Experience in the Establishment and Service of the MDIS

26 September 2017

Junwoo Jeon

Statistics Korea

Contents

1. Introduction
- MDIS Timeline
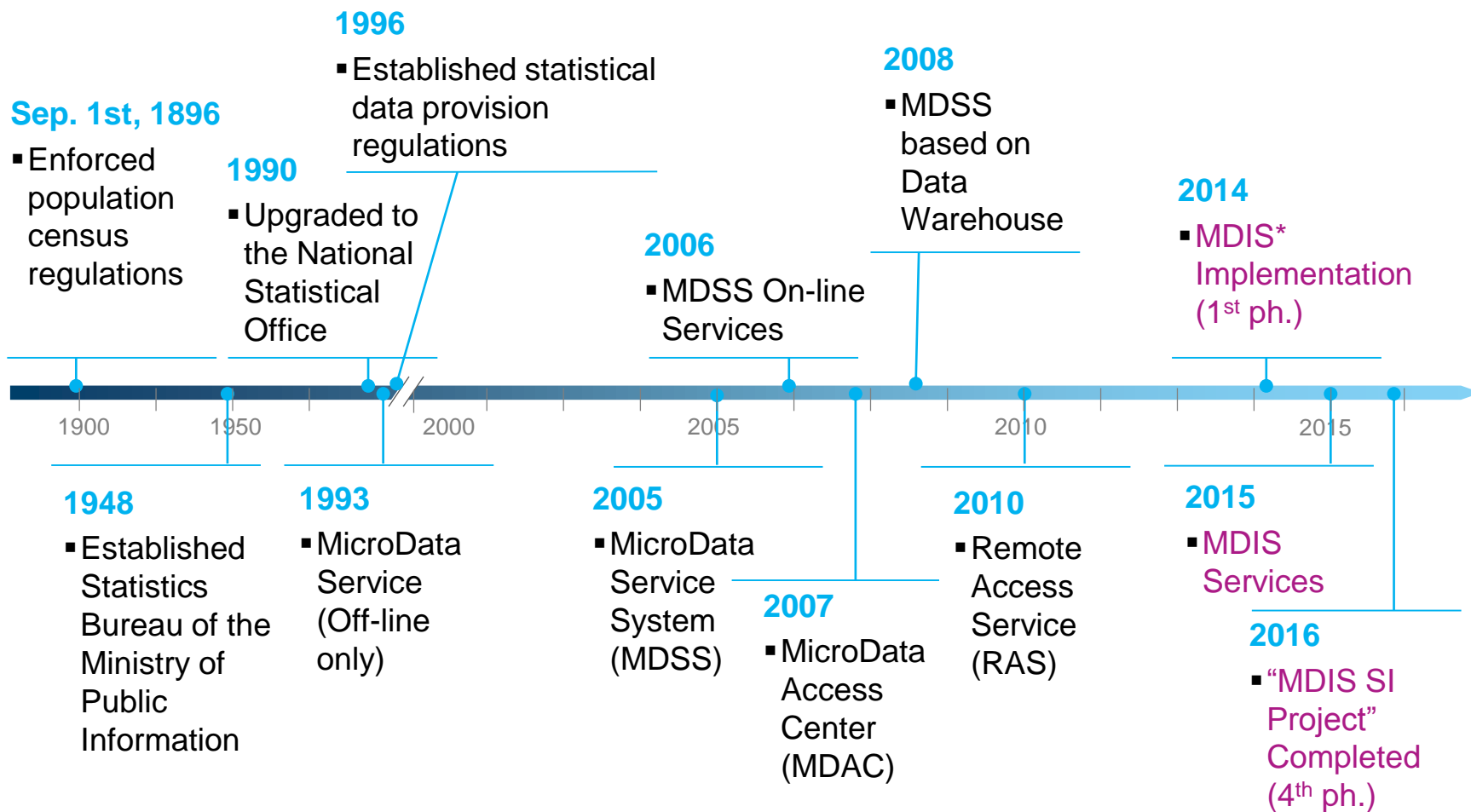- MDIS Implementation Project
- MDIS Services

2. MDIS Overview
- Types of provided Services
- How to Use?

3. MDIS Value Proposition
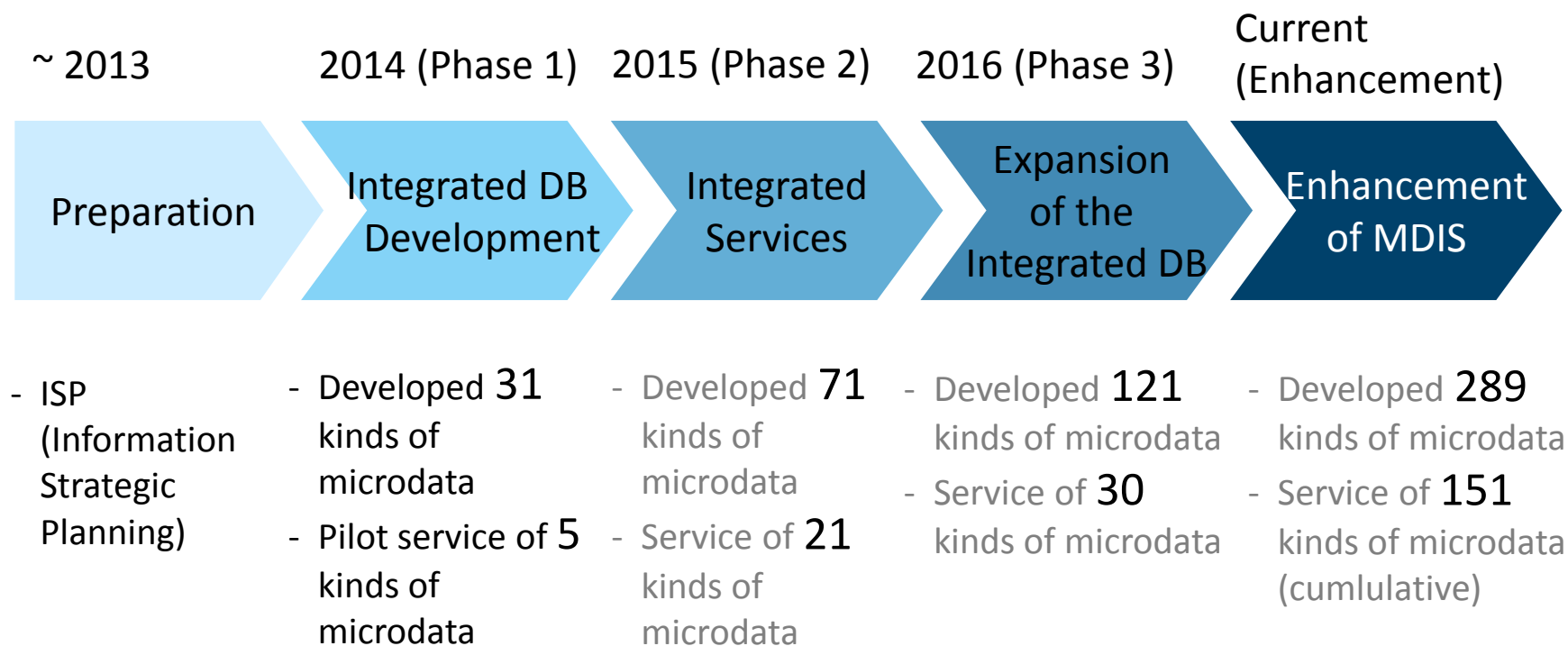- Who is using MDIS?
- What do they do with MDIS?

4. Next Step

Statistics Korea

MDIS | Timeline

1996
- Established statistical data provision regulations

Sep. 1st, 1896
- Enforced population census regulations

1990
- Upgraded to the National Statistical Office

2008
- MDSS based on Data Warehouse

2006
- MDSS On-line Services

2014
- MDIS* Implementation (1st ph.)

Timeline axis: 1900 — 1950 — 2000 — 2005 — 2010 — 2015

1948
- Established Statistics Bureau of the Ministry of Public Information

1993
- MicroData Service (Off-line only)

2005
- MicroData Service System (MDSS)

2007
- MicroData Access Center (MDAC)

2010
- Remote Access Service (RAS)

2015
- MDIS Services

2016
- "MDIS SI Project" Completed (4th ph.)

* Microdata Integrated Service(MDIS)

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MDIS | MDIS Implementation Project

~ 2013	2014 (Phase 1)	2015 (Phase 2)	2016 (Phase 3)	Current (Enhancement)
Preparation	Integrated DB Development	Integrated Services	Expansion of the Integrated DB	Enhancement of MDIS

- ISP (Information Strategic Planning)

- Developed 31 kinds of microdata
- Pilot service of 5 kinds of microdata

- Developed 71 kinds of microdata
- Service of 21 kinds of microdata

- Developed 121 kinds of microdata
- Service of 30 kinds of microdata

- Developed 289 kinds of microdata
- Service of 151 kinds of microdata (cumlulative)

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MDIS | **One-Stop Service through MDIS**

https://mdis.kostat.go.kr

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# Integration | **More than 150 Data Sources**

