

# Fiscal Data System Merged into dBrain +

The Korean IFMIS Approach to Improved  
Government Decision-Making

MARCH 26<sup>th</sup> 2025





Fiscal Data System Merged into dBrain<sup>+</sup>



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The Korean government aims to establish the digital platform government and innovate through data-based administration by building a fiscal data system.

## Background

- National Agenda : **Establish the digital platform government and achieve digital economy hegemony through public-private cooperation.**
- Innovating Government through **Data-Based Administration** : Transition to an intelligent government, reorganize institutions (e.g. Data-Driven Administration Act), jointly utilize data and provide intelligent services.

## Purpose

### Enhance dBrain (Korea IFMIS) System :

- Expand AI and big data applications.
- Improve information delivery and decision-making through visualization.
- Provide key fiscal and social indicators for data-driven policy decisions.

Next-generation dBrain implementation project based on data utilization (Dec. 2019 ~ Apr. 2022)



Fiscal Information Service (KOFIS)



Policy State Management Service (KORHAS)



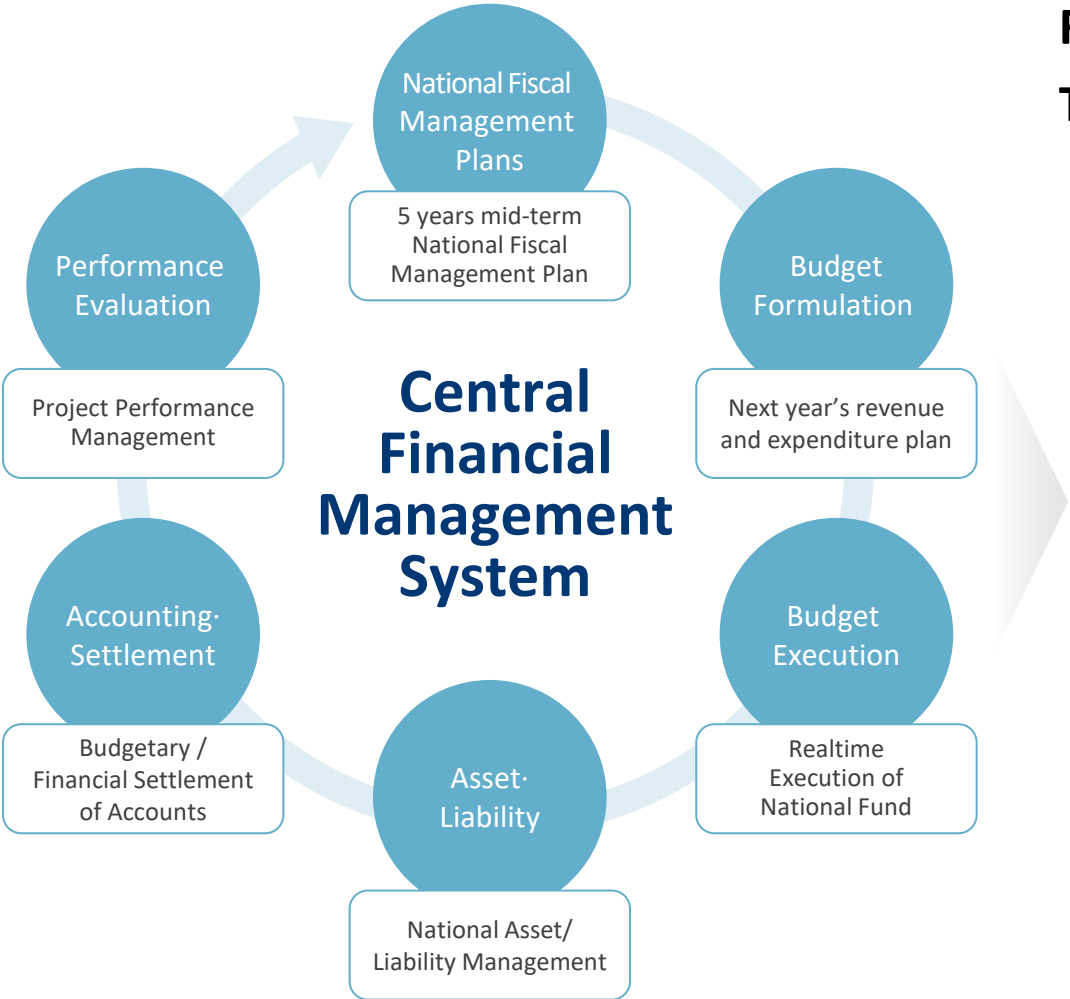
Data Analysis Service (KODAS)


Fiscal Data System (FDS)




dBrain+, Korea's IFMIS, manages entire life cycle of national fiscal tasks and supports timely data-driven policy decision making.

