Ministry of Science and ICT

Data
Trading Policy
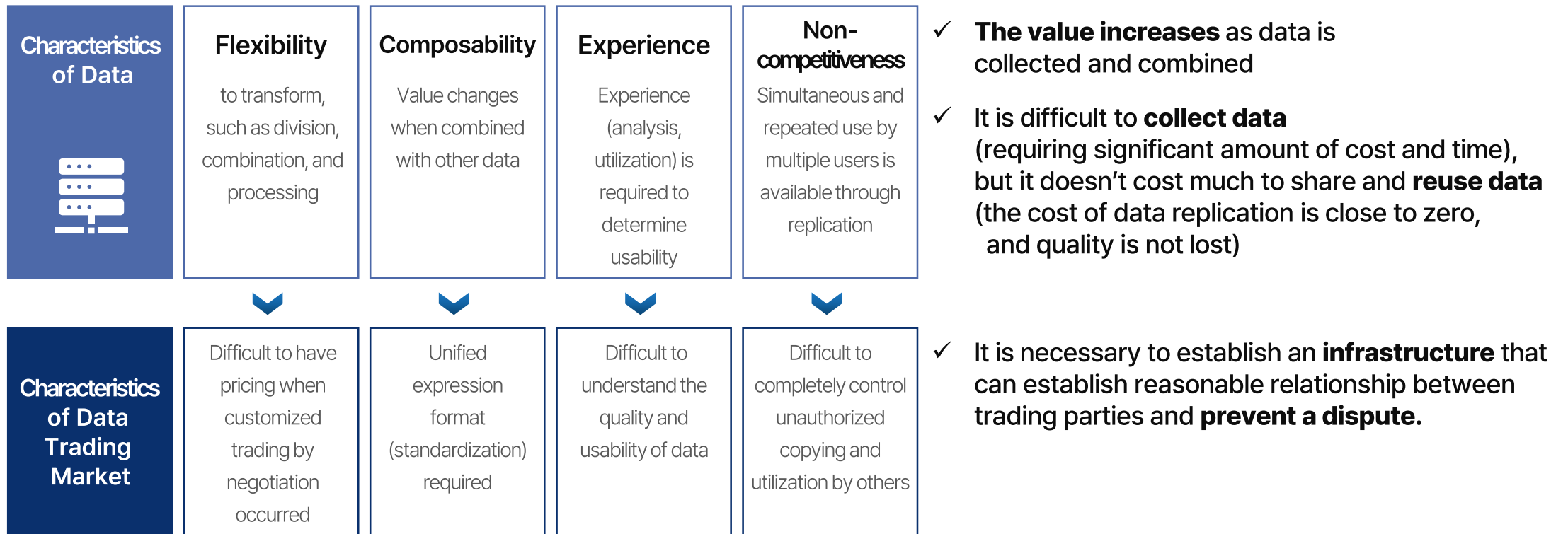# in Korea

Data Trading Policy in Korea

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Status of Data Trading

01

Data determines the development of artificial intelligence (AI) technology and is the driving force of the digital economy and society that accelerates **innovation** in daily life, economic activities, and society.

Characteristics of Data	Flexibility	Composability	Experience	Non-competitiveness
	to transform, such as division, combination, and processing	Value changes when combined with other data	Experience (analysis, utilization) is required to determine usability	Simultaneous and repeated use by multiple users is available through replication

Characteristics of Data Trading Market	Difficult to have pricing when customized trading by negotiation occurred	Unified expression format (standardization) required	Difficult to understand the quality and usability of data	Difficult to completely control unauthorized copying and utilization by others

✓ **The value increases** as data is collected and combined

✓ It is difficult to **collect data** (requiring significant amount of cost and time), but it doesn't cost much to share and **reuse data** (the cost of data replication is close to zero, and quality is not lost)

✓ It is necessary to establish an **infrastructure** that can establish reasonable relationship between trading parties and **prevent a dispute.**

A **mechanism** that promotes data sharing and reuse.

Data trading

A series of activities that

(i) allow transfer and use of data as goods subject to private contract and (ii) generate profit and cost for a company by exchanging, distributing, and selling data through analysis, processing, or brokerage service

Data opening

Opening data to users

free of charge through portal

and website

Data sharing

Multiple entities

(i) collect, store, process, and analyze data for a certain goal,

(ii) share the data, and

(iii) distribute profit

01 Status of Data Trading

Data trading

Example	• Direct trading/Brokerage trading(Big data platform, broker etc.)
Pros	• Provision of voluntary and continuous incentives based on monetary and economic compensation
Cons	• Absence of trading standard, possibility of unfair trade

Data opening

Example	• Public data portal
Pros	• Free use of data
Cons	• Difficulty securing incentive

Data sharing

Example	• Discussion underway in the manufacturing sector
Pros	• Increase of synergy by data accumulation and effective distribution of profit
Cons	• Possibility of free riding and collusion

