2021

Digital New Deal

Introduction of

Big Data Platform & Center

Ministry of Science and ICT

NIA NATIONAL INFORMATION SOCIETY AGENCY

Introduction of the Project

> **Promote the 'Big Data Platform and Network Building Project' which supports production → collection → analysis → distribution of data through collaboration of public and private sectors**

- The Ministry of Science and ICT (hereinafter referred as the MSIT) and the National Information Society Agency(NIA) established a basis for high-quality data production, accumulation and data distribution, transaction by building and connecting a big data platform.

- They have built 16 big data platforms for each field which collect, analyze, and distribute various data, and fostered 180 big data centers with a focus on platforms.

  ※ Sixteen(16) platforms (Finance, Environment, Culture, Transportation, Healthcare, Distribution·Consumption, Telecommunication, Small and Medium Enterprise, Local Economy, Forest, Agrifood, Digital Industrial Innovation, Lifelog, Firefighting and Safety, Smart Policing, Maritime Affairs and Fisheries)
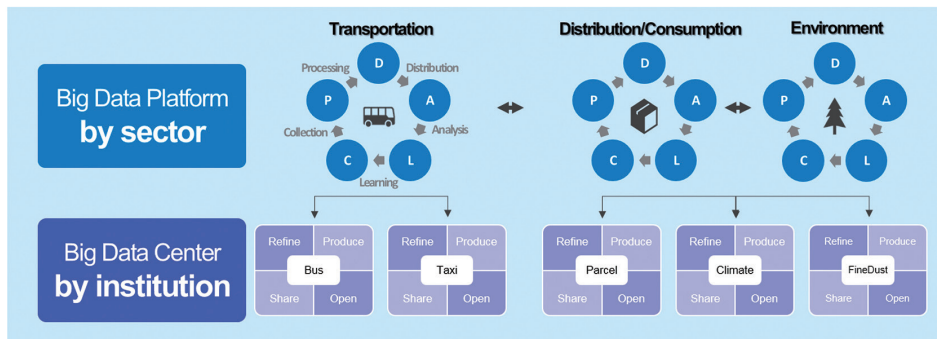
[The Concept Diagram of Big Data Platform and Center]

Status of Building the Big Data Platform and Center (Nov. 2021)

Category	Institution	List of the Center	Main Contents of the Platform
01 Finance	BCcard	**11 centers -** Nota, The Nielson Company Korea, VAIV Company, INNOFIN, GC COMPANY, HABIT FACTORY , KT, KAPA(Korea Association of Property Appraisers), KWIC(KIWOONG INFORM & COMM), Korea Financial Solution, Busan Metropolitan City	Provide one-stop big data service from supply to processing, consulting for living and financial data by using financial (card consumption, insurance, securities) and non-financial (telecommunication, social/SNS, distribution, media, commercial district) data
02 Environment	K-Water	**12 centers -** KMI (Korea Meteorological Institute), NIE (National Institute of Ecology), KEI (Korea Environment Institute), KIGAM(Korea institute of Geoscience and mineral resources), GDSCONSULTING, GREENECOS, KAIST (Korea Advanced Institute of Science and Technology), NOVACOS, Eco&Partners, National Science Museum, UICF.Kangwon (Kangwon University-Industry Cooperation Foundation), KIOST(Korea Institute of Ocean Science and Technology)	Provide service, such as park recommendation based on air quality and media environmental issue analysis, by integrating data, such as water, weather/climate, fine dust, geology/disaster, ecology/resources, chemical/substances, environmental SNS and environmental regulations, and etc.
03 Culture	KCISA	**15 centers -** National Library of Korea, KSPO (Korea Sports Promotion Foundation), Arts Council Korea, KYWA (Korea Youth Work Agency), Busan IT Industry Promotion Agency, Yanolja, REDTABLE, RedTie, DataMKTKorea, TNMS(Total National Multimedia Statistics), 12CM, Jeju Tourism Organization, ConsumerInsight, CTIA (Chungnam Information Culture Technology Industry Agency), The Federation of Korean Cultural Centers	Provide service, such as cultural and leisure information and SOC dashboard service for policy decision support, by integrating and compounding data, such as culture, accommodation, leisure, food, commercial district, book, trend, local culture, etc.
04 Transportation	KOTI	**12 centers -** UIPA (Ulsan ICT Promotion Agency), POHANGTP (Pohang Technopark), INAVI Systems, KT, KCB(Korea Credit Bureau), Seongnam City, Jinju City, Daejeon Metropolitan City, Seoul Metropolitan Government, REB(Korea Real Estate Board), OPENmate_On, KRRI(Korea Railroad Research Institute)	Provide support for advancement of transportation services based on mobility data on the movement of vehicles and people, such as vehicle GPS, public transport, and rail transport, etc.

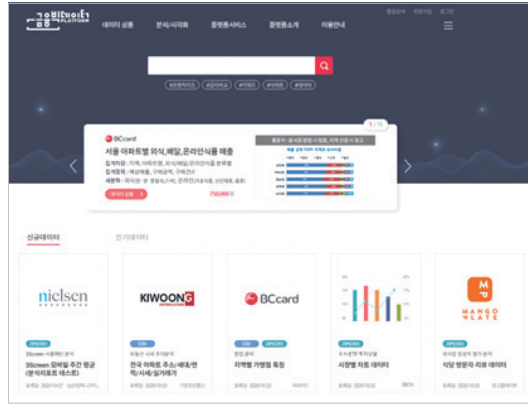| Category	Institution	List of the Center	Main Contents of the Platform
05 **Healthcare**	National Cancer Center	**10 centers -** SMC(Samsung Medical Center), Yonsei Cancer Center, Konyang University Hospital(KYUH), Jeonbuk National University Hospital, DCMC(Daegu Catholic University Medical Center), SNU(Seoul National University), SNUBH(Seoul National University Bungdang Hospital), CNUHH(Chonnam National University Hwasun Hospital), AjouMC (Ajou University Medical Center), Gil Medical Foundation	Utilize integrated clinical data for each of the ten major cancer types in cancer diagnosis, decision of an attending physician, research and develop of anticancer drugs, and etc.
06 **Distribution, Consumption**	MBN	**13 centers -** NICE D&R(DATA & Research), VAIV Company, Dable, Loplat, Builton, Siksin, ONNURI H&C (Health & Communications), GinPlus (APTGIN), KCB(Korea Credit Bureau), POSA(Korea Postal Service Agency), NICE D&B(Dun&Bradstreet) Co., Ltd., KyungDong City Gas, Urban Union	o Provide service, such as preferred dining item by lifestyle and regional online product purchase information, by integrating data, such as distributed product, card payment, parcel invoice, telecommunication, real estate, commercial district, logistics, blue-ribbon restaurant, used car price, and social/SNS
07 **Telecommuni-cation**	KT Corp.	**14 centers -** KISA(Korea Internet & Security Agency), Incheon Technopark, KFME(Korea Federation of Micro Enterprise), Kyonggi University, Amazing Food Solution, doinglab, Konan Technology, OPENmate, NEXTEZ, NES, KSGI(Korea Smart Grid Institute), ZEROTOONE Partners, MOTOV, BC Card	Provide service, such as commercial area analysis and living population analysis, by integrating data, such as population for distribution, commercial district, card consumption, tourism, transportation card information, and social/SNS
08 **Small and Medium Enterprise (SMEs)**	Douzone ICT Group	**12 centers -** Bigvalue, KPC(Korea Productivity Center), KTNET(Korea Trade Network), Wisenut, NICE Information Service, KOITA(Korea Industrial Technology Association), Incruit, Green Technology Center, SUNDOSOFT, Korea Price Information, KLiS(Korea Law Information Service), KMR(Korea Management Association Quality Assurance)	Provide service, such as corporate management information analysis and job demand forecast, by integrating data, such as SME (small and medium enterprise) accounting information, real estate, insurance policy, corporate employment and welfare, and social/SNS

Category	Institution	List of the Center	Main Contents of the Platform
09 **Local Economy**	**Gyeonggi Province**	**10 centers -** Gyeongggido Job Foundation, TheIMC, Gyeongggi Credit Guarantee Foundation, Korea Enterprise Data, KRIHS(Korea Research Institute for Human Settlements), Hanyang University, KITECH(Korea Institute of Industrial Technology), KONA I, Pumpkin, KCD(Korea Credit Data)	Provide service, such as local consumption pattern analysis and customized job matching, by integrating data, such as local currency payment information, company information, job, credit rating, credit card company information, and Gyeonggi-do(province) population, housing, and environment
10 **Forest**	**KOFPI**	**12 centers -** BEAGLE, AroIntech Inc., Infoboss, Korea Forest Welfare Institute, SEESUNIT, WoorimNR, Samah Aerial Survey, AICON COMPANY, Market Link, KIOM(Korea Institute of Oriental Medicine), DataScienceLab, ECOEYE	Provide service, such as trekking and forest product information, by integrating data, such as forestry, hiking trail, forest trail, bicycle, public transportation, mountain weather, forest disaster, and aerial image
11 **Agrifood**	**Korea Agro-Fisheries & Food Trade Corporation**	**10 centers -** EZFARM, ULOGISNET, Jangbogofood, NICE ZiniData, KPLUS, EZHLD, KTSPI(Korea Trade Statistics Promotion Institute), JCIA(Jeonnam Information & Culture Industry Promotion Agency), One Data Technology, PLAN INFINIT	Prepare an integrated public and private data utilization system for each agricultural food production, distribution, and consumption sector, and establish an integrated data hub for distribution and transaction of agricultural food
12 **Digital Industrial Innovation**	**Korea Testing Laboratory**	**10 centers -** ENCGLS, GAION, HelloDD.com, KMX (Korea M&A Exchange), Alicorn FnGuide, STH.I.S, Hebronstar Strategy Consultants, BaX Intelligence, Patentpia	Generate new business through use in industrial crisis management and policy establishment, and opening to private by establishing a big data platform to support innovation in key industries
13 **Lifelog**	**Yonsei University (Wonju) Industry Academic Cooperation Foundation**	**12 centers -** Korea University Medicine, KNUH (Kangwon National University Hospital), Hallym University Medical Center, i-SENS, Bagel Labs, Huraypositive, Goodoc, The Korean Audiological Society, Kweather, HealthMax, Health Bridge, LG Uplus	Establish lifelog big data, which can collect, analyze, and utilize lifelog throughout the entire lifecycle, and foster an industrial ecosystem

Category	Institution	List of the Center	Main Contents of the Platform
14 Firefighting Safety	National Fire Agency	**9 centers -** Sejong Fire Headquarters, Ulsan Fire Headquarters, KFI(Korea Fire Institute), KFPA (Korea Fire Protection Association), Alllitelife, Updater Group, Korea Fire Protection UBIS, PDTech(Prognosis & Diagnostics Technologies, Gangwon Province	Provide high-quality firefighting and disaster safety information and prepare the foundation for its distribution and trade by collecting and analyzing data in firefighting and disaster safety and firefighting industry
15 Smart Policing	Korean National Police University	**10 centers -** TheCheat, LH (Korea Land & Housing Corporation), Amgine Securus, Seoul Credit Guarantee Foundation, JIRANDATA, S2W, E2ON, Suwon City, Yonhap News Agency, ITRO	Establish a foundation for public safety protection by integrating private and public security data, which can predict and analyze danger
16 Maritime Affairs and Fisheries	Korea Maritime Institute	**11 centers -** KOMSA(Korea Maritime Transportation Safety Authority), GIST(Gwangju Institute of Science and Technology), Korea Maritime and Ocean University Marine Venture Development Center, UNIST(Ulsan National Institute of Science and Technology), Mokpo National University Industry-Academic Cooperation Foundation, LabO21, Korea Environment Science & Technology Institute, Haewoo, SPLIA(Shipping & Port Logistics Information Association), Billion21, AllSeaData	Establish a data collection system for all fields of maritime, shipping, fisheries, and ports, and build a maritime and fishery big data marketplace, which can integrate, process, and distribute data

01 | **Finance** Big Data Platform
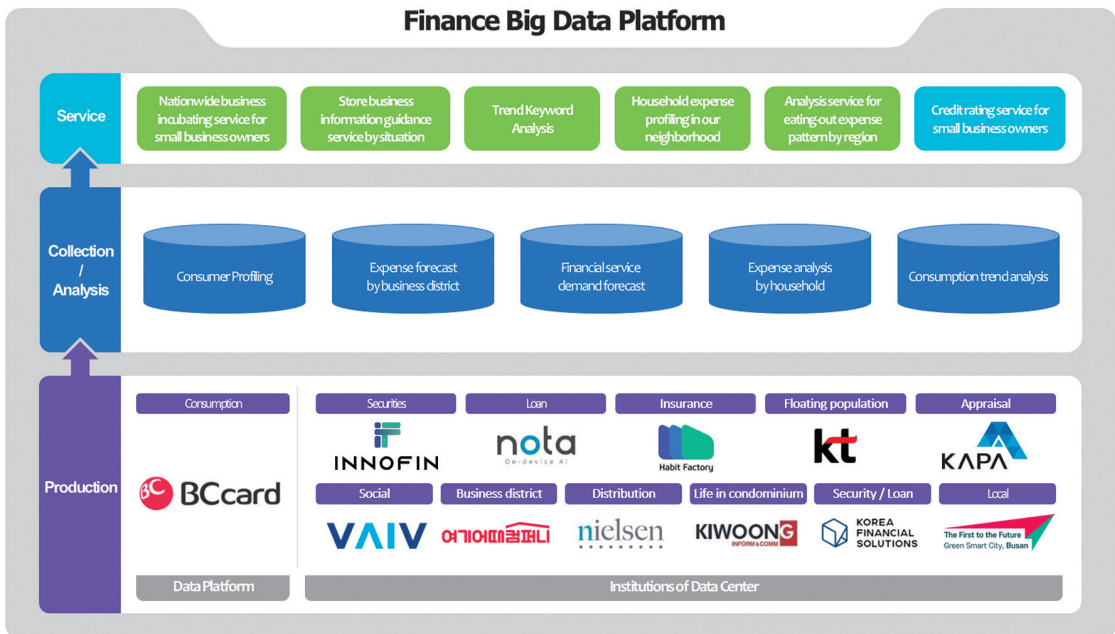## www.bigdata-finance.kr

▶ Status of Platform Building

BCcard, the leading institution of the financial platform, has formed a consortium by collaborating with 11 centers that produce data, such as insurance, securities, and telecommunication, to increase the value of integrated data by combining data in other financial and industrial area.