From **Fiscal Task Support**  
To Data driven **Timely Policy Decision Support**






**Financial Linked System**  
Linkage with 81 institutions, 144 systems



**Fiscal Data System (FDS)**  
Data driven analysis service & policy decision making support

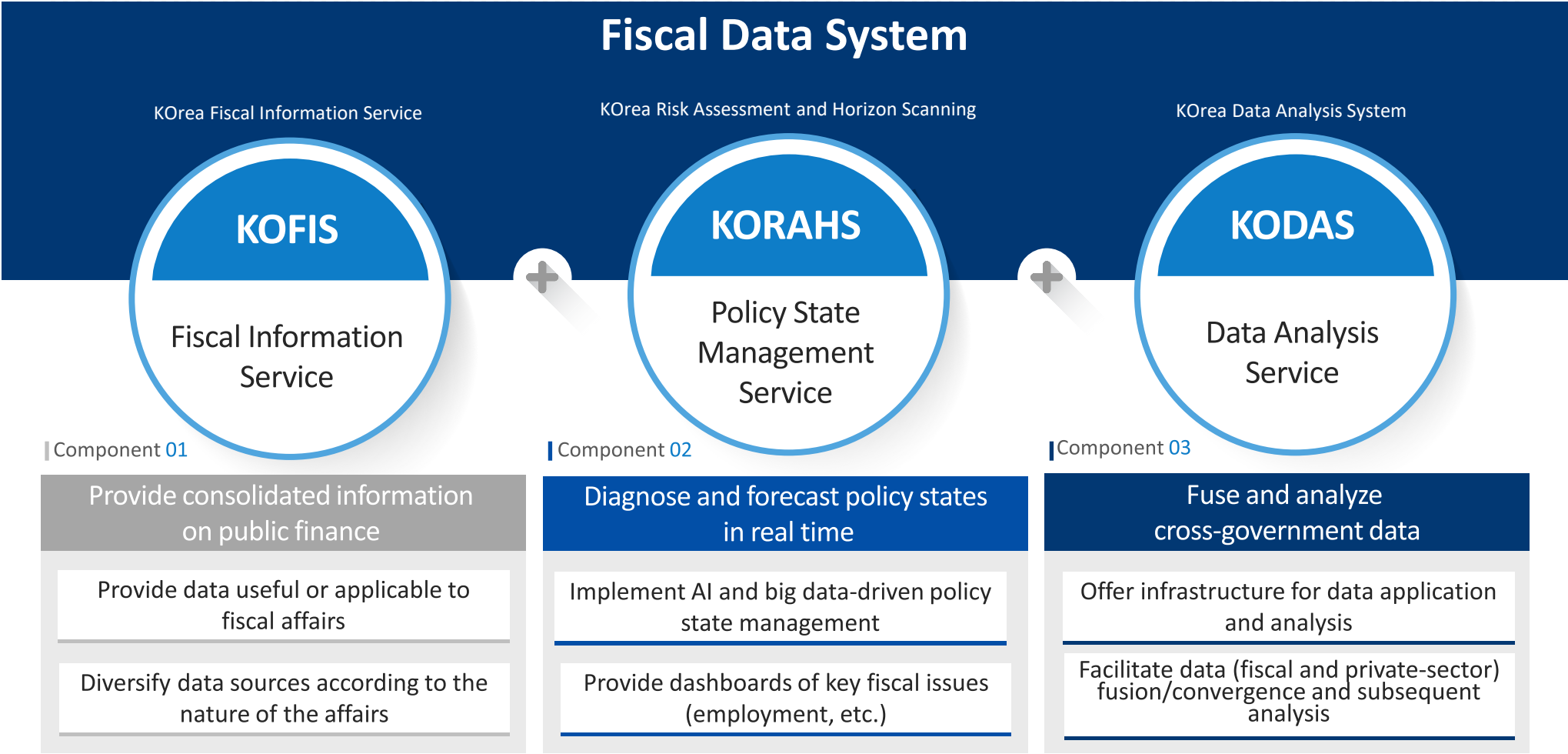


**Open Fiscal Data**  
Disclosure of fiscal information in an easy-to-understand and transparent manner

\* dBrain is a combination of 'D', meaning digital, and Brain.