Paid

Data trading

Free

Data opening

Data sharing

Free of charge
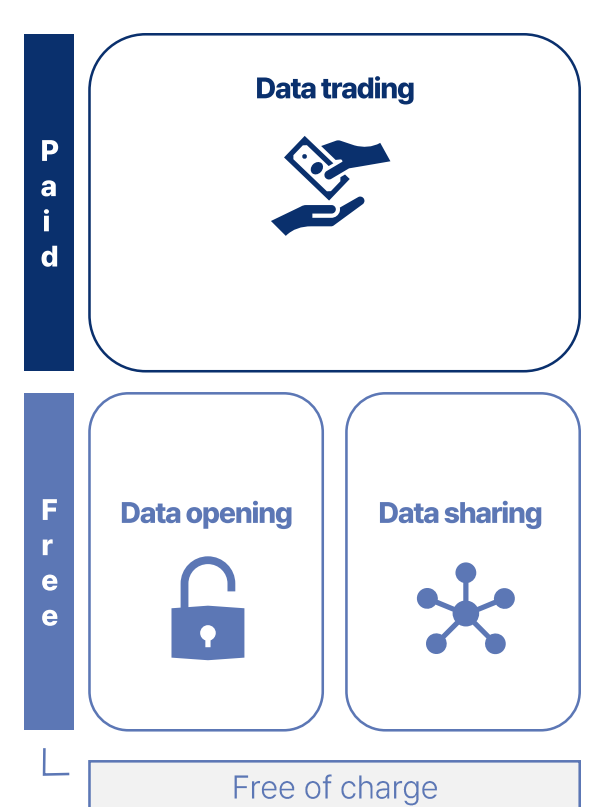
Major Status of Market
(The Role of a Participant)

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02

The Market Size of Domestic Data Industry

Direct sales of the data industry in 2022 were KRW **15.8 trillion**,

of which **data sales and brokerage service accounted** for 11.2% (approximately KRW 1.8 trillion)

※ Data sales and brokerage service can be considered as a data trading market in a narrow sense

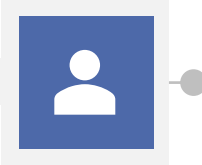| Category		2020	2021	2022(E)	Rate of Increase 2020~2021	CAGR 2020-2022(E)
Data Industry (Whole)	Size	200,024	228,986	250,527	14.5%	11.9%
Data Industry (Direct Sales)	Size	122,195	146,341	158,076	19.8%	17.7%
	Proportion	100%	100%	100%		
Data Sales and Brokerage Service Business* (Direct Sales)	Size	13,206	16,678	17,782	26.3%	16.0%
	Proportion	10.8%	11.4%	11.2%		

* Including the following services, data sales, data brokerage, and provision of data analysis

※ Source: Survey on Status of Data Industry (K-DATA, Mar. 2023)

Data trading party

①Data seller
②Data trading·processing·analysis company
③Trading platform
④Data purchaser

Category	Contents	Major companies(EX)
①Data seller	• Commercialize and sell data produced in the course of business activities ※ Act on Data Industry (Article 2) Data trading business operator	KT, KB Kookmin Card, Korea Rating & Data
②Data trading· processing· analysis company	• Provide services, such as data processing, analysis, consulting, and sales agency in accordance with the requirement of a purchasing company ※ Act on Data Industry (Article 2) Data trading business operator, Data analysis provider	Crowdworks, Coocon
③Trading platform	• Operate a platform for product/service search and trading support according to a contract with data sales and processing company ※ Act on Data Industry (Article 2) Data trading business operator	Big Data Platform, Financial Data Exchange
④Data purchaser	• Companies and individuals that promote business using data	