Dispersed microdata storage

Was

Dispersed microdata management and service

Economy
Science
Culture
Labor
Industry
Welfare
Health
Housing
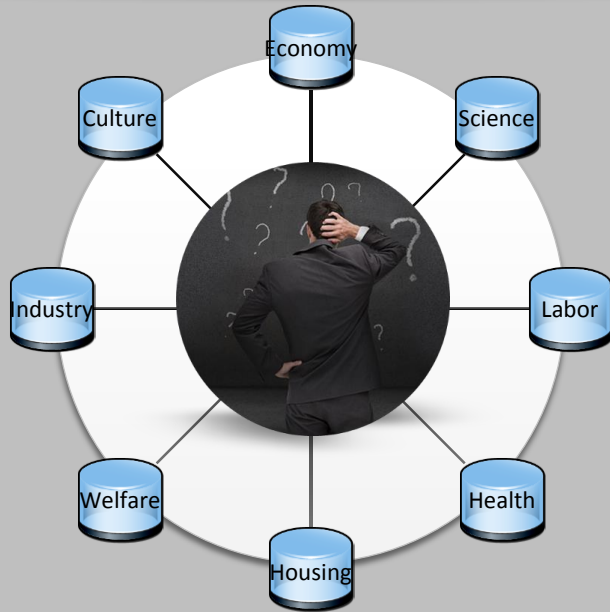
- Dispersed storage of data and risk of data loss
- It's not easy for users to make access to microdata.

Integrated storage of 289 kinds of official microdata and services of 151 kinds of microdata

Is

Microdata **Integrated** Service system

MDIS

289 kinds of microdata

Industry
Culture
Science
Economy
Labor
Housing
Health
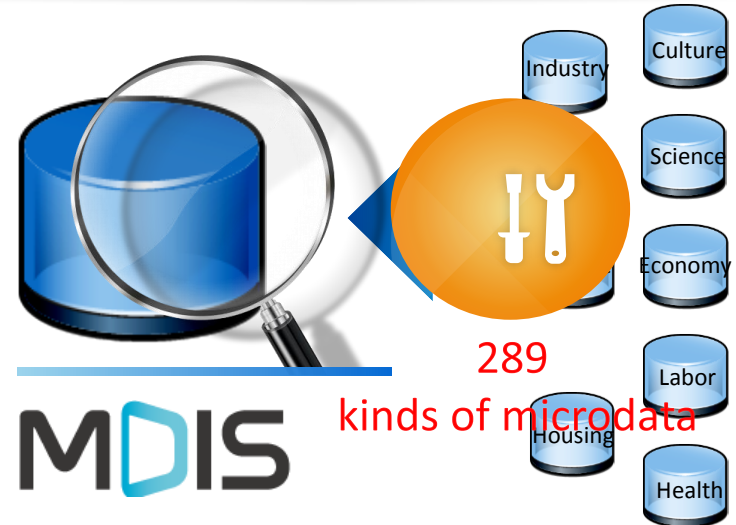
- Integrated management: Improved data quality and storage
- Integrated service: Improved users' access and convenience

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Integration | **Variety of Data Sources**
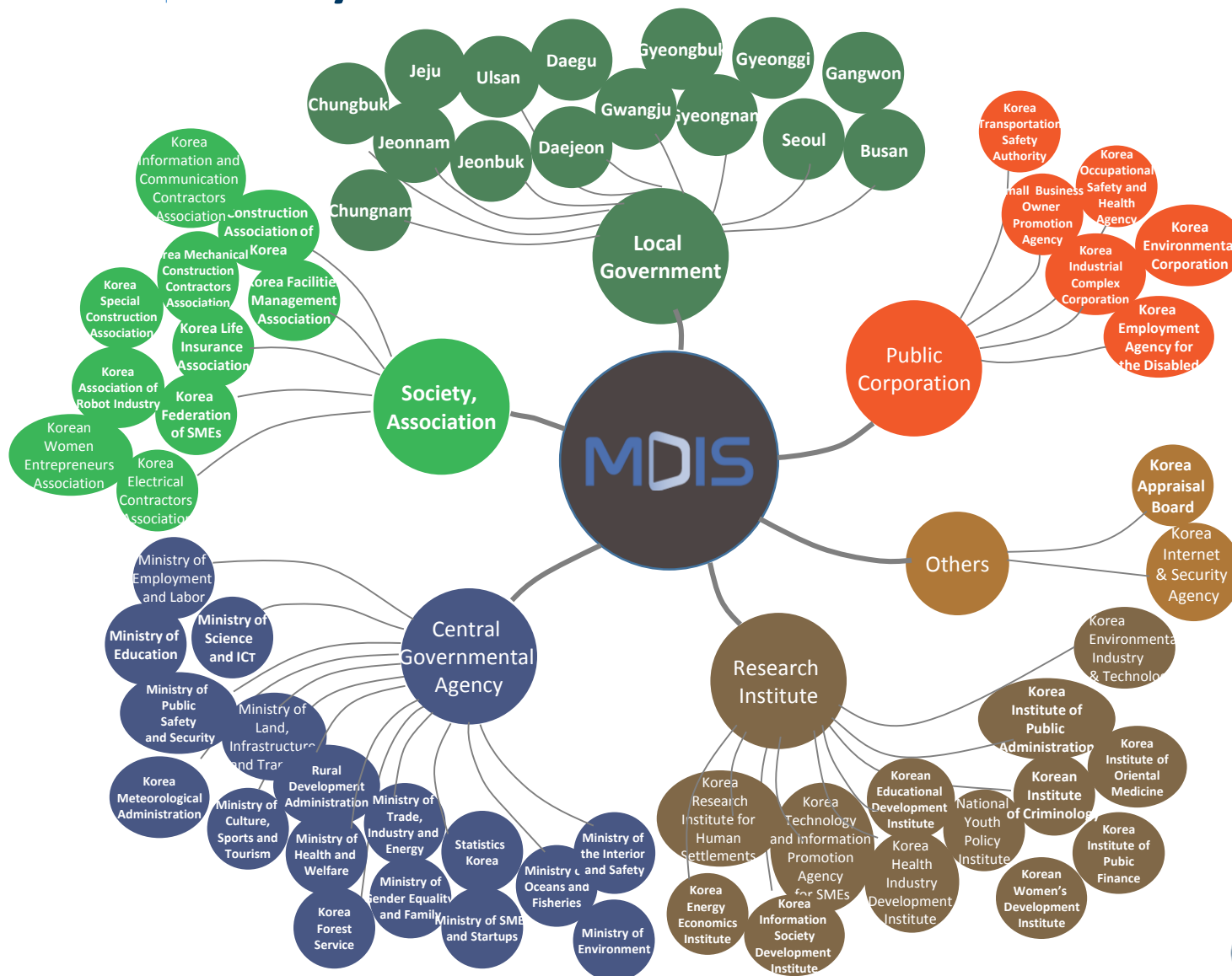
Integration | Variety of Data Contents