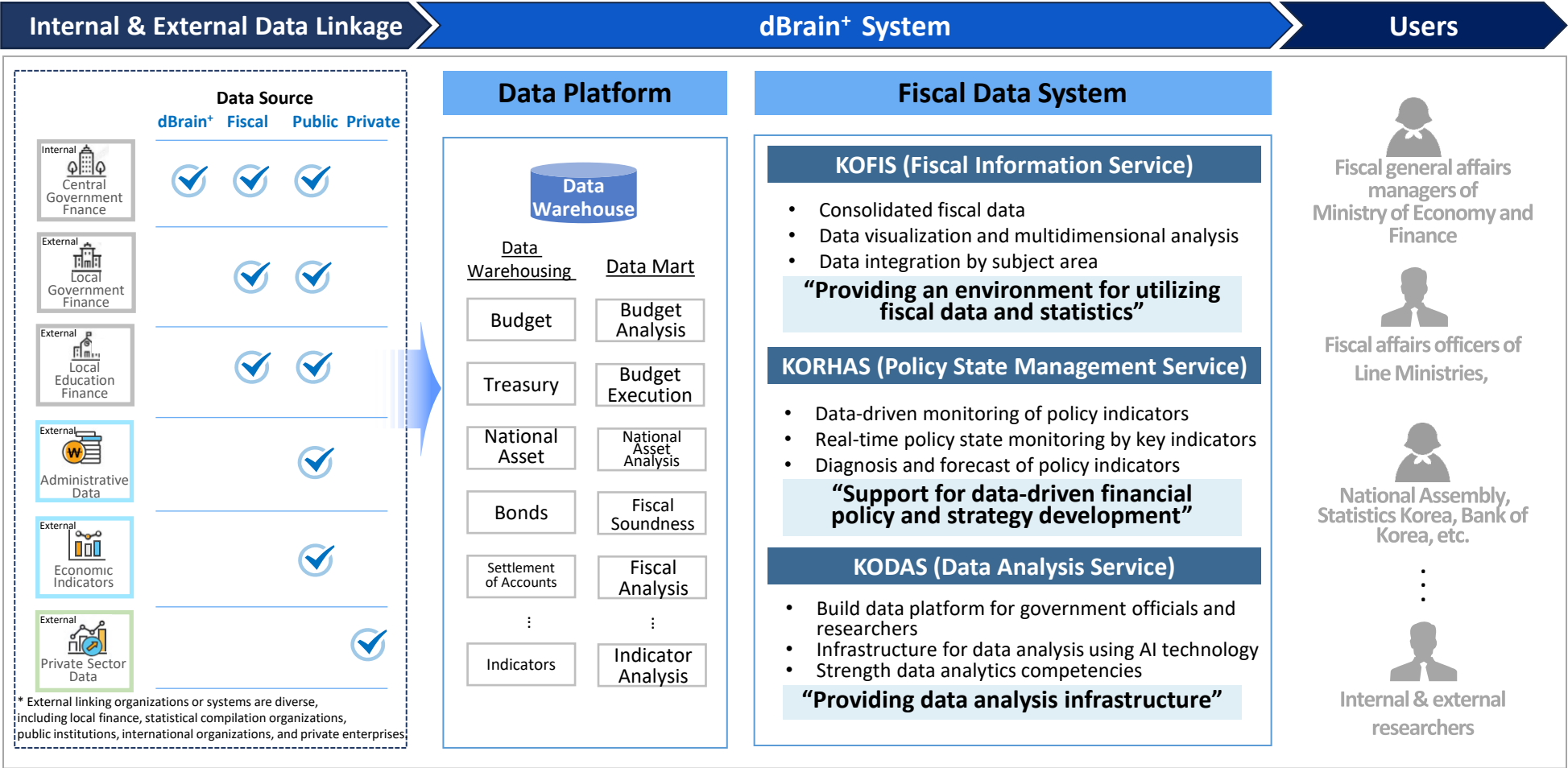


For data-driven decision making, the Fiscal Data System is composed of KOFIS, KORHAS, and KODAS.





Collect data on fiscal, economic, and private data to form data platform  
for the Fiscal Data System