Data trading structure

Direct trading between seller and buyer depending on the presence of an intermediary, indirect trading via a trading platform (intermediary)
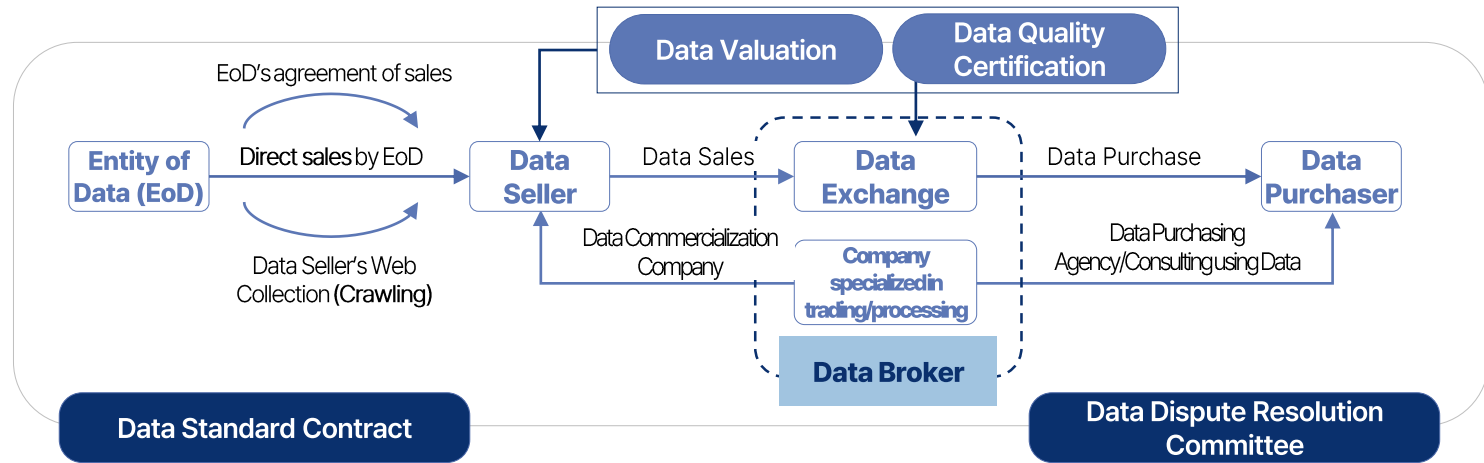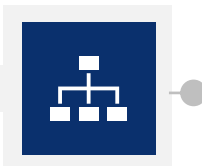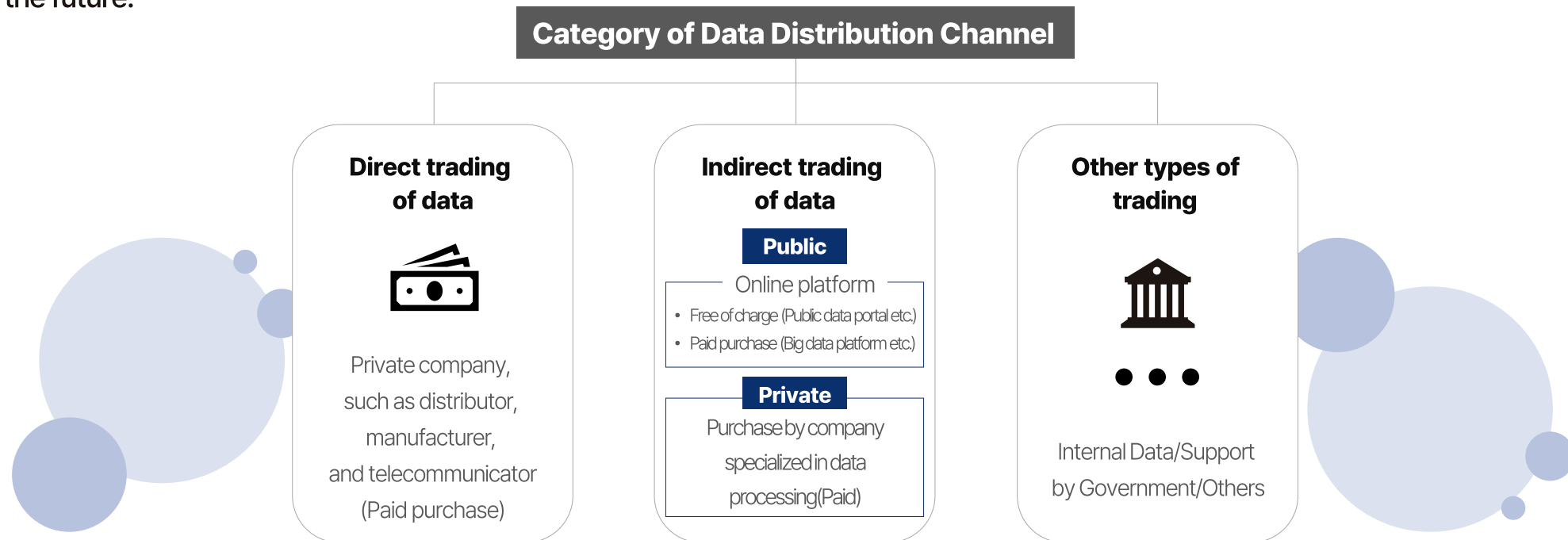

Jun-Hwa Jeong/So-Young Park, 2022, National Assembly Legislation Research Service

※ Source: Reconstruction of 'Status and Improvement Tasks of Data Exchange, Data Trading Company, and Crawling to Vitalize Data Trading' (National Assembly Legislation Research Service, July 2022)

Data trading Channel

'Free open data(31%)' is used the most currently, It is expected to have expansion in data trading based on paid channel, such as **'online platform (15%)'** and **'purchase by private company specialized in data processing/purchasing (17%)'**, in the future.

Category of Data Distribution Channel

Direct trading of data

Private company,
such as distributor,
manufacturer,
and telecommunicator
(Paid purchase)

Indirect trading of data

Public

Online platform
- Free of charge (Public data portal etc.)
- Paid purchase (Big data platform etc.)

Private

Purchase by company
specialized in data
processing(Paid)

Other types of trading

Internal Data/Support
by Government/Others

※ Source: A study on national data management strategy to vitalize data economy (Fourth round, Dec. 2021)

Data Platform

O Status of Pre-2019 Data Platform

Private	• API Store(KTH) • Big Data Hub(SKT)

Public	• Data Store(K-DATA) • Public data portal(NIA) • Seoul Open Data Square (Seoul Metropolitan Government)

O Status of Post-2020 Data Platform

Private	• API Store(KTH)
	• Big Data Hub(SKT)
	• GranData
	  (SKT, Shinhan Card,
	  KCB etc.)
	• Coocon.net(Coocon)
	• 21 Big data platforms