Population/Household

- Population and Housing Census
- Internal Migration Statistics
- Vital Statistics
- Family Survey, etc.

Employment

- Economically Active Population Survey
- Local Labor Force Survey
- Labor Force Survey by Occupation
- Labor Environment Survey, etc.

Income/Poverty

- Household Income and Expenditure Survey
- Consumer Price Survey
- Survey of Household Finances and Living Conditions, etc.

Family & Living Arrangement

- Causes of Death Statistics
- Childcare Survey
- Survey of the Elderly
- Domestic Violence Survey, etc.

Environment

- Korean Environmental Health Survey
- Environmental Technology Survey
- Terrestrial and Meteorological Statistics, etc.

Economy

- Economic Census
- Survey of Business Activities
- Business Trend Survey of Small Business Owners, etc.

Business (mining/manufacturing)

- Mining and Manufacturing Survey
- National Industrial Complex Statistics
- Robot Industry Survey, etc.

Business (retail/wholesale)

- Wholesale and Retail Trade Survey
- Service Industry Survey
- Traditional Market Business Management Survey, etc.

Housing

- National Housing Price Survey
- Consumer Sentiment Survey for the Real Estate Market
- Construction Survey, etc.

ICT/Transportation

- Mobile / Internet Usage Survey
- Road Traffic Survey
- Automobile Mileage Statistics, etc.

Agriculture/Forestry/Fishery

- Census of Agriculture, Forestry and Fisheries
- Agricultural Production Statistics
- Farm Household Economy Survey, etc.

Education/Culture

- National Education Statistics for Gifted Students
- National Leisure Activity Survey
- Broadcast Media Usage Survey, etc.

Administration Statistics

① Profit Corporation Statistics
② Statistics on Returned Farmers and Migrators to Rural Regions
③ Newlyweds Statistics
④ Statistics of House Ownership
⑤ Retirement Pension Statistics

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Free Service Fee | Public data free

Was

High service charge

Meter-rate Billing System

Fee

Public data
(extraction)