[Homepage Screen]

[Platform Concept Diagram]

▶ Major Data

Name	Category	Data provided
BCcard	Card	Card consumption analysis data by region and industry, online purchase data by item, consumption analysis data for trend such as non-contact, consumption propensity analysis data by household
Innofin	Security	Trading signal by stock, value/dividend by stock, fundamental (financial ratio) by stock/industry, AI news sensitivity index, AI issue keyword
Nota	Loan	Online payment analysis data, self-employment sales analysis data, sales data by region and industry of self-employment
Habit Factory	Insurance	Insurance policy information, insurance analysis information, insurance premium analysis information, cancer insurance subscription status information, insurance product terms and conditions information
KT	Telecommunication	Average walking floating population, walking floating population, floating population by cell etc.
VAIV Company	Social/SNS	Issue keyword, keyword buzz trend, list of related words, financial sensitivity index, original text information etc.
GC Company (MangoPlate)	Commercial district	Basic information about restaurant in commercial district, review data by restaurant, picture/image data by restaurant, commercial-district analysis data, specialized dictionary related with food-restaurant etc.
Nielson Company Korea	Distribution	Consumer (under distribution cycle) basic purchasing behavior index, consumption analysis of F&B franchises, mobile usage pattern data of smartphone users
KAPA	Appraisal	Statistics of precedent record, Sales statistics of court bidding by use/region etc.
KWIC	Condominium Information	General information and market price of condominium, management fee of condominium (payment amount, method, and pattern), moving date information of condominium's tenant (based on Jeonse*), parking information of condominium (the number of parking spaces, two cars for one household), moving in-and-out information of condominium residents * Jeonse(lump-sum housing lease) is a Korea's unique long-term deposit-based housing rental system in which a tenant pays a landlord a large sum of deposit (usually in a lump-sum payment) in return of no monthly rent.
Korea Financial Solution	Finance	Loan interest rate, original text collection score, Topic information standard score, stock price processing information, stock volatility information
Busan Metropolitan City	Local area	Transportation card for Busan Metropolitan City (boarding, transfers, line/route), business entity's status by region and industry, demography, shopping/blue-ribbon restaurant, housing(sing-family, multi-family etc.) transaction public data

▶ Innovative Service of Platforms

① The worth-jackpot map

● Provide a service, which predicts the possibility of startup business success by local commercial district, for prospective entrepreneurs by visualizing information related with commercial district, such as sales information by industry, sales trends, and promising industries in the finance big data platform

② Which store is open?

● Business information check service for each situation, such as night time and holidays, using credit card payment time and store business information

③ Food Taste awareness

● A service which visualizes change in consumption in the food industry due to the impact of COVID-19
 - Provide food-type purchasing pattern and delivery use ranking data by condominium after selecting the base year, month, and residence area
● Use it as a reference for target marketing of small business owners based on food taste and the number of delivery by apartment

④ Household expense profiling in our neighborhood

● A service which visualizes and automates characteristics of household and consumption by consumption propensity of residential households by region
 - When selecting the base year, residential area, and household consumption propensity segmentation based on AI model, one can inquire about household (age, income level, housing type) and consumption characteristics (industry, time zone) by type of household of the corresponding region
 - Small business owners in alleyway can identify the consumption propensity of local residents, and use it for selection of industry for business open or marketing
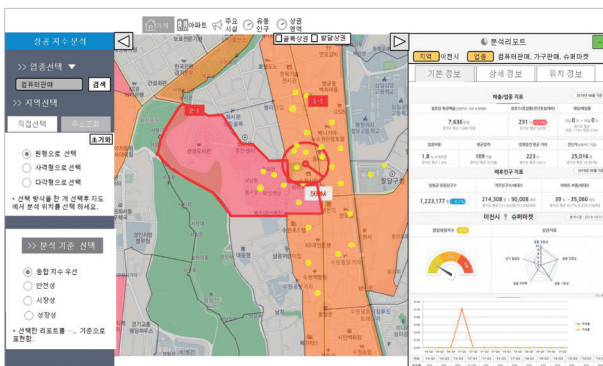
[The worth-jackpot map]

[Which store is open?>]

▶ Best Practices
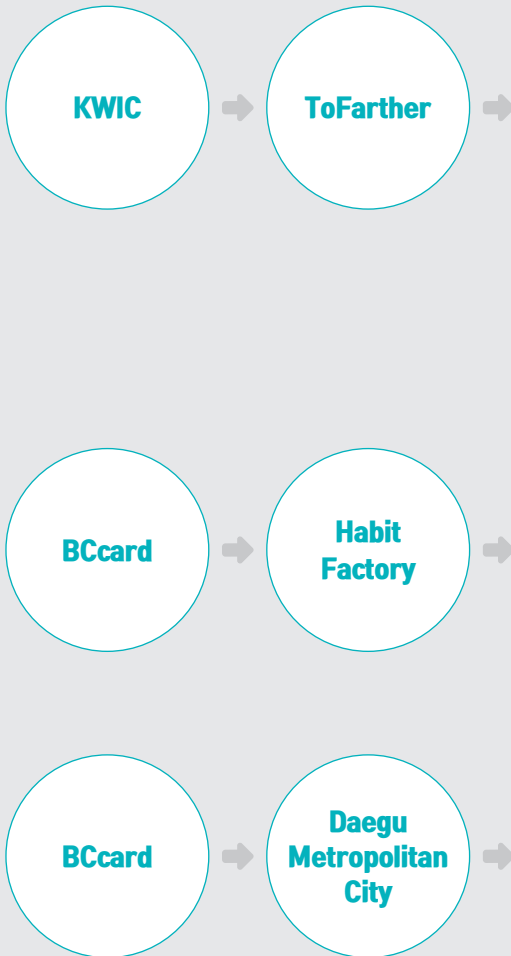
Company providing data	Company utilizing data	Main contents
KWIC ➡	**ToFarther** ➡	● Advancement of integrated management service for electricity bill for condominium – 'ToFarther,' a social enterprise which provides consulting on reducing common electricity bill for condominium, utilizes KWIC's a nationwide data of condominium management cost to advance the service model and expand the business scope ● It analyzed the method of electricity rate contract between KEPCO (Korea Electric Power Corporation) and condominium complex and contributed to reducing common electricity cost (Reduced the cost of KRW 18 million for Pangyo ** Condominium, etc.)
BCcard ➡	**Habit Factory** ➡	● Claim notification service of medical expenses (Household account book for medical expense) – 'Habit Factory (Financial Center),' an insuretech company, provides real-time medical-expense insurance claim notification and claim service after spending medical expenses by using a member store's industry data of BC card
BCcard ➡	**Daegu Metropolitan City** ➡	● It is used to establish policies in accordance with the spread of COVID-19 to revitalize the local economy by providing regional consumption analysis data of "Daegu Metropolitan City" – It analyzes the industries and regions of Daegu City damaged by COVID-19 based on card consumption data, and uses it to establish preferential support policy

▶ Status of Platform Building

K-Water, the leading institution of the environment platform, has established a platform for securing specialized data for each environmental field, such as water, living, and natural environment, and systematizing and standardizing environmental data. It has formed a consortium with 12 centers which produces data on living and natural environment

[Homepage Screen]

Environment Big Data Platform

Service	Customized water quality information service	Water-leisure adequacy index provision service	City park recommendation service	Regional environmental issue analysis service	Groundwater supply information provision service	Visualization of urban inundation prediction alerts

Collection / Analysis
- Pollution source fusion processing information by environmental medium
- High-resolution air quality index information by region
- Comprehensive information on ecology, climate, and disaster by region
- Comprehensive information on detailed environmental and ecological surveys by region
- Information on the use of chemicals by lifestyle
- Status and forecast information on fine dust by tourist destination
- Facility/water quality convergence information by tap water supply process
- Regional environment/traffic/tourism convergence information

Production

water/environment	weather, forecast	Flora and fauna/Ecology	Geology/Topography	Environmental impact	Environmental Act	Chemicals/products
K water	KMI Korea Meteorological Institute	NATIONAL INSTITUTE OF ECOLOGY	KIGAM Korea Institute of Geoscience and Mineral Resources	KEI Korea Environment Institute	ECO&PARTNERS	그린에코스(주)

	Fine dust/Social economy	Indoor air quality	3D of Biological resources	Air Pollutants	Meteorological Disaster	mudflat
	GDS CONSULTING global data service	KAIST	National Science Museum Republic of Korea	novacos	KNU KANGWON NATIONAL UNIVERSITY	KIOST KOREA INSTITUTE OF OCEAN SCIENCES & TECHNOLOGY

Data Platform	Institutions of Data Center

[Platform Concept Diagram]

▶ Major Data

Name	Category	Data provided
K-Water	Water, Environment	Specification of multi-purpose dams and dams (for water available to use), operational information (10 minute, hour, date data), specification and operational information of a multifunctional damned pool for irrigation, drought warning forecasting/alert information (one-month, three-month forecast), basic information on non-water-supply areas, specification of water purification plant in metropolitan city and local area/monthly water quality information, groundwater quality monitoring network information, information of facility for basic search of groundwater etc.
KMI	Weather, Climate	Global model (global data), regional model, local model, very-short-range model (analysis), Dong-Nae Forecast (live, short-range) radar image, satellite image etc.
KIGAM	Geology, Topography	Geological map (rock formation, fault, boundary etc.., 1:10thousand, 1:25thousand), topographic/hydrological analysis data, satellite image analysis data, integrated data of groundwater development and contamination vulnerability etc.
KEI	Environmental impact, reduction	Value of air quality measurement, measurement point of air quality, measurement point of odor, value of odor measurement, geospatial information of business site, value of greenhouse gas measurement, information on sanitation and public health, discussed opinion, resident opinion, air quality forecast, odor forecast, drone_3D point cloud, original orthographic image, 25cm resampling of orthographic image, 3D mesh, 3D animation, DEM, weather measurement, action plan for environmental damage prevention
NIE	Nature, Ecology	Information of national natural environment search (mammal, flora, insect, fish, bird, benthic invertebrate, amphibian, vegetation, topographical landscape), information of detail examination of ecosystem (mammal, flora, insect, fish, vegetation, bird, benthic invertebrate, amphibian, examined area) etc.
GDS Consulting	Fine dust	Air pollution source, water pollution source, find dust information, green card information, use area/district information, national land price information, national company/commercial building information, national household income information, disease outbreak information by region etc.
GREENECOS	Chemical substance / products	Chemical substance information, chemical product information, chemical product use information, chemical exposure information, chemical emission information, domestic and overseas management information of chemical substance, toxicity information of material, information of chemical substance structure etc.
KAIST	Air quality	Indoor air quality data (PM2.5, VOCs, CO2, temperature, humidity, indoor power consumption data, indoor environment data (illuminance, noise, IR, vibration)
Novacos	Air environment	Traffic information statistical data, information on the emission of pollutants from road-moving pollutants, pollutant scattering information, the share of traffic volume by heavy vehicle, tire dust emission, information on difference in pollutant in urban area adjacent to road etc.

Name	Category	Data provided
Eco & Partners	Environmental regulation, Air	Administrative measurement DB for violation of environmental laws, DB for negative news related with environment, chemical accident case DB, environmental & safety act information, chemical information, greenhouse gas emission and energy consumption by business site, RE100 participating company performance DB, CDP participating company performance DB, SBTi participating DB etc.
National Science Museum	Bioresource 3D design data	3D design data of indigenous species and protected species (the fauna and flora) of the Korean Peninsula (specimen data of plant, insect, bird, fish, spider, mammal, reptile, crustacean, fungi, marine life)
UICF Kangwon	Green energy	Weather data (climate change), hydrological data, hydrothermal resource data, potential of hydrothermal energy, rainfall of maximum influence, solar resource data, wind resource data, potential of solar energy, potential of wind energy, grid-based disaster damage level assessment index data, grid-based potential risk level of heavy-rain disaster, small hydro resource data, potential of small hydro energy etc.
KIOST	Mudflat	Spatial information of mudflat, environmental information of mudflat, etc.