Public	• Data Store(K-DATA) • Public data portal(NIA) • Seoul Open Data Square (Seoul Metropolitan Government) • AI Hub(NIA) • TriBIG (KOTRA) • Korea Tourism Data Lab(KNTO) • Financial Data Exchange (FSC)

data

platform

Issues and Evaluation

03

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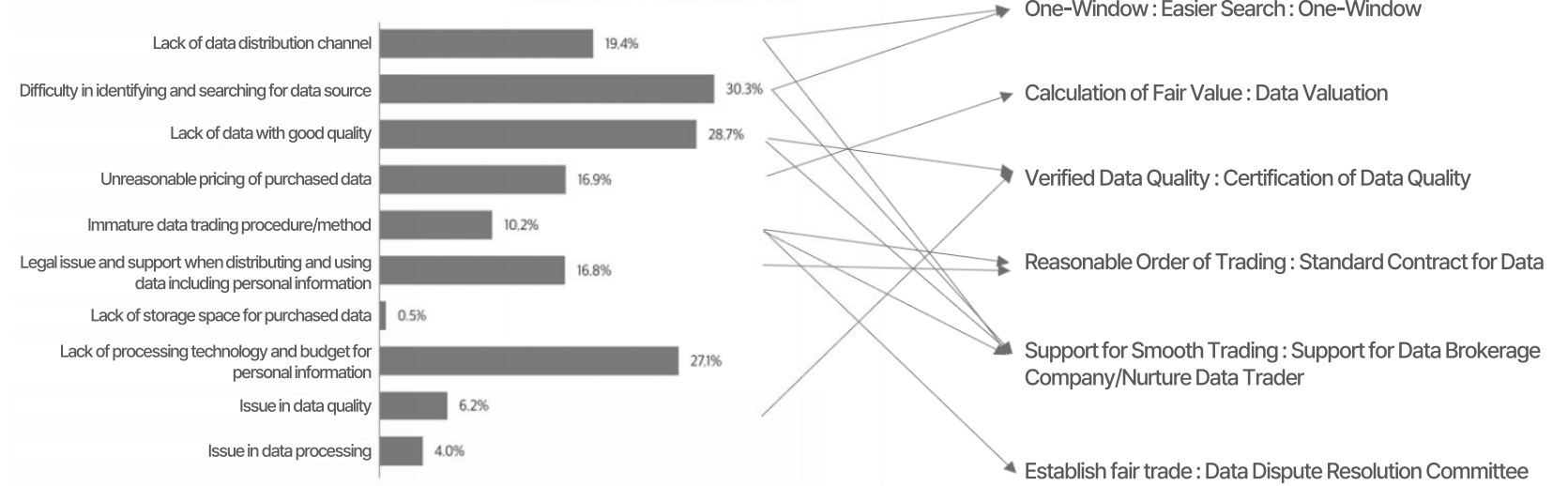
- **Difficulty in identifying and searching for data source, Lack of data trade channel (49.7%)**

- **Lack of knowledge about data trading procedure/method and legal issue and support (27%)**

- **Lack of data with good quality (34.9%)**

<Difficulty in data trading >

(Multiple answer, Company with data purchase experience)

Category	%
Lack of data distribution channel	19.4%
Difficulty in identifying and searching for data source	30.3%
Lack of data with good quality	28.7%
Unreasonable pricing of purchased data	16.9%
Immature data trading procedure/method	10.2%
Legal issue and support when distributing and using data including personal information	16.8%
Lack of storage space for purchased data	0.5%
Lack of processing technology and budget for personal information	27.1%
Issue in data quality	6.2%
Issue in data processing	4.0%

One-Window : Easier Search : One-Window

Calculation of Fair Value : Data Valuation

Verified Data Quality : Certification of Data Quality

Reasonable Order of Trading : Standard Contract for Data

Support for Smooth Trading : Support for Data Brokerage Company/Nurture Data Trader

Establish fair trade : Data Dispute Resolution Committee

Establishment of foundation for data distribution and trade to promote data utilization

(Article 14 (Data Valuation), Article 18 (Establishment of data distribution and trading system), Article 20 (Quality control of data), Article 21 (Standard contract for data trading), Article 23 (Data trader) of Act on Data Industry)

※ Source: Survey on the Status of Data Industry (K-DATA, Mar. 2023)

Difficulty in data trading

1 Difficulty in identifying and searching for data source, Lack of distribution channel **49.7%**

An ecosystem based on data distribution and utilization has been created according to the government's Digital New Deal (2020-2025, KRW 49 trillion).

It, however, is difficult to identify the whereabout of data products

⇒ **One-Window, Support for data traders and intermediaries**

2 Lack of knowledge about data trading procedure/method and legal issue and support **27%**

Since it is difficult to trade data after checking the contents and structure of data in advance,

there is a high potential for dispute between trading parties owing to data contents and right to use

⇒ **Standard Contract for Data, Data Traders, Data Dispute Resolution Committee**

3 Lack of data with good quality and problem with data quality **34.9%**

It is difficult to check and verify the quality of data before its use after purchase.

