeon) based on below criteria
Criteria	<ul style="list-style-type: none"> Population of resident and employee Rate of buildings by usage
Code	<ul style="list-style-type: none"> National basic area code (means the number assigned to each basic area)



Postcode scheme



<https://www.juso.go.kr/statis/statisMain.do>

National basic area code (2/2)

○ National basic area (code table)

Si/do	First 3 digits	Si/do	First 3 digits	Si/do	First 3 digits
Seoul	010~089	Gyeonggi	100~187	Incheon	210~231
Gangwon	240~265	Chungbuk	270~291	Sejong	300~301
Chungnam	310~336	Daejeon	340~354	Gyeongbuk	360~402
Daegu	410~430	Ulsan	440~451	Busan	460~495
Gyeongnam	500~533	Jeonbuk	540~564	Jeonnam	570~598
Gwangju	610~624	Jeju	630~636	-	-

Address and postcode notation on envelope

○ Road name address in Latin-English on postal **envelope**

Line	Content	
1	Name	Mandatory
2	Department name', Organization name	Optional
3	Detailed address (' Reference items ') or P.O.Box	Optional
4	Building number ', Road name ', District name	Mandatory
5	SEOUL Postcode Rep. of KOREA	Mandatory

[Example]

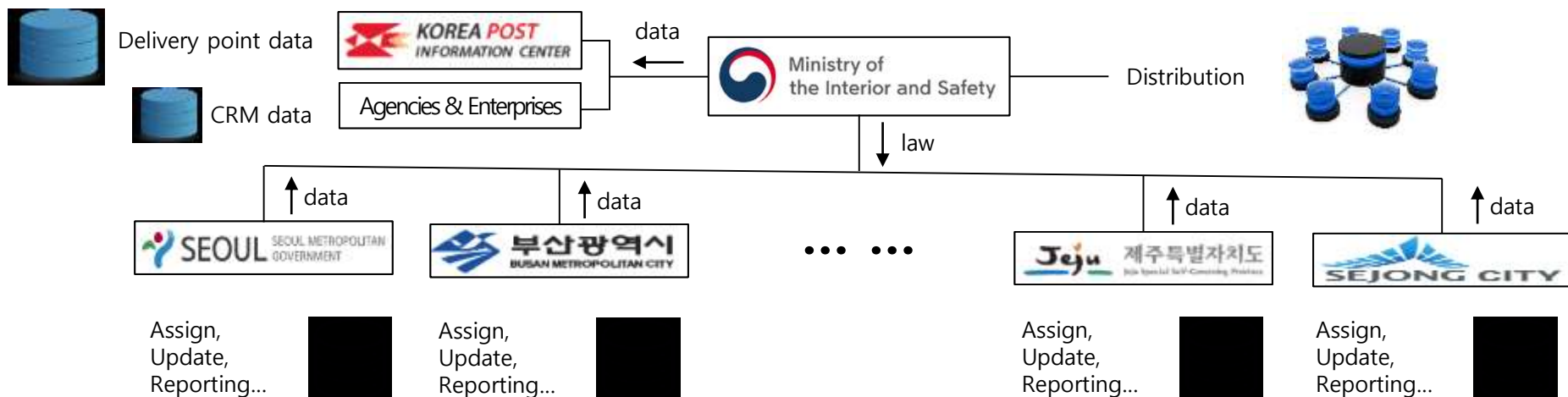
Line	Content
1	Mr. Gil Dong HONG
3	131-dong, 1001-ho (Eoeun-dong, Hanbit Apt.)
4	57, Eoeun-ro, Yuseong-gu, Daejeon
5	SEOUL 34140 Rep. of KOREA

Address and Postcode Management in Korea

1st Myanmar-Korea ICT Collaboration Conference & Exhibition (M+K ICCE 2019)