▶ Innovative Service of Platforms

① Water in My Hand Service (My Water Service)

- A service which enables figuring out water quality of the entire process of supplying tap water from water intake to end users at a glance for the target area of the Smart Water City project (Paju City, Gyeonggi Province)

② City Park Recommendation Service

- A service which provides environmental factors, such as weather and fine dust, influential factors when going to the park, integrating with park information, and additionally provides search information of surrounding area, such as finding road, nearby restaurant, cafe, accommodation

③ Water Leisure Activity Index Provision Service

- A service which indexes the degree of suitability of water leisure as good-normal-bad through big data analysis technique by integrating weather and water quality data

④ Environmental Issue Trend Analysis

- Provide a result of regional environmental key issue analysis by region through text analysis, keyword analysis, and effective visualization of data from major media by region
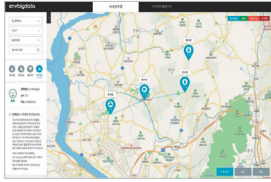
[My Water Service]   [City Park Recommendation Service]   [Water Leisure Activity Index Provision Service]   [Environmental Issue Trend Analysis]
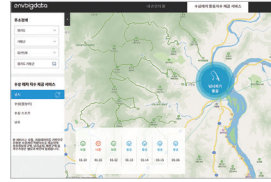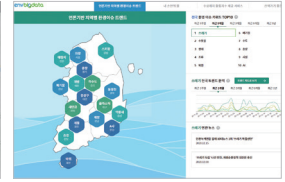
▶ Best Practices

Company providing data	Company utilizing data	Main contents

Korea Environmental Institute ➡ **Ministry of Environment** ➡

- Ministry of Environment promotes prompt and accurate environmental impact assessment discussion by utilizing the 3D drone data of 'KEI'
- Satellite images and aerial photos are two-dimensional and their use is limited due to the slow update cycle
- It is possible to shorten the discussion period by accurately analyzing the status of the target area for environmental impact assessment project. It is expected to have economic benefit due to reduction of time for data analysis and processing by an environmental impact assessment agency

K-water ➡ **Ewha Womans University** ➡

- Ewha Womans University develops a midge larva detection sensor using data on water quality status of water purification plant, river, and effluent
- In connection with water quality data of water purification plant, it is possible to preemptively respond to water quality accident, water quality abnormality, or occurrence of midge larva, thereby relieving citizens' anxiety
- It is expected to advance it as elementary technology of intelligent water quality management in the Living Lab Project (Gimhae City) promoted by Ministry of Environment and KEITI in conjunction with companies

▶ Status of Platform Building

Korea Culture Information Service Agency, the leading institution for the culture platform, formed a consortium with 15 centers, which produce data on culture, sports, and tourism, to promote an ecosystem for the use of cultural data and to improve the happy lives of the people by establishing a data platform in the cultural field

[Homepage Screen]

[Platform Concept Diagram]

▶ Major Data

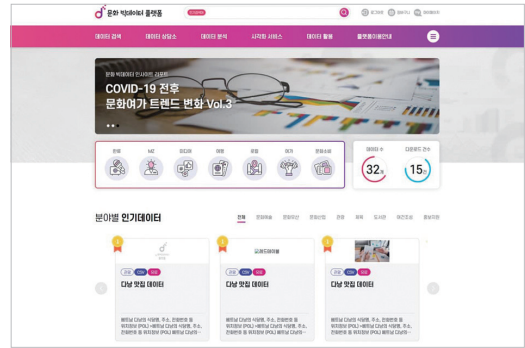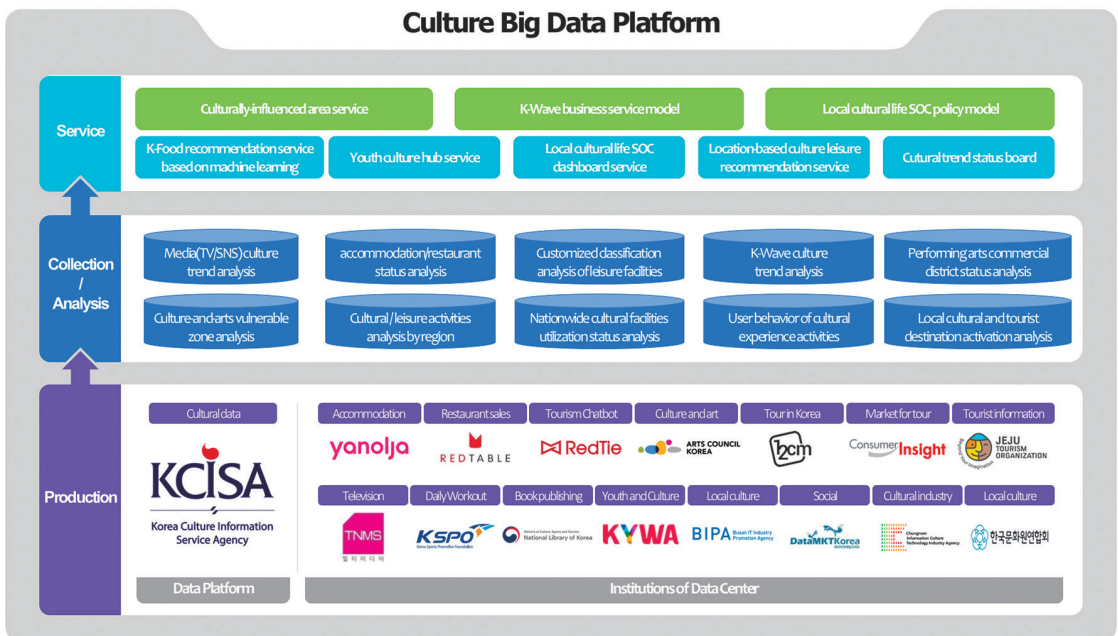| Name	Category	Data Provided
KCISA	Culture	Culture, sports and tourism facility information by customized theme for each user, such as 'Alone,' 'Senior,' 'Foreigner', detailed operational information for each type of bookstore, such as book cafes, information on overseas K-Wave research, such as Korea celebrities you want to meet, COVID-19 cultural life analysis information, SOC report on K-Wave and local life etc.
National Library of Korea	Book Publication	Operational trend of library before and after COVID-19, book lending information of library, popular book lending, status of webtoon lending, detailed information for each book, keyword by book, book sensibility data, annual reading rate/reading volume etc
KSPO	Daily Life PE	National health measurement information, recommended exercise information by age of the people, walking analysis information by the type of the people, sports facility status, sports facility safety information, information on courses and facilities available by sports-course voucher, information on utilization of Olympic Park etc
Arts Council Korea	Art/Culture	Trend of floating population information for cultural facility, location-based artwork and facility information, information of member store available to use the card for the secondary poor (Busan), online media (art)work information etc.
KYWA	Youth Cultural Activity	Information on youth activity programs, such as 'history tour,' 'volunteer activity,' 'exchange' etc., information on youth programs, youth facility and program safety data, information related with youth protection/welfare
Busan IT Industry Promotion Agency	Local culture	Information on attractions in Busan/foodie tour/marine experience/extraordinary travel/ photo spot, information on floating population and movement flow Busan Cultural Center, information on floating population of commute by region etc.
Yanolja	Accommodation, Leisure	Facility and operation information for each domestic accommodation business site, production information for each domestic leisure theme (waterpark, extreme, fishing, experience, etc.), foreign language information for each domestic accommodation business site, review or ranking information for each domestic accommodation business site, usage rate analysis information by region/day/type of domestic accommodation, information on nearby restaurant etc.
REDTABLE	Tourism	Multi-lingual information(Korean-Chinese-Japanese-English Languages) of Domestic and overseas restaurant, menu, exemplary restaurant, integrated and combined information on accommodation around restaurant,Muslim-friendly restaurant information etc.
RedTie	Tour Chatbot	Speech data and its text extraction data generated by hotel concierge chatbot, Korean top concierge category, information on national hotel banquet halls (family, corporate, conference room) etc.
DataMKT Korea	Social/SNS	Trend information on popular search keyword and brand for shopping (childcare products, food, rental car, hiking field), search keyword information of popular attractions in Jeju Province, Mom Cafe emotional analysis and related word analysis information for child education and product etc
TNMS	TV	TV contents information on local festival/travel/blue-ribbon restaurant, information on TV program and commercial rating, information on the number of VOD viewer etc

Name	Category	Data Provided
12CM	Tourism voucher distribution	Online consumption pattern, information on the use of domestic travel facility, information on domestic attraction travel course, recommended contents by customer type, overseas voucher promotion participation information, advertising contents, target information of advertising contents etc.
Jeju Tourism Organization	Jeju Tourism	Tourism consumption behavior data (purchase data at duty-free shop, etc.), tourism information consulting issue data, tourism demand forecast data (rental car reservation data, data of online purchase at tourist destination, etc.), tour route behavior data (a density map for kickboard use and Olle(a walk road in Jeju Province) road use)
Consumer Insight	Tourism (Economy)	Trend and prospect of tourism market (spending of travel expense, travel experience and plan, occupation rate of travel destination), competency diagnosis of domestic and overseas travel destinations (229 cities, towns, and villages as nationwide, 44 countries / 30 cities in overseas), consumer-sensing economic indicator (economic perception and outlook, perception on quality of life, intention to spend), etc.
CTIA	Culture Industry	Chungnam 3D location information, the amount of daily SNS buzz for Chungnam tourist attraction/specialty, the status of realistic contents production, visiting/consumption status of kids cafe, 3D image data of relic/historical figure, status of use of culture industry production equipment, etc
The Federation of Korean Cultural Centers	Local culture	List of local culture collections, local culture documents, local culture multimedia, local culture VR data, local culture planning contents, local culture contents, curriculum and recommended grade classifications, data on the origin of national geographical names, local folk painting dataset (folk paintings of dragon, tiger, magpie), local surnames, local people, local artists, etc.

▶ Innovative Service of Platforms

① Culturally-influenced Area

- Location-based cultural leisure recommendation service which enables users experience new values of surrounding cultural spaces based on data from the culture big data platform

② K-Food Serivce

- A service which recommends a restaurant that suits the user's situation (with children, menu in foreign language, etc.) by using machine learning-based data of food characteristics (main menu information for each restaurant, information of restaurant popular for foreigners, Muslim-friendly restaurant data, etc.)

③ Cultural Trend Status Board

- A service which enables correlation analysis by subject area and analysis of changes in searching volume of keyword by matching culture-related categories
- A service which enables to figure out the status of culture trend at a glance through analysis of daily keyword ranking change
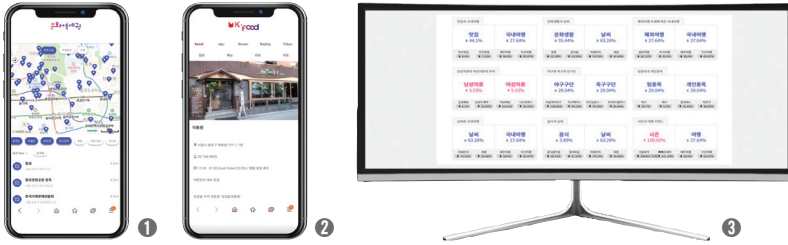
❶ [Culturally-influenced area]
❷ [K-Food Service]
❸ [Cultural Trend Status Board]

▶ Best Practices

Main contents

Company providing data	Company utilizing data
KSPO	AMBITION PINK

- 'Bodybuilding Grandma,' a portable smart gripper and mobile application service
- Develop a service which provides personalized exercise guidance for the senior and information on nearby sports facilities by using KSPO's data of measurement data for each assessment item of physical fitness, exercise guidance data for each physical fitness measurement, national public sports facility data
- Determination of sarcopenia of the senior via non-face-to-face and integrated management of sarcopenia, cardiovascular and metabolic diseases through prescription of personalized exercise

KSPO	injewelme

- 'Wooju Doit,' non-contact obesity management mobile application service for children and adolescents
- Develop AI-customized obesity management service which manages exercise and nutrition for children and adolescents by using KSPO's the measurement data for each physical fitness measurement item
- Resolve difficulty in face-to-face participation due to COVID-19 and mitigate socioeconomic loss by preventing adult obesity through childhood obesity management

National Library of Korea	FLYBOOK

- 'FLYBOOK,' AI book recommendation service
- Develop a customized book recommendation service for 1.2 million books according to individual age, gender, feeling, and interest by using the library data of the National Library of Korea
- Surpassed 200 thousand subscribers for mobile reading appplication 'FLYBOOK', introduced AI book recommendation kiosk, 'FLYBOOK Screen,' in 60 public libraries