The cost of processing is high when trading low-quality data

⇒ **Certification of Data Quality**

4 Reasonable pricing for data product **16.9%**

It is difficult to set accurate pricing for product for the following reasons;

(i) there is a low recognition of paid purchase for data, and

(ii) the data necessary for the business alone is provided after consultation with a consumer when trading data

⇒ **Data Valuation**

Major Policy Direction

Ministry of Science and ICT

04

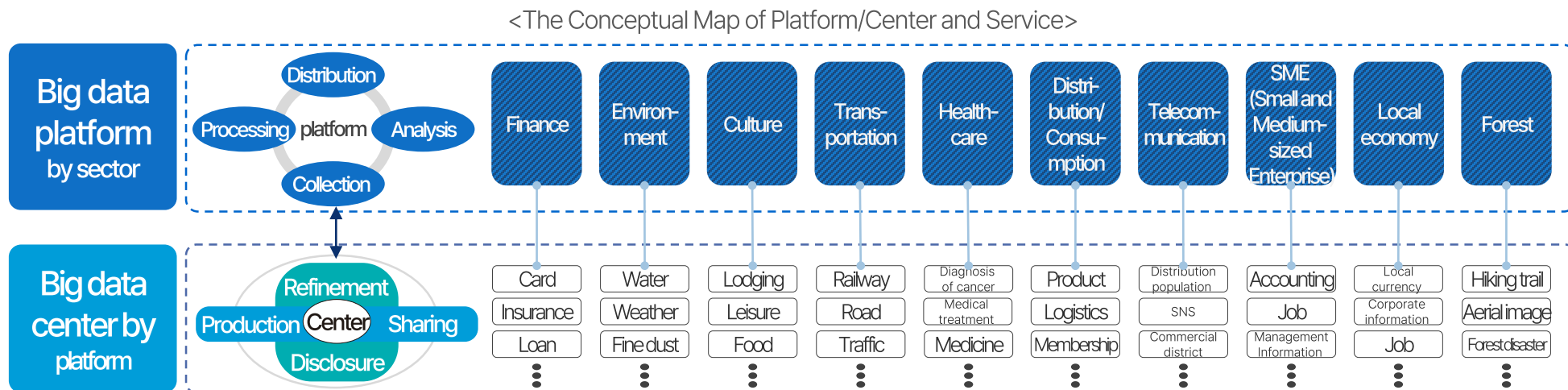## 4-1) More convenient search: Establishment of One-window

⚪ **Overview and Status of Big data platform**

- It operates a **big data platform** and a **big data supply center** that support production, distribution, and utilization of **high-quality data** with **cooperation between the public and private sector**

  ※ The big data platform provides the foundation for data processing/analysis and distribution according to market demand while the big data center produces data with high-utilization value of which supplies to the platform

- It operates big data platforms in 21 fields in which 230 big data supply centers participates

('19.) Finance, environment, culture, transportation, healthcare, distribution, telecommunication, SMEs, local economy, forest
('20.) Agricultural food, life log, fire safety, smart public order, marine and fisheries, digital industrial innovation
('22.) Real estate, smart farm, infectious disease, space convergence, coast

<The Conceptual Map of Platform/Center and Service>

4-1) More convenient search: Establishment of One-window

Need for One-window

Although public and private sector are building and operating various data platforms, they **are individually built** and have **insufficient connection**

It takes a lot of time and cost to find, converge, or utilize the data a user needs due to **scattered data and separate operation**

It is necessary to **establish a foundation for promoting data production, distribution, trading and utilization** in accordance with the implementation of the Act on Development of Data Industry and Promotion of Data Use (Apr. 2022)

Major overseas countries build and utilize **data infrastructure** which **public and private data can be connected** through national data strategy

Major Policy Direction

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4-1) More convenient search: Establishment of One-window

Action plan for One-window

✓ **Concept**

One-window is established enabling **easy and systematic access of data** from utilization perspective without distinction between public and private data

※ It will standardize metadata so that anyone can easily search and utilize private and public data and promote connection between data and service through cooperation with relative institutions.
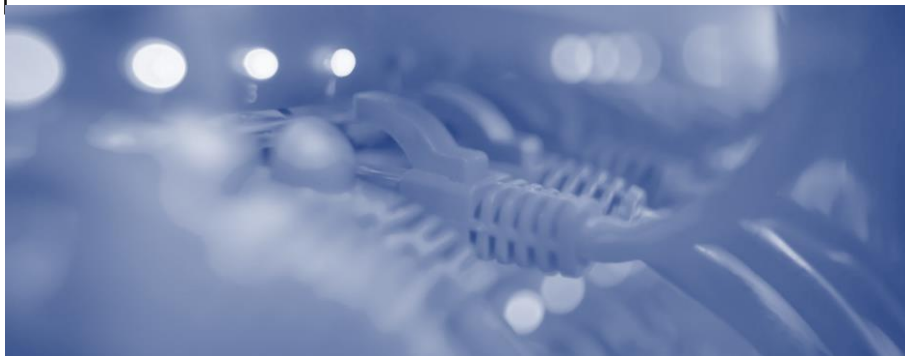
< Connection System of One-window >