5. Fiscal Information Service (KOFIS) - Provide consolidated information on public finance

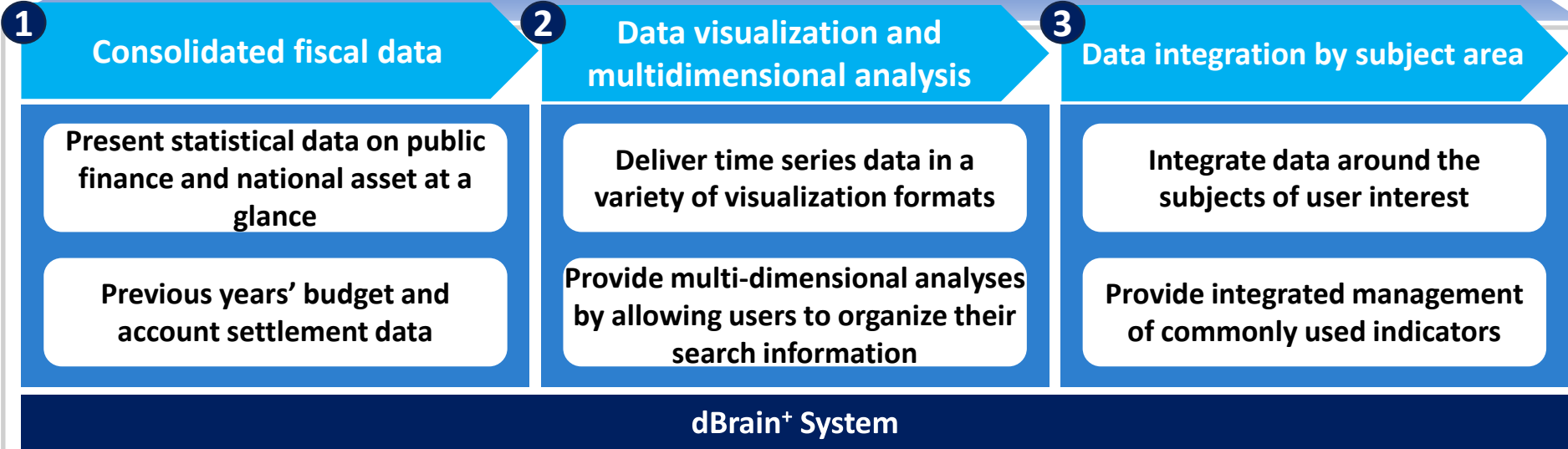


KOFIS enables users to easily understand fiscal information, such as budgets and settlement of accounts, and use this information to formulate fiscal policies.

Laying the foundation for using fiscal data

KOFIS (Korea Fiscal Information Service)

Provides data analysis functions and a variety of features to improve work efficiency



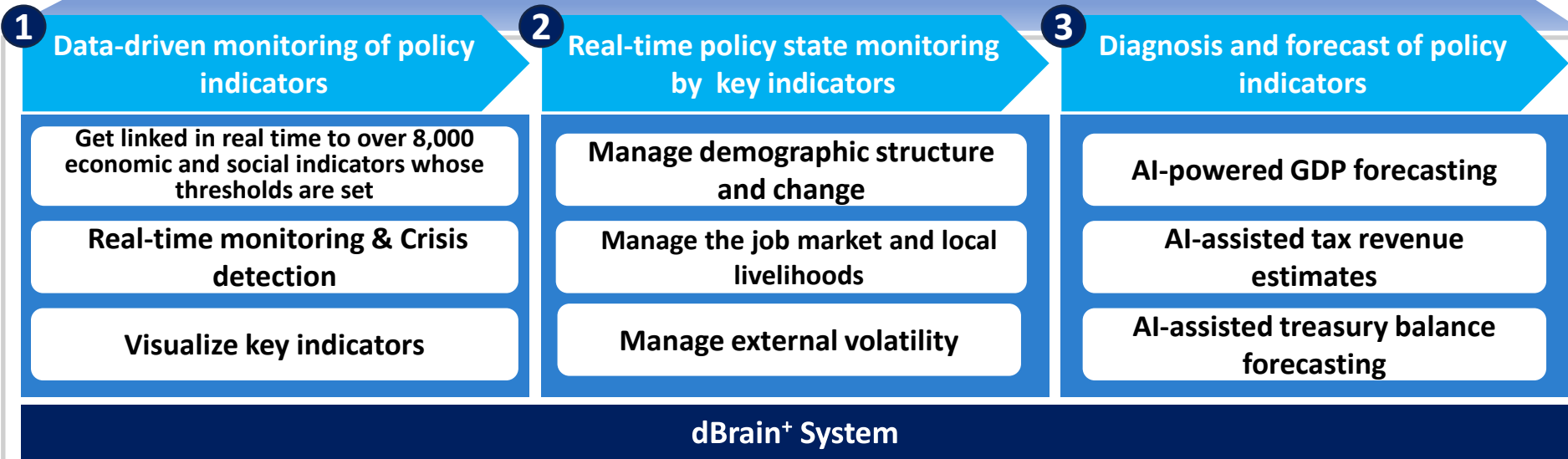


Get linked to data in real time to **identify future risks and opportunities in advance**, **support data-driven policy decisions**, and take pre-emptive actions

Implement data-driven Policy State Management Service

KORAHS (Korea Risk Assessment and Horizon Scanning)

Country-level Risk Assessment and Horizon Scanning





Monitor policy state by **linking to real-time** economic and social indicators and fiscal data for the entire country, visualize the monitoring results, and **set thresholds\*** for changes in indicator values to establish an **early warning** system