19

04 | **Transportation** Big Data Platform
www.bigdata-transportation.kr

▶ Status of Platform Building

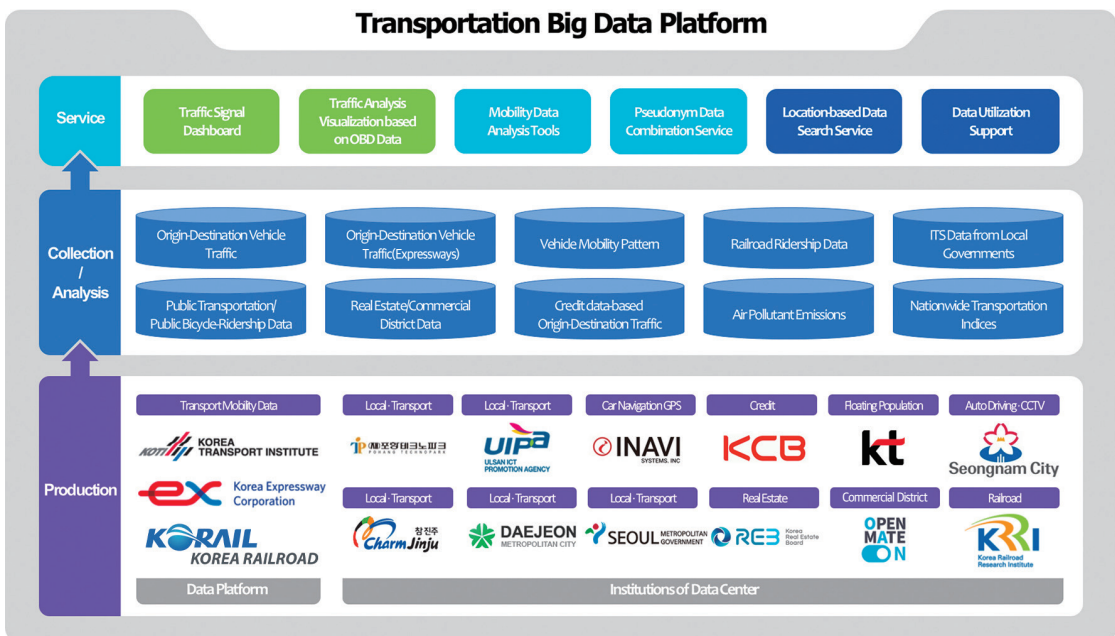The platform consists of 15 institutions, which produces mobility data on the movement of vehicles and people to promote smart mobility services based on cooperation of public and private entities.

[Homepage Screen]

[Platform Concept Diagram]

▶ Major Data

Name	Category	Data Provided
KOTI	Vehicle	Speed, traffic volume, the level of congestion intensity, the air pollutant emissions network for transport analysis, etc.
EX	Expressway	vehicle trajectory data and traffic volume data collected from hi-pass system (electronic toll collection system), etc.
KORAIL	Railway	Train operation information, passenger transport ridership metropolitan railway transport ridership, etc.
UIPA	Local	ITS, BIS, traffic volume data, bus transport statistics, etc
POHANG TP	Local	(Gyeongsangbuk-do/Province) parking data, vehicle entry/exit data, traffic condition data (UTIS), bus information data (BIS/route) weather data, earthquake data, traffic signal data of Pohang City, etc.
INAVI Systems	Vehicle	Vehicle GPS raw data
KT	Floating population	Floating population
KCB	Credit	Credit score/grade information by individual/individual business unit, credit capacity information, credit transaction information, pseudonymized sample credit information, income(sales) information by city/county office(Gun)/district office(Gu) unit
Seongnam City	Autonomous driving	CCTV image data (alleyway, school zone), autonomous vehicle sensor data, etc.
Daejeon Metropolitan City	Local	Traffic conditions, traffic volume, travel speed, traffic status information, etc.
Jinju City	Local	Traffic volume based on recognition of vehicle registration number, event control, etc.
Seoul Metropolitan Government	Public Transportation	Public transportation transaction data (bus, subway), Seoul public bicycle usage data, etc
REB	Real Estate	Data on information related with new real estate (sales information etc.) and real estate market price(sales/Jeonse (long term rental deposit)/monthly rental), etc.
OPENmate_On	Local	Commercial district data by road unit (alley commercial district, developing commercial district, industrial characteristics, rail catchment area), real estate data by road unit (price index per type of building type), public safety data by street/intersection unit (crime vulnerability index), etc.
KRRI	Railroad	Rapid transit train operation data etc.

▶ Innovative Service of Platforms

① Location-based Data Search Service

- Map-based data search service by region or district
- A function that helps buyers to extract and purchase only the data of the region desired by him or her from the nationwide data

② Traffic Analysis Visualization based on OBD(On-Board Unit) Data

- Visualization service based on Hi-pass (electronic toll collection system in Korea) traffic information
- Provide traffic route and traffic pattern visually through analysis of expressway and local Hi-pass traffic information

③ Smart City Transport Operations Support Service

- Data-driven decision support for local governments to improve traffic signal operations
- Provide data set and analysis tools to local governments for optimizing signal operation based on mobility big data
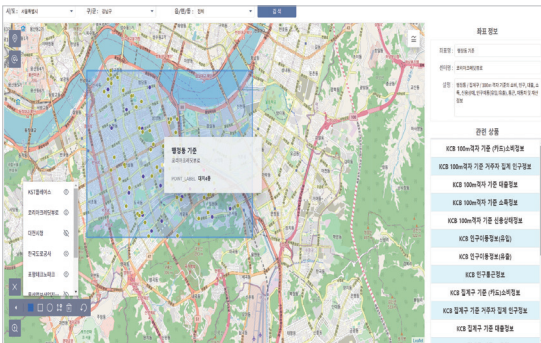
[Location-based Data Search Service]

[Smart City Traffic Support Service]

▶ Best Practices

Company providing data	Company utilizing data	Main contents
Seongnam City →	**Annotation AI** →	● Image big data pre-processing automation technology - Develop and improve the performance of 'AnnoWiz,' an automated artificial intelligence model tool for data pre-processing, using the collected video(CCTV) data (advancement) ● 'AnnoWiz_v1.0' automation tool currently generates sales of approximately two billion KRW per year
POHANG TP →	**Local governments of Gyeongbuk Province** →	● Road risk management system - Develop road transport risk analysis and on-site control service by utilizing data, such as traffic information, road transport risk analysis data, and AI technology ● Improve transport safety for vehicles and pedestrians by recognizing and removing risk factor in advance
KCB →	**BONDAM** →	● 'WHEREHERE,' location analysis service for doctors opening new medical clinics - Develop a web service which recommends the optimal location for opening a medical clinic based on the number of office workers in each neighborhood(Administrative Dong) ● Service usage increased by 86% after launching the new service (WHEREHERE service)

05 | **Healthcare** Big Data Platform
www.bigdata-cancer.kr

▶ Status of Platform Building

The National Cancer Center, the leading institution of the healthcare big data platform, has established a representative clinical data platform for cancer through network building with nationwide cancer centers, and formed a consortium with 10 centers, which produce clinical data for each cancer type

[Homepage Screen]

[Platform Concept Diagram]

▶ Major Data

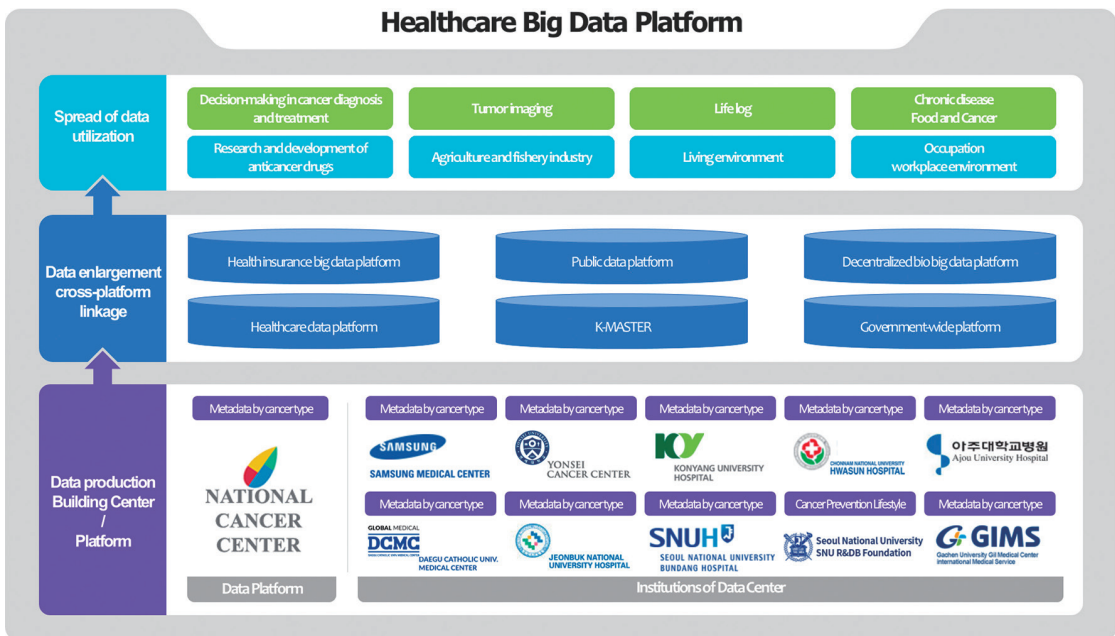| Name	Category	Data Provided
National Cancer Center (NCC)	Integrated metadata by cancer type	– Total 470 thousand clinical data** for 10 major cancer* * Breast cancer colorectal cancer, lung cancer, thyroid cancer, ovarian cancer, kidney cancer, liver cancer, stomach cancer, prostate cancer, pancreatic and biliary tract cancer ** Patient, diagnosis, examination, pathology, surgery, treatment data, etc.
Sungkyunkwan University(SKKU) Research & Business Foundation(SMC)		
Yonsei University, Office of Research Affairs UIF (Yeonsei Cancer Center, YCC)		
Konyang University Hospital (KUH)		
Jeonbuk National Univeristy Hospital		
DCMC		
SNUBH		
CNUHH		
Gil Medical Foundation (Gachon University Gil Medical Center)		
Ajou University Industry-Academic Cooperation Foundation (AjouMC)		
SNU R&DB Foundation Corporation	Lifestyle of cancer prevention –diagnosis	Dietary and meal information gut microbiome analysis, micronutrient information, image information of cancer screening, CT image of lung cancer

▶ Innovative Service of Platforms

① Metadata service by cancer type

- Provide collection status and characteristic information of library database for each cancer type built on the healthcare platform to support the use of medical data difficult to access
- Provide data loading status and column information of library table by cancer type of hospitals participating in the healthcare platform to support researchers in selecting data to use

② Service for providing aggregate and trend information by cancer type

- Provide useful aggregate and trend information as various visual information by performing diverse analysis by patient, diagnosis, examination, pathology, surgery, and treatment categories based on the clinical data of patients of breast cancer, thyroid cancer, ovarian cancer, lung cancer, colorectal cancer, kidney cancer built on the healthcare platform

③ Data Free Box service

- Provide virtual data considering the distribution of source data to be freely used to increase the usability of clinical data and to learn and educate healthcare data
  *Provide the fake data of breast cancer, lung cancer, colorectal cancer and the CT image of lung cancer
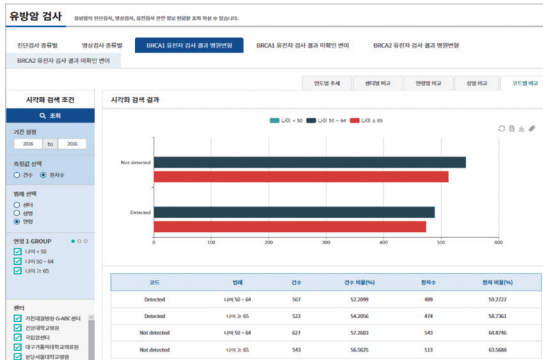
[Metadata Service by Cancer Type]
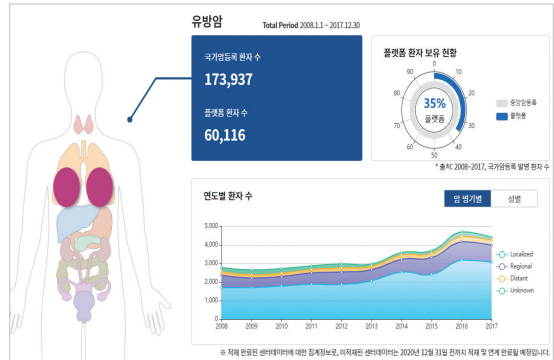
[A Service Providing Aggregate Information Index and Trend Information]

▶ Best Practices

Company providing data	Company utilizing data	Main contents
NCC–YCC–CNUHH–KUH ➡	**Pharmacy A** ➡	● Research on anticancer drugs for patients of breast cancer using standardized clinical data of breast cancer of four (4) hospitals, 'NCC–YCC–CNUHH–KUH' ● Expect to increase the success rate of new drug development by utilizing the joint infrastructure of cancer data and participation of multi-institutions
NCC–Gachon University Gil Medical Center ➡	**Kyuria** ➡	● Explain the need of a detailed examination step by step based on the users' health data and the result of the initial examination using library data of breast cancer with self-examination program of breast cancer through AI prediction model of breast cancer based on big data ● Contribute to public health by making people aware of the importance of early treatment of cancer and regular medical check-ups with improved access to cancer diagnosis service