5GB
4,630 thousand won

1GB
1,030 thousand won

500MB
580 thousand won

1MB
20 thousand won
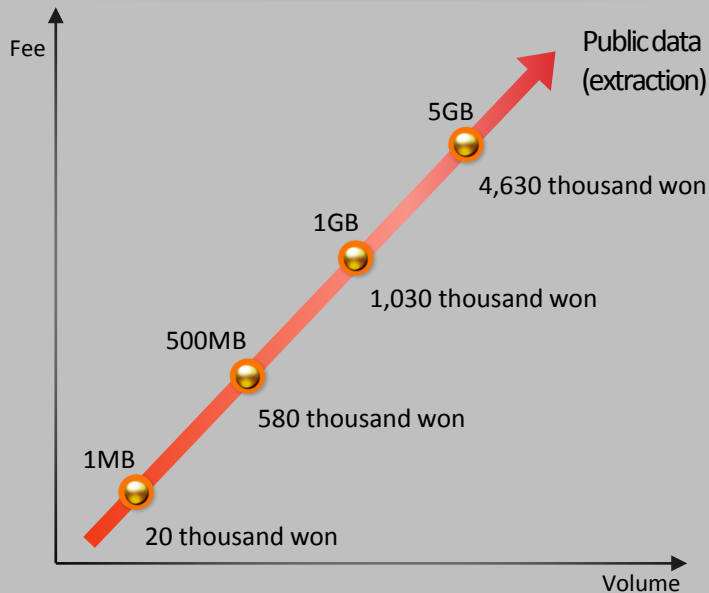
Volume

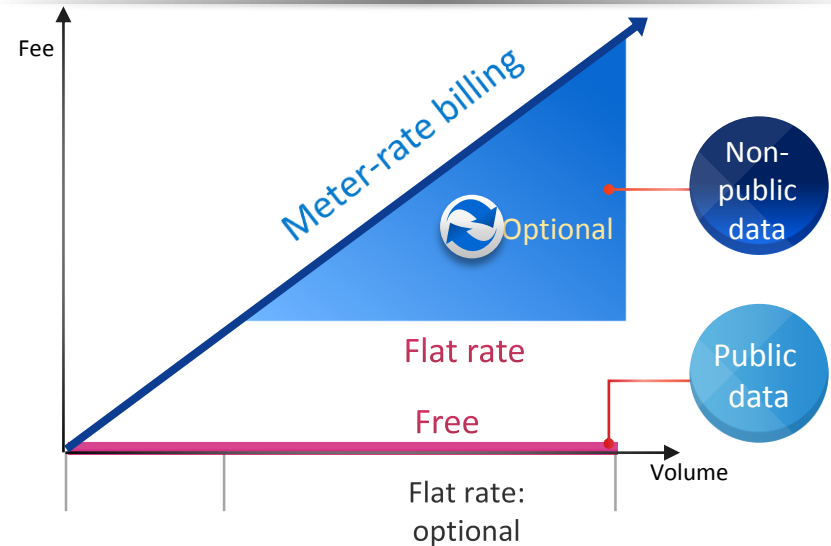- Meter-rate billing system: High service charges in proportion to data volume

Is

Free provision of public data

Free service fee / Flat rate

Fee

Meter-rate billing

Optional

Non-public data

Flat rate

Public data

Free

Volume

Flat rate: optional

- Public data: Free
- Non-public data ⎤ Service charge
- Special purpose ⎦ in option

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Data Usage | **Explosive Increase of MDIS Usage**

31,653 cases (2016)

30,000

20,000

14,498 cases (2015)

10,000

9,483 cases (2014)

4,133 cases
(2010)