Providing visualized policy indicators

\* Threshold: Baseline for pre-detecting signs of crisis

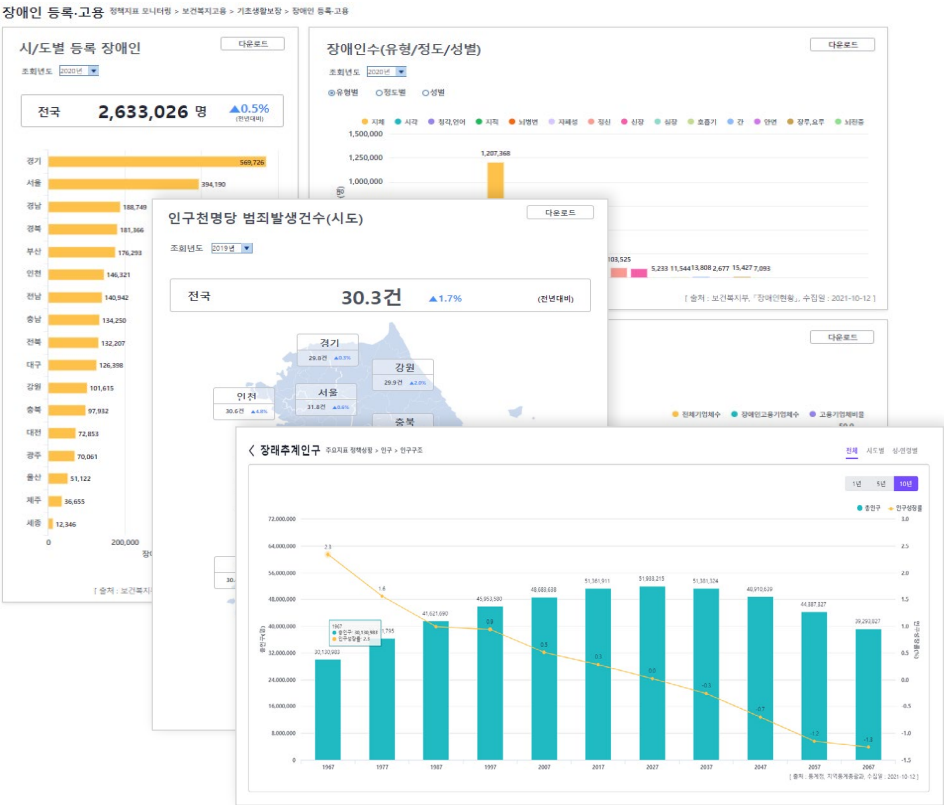
Policy indicators subject to monitoring

✓ Link to over 8,000 indicators in 71 groups of 14 divisions

- Macro-economic and social indicators, fundamental fiscal statistics, regional statistics
- dBrain financial information (2,475) + external indicators (5,604)
- Thresholds set for 5,442 out of 8,079 indicators

dBrain internal indicators (2,475)			
+			
External indicators (5,604)			
R&D, Defense, Foreign affairs, Reunification(127)	SOC (224)	Public order, Safety (266)	Education (158)
Agriculture, Forestry, Fisheries, & Food (178)	Culture, Sports, and Tourism (152)	Health, Welfare, and Employment (1,840)	Industry, SMEs, Energy (556)
General/local administration (1,314)	Public finance (148)	Local government finance (189)	Environment (452)

※ Threshold visualization has been applied for over 1,200 indicators now and will be expanded to 8,000 in the future