▶ Status of Platform Building

MBN, the leading institution for the distribution and consumption big data platform, builds a data exchange by cooperating with 7 companies participating in the platform, which produces distribution, logistics, and consumption data, and 13 centers

[Homepage Screen]

Distribution · Consumption Big Data Platform

[Platform Concept Diagram]

▶ Major Data

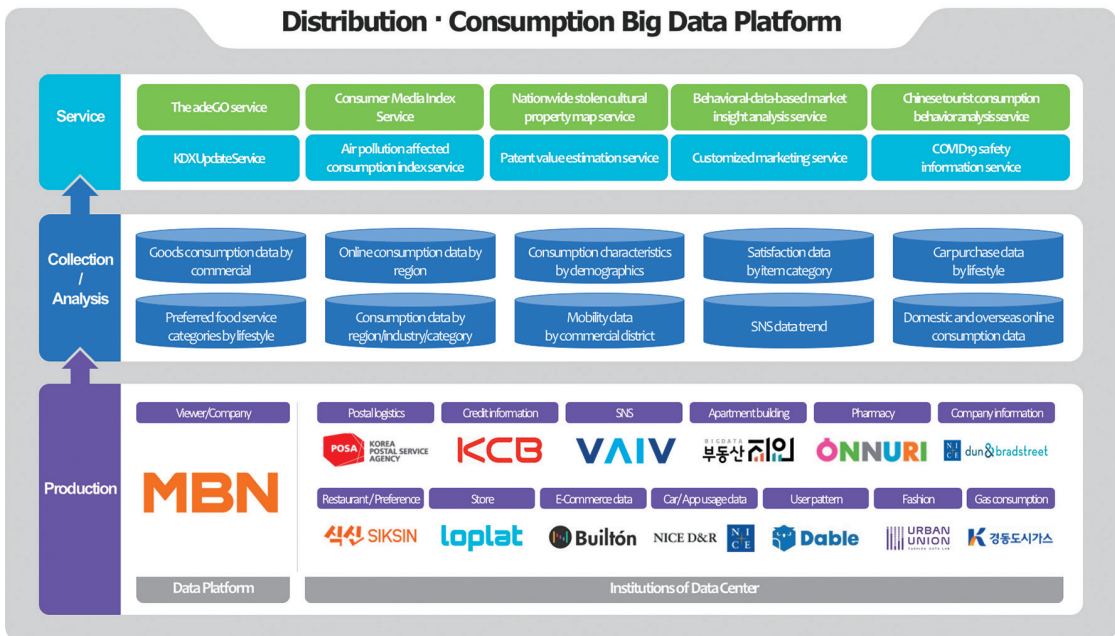| Name	Category	Data Provided
MBN	Business entity, Company	Personal DB, such as politician/businessman/celebrities, video for food & cooking, video for health & medical, corporate data, real estate complex/sale in lots/for-sale item, page information of MK e-Newspaper, etc.
Samsung Card	Card payment	Consumption trend (the number of sales/amount by consumption industry), the number of members consuming by region/day, etc
CJ Olive Networks	Delivery/ Distribution	The number of orders by product category in the delivery invoice information, occupancy rate of sales by manufacturer by subcategory of food materials, occupancy rate of food material product, etc.
SK Telecom	Consumption Flow	Map, actual resident population, estimated income, distribution population, transportation population, tourist population, etc.
SK Planet	Mileage	Type of application visiting for OK Cashbag and terminal information of customer, region/commercial district visiting data for users of membership/Syrup(Application run by SK Planet), etc
Welcome F&D	Retail, Finance	Account distribution information, loan distribution information, information related with real estate model distribution, information related with credit analysis model distribution, information on account management history distribution
GS Retail	Living goods distribution	Composition of sales (monthly, by category, by time zone, by day, by region, by customer group, by the number of purchase, by the number of purchase), etc
POSA	Post	Address matching data, P-code electronic box(email box), trade and logistics information, etc
NICE D&R	Car Application Use	Used fuel/acquisition type/the number of vehicle model, the number of registered used car, usage type of online application related with car, etc
VAIV Company	Socia/SNS	Issue keyword, buzz trend, list of related word, original text information
Dable	User pattern	Proportion of gender, age group, OS, browser, and inflow channel for media/ magazine, proportion of age group, OS, browser, and inflow channel for blog/ website, etc.
loplat	Shopping site	Location recognition data of all/difference(up/down)/closed store data, Top 100 data by major commercial district and store by month, Top 100 stores by category by month, etc.
Builton	Product sales	Business status information of Best 100 of e-market product, business status information of home electronic appliance in the e-market, review status information of home electronic appliance in the e-market

Name	Category	Data Provided
Siksin	Restaurant	Information on the best blue-ribbon restaurant nationwide based on user evaluation, information on popular domestic and overseas blue-ribbon restaurant, information on general blue-ribbon restaurant nationwide, division of national hot spots region, etc
ONNURI H&C	Pharmacy	Headquarter-pharmacy transaction data, online-customer transaction data
Gin+(APTGIN)	Multi-unit housing	Building complex/area information, transaction price mapper of condominium, regional border, updated price of reporting price, the volume of moving-into-condominium by region, transaction volume by region, market price by region, etc.
KCB	Credit information	Income/loan/card overdue information by city and province unit, income/loan/card/overdue information by city, county office, district unit, income/loan/card/overdue information by administrative dong unit, etc.
NICE D&B	Company information	General overview information based on business registration number for domestic companies, credit rating and cash flow information, financial statement/financial ratio and VAT information, credit rating determination information including overdue and default, company and specialized information by region/industry, etc
KyungDong City Gas	Data based on use information of town gas	History of town gas usage in Ulsan and Yangsan area, real estate entry/exit information based on history of town gas use application and cancellation, company and business owner's activity information through inquiry of town gas usage, possibility of using alternative credit/financial data through inquiry of overdue and receipt history, data of company distribution by region and industry, data of business owner entry by shopping center and building, etc
Urban Union	Clothing Fashion	'Trend data' of K-fashion distribution, 'celebrity's fashion data' on fashion information of K-wave celebrities, 'fashion dataset' to develop fashion-related category or characteristic recognition model, 'fashion terminology classification system (dictionary) data' for fashion distribution terms, etc

▶ Innovative Service of Platforms

① The adeGO Service

- Dashboard-type subscription service, which analyzes T map navigation data and collected data of TDI(Center of the Autogenous)
- Visualized visitor analysis by industry, visiting vehicle analysis by region, a big-hit map, and result of mobile application analysis

② KDX Analytics Reporting Service

- A service which KDX analyzes and visualizes online e-commerce sales data and provides it in the form of dashboard and report

③ COVID-19 Safety Information Service

- COVID-19 situation board/map which links to sites providing various information, API provision for the status of public masks in Korea, the impact of COVID-19 which provides a map of floating population, provision of COVID-19 available for self-diagnosis

④ Patent Value Estimation Service

- Calculate growth trend, profit contribution, and technology cycle of the market to which the patent belongs, and quantitative and qualitative characteristics of individual patent and other quantitative figures
- Estimate the value of patents through AI analysis and provide automated report

[The adeGO Service]
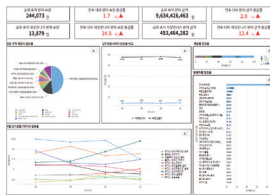
[KDX Analytics Reporting Service]
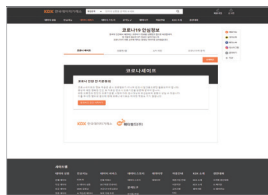
[COVID-19 Safe Service available for self-diagnosis]
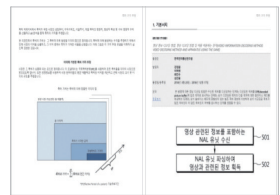
[Patent Value Estimation Service]

▶ Best Practices

Company providing data	Company utilizing data	Main contents
Loplat ➡	**Bank of Korea** ➡	● The Bank of Korea published an economic report on the aftermath of COVID-19 by analyzing the impact of COVID-19 on the real economy using the floating population data of loplat ● Analyze the degree of damage caused by COVID-19 by industry and region and use it for planning and prioritizing subsidy policy
Shinhan Card ➡	**(Overseas) Southern Methodist University** ➡	● Purchase Optimal Lockdown in a Commuting Network data and use it for research, which can establish related policies in the future, by analyzing the consumption behavior patterns of citizens in a city lockdown to prevent the spread of COVID-19 infection

07 | Telecommunication
Big Data Platform www.bigdata-telecom.kr

▶ Status of Platform Building

KT, the leading institution of the telecommunication big data platform, has organized a consortium collaborating with 14 centers, which produces data focusing on behavior, people, and space.

[Homepage Screen]

[Platform Concept Diagram]

▶ Major Data

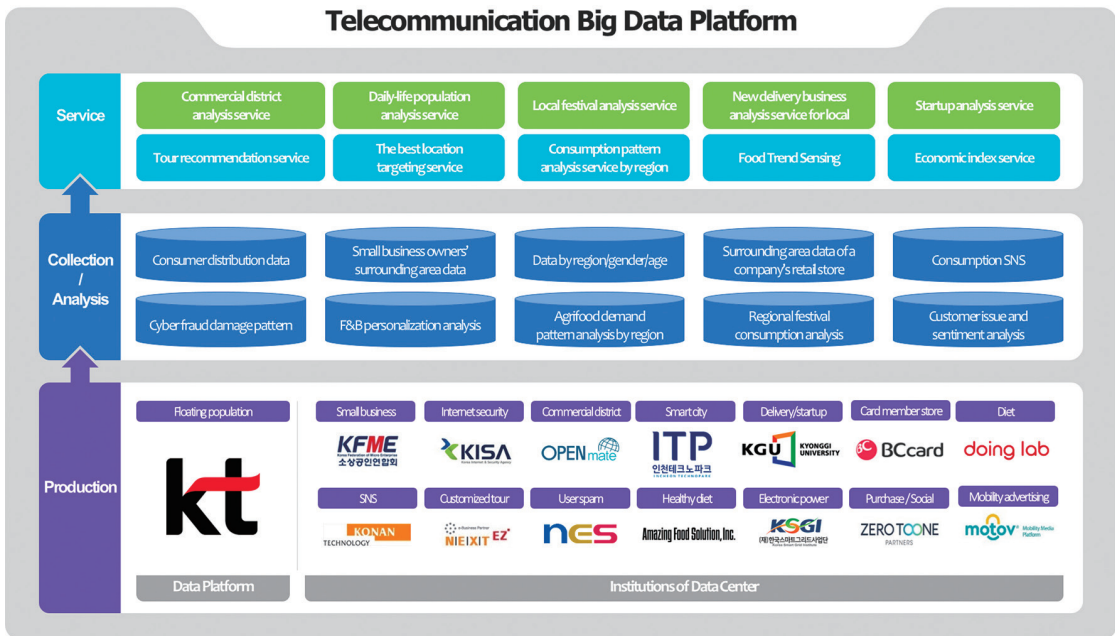| Name	Category	Data Provided
KT	Floating population	Floating population (nationwide cell) data, Floating population (administrative dong) data, tourist population (national cell) data, tourist population (administrative dong) data, living population (national cell) data, local branch data, etc.
BC card	Card member store	Sales by administrative dong of card member store, the number of card sales by administrative dong of card member store, the amount of card sales by business type of card member store
KISA	Internet security	Malicious code, C&C IP, infection IP, attack attempt IP, distribution IP, phishing IP, smishing IP, etc.
KGU Sanhak	Delivery/ Business opening	Order information, delivery driver information, company information, startup information, educational data, consulting information
Amazing Food Solution	Health/Dietary Habit	Dining-out menu data, sensory evaluation and preference according to clinical symptoms, food and nutrient data, food intake and health index data, dietary intake data
doinglab	Food	General meal data, diet meal data, diabetes meal data, meal statistics
Konan Technology	SNS	Twitter post, Instagram post, Facebook post, Facebook Page post, etc.
OPENmate	Commercial district	Residential population, distribution facilities, cultural and leisure facilities, government offices, movie theater, bank, hotel information, etc.
NEXTEZ	Tour in Jeju	Travel information data, such as the number of views by travel product, the number of 'like' by travel product, the number of shares by travel product, and the number of reservations of travel product
Incheon Technopark	Smart city	Vehicle detector collection information, link 5-minute communication, repeated congestion history, 5-minute statistics for specific section, 15-minute statistics for specific section, 1-hour statistics for specific section, section daily statistics, etc.
NES	Spam in user experience	Spam information, list of newly opening companies by industry, phone call volume trend of industry by region, phone call volume trend of industry by time period, public data, etc.
KEME	Small business owners	Functional organization metadata, local organization metadata, member company characteristics information, member company status information
MOTOV	Taxi Roof Advertisement	Internal sensor data on tai roof, taxi operation record, taxi-rooftop advertisement transmission data, taxi-rooftop floating population data, taxi-rooftop environmental sensor data
KSGI	Electricity	Condominium/shopping mall real-time electricity use data, building real-time electricity use data, processing energy data of individual household in condominium, processing energy data of tenant in shopping mall, etc.
ZEROTOONE Partners	Purchasing/ SNS	Lotte members purchase data, social data