'10   '11   '12   '13   '14   '15   '16
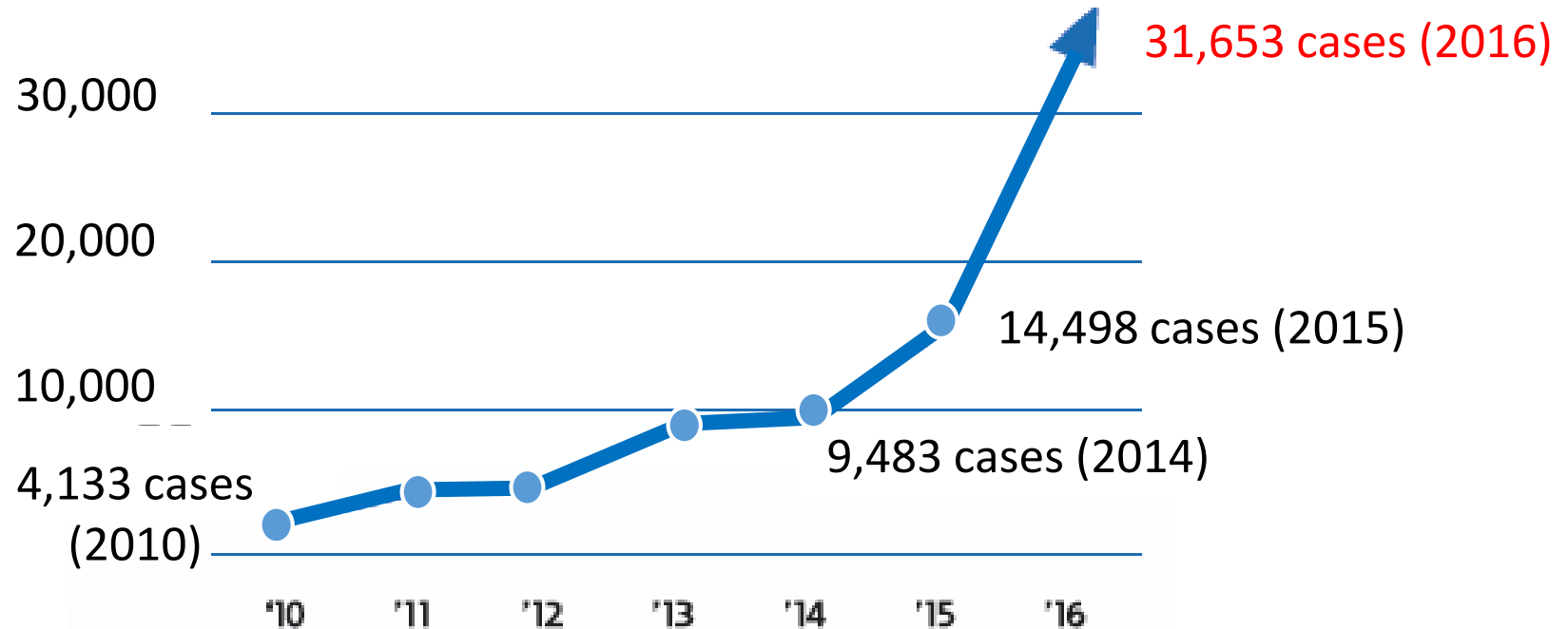
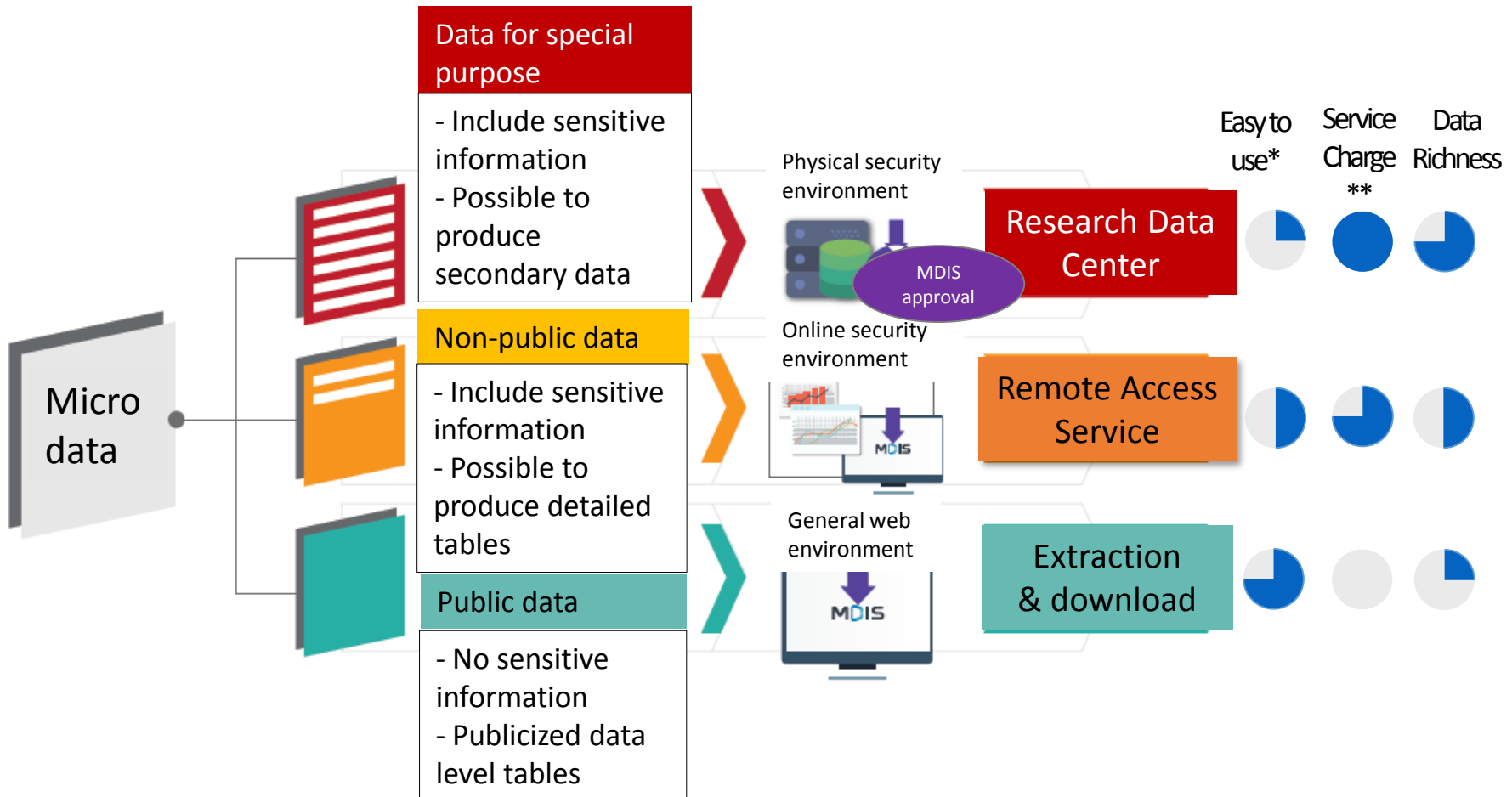**Data usage**

- Explosive increase after beginning 'public data free' services on Dec. 10, 2015
- Increased by 2.2 times to 31,653 cases in 2016, compared to 14,498 cases in 2015

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3-tier Use Mode | How to Use?