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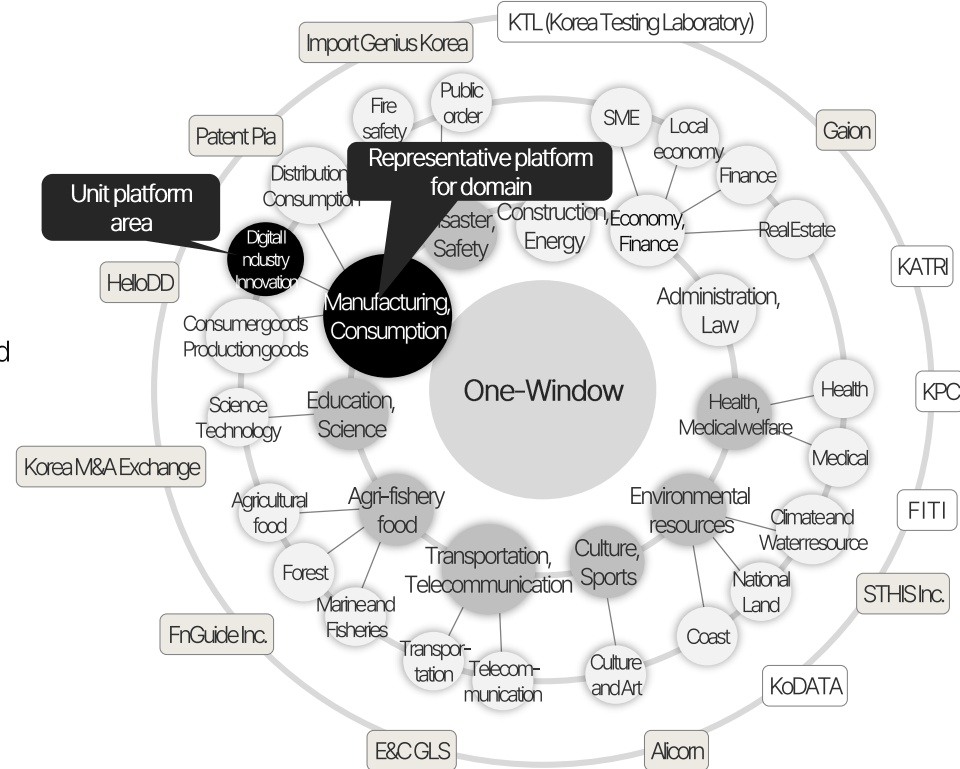
4-2) Fair Valuation : Data Valuation (Data Industry Act §14)

Promotion of Fair Trade

Valuation supports data trading by presenting a fair exchange scale based on the estimation of the economic value of the target data.

Acceleration of the Growth of a Company

Supporting data-based company that is at a disadvantage in financing for commercialization.

※ (Data value) Measure of economic benefit arising from data production, distribution, trading utilization
(Data Valuation) Activity to evaluate data value by value, grade, and score according to evaluation techniques and models generally accepted in the market
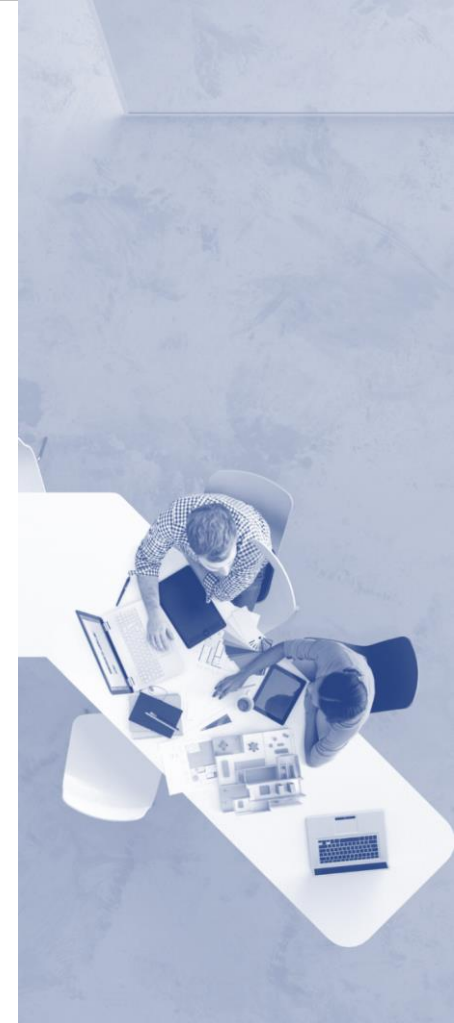
4-2) Fair Valuation : Data Valuation (Data Industry Act §14)

Details of Initiatives

○ It has designated a data evaluation agency and launched data-based financial guarantee products

Existing initiatives (2022~Jul. 2023)

- Designated a data evaluation agency (Mar. 2023)
  ※ KIBO, NICE D&B, KODIT, KISTI
- Operated a consultative body for the data evaluation agency (Mar. 2023~)
- Created the first data evaluation case (Apr. 2023)
- Launched two guaranteed products exclusively for data valuation (~Jul. 2023)

Future initiatives (Aug. 2023~)

- Operate a working group to develop data valuation guideline, such as reference model for evaluation and standard work procedure (~Dec. 2023)
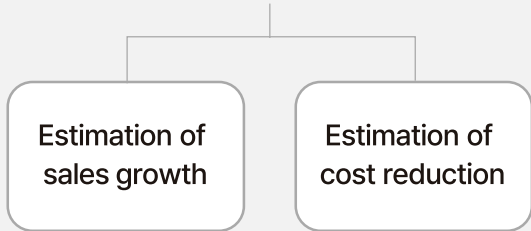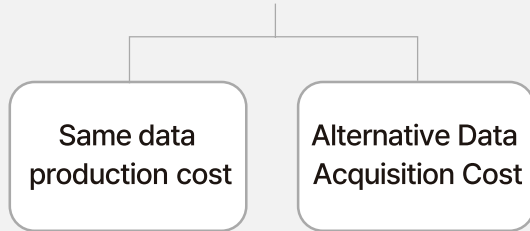- Develop data-based loan (Q1 2024 ~)