▶ Innovative Service of Platforms

① Smart City Development Analysis

● Provide insight for location decision-making, such as determining the optimal development site and investment direction, by using integrated analysis and utilization of big data by stage

② AI-curated Dietary Management

● Contribute to the revitalization of the economy of small businesses by providing information about nearby restaurants along with customized diet meal information by personally-preferred information

③ Food Trend Sensing

● A service which provides insights necessary for new product planning and product renewal, by analyzing issue keyword and trend on social media and checking consumer preference for food sensitively reacting in the era of COVID-19

④ Economic Index Service

● A service which allows you to analyze the local economy status at a glance, such as the number of businesses opened and closed by industry in the region, and the survival rate, in a situation where the stagnation of the local economy is intensified due to COVID-19

[Smart City Development Analysis]

[AI-curated Dietary Management]
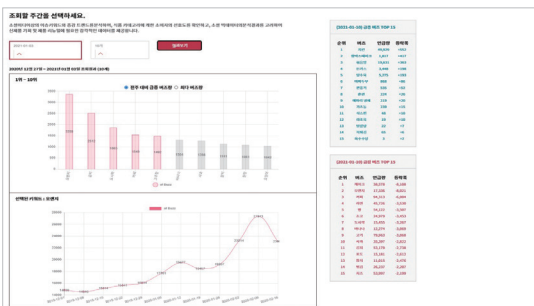
[Food Trend Sensing]
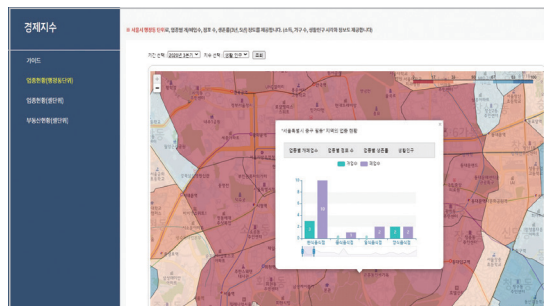
[Economic Index Service]

▶ Best Practices

Main contents

Company providing data → **Company utilizing data**

Amazing Food Solution ➡ **SMCT (Sookmyung Women's University Campus Town)** ➡
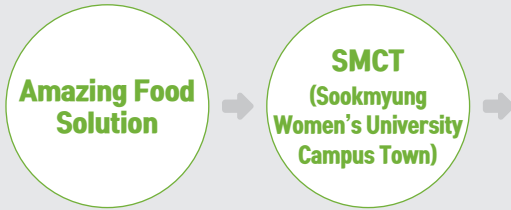
- ● Customized startup mentoring and consulting service
  - Food start-up support based on food nutrition, dietary intake, and health index data accumulated by Amazing Food Solution (center)
- ● ① Halmichan : Launch healthy rice bowl menu and develop new menu, etc.
  - * Hired 5 new employees, achieved monthly average sales of KRW 15 million
  - ② Vegavery : Develop vegetable-type protein supplement (Vegavery Build Recover) using data on health and dietary intake
    - * Achieved the sales of KRW 5 million in October

Motov ➡ **Incheon Metropolitan Police** ➡

- ● Customized crime prevention service for residents through alleyway safety index grading
  - Motov (center) builds a safety system by integrating collected data of illuminance and floating population across Incheon Metropolitan City and crime data
- ● Provide crime prevention web service of alley in night, which citizens can feel and experience in cooperation with Incheon Metropolitan City and Incheon Metropolitan Police
  - Contribute to preventing nighttime crime and reducing the crime rate for women and the socially disadvantaged
- ※ (Incheon Metropolitan Police) Introduce this service intensively in the area lacking the police patrol car(112 police car) and pedestrian patrol workers

▶ Status of Platform Building

Douzone ICT Group, the leading institution of the SME big data platform, has formed a consortium by collaborating with 12 centers, which produce data, such as job, corporate credit, and finance

[Homepage Screen]

Small and Medium Enterprise Big Data Platform

Service				
Local industry analysis and support services	Account receivable factoring service	Customized information service based on corporate clustering	Market statistical analysis tool for policy grants benefit analysis	Corporate client supply chain risk management service
Market trend and listed company analysis	Corporate healthcare service such as risk and credit information management	AI-based talent recommendation and position(job) matching service		AI simulator service for decision making

Collection / Analysis				
Job demand/supply analytic, statistical data	Government-support recommendation information	Credit rating data	Every type of corporate indicators by region, industry, business	Business management and risk prediction model
HR information analysis data	Export information analysis data	Startup growth index data	R&D information analysis data	Loan/collateral information analysis data

Production	Corporate management	Import, export/Trade	Education/Certificate	Corporate credit info	Social/Corporate	Climate	business law information
	DOUZONE	KTNET	kpc KOREA PRODUCTIVITY CENTER	NICE Information Service Co., Ltd.	WISENUT	GREEN TECHNOLOGY CENTER	KLIS KOREA LAW INFORMATION SERVICE
		Research/Activity/Product	Land/House/Real Estate	Recruitment	Public micro	business management	Price information
		koita 한국산업기술진흥협회	빅밸류	Incruit	SUNDOSOFT	KMR 한국경영인증원	KPI
	Data Platform	Institutions of Data Center					

[Platform Concept Diagram]

▶ Major Data

Name	Category	Data Provided
Douzone ICT Group	Corporate management	General sales statement, purchase and sales statement, expense claim, daily sales statement, general ledger, cash book, etc.
Bigvalue	Land, House, Real estate	Single/multi-household information by region, multi-household information by region, urban-living housing information by region, one-person household condominium information by region, condominium complex information by region, factory information by region, warehouse information by region, etc.
Incruit	Recruitment / Job	Employing company information, employment area information, employing industry type information, employment type information, academic background statistics, career statistics, annual salary statistics, etc.
KOITA	Research, Activity, Product	Company information, research institute information, R&D information, technical consultation, certification information
Wisenut	SNS, Company	Social Network Service data, such as Naver, Daum, Twitter, Instagram, YouTube, etc., report and press release of Statistics Korea and Bank of Korea
KPC	Education, Certification	Basic information of curriculum, course registration information, lecture history information of an instructor, labor productivity data, capital productivity data, total factor productivity data, basic data of added value analysis index
KTNET	Import/Export, Trade, Logistics	Telegraphic transfer(T/T) selling rate (taxable exchange rate), telegraphic transfer purchase rate (export exchange rate), cash selling rate (taxable exchange rate), cash buying rate (export exchange rate), basic rate of exchange, criteria of FTA for Korea-APTA, criteria of FTA for Korea-EFTA, etc.
NICE Information Service	External audit	Company overview, simple financial summary
Green Technology Center	Climate	Commercialization of climate technology and technology transfer demand survey, climate technology industry statistics and processing statistics, raw data DB of R&D investment status of climate technology & green technology government, processing statistics (report) of R&D investment status of climate technology green technology government, etc.
SUNDOSOFT	Public Micro	Nationwide business survey, economic census, mining and manufacturing industry survey, business activity survey, construction industry survey, wholesale and retail survey, service industry survey, etc.
Korea Price Information	Price information	Price information (common, architecture, electricity, telecommunication, etc.), price information for daily necessities, such as traditional market and large mall, average wage of a market (construction and manufacturing industry)

Name	Category	Data Provided
KLiS	Legal information of SME	Law supporting SMEs, regulation law of SME, legal glossary, standard terms and conditions, standard contract
KMR	SME management certification	Certification status by region/scale/industry, certification statistics, status of non-conformed certification and detailed recommendation and action for each case, scope of activity by qualification

▶ Innovative Service of Platforms

① AI simulator for decision making

● AI-based policy simulator service for decision making support

- Provide a service which can use various variables to learn the degree of influence of each variable on the market through an AI model, and to simulate the change of predicted market variables by adjusting market variables

  * Corporate financial data, external market data (raw materials, market index, etc.), the number of the employed, data of Statistics Korea, etc.

● (Expected effect) It is expected that non-AI experts in government agencies or private companies can easily use and verify with the simulator tool, enabling data-based policy design and establishment and management decision making

[AI-based Policy Simulator Service for Support of Decision Making]

▶ Best Practices

Company providing data	Company utilizing data	Main contents
Douzone ICT Group ➡	**KOSTAT (Statistics Korea)** ➡	● Connect and provide real-time corporate management data to establish the public service called 'Nowcast Portal,' which provides breaking economic and social indicators based on public and private big data ※ The Four Sector : Household, Business, Job, Public health ● Support indexing the 'business' sector through statistical verification of provided data, and the use of evidence for corporate decision-making and policy judgment (planned)
Bigvalue ➡	**Alvolo F&C** ➡	● Promote artificial intelligence learning by combining spatial refinement information, estimation information of resident and direct population, and delivery information of franchise business for each member store ● Establish local marketing strategy for each store, and establish the support system for store development and relocation ● Shorten analysis time of local commercial district, and support detailed segmentation of a market and strategy establishment ● Shorten the time and schedule of store development, and provide convenience for store management and operation ● A lump-sum purchase of KRW 270 million for data and artificial intelligence solution (AI voucher)

09 | Local Economy Big Data Platform

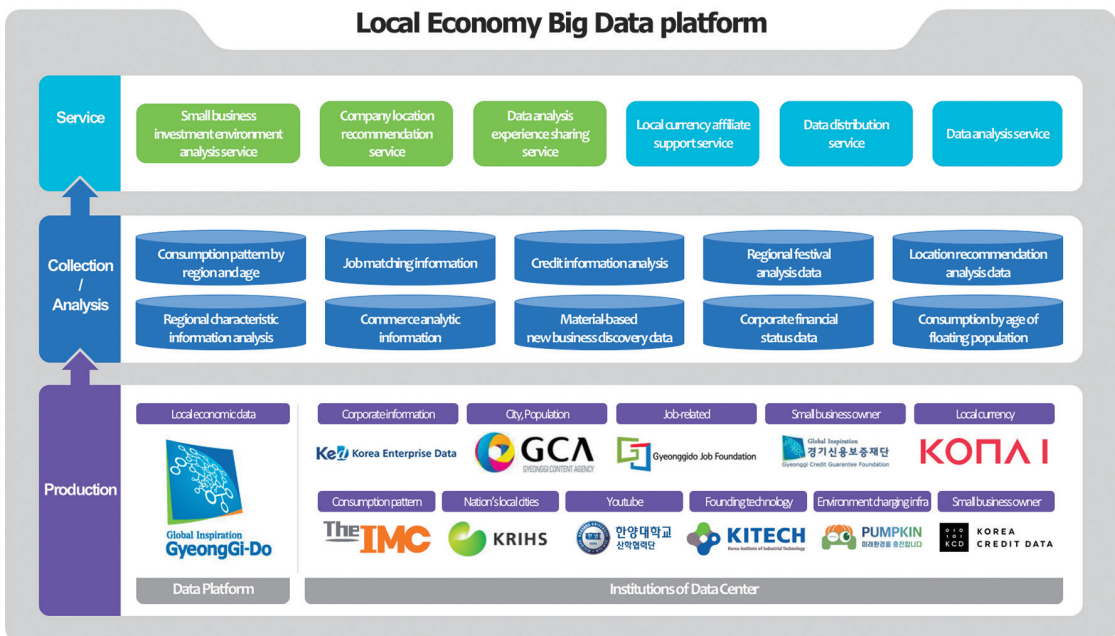www.bigdata-region.kr

▶ Status of Platform Building

The Gyeonggi Province, the leading institution for local economy big data platform, has formed a consortium collaborating with 10 centers, which produce data, such as production, consumption, and jobs, through local currency to discover various local economic data of both public and private

[Homepage Screen]

[Platform Concept Diagram]

▶ Major Data

Name	Category	Data Provided
KONA I	Local currency	Weekly payment status data by generally issued product of local government card, monthly statistics on the amount of transaction by local member store, etc.
Gyeonggido Job Foundation	Job	Grap-opportunity('Jobaba') employment information, Wings-of-dream employment information, counseling information, youth series, youth bankbook, support project
Gyeonggi Credit Guarantee Foundation	Small business owner	Guarantee, bond management, customer management data, etc.
Korea Enterprise Data	Status of corporate	General information of a corporate, corporate finance, corporate status, credit information, characteristic information
THE IMC	Consumption pattern	Unstructured data of local currency consumption, unstructured data of place used local currency, review data of best product, review data of Gyeonggi-do(province) product, unstructured alley-related data, unstructured data of employment in Gyeonggi-do(province), etc.
KRIHS	Land, Local city	Planning and development data, land and real estate data, economic infrastructure data, living infrastructure data, grid space, functional space, income growth index, income balance index, specialization index of a company, etc.
Hanyang University Industry-University Cooperation Foundation	Consumption pattern	Channel data, user data, production data, registration data, processing data, etc.
KITECH	Corporate	Material-based new business discovery data, root industry status analysis, white paper of root industry, know-how and technology transfer data, research and technology data related to root technology, etc. * Root industry is a field that is related to the infrastructure of manufacturing business, such as casting and molding
Pumpkin	Eco-friendly charging infrastructure	Power consumption amount of E-Mobility charging, utility fee of charging, record information of route moving, vehicle battery status information, charger alarm information, charger control schedule information
KCD	Small business owner	Monthly average card/delivery application/cash receipt/hourly sales data of small business owners, purchase/expenditure data of small business owners, customer ratio/discontinuation rate/sales per area data of small business owners, etc.