Related departments in Korea

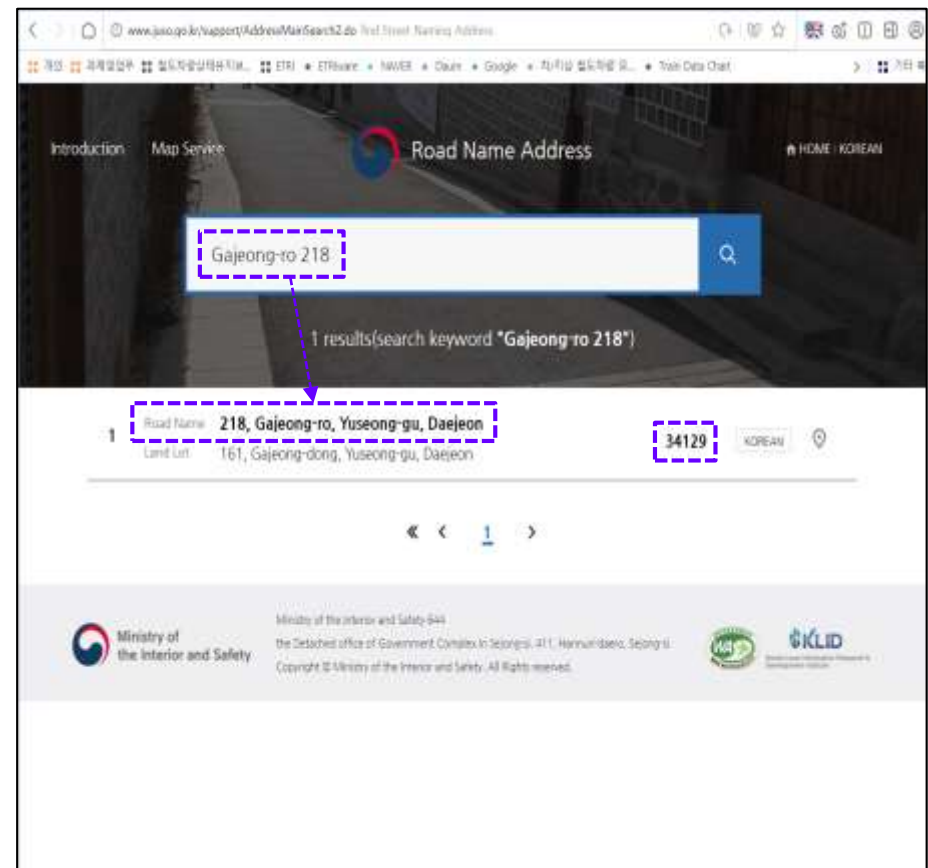
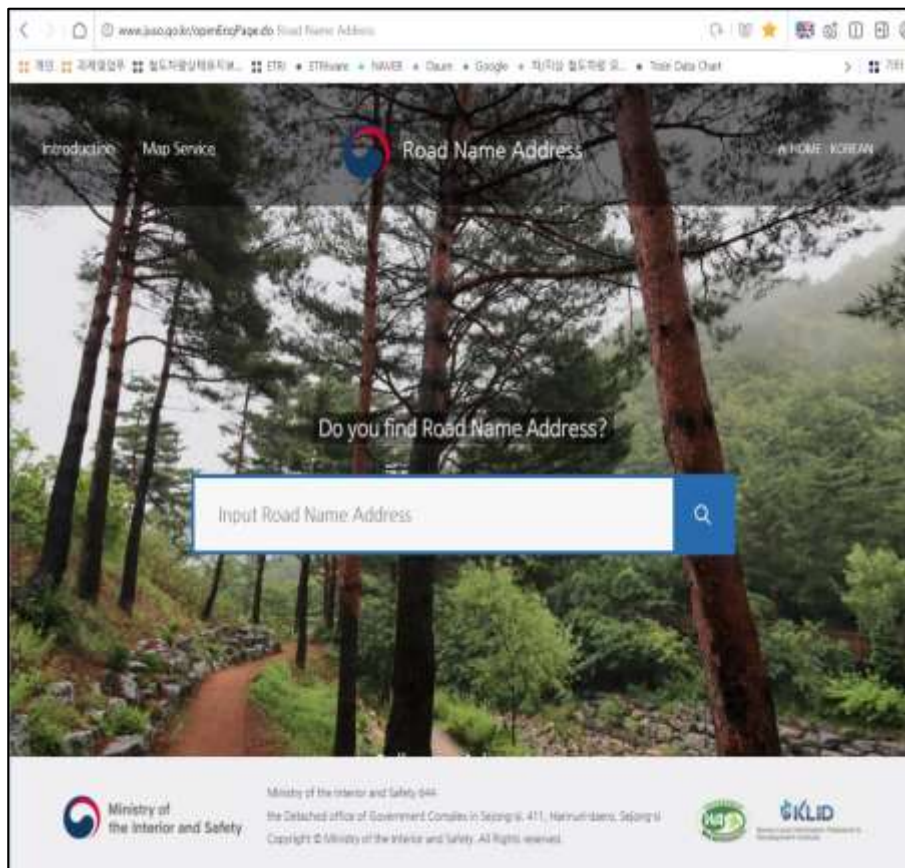
- MOIS (Government department)
 - **Legislates law and design architecture of executing system**
 - Reviews and distributes road name address data files (monthly)
- Municipalities (Self-governing communities)
 - **Assign both road name address and national basic area code**
 - Reporting and sending data to the government
- Korea Post (Government department under MOIT)
 - Downloads road name address data, and **manages delivery point database** and so on