																				<div><div></div> Risk</div>	<div><div></div> Signal</div>	<div><div></div> Normal</div>							
기	준	일	분야	부문	지표그룹	지표	자원1	자원2	자원3	지표값	전년대비증가율		단기임계지				장기임계지				단기상태		장기상태		임계치이				
											단기	장기	관심		주의		관심		주의		상방	하방	상방	하방		상방	하방	상방	하방
													상방	하방	상방	하방	상방	하방	상방	하방									
1	2022	...	보건·복지·고용	사회복지 일반	보건복지부 일반회계 ...	보건복지예산	~	~	~	61.80	11.00	11.08	15.42	5.18	17.98	2.62	11.23	8.40	11.93	7.69	<div></div>	<div></div>	<div></div>	<div></div>	57.20				
2	2022	...	보건·복지·고용	사회복지 일반	보건복지부 일반회계 ...	보건복지예...	~	~	~	11.80	-29.75	29.35	87.40	-67.82	126.20	-106.62	18.55	-18.22	27.74	-27.41	<div></div>	<div></div>	<div></div>	<div></div>	6.53				
3	2022	...	보건·복지·고용	노동(고용)	최저임금 상승률	수혜 근로자...	~	~	~	3,550.00	-10.99	0.53	17.46	-5.81	23.28	-11.63	12.50	2.99	14.88	0.61	<div></div>	<div></div>	<div></div>	<div></div>	3,926.67				
4	2022	...	보건·복지·고용	노동(고용)	최저임금 상승률	영향률	~	~	~	17.40	-11.60	-0.64	14.76	-6.94	20.19	-12.37	9.79	1.33	11.90	-0.78	<div></div>	<div></div>	<div></div>	<div></div>	19.30				
5	2022	...	보건·복지·고용	노동(고용)	최저임금 상승률	적용대상 근...	~	~	~	20,446.00	0.73	1.41	2.64	1.03	3.04	0.63	2.55	1.70	2.77	1.48	<div></div>	<div></div>	<div></div>	<div></div>	20,350.00				
6	2022	...	보건·복지·고용	노동(고용)	최저임금 상승률	전년대비 인...	~	~	~	5.05	-38.31	-6.48	24.67	-41.31	41.17	-57.80	15.98	-11.00	22.72	-17.75	<div></div>	<div></div>	<div></div>	<div></div>	3.14				
7	2022	...	보건·복지·고용	노동(고용)	최저임금 상승률	최저임금 상...	~	~	~	5.05	-38.31	-6.48	24.67	-41.31	41.17	-57.80	15.98	-11.00	22.72	-17.75	<div></div>	<div></div>	<div></div>	<div></div>	3.14				
8	2022	...	보건·복지·고용	노동(고용)	최저임금 일반현황	수혜 근로자...	~	~	~	3,550.00	-10.99	0.53	17.46	-5.81	23.28	-11.63	12.50	2.99	14.88	0.61	<div></div>	<div></div>	<div></div>	<div></div>	3,926.67				
9	2022	...	보건·복지·고용	노동(고용)	최저임금 일반현황	시간급 최저...	~	~	~	9,160.00	3.16	6.85	11.25	4.54	12.93	2.86	9.31	6.92	9.91	6.32	<div></div>	<div></div>	<div></div>	<div></div>	8,823.33				
10	2022	...	보건·복지·고용	노동(고용)	최저임금 일반현황	영향률	~	~	~	17.40	-11.60	-0.64	14.76	-6.94	20.19	-12.37	9.79	1.33	11.90	-0.78	<div></div>	<div></div>	<div></div>	<div></div>	19.30				
11	2022	...	보건·복지·고용	노동(고용)	최저임금 일반현황	적용대상 근...	~	~	~	20,446.00	0.73	1.41	2.64	1.03	3.04	0.63	2.55	1.70	2.77	1.48	<div></div>	<div></div>	<div></div>	<div></div>	20,350.00				
12	2022	...	보건·복지·고용	노동(고용)	최저임금 일반현황	전년대비 인...	~	~	~	5.05	-38.31	-6.48	24.67	-41.31	41.17	-57.80	15.98	-11.00	22.72	-17.75	<div></div>	<div></div>	<div></div>	<div></div>	3.14				
13	2022	...	보건·복지·고용	인구	가구주의 성/연령별 추...	계	계	95~99세	~	17,644.00	7.75	13.59	27.54	6.43	32.82	1.15	22.56	12.98	24.96	10.59	<div></div>	<div></div>	<div></div>	<div></div>	16,113.67				
14	2022	...	보건·복지·고용	인구	가구주의 성/연령별 추...	계	계	65~69세	~	1,725,554.00	7.50	5.63	6.78	3.29	7.65	2.42	5.28	3.65	5.68	3.24	<div></div>	<div></div>	<div></div>	<div></div>	1,618,26...				
15	2022	...	보건·복지·고용	인구	가구주의 성/연령별 추...	계	계	70~74세	~	1,266,715.00	4.50	3.57	4.92	1.10	5.88	0.15	3.23	1.58	3.64	1.17	<div></div>	<div></div>	<div></div>	<div></div>	1,220,27...				
16	2022	...	보건·복지·고용	인구	가구주의 성/연령별 추...	계	계	35~39세	~	1,560,649.00	-5.36	-2.41	1.27	-4.11	2.62	-5.46	0.04	-1.80	0.51	-2.27	<div></div>	<div></div>	<div></div>	<div></div>	1,659,76...				
17	2022	...	보건·복지·고용	인구	가구주의 성/연령별 추...	계	계	65세이상	~	5,131,820.00	5.35	5.07	5.23	4.65	5.37	4.51	4.99	4.73	5.05	4.66	<div></div>	<div></div>	<div></div>	<div></div>	4,884.56...				
18	2022	...	보건·복지·고용	인구	가구주의 성/연령별 추...	계	계	85~89세	~	336,712.00	10.20	10.55	11.41	10.39	11.66	10.14	11.46	10.69	11.66	10.50	<div></div>	<div></div>	<div></div>	<div></div>	308,691.00				
19	2022	...	보건·복지·고용	인구	가구주의 성/연령별 추...	계	계	20~24세	~	471,206.00	-1.24	-0.11	2.17	-0.71	2.89	-1.43	2.56	0.48	3.07	-0.03	<div></div>	<div></div>	<div></div>	<div></div>	480,496.67				
20	2022	...	보건·복지·고용	인구	가구주의 성/연령별 추...	계	계	100세이상	~	2,016.00	12.76	11.13	20.03	-11.37	27.88	-19.22	9.24	0.36	11.46	-1.85	<div></div>	<div></div>	<div></div>	<div></div>	1,779.67				
21	2022	...	보건·복지·고용	인구	가구주의 성/연령별 추...	계	계	80~84세	~	721,252.00	6.23	7.10	9.09	6.20	9.82	5.48	9.40	7.34	9.91	6.82	<div></div>	<div></div>	<div></div>	<div></div>	674,519.67				
22	2022	...	보건·복지·고용	인구	가구주의 성/연령별 추...	계	계	60~64세	~	2,385,791.00	4.56	5.65	7.59	5.36	8.14	4.80	6.91	5.77	7.20	5.48	<div></div>	<div></div>	<div></div>	<div></div>	2,300,91...				