▶ Innovative Service of Platforms

① Small business investment environment analysis service

- Provide comprehensive analysis result by industry and region, using local currency data and credit data

② Company location recommendation service based on the data of the company

- Recommend the optimal location for companies using company information and population inflow data
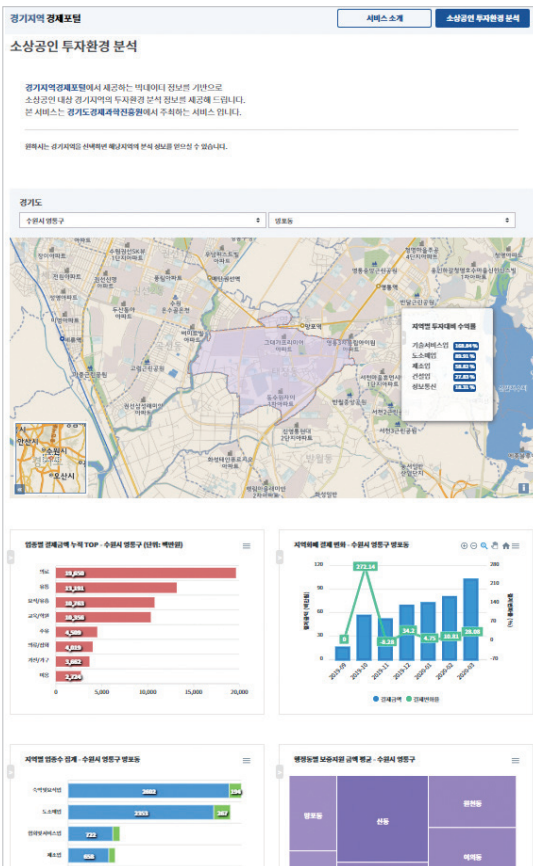
[Small Business Investment Environment Analysis Service]

[Company Location Recommendation Service based on based on the Data of the Company]

▶ Best Practices

Company providing data	Company utilizing data	Main contents
Korea Enterprise Data →	**wadiz** →	● Launch non-face-to-face networking service between startups and investors – 'Wadiz' (wadiz.kr), a crowd funding company, purchased corporate information, such as finance and patents, from Korea Enterprise Data, and has provided networking with investors, such as providing IR data of startups online ● 88% increase in service visitors and 994% increase in the number of IR data provision within three (3) months of service launch (May to August 2020)
Korea Enterprise Data →	**Finnq** →	● Started MyData service (Finnq) for user-customized financial products – Provide the user's company information promptly and accurately by utilizing the corporate information data held by Korean Enterprise Data, the local economy big data platform ● Simplify the company information input of 'Finnq' application users, and enable a more sophisticated service by using accurate company information when recommending and connecting to financial products
KITECH →	**KC Solar & Energy** →	● Initiate deep learning-based service on the impact of new and renewable energy generation – Use as AI training data to analyze the potential for energy independence by region by receiving data, such as solar power generation and solar radiation ● Prepare the foundation for applying data to various business models (energy trading, power plant maintenance, generation forecasting, etc.) using data

10 | **Forest** Big Data Platform

www.bigdata-forest.kr
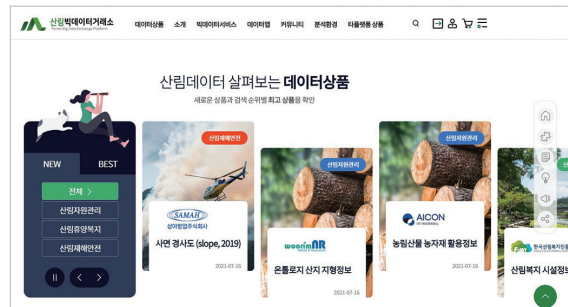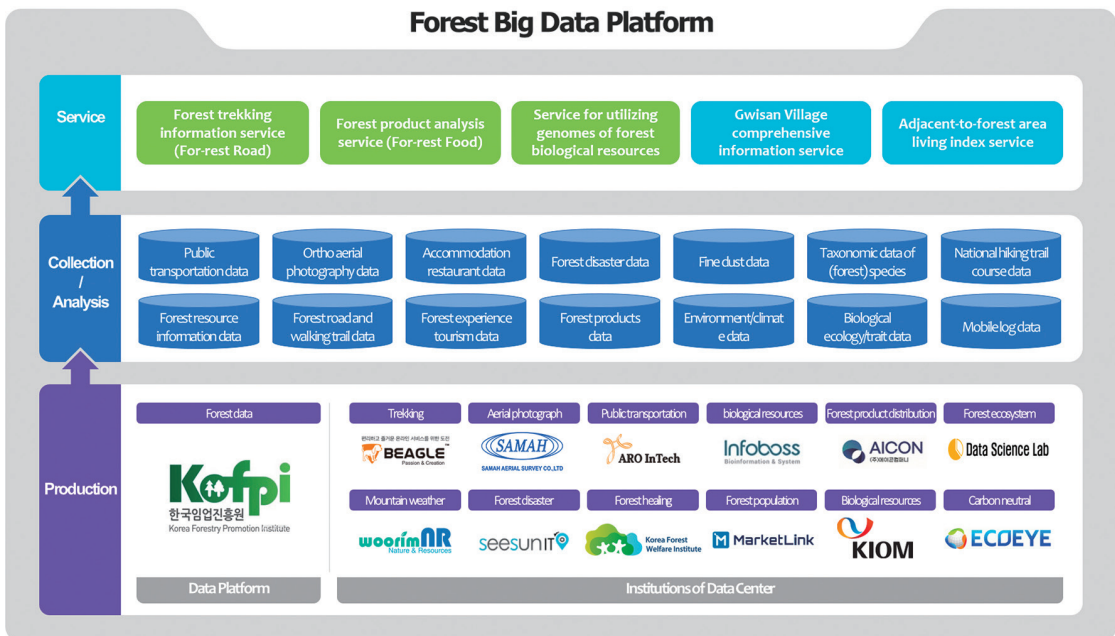
▶ Status of Platform Building

Korea Forestry Promotion Institute (KOFPI), the leading institution of forest big data platform, has formed a consortium collaborating 12 centers, which produce data, such as trekking, mountain weather, whole genome of forest biological resources, and forest healing, for integrated management of forest data and vitalization of data-based administration

[Homepage Screen]

Forest Big Data Platform

Service					
Forest trekking information service (For-rest Road)	Forest product analysis service (For-rest Food)	Service for utilizing genomes of forest biological resources	Gwisan Village comprehensive information service	Adjacent-to-forest area living index service

Collection / Analysis						
Public transportation data	Ortho aerial photography data	Accommodation restaurant data	Forest disaster data	Fine dust data	Taxonomic data of (forest) species	National hiking trail course data
Forest resource information data	Forest road and walking trail data	Forest experience tourism data	Forest products data	Environment/climate data	Biological ecology/trait data	Mobile log data

Production

Forest data	Trekking	Aerial photograph	Public transportation	biological resources	Forest product distribution	Forest ecosystem
Kofpi 한국임업진흥원 Korea Forestry Promotion Institute	BEAGLE Passion & Creation	SAMAH SAMAH AERIAL SURVEY CO.,LTD	ARO InTech	Infoboss Bioinformation & System	AICON	Data Science Lab
	Mountain weather	Forest disaster	Forest healing	Forest population	Biological resources	Carbon neutral
	woorim NR Nature & Resources	seesun IT	Korea Forest Welfare Institute	MarketLink	KIOM	ECOEYE

Data Platform	Institutions of Data Center

[Platform Concept Diagram]

▶ Major Data

Name	Category	Data Provided
KOFPI	Forest	Level of forest cleanness, short-term forest product cultivation map, customized afforestation map (1:5000)
Infoboss	Whole genome of (forest) biological resources	Lists of native forest plant/insect/mushroom/lichen resources, pictures and distribution of native forest biological resources, seven usabilities of forest biological resources, whole genomes of forest biological resources, genes related to usabilities.
WoorimNR	Mountain weather	Forest product production information, forest weather data, 100 famous mountains, forest therapy material quantity information, forest carbon absorption information, oxygen emission information, forest cleanness information, etc.
Samah Aerial Survey	Aerial photograph	Slope inclination map, orthographic image API of aerial photography, new orthographic image of forest fire, satellite image, water flow direction map, orthographic image in 2012 to 2020, etc.
BEAGLE	Trekking	User walking exercise route, LTE telecommunication sensitivity information for each location in the country, user hiking exercise route, user bicycle riding route, national mountain trail route network data, POI of major national park facilities, etc.
SEESUNIT	Disaster, Space	Location of past forest fire, Location of past forest disease and pest occurrence, Forest fire occurrence information, Hiking trails, 100 Noted Mt. in Korea, Forest themes including forest type maps, Forest soil map Baekdudaegan Mountain Range, Economic Forest Development Complex, Forest road Map, etc
AroIntech	Public Transportation	Optimal route information of nationwide subway, bus stop information, bus route information, restaurant near famous mountain, tour activity product around famous mountain, accommodation around famous mountain, accommodation information and data in mountain villages, etc.
Korea Forest Welfare Institute	Forest healing	Phytoncide measurement information, forest tourism information, forest healing program information, forest leisure sports information, exercise amount information of forest healing trail, forest prenatal education program information, forest recreation information, forest culture information, etc.
Market Link	Forest population	Dulle-gil (A road for a walk in Jeju) user information, accommodation user information, name of preferred accommodation, user information of surrounding tour sites, preferred tourist spots, Dulle-gil traffic search information, outdoor purchase product of Dulle-gil user, interests of Dulle-gil user, etc.
AICON COMPANY	Distribution price of agrifood	Transaction data of local joint market of agricultural and forestry product, real-time bidding data by agricultural and forestry product wholesale market, calculation statistics data of transaction history by wholesale market of agricultural and forestry product, wholesale survey data of wholesale market of agricultural and forestry products, etc.
KIOM	Medicinal biological resources	List of medicinal biological resource, picture of medicinal biological resource, efficacy information of medicinal biological resource, treatment information of medicinal biological resource, precaution of medicinal biological resource, etc.
DataScienceLab	Forest ecosystem Service	Ecological data of recreation forest, ecological data of street trees, ecosystem services of urban park, forest land productivity of forest products, forest recreation data, etc.
ECOEYE	Carbon neutral (net-zero)	Carbon absorption amount of forest green area, carbon emission amount of building sector, Carbon emission amount of transportation(Road), carbon emission amount from consumer product purchase, etc.

▶ Innovative Service of Platforms

① Forest trekking information service (For-rest Road)

● Recommend trekking route, and provide and link trekking route information by reflecting accommodation, restaurant, traffic, weather related to forest trekking

② Forest product analysis service (For-rest Food)

● Provide customized forest product price information and consumption trend analysis information

## ③ Service for utilizing genomes of forest biological resources

● Genome analysis and utilization support service for various industrial use of domestic forest biological resources

④ Gwisan Village comprehensive information service

● Provide customized settlement service of Gwisan village and information on mountain village
  * Gwisan Village : Moving one's main resident from a city to a mountain village (Source: Korea Forest Service)

⑤ Adjacent-to-forest area living index service

● Provide information by scoring and indexing whether there is a green space guaranteeing comfort within walking distance
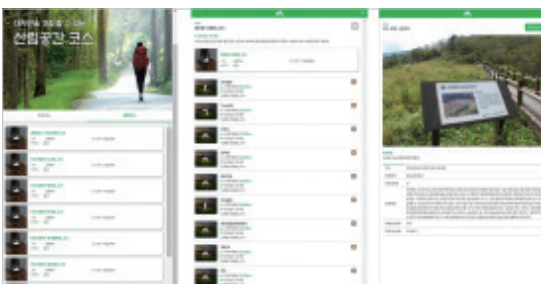
[Forest trekking information service (For-rest Road)]
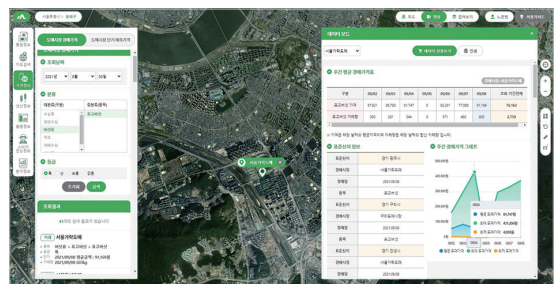
[Forest product analysis service (For-rest Food)]