Searching address of MOIS (1/2)

○ Searching road name address service

□ Online service site : <http://www.juso.go.kr/openEngPage.do>

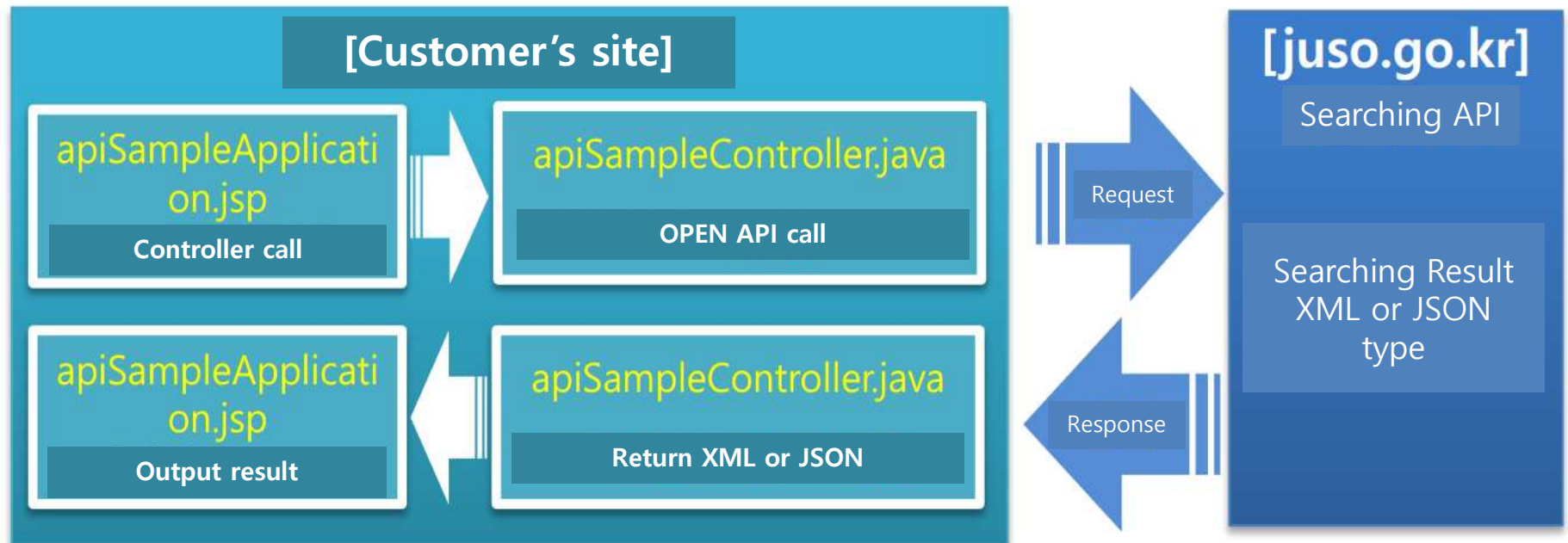


Searching address of MOIS (2/2)