Display key policy indicators including demographics, employment, local livelihoods, external volatility for in-depth monitoring



Policy State Management Dashboard



Key indicators for policy state management

- ✓ Indicators needed for policy making, such as demographic structure and change
- ✓ Employment state, job creation and quality, the status of fiscal expenditure
- ✓ Indicators related to the early detection of and response to local livelihood challenges
- ✓ External volatility indicators (cross-border finance, exports, etc.)

Demographics	Employment	Local livelihood	External volatility
Population projection	Fiscal projects for job creation	Government subsidy	Trade, Fiscal project
Working-age population	Employment rate	Fine dust	Import/Export
Number of births	Unemployment rate	House price index	Exchange rate
Total fertility rate	Youth unemployment	Unemployment benefits	Foreign exchange reserves
Total dependency ratio	Non-regular workers	Electricity consumption	International balance of payments
...	...	...	...
37 indicators	21 indicators	30 indicators	24 indicators

- Using AI and big data technologies, the effectiveness of fiscal investments in 12 areas will be analyzed over a long period of time.



Provide a space for government officials and researchers to use and analyze **AI-powered data** and strengthen data analytics competencies



Implement **data-driven** administration and digital government platform



(Korea Data Analysis Service)

1 Build data platform

- Fiscal data
- Data on economic and social indicators
- Data from the administrative and public sector
- Private sector data

2 Infrastructure for AI data analysis

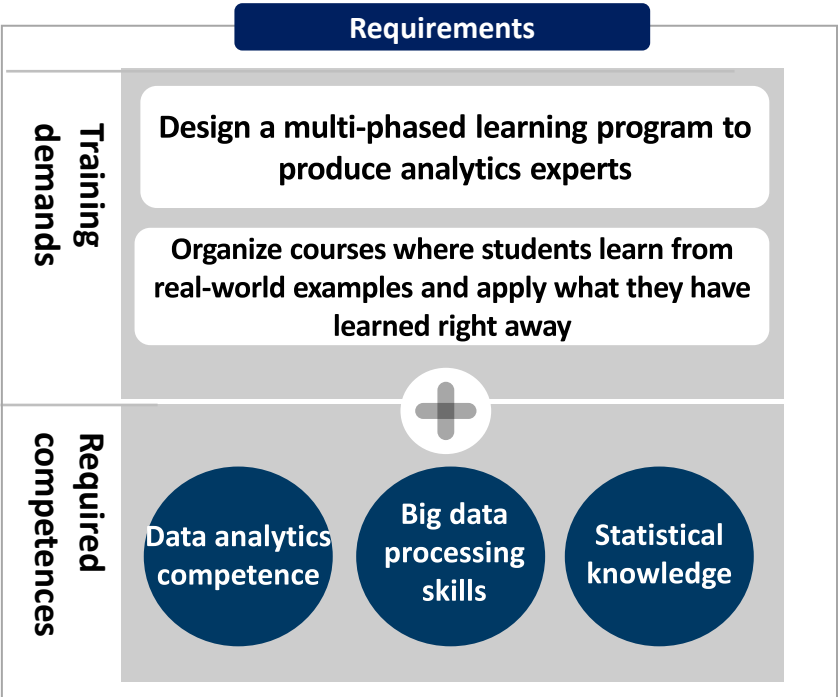
- Provide online (for public officials) and offline labs (for private sector researchers)
- Offer AI analysis tools, such as Python
- Provide a user-friendly UI