Micro data

Data for special purpose
- Include sensitive information
- Possible to produce secondary data

Non-public data
- Include sensitive information
- Possible to produce detailed tables

Public data
- No sensitive information
- Publicized data level tables

Physical security environment

MDIS approval

Online security environment

General web environment

Research Data Center

Remote Access Service

Extraction & download

Easy to use*

Service Charge **

Data Richness

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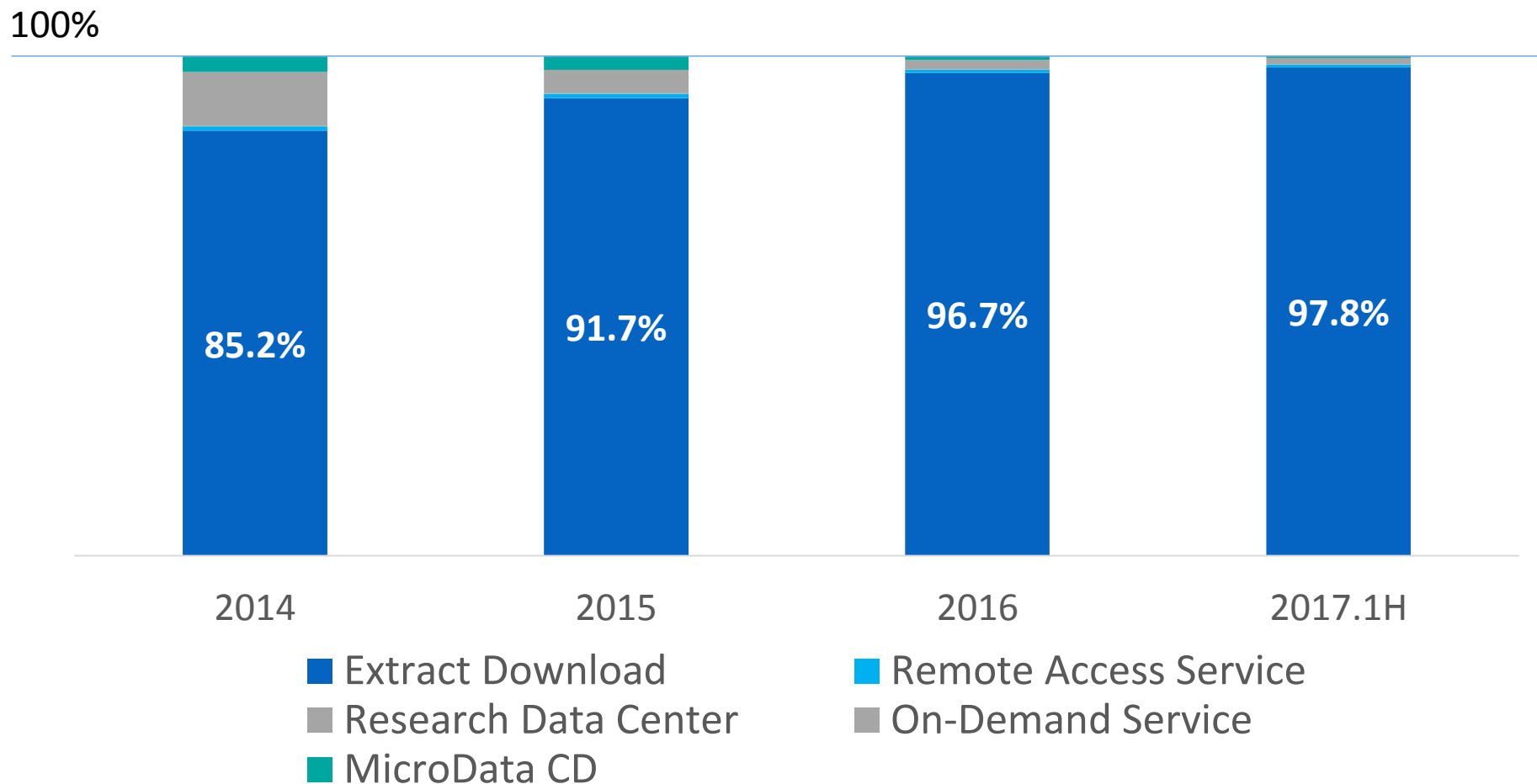- MDIS Implementation Project
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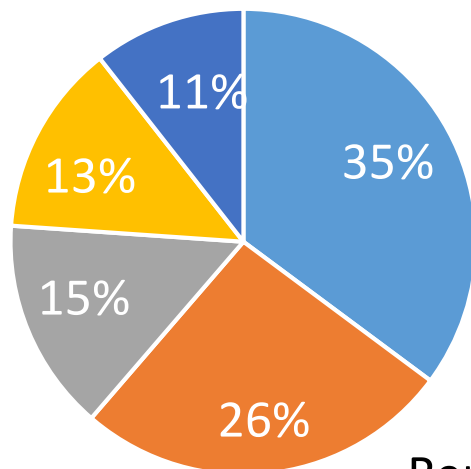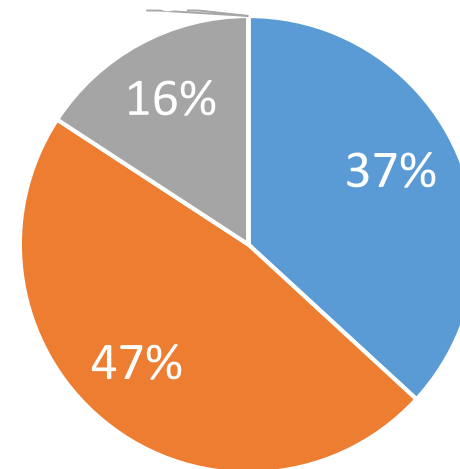- What do they do with MDIS?