Establishment of a virtuous cycle ecosystem of data economy, such as investment, loan, trading, and transfer based on data through data valuation

4-2) Fair Valuation : Data Valuation (Data Industry Act §14)

Evaluation Method

〇 Among the three methods* (①Market·②Income·③Cost basis),
the evaluation is performed by applying a practicable method depending on the characteristics and use of data

Concept	Market basis How worth(much) is similar data in the market?	Income basis What is additional benefit of data?	Cost basis What is the value of covering the cost of data production?
Scope of application	When the market value of the same/similar data can be obtained Existence of active trading market / Existence of similar trading cases	When future cash flow can be estimated reasonably Estimation of sales growth / Estimation of cost reduction	When the cost of data production is known or alternative data can be obtained Same data production cost / Alternative Data Acquisition Cost
Pros Cons	• Simple evaluation method, easy application • Evaluation unavailable when there is no case	• The best method in theory • Concerned reliability due to many assumptions	• High objectivity based on bookkeeping • Reflection unavailable for future value

4-3) Verified data quality: Certification of Data Quality

추진전략

○ Data quality is a key element of innovative service using data, such as AI

○ It implements a data-quality certification system that examines and certifies the quality level of data's content, structure, and management system (Article 20 of Act on Development of Data Industry and Promotion of Data Use)

< Direction of Policy Implementation for Improving Data Quality (Strategy to execute)>

| Expansion of data quality certification | ›› | Improvement of quality of traded data | ›› | Securing reliability of trade market | ›› | Activation of data trading |

Initiatives

○ It has designated data-quality certified institution, operated quality-certified working group, and established data certification standard of structured and unstructured data

Existing initiatives (2022~Jul. 2023)	Future initiatives (Aug. 2023~)
• Designated data-quality certification institution (Jul. 2023) ※ C.A.S, Wisestone, TTA • Operated a working group to develop common regulation for data-quality certification (Aug. 2023~)	• Develop common regulation of data-quality certification for Structured and unstructured data, Develop certification standard of data management system (~Dec. 2023) • Monitoring activity for certification screening (Certification satisfaction, Monitoring for quality of certification screening, etc.) (Q1 2024~)

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4-4) Reasonable trading order: Standard contract for data trading

○ The domestic data trading market is at an early stage, and the lack of reliability in the price, quality, and trading process of data is recognized as an obstacle of data trading.

○ It prepares a standard contract to prevent unnegotiated disadvantage and prevent various problems, such as dispute, when signing data trading contract (Article 21 of Act on Development of Data Industry and Promotion of Data Use)

Initiatives

Research

Collection of opinions

Establishment of reasonable trading order
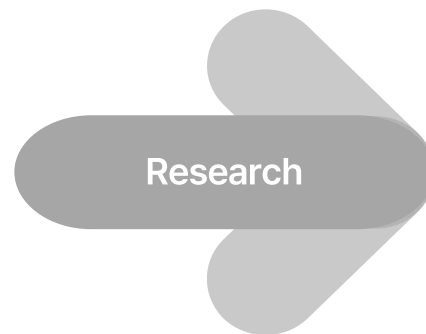
- Research on status of data trading **(Jul. 2022)**
- Development of type and terms of standard contract **(~Aug. 2023)**

- Operation of expertise council **(Sep. 2023~)**
- FGI for stakeholders of data trading **(Aug. 2023~)**
- Meeting, public hearing, and etc. for data business operator

- Establishment of standard contract **(Dec. 2023)**
- Distribution of guidelines **(Q1 2024~)**
- Support of fair contract **(Q1 2024~)**

4-4) Reasonable trading order: Standard contract for data trading

Type of a Standard Contract

○ The contracting parties complete the contract by mutual agreement according to individual characteristics and trading practice of the contract by referring to the standard contract for each trading type

Trading data product	Trading processing service	Brokerage trading

It is used when trading commercialized data, and is to set the condition for the right to use since the data is held by one party	It is used when trading data-processing service and is to create or process new data with the involvement of contracting parties	It is used when trading through a distribution platform operated by a data brokerage business, and is a contract to use the data provided to the platform

4-5) Smooth trading support: Fostering data trading company and data broker

○ The role of data intermediary is necessary to compensate asymmetric information between data seller and buyer.

○ It implements data broker that supports data trading, such as professional consultation, advisory, and guidance (Article 23 of Act on Development of Data Industry and Promotion of Data Use)

Status of overseas

Data Broker (U.S.)

Charac-teristics	Combination of data seller, data exchange, and data trader
Role	The sales is made by collecting, analyzing, and processing data from various company and governments
Ex	Acxiom, CoreLogic etc.