3 Strengthen data analytics competencies

- Opened a data analysis/education center (Aug. 2022, Sejong)
- Run a multi-level data scientist (DS) training program
- Provide customized consulting
- Expand partnerships with other educational organizations



A 3-level education program has been established to train data scientists (DS) to enhance data analytics competencies



Program Highlights		
	Basics (Introductory/Practice)	Advanced
Target Audience	Undergraduate (or graduate) students or the general public who are interested in fiscal data analysis *The program is completely free.	
Course Outline	June ~ December per year	The classes is organized 2 or 3 times a month.
Course Enrollment	Online, always-on learning (24/7, 365 days a year)	
Curriculum	1. Introduction of Statistical Analysis 1) Data Analytics 2) Brightics AI and Other Analysis Tools	Participants enroll online and take the course offline on a rolling basis 1. Statistical Analysis 1) Data Sampling 2) Regression Analysis, Logistic Regression Analysis
	2. Data Analytics Environment Setup	2. Machine Learning 1) Regression/Classification Models 2) Time Series Analysis 3) Unsupervised Learning
	3 Practice of Data Analytics 1) Data Analytics Process 2) Data Collection/Process 3) Data Analytics/Visualization	3. Practice/ Project 1) Mini-project with the use of open data 2) Python, SQL Script
*Brightics AI :AI-powered data analytics and visualization platform		
Note	(1) Certificate will be awarded to participants who complete 100% of the Basic Courses and 80% of the Advanced Course	
	(2) Education center : Fiscal Data Analysis Center in Sejoing City	



Key Issues

Solutions

Institutional Foundation	<ul style="list-style-type: none"><li>• Enactment and application of laws: Data-Driven Administration Act, Personal Information Protection Act, Public Data Act, etc.</li><li>• Operation of the Data-Based Administration Committee: Policy deliberation, system and law improvement, data rejection adjustments.</li></ul>
Government Agency Coordination	<ul style="list-style-type: none"><li>• Form an inter-ministerial body for data sharing and utilization.</li><li>• Establish data standardization guidelines for government organizations.</li></ul>
Project Management	<ul style="list-style-type: none"><li>• Coordinate with MOEF, KFIS, and service providers to monitor progress.</li><li>• Systematically manage schedules with change management for delays.</li></ul>
Data Consistency & Reliability	<ul style="list-style-type: none"><li>• Review and verify economic and social indicators during KORHAS operation.</li><li>• Calibrate fiscal forecast models (e.g., GDP) and discover new models for government organizations.</li></ul>
Data Utilization	<ul style="list-style-type: none"><li>• Revitalize Fiscal Data System: Implement measures to enhance FDS for government users, create use cases for KORHAS and KODAS and conduct training for Data Scientists.</li><li>• Differentiate and Strengthen Services: Highlight fiscal indicators and link various indicators with fiscal performance indicators.</li></ul>

Lessons Learned

1. **Data Governance:** Apply governance during both construction and operation of the FDS system, establish and operate data policies, and designate the fiscal data governance body.
2. **Data-Driven Decision-Making:** Expand data analysis capabilities among government officials, secure professional manpower to support data-driven decision-making.
3. **Resource Allocation:** Secure necessary resources (budget and professional manpower), promote sustainability of the FDS system and data-related works.



Short Term

- Expand FDS System Use: Conduct a survey to gather opinions, understand data-based administration awareness, system use status, and identify improvement needs.
- Enhance FDS System: Perform improvement work and conduct promotional activities and link KORHAS system menus and key ministries' messengers to financial analysis shortcuts.
- Foster Data Scientists: Diversify training programs and conduct regular education, expand data utilization examples, systematize the DS curriculum, and distinguish between required and elective courses.

Mid Term

- Budget and Resources: Review and secure additional budget including costs for professional manpower, solutions, and licenses.
- Data Visualization and Analysis: Review data visualization and utilize data for decision-making reports using AI technologies(e.g. Large Language Model).

Long Term

- FDS System Reorganization and Expansion: Transform into a professional organization with financial, economic, and big data experts, collect and expand data necessary for decision-making, including fiscal policy.
- Public Network Consideration: Release some FDS systems to the public network (Internet)

# Q & A

The Future of IFMIS with Korean Experience - dBrain +

# Thank You

The Future of IFMIS with Korean Experience - dBrain \*