4. Next Step

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User Profile | Who is using MDIS?

100%

85.2% (2014)
91.7% (2015)
96.7% (2016)
97.8% (2017.1H)

2014   2015   2016   2017.1H

- Extract Download
- Remote Access Service
- Research Data Center
- On-Demand Service
- MicroData CD

User Profile | Who is using MDIS?

Extraction & Download

- Universities 35%
- Research Institutes 26%
- Government 15%
- Enterprise/Corp. 13%
- Personal 11%

Research Data Center

- Universities 37%
- Research Institutes 47%
- Government 16%

Remote Access Service

- Universities 40%
- Research Institutes 37%
- Government 8%
- Enterprise/Corp. 11%
- Personal 4%

Legend:
- Universities
- Research Institutes
- Government
- Enterprise/Corp.
- Personal

Use Cases | Policy Establishment

Policy Business Personal

Job

Child abuse

Suicide

Aging

Performance evaluation of youth employment policies

Microdata of "Supplementary Results of the EAPS"

Policy making for the prevention of child abuse by local governments

Microdata of "Causes of Death Statistics" by area and age group

Policy making for the prevention of suicide by local governments

Microdata of "Causes of Death Statistics" by area

Policy making to cope with low fertility and aging by local governments

Microdata of "Vital Statistics" by area

Performance evaluation of employment stability projects

Microdata of "Supplementary Results of the EAPS"

Policy making for preschool victims of starvation

Microdata of "Causes of Death Statistics" by area

Analysis of the effect of suicide prevention policy

Microdata of "Causes of Death Statistics" by area

Production of OECD Healthcare Quality Indicators

Microdata of "Causes of Death Statistics"

Use Cases | Business

Manufacturing

Real estate

Medical sector

Finance

Development of Bluesumer-related commodities
(e.g. Cooked rice for one-person households)

Microdata of "Population Census"

Analysis of house rental market

Microdata of "Survey of Household Finances and Living Conditions"

Analysis of surgical and therapeutic effects of renal failure patients

Microdata of "Causes of Death Statistics"

Assessment of financial portfolio risks

Microdata of "Survey of Household Finances and Living Conditions"

Change the target group of a commodity
(e.g. Low alcohol "Soju" for females)

Microdata of "EAPS and National Health & Nutrition Survey"

Estimation of house prices by using internal migration statistics

Microdata of "Survey of Household Finances and Living Conditions"

Cost-effectiveness analysis of lung cancer screening

Microdata of "Causes of Death Statistics"

Analysis of household housing expenditures

Microdata of "Survey of Household Finances and Living Conditions"

Use Cases | **Personal**

Start-up

Housing

Research & learning

Analysis of type of industry and establishment density in potential start-up regions

Microdata of "Census on Establishments"

Analysis on residential places by considering work places and child education

Microdata of "Internal Migration Statistics and Economic Census

Contents for statistical experience, in particular, during the autonomous semester of middle school students

Analysis of household housing expenditures

Microdata of "Survey of Household Finances and Living Conditions"

Estimation of house prices by using internal migration statistics

Microdata of "Survey of Household Finances and Living Conditions"

Research paper on foreign workers

Microdata of "Foreigner Labor Force Survey"

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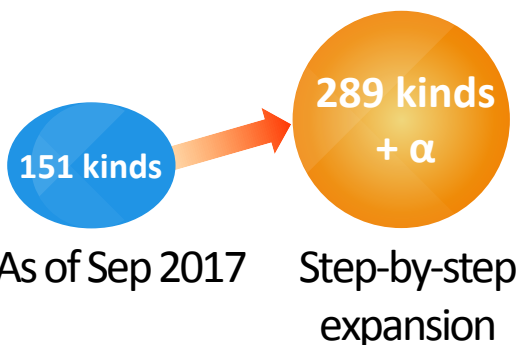- Types of provided Services
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Statistics Korea

Next Steps | Service Innovation with Users

Diversification of services

Quantitative growth

289 kinds + α

151 kinds

As of Sep 2017

Step-by-step expansion

Diversity

Institutionalization of civil, administrative and academic networks

Content development and education by user level

Expansion of users

To be used for policy making, research, education, marketing, etc.

Expand user base to general users other than expert users

Talent donation through sharing research results

Providing more data, more abundant information by MDIS

Microdata Integrated Service(MDIS)

Thank You