Data Sharing Service Provider (EU)

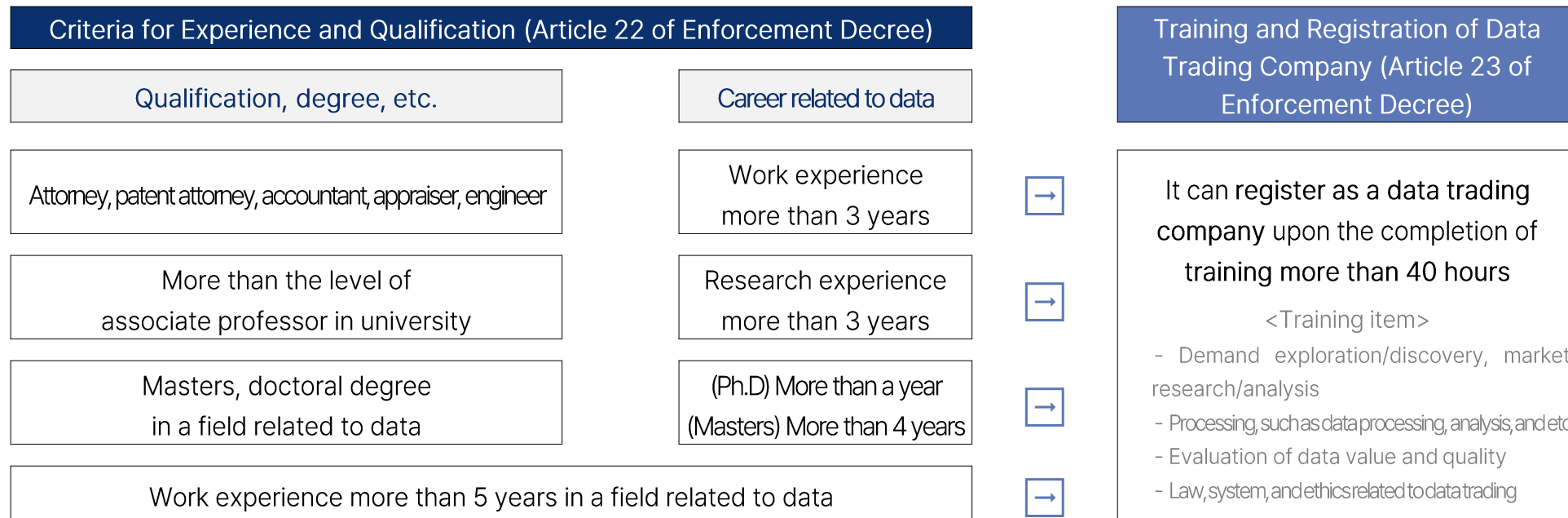|	
Charac-teristics	Combination of data seller, data exchange, and data trader
Role	It provides intermediary and cooperative service between data entity and purchaser
Ex	digi.me(UK) etc.

Data trading company can **operate in various forms by combining** with data seller and data exchange

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4-5) Smooth trading support: Fostering data trading company and data broker

Requirement for Registration

○ A person who has registered with the Minister of Science and ICT among those who have expertise in data trading

Criteria for Experience and Qualification (Article 22 of Enforcement Decree)		Training and Registration of Data Trading Company (Article 23 of Enforcement Decree)
Qualification, degree, etc.	Career related to data	
Attorney, patent attorney, accountant, appraiser, engineer	Work experience more than 3 years →	It can **register as a data trading company** upon the completion of **training more than 40 hours** <Training item> - Demand exploration/discovery, market research/analysis - Processing, such as data processing, analysis, and etc. - Evaluation of data value and quality - Law, system, and ethics related to data trading
More than the level of associate professor in university	Research experience more than 3 years →	
Masters, doctoral degree in a field related to data	(Ph.D) More than a year (Masters) More than 4 years →	
Work experience more than 5 years in a field related to data	→	

※ Source: The First Fundamental Plan for Promotion of Data Industry (Joint with related ministries, Jan. 2023)

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4-6) Data Dispute Resolution Committee (DDRC)

Need for DDRC

In order to create a safe and reliable data trading environment, it is necessary to **eliminate risk factors** due to **protection of the right of trading parties and illegal use**.

○ Rationale for establishment of DDRC : Article 34 of Act on Development of Data Industry and Promotion of Data Use (ADIDU) (below)

> **Article 34 (Set-up and composition of Data Dispute Resolution Committee)**
> ① Data Dispute Resolution Committee (hereafter referred as 'the DDRC Committee' in this chapter) is to mediate disputes related with data production, trading, and utilization.

○ Subject of data dispute resolution : Disputes related with data production, trading, and utilization

❘ Priority is applied to the guarantee-of-right (dispute resolution) method of other existing laws

> **Article 34 (Set-up and composition of Data Dispute Resolution Committee)**
> (Omitted) However, disputes related to the refusal or suspension of provision of public data shall be governed by Act on Promotion of the Provision and Use of Public Data and Act on the Promotion of Data-Based Administration. Disputes related to personal information and copyright shall be governed by Personal Information Protection Act and Copyright Act, respectively.

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4-6) Data Dispute Resolution Committee (DDRC)

Dispute resolution for public data	Dispute resolution for personal information	Dispute resolution for copyright

Article 29 of Act on Promotion of the Provision and Use of Public Data

Article 40 of Personal Information Protection Act

Article 112 of Copyright Act

Disputes related to refusal and suspension of provision of public data

Disputes related to personal information

Disputes related to works with copyright and database

It is expected that an **efficient** dispute resolution method will be established as the inter-legislative system related with scattered data **improves** and data dispute resolution case is **accumulated**