○ Web service for developer

- Open API for searching road name address
- Service site : <http://www.juso.go.kr/addrlink/devAddrLinkRequestGuide.do?menu=engRoadApi>
- Sample data

<http://www.juso.go.kr/addrlink/addrEngApi.do?currentPage=1&countPerPage=10&keyword=Gajeong-ro&confmKey=TESTJUSOGOKR>



Searching postcode of Korea Post (1/2)

○ Searching postcode service

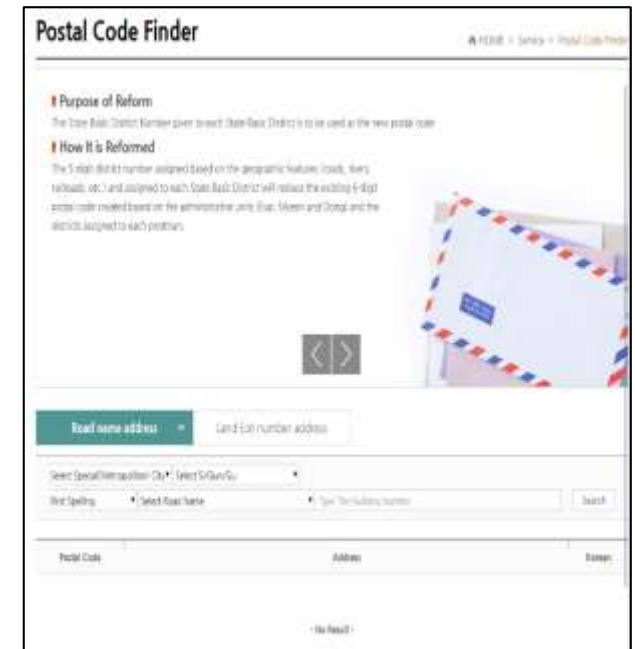
- ❑ **Online service site** : www.epost.go.kr (Searching postcode for address)
- ❑ **Offline service S/W** : Zipbook.exe (Searching and Assigning postcode to address)
- ❑ **English service site** : <https://www.epost.go.kr/main/eng/roadAreaCdEng.retrieveRdEngAreaCdList.comm>



[Online service site]



[Offline service S/W]



[English service site]

Searching postcode of Korea Post (2/2)

○ Downloading postcode file service

□ Online service site

- <https://www.epost.go.kr/search/zipcode/areacdAddressDown.jsp>

□ Information

- File type : Text (CSV, vertical bar separated)
- File name : zipcode_DB.zip
- File Size (MB) : 105.7 MB (compressed)
- Number of file : 17 (uncompressed)
 - (group by metropolitan (si/do) level)
- Record number : 6.27 million records
- Contents : Postcode and road name address

□ Usage

- For enterprise (CRM related service)

- CSV : Comma separated value
- DB : Database
- CRM : Customer relationship management



[Download zipcode_DB (Korean version)]

Conclusion

1st Myanmar-Korea ICT Collaboration Conference & Exhibition (M+K ICCE 2019)

Summary

○ Address

□ A tool to **represent the location of person lives**

- The **road name address launched in Korea** from January 2014
- The road name address consists of road name, building number and district name

○ Postcode

□ **Help users to search address** and assist automatic mail processing

- New **postcode system has been launched** from August 2015 in Korea
- It is used in receipt job at post office and sorting task at mail center
- The official online site of Korea Post(epost) supports the searching postcode S/W



Thank you
고맙습니다

Go-map-seup-ni-da



ETRI
Electronics and Telecommunications
Research Institute

National AI Research Institute – Making a better tomorrow

Postal & Logistics ICT Research Section
218 Gajeong-ro, Yuseong-gu, Daejeon, 34219, Korea (KOR)