▶ Best Practices

Company providing data		Company utilizing data		Main contents
BEAGLE	➡	**KT**	➡	● Design basis for the installation of radio base station for telecommunication companies in mountainous areas – KT selects the location of a radio base station, which can minimize the radio shadow area in the mountainous area, by using the telecommunication sensitivity data of 'BEAGLE' ● LTE coverage in mountainous areas is increased by 93% to 98% – Increased possibility of prompt reporting and rescue activities in case of disaster and accident in mountainous areas
Samah Aerial Survey	➡	**Dabeeo**	➡	● Early detection system for dead trees damaged by pine wilt disease – Improve the accuracy of judging dead trees (fallen trees) through the analysis of trees in the distribution area of evergreen conifer in Mt. Jiri by applying deep learning technology of "Dabeeo" to the high-resolution image data exclusively owned by Samah Aerial Survey ● Achieved application of deep learning technology (4,299 cases) compared to reading by naked eye (3,805 cases) as of 2017 – Enable to detect dead trees damaged by pine wilt disease and to make preemptive response
WoorimNR	➡	**Gumi City**	➡	● Select a target site for forest fire extinguishing facility in recreational forest – Gumi City decided a location to place forest fire extinguishing facility within Okseong Recreation Forest by using the mountain weather data (wind direction, wind speed, etc.) of 'WoorimNR' ● This service enables fire extinguishing facility receive less damage in the event of a fire, and can be effectively used to extinguish forest fire

11 | **Agrifood** Big Data Platform
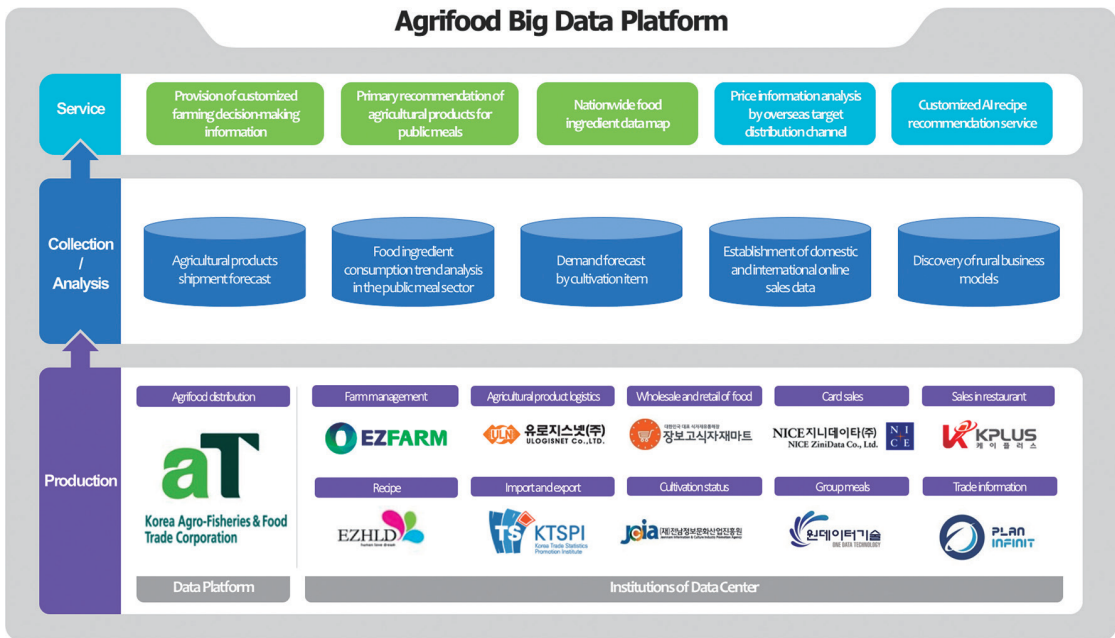www.bigdata-agrofood.kr

▶ Status of Platform Building

As the hub, Korea Agro-Fisheries & Food Trade Corporation, a specialized institution in the agro-fishery and food industry, collaborates with 10 centers, which produce data on nationwide agri-food logistics, farms, and distributors, and provides customized agricultural decision-making information service

[Homepage Screen]

[Platform Concept Diagram]

▶ Major Data

Name	Category	Data Provided
aT	Agrifood, Distribution	Agricultural observation, research on production area, abnormal weather, vegetable complex price index, Garak market (a specialized market for agricultural products) information (price, intake quantity, bidding details), farmhouse and farming information, etc.
EZFARM	Farm management	Farm management information, breeding period, growth statistics, sow statistics, farrowing information, etc.
ULOGISNET	Nationwide agricultural product logistics	Pallet movement, container movement, production/storage/distribution of agricultural food, etc.
Jangbogofood	Wholesale and retail of food ingredients	Transaction data by period, transaction area and consumption by base, consumption analysis category, transaction pattern and distribution by location, purchase of agricultural products etc.
NICE ZiniData	Card sales	Consumption status by consuming region, consumption by industry by consumption region, online transaction, characteristics of consumption by day of the week, consumption based on nationwide statistics, etc.
KPLUS	Sales in restaurant	Popular menu for sale, sales by industry and menu for small business owners, menu and recipe by food type, dining-out consumption pattern, blue-ribbon restaurant, and tour index, etc.
EZHLD	Recipe	Recipe data by cooking method, situation, ingredient, and cook type
KTSPI	Import/export data and commercial district data	Basic trade statistics related to agri-food (export/import statistics by item/region/country, etc.)*, trading company statistics, trade trend, agri-food commercial district and trend data
JCIA	Cultivation status of garlic and onion	Cultivation intention of garlic/onion, cultivation status of garlic/onion, cultivation region of garlic/onion, cultivation area of garlic/onion, cultivation varieties of garlic/onion, cultivating farm status of garlic/onion, imposition status of garlic/onion checkoff fund, low-altitude crop images of garlic/onion, etc.
One Data Technology	Group meals	Image data for group meals, data on serving/intake/remaining amount of group meals, group-meal intake ranking by group-meal menu, nutrition data for group meals, food ingredient data for group meals, etc.
PLAN INFINIT	Trade information of export/import for agrifood	Overseas buyer information, exhibition information, B2B and B2C platform information, export certification information etc.

▶ Innovative Service of Platforms

① When and where to 'go' agricultural products?

- Provide individual shipment estimate and average price for the entire wholesale market by period using wholesale market data for agricultural product and expected logistics cost data
- Expected to improve farm household income by selecting the time of shipment and its destination

② In-depth Pig Plan big data analysis report (monthly)

- Provide visualization data (report) focusing on key status statistics by utilizing pig data collected through the 'Pig Plan Service' operated by EZFARM for 20 years
- Able to identify characteristics, such as seasonality and trend in the pig-raising industry

④ Farm Self-Diagnosis Service

- As a user-participating service, users directly input data to provide real-time information of the farm, such as the farm status compared to the previous year
- Support data-based decision making, such as determining productivity and setting improvement direction by comparing indicators which can objectively identity the status of the pig-raising industry

[When and where to 'go' agricultural products?]

[In-depth Pig Plan Big Data Analysis Report]

▶ Best Practices

Company providing data | **Company utilizing data** | **Main contents**

NICE ZiniData → Wanju–Gun (County) Office

- Perform AI–based local food big data analysis and modeling research service to analyze the consumption characteristics of users in the agricultural and retail industries within the county
- Utilize the consumption data by industry and consumption region, consumption data by region and consumer type, consumption data by consumers' gender and age, consumption data by consuming characteristics by day of the week, consumption data by consuming characteristics by time period

ULOGISNET → Korea Pallet Pool (KPP)

- Establish marketing strategy to expand agricultural food business using big data
- Establish joint logistics strategy, such as joint transportation and delivery by time and region and use of joint storage warehouses
- Predict supply period for logistics equipment and supplement materials (packaging materials, etc.) by item
- Utilize the amount of productivity data by monthly/region/item and the amount of distribution among regions by monthly/item

Jangbogofood → DS9

- Able to establish the marketing strategy for monitoring movement status of lifecycle, attraction of new customers, and activation of dormant customers by subdividing the stages from initial sign-up to withdrawal
- Use transaction region and consumption data by site, category data for consumption analysis, distribution data by user and customer, product data by distributor
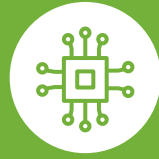
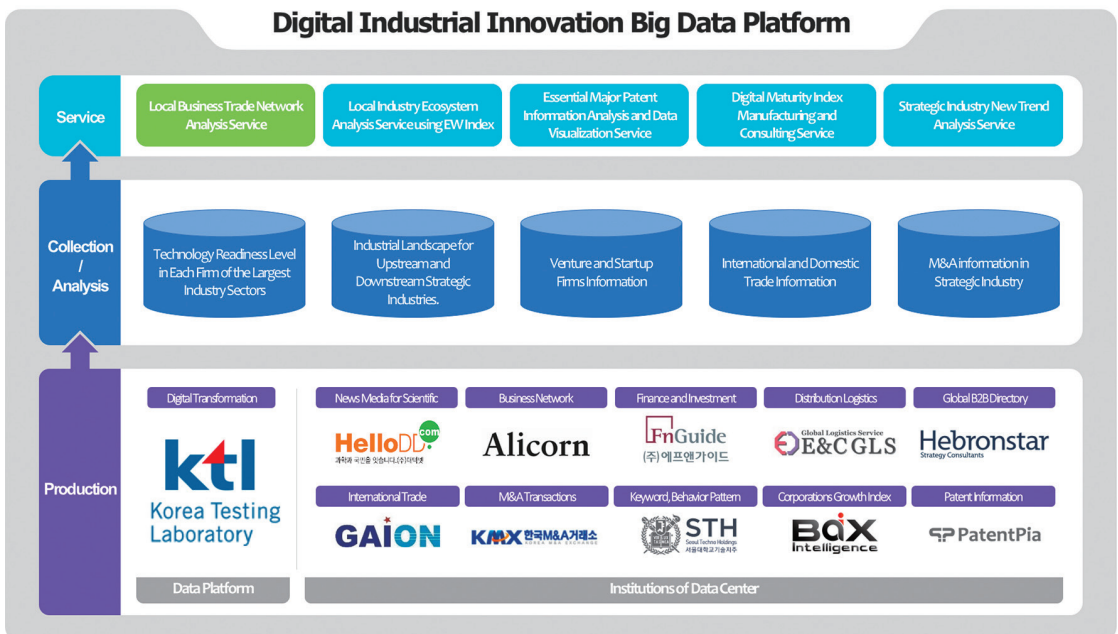## ▶ Status of Platform Building

As the hub, Korea Testing Laboratory (KTL), a professional institution for the support of innovation of industrial technology, provides value chain network analysis service by collaborating with 10 centers, which produce data, such as company information, patent information, M&A information, and import/export information

[Homepage Screen]

[Platform Concept Diagram]

▶ Major Data

Name	Category	Data Provided
KTL	Testing and certification	Test registration status of industrial/type approval project/infrastructure project/company support project/digital project/explosion proof project, test and inspection progress by type of technical support, test result of electromagnetic wave, KTL mark certification, test result of asymmetric conducted emission / conducted disturbance voltage / magnetic field disturbance, etc.
FnGuide	Finance and investment	Company general information, corporate financial statement, corporate financial ratio, corporate reference information, corporate estimated financial statement, corporate estimated financial ratio, corporate estimated momentum, industrial financial ratio, equity data of listed company, etc.
GAION	Import/Export performance	Import volume data of the U.S., Russia, Vietnam, India, Colombia, Chile, trade volume data at the U.S., Russia, Vietnam, and India's port, volume analysis of major countries by MTI CODE, etc.
KMX	M&A transactions	Acquiring company, selling company, investing company, investment attraction company, M&A partner, M&A case, summary of selling company, M&A news, public disclosure information data, real estate sales data, etc.
HelloDD	Science and technology	Science and technology R&D performance data, company data, contributor data, science and technology policy data, science and technology community event data, science and technology IT/BT/NT/ST data, etc.
Alicorn	Business network	Startup company information, startup investment data, employment information by the field of startup (salary distribution), founder/member network information, university/startup relationship data, etc.
STH.I.S	Keyword and behavioral pattern	CRM data for corporate members, user scrap cognitive behavior data, search keyword data by field, issue data by time/field, shared article list data, etc.
ENCGLS	Distribution and logistics	Order quantity by product, the number of orders, the number of orders by region, the number of orders by product's characteristic, the number of orders by characteristic, the amount of storage by product's characteristic, the amount of unilateral return by region, reason for return, etc.
Hebronstar	Information on foreign company	East Asia company information, Southeast Asia company information, American company information, European company information data, East Asian company's financial information, Southeast Asian company's financial information, American company's financial data
BAX Intelligence	Corporate growth information	Marketing DB, business model DB, reputation DB, R&D DB, comparison information of a company's competitor, technology-based capacity, human resource capacity, commercialization capacity, domestic market trend data
Patentpia	Patent Information	Patents in artificial intelligence technology field, automatic-driving vehicle technology field, IoT technology field, financial technology field, content technology field, robotics technology field, software technology field

▶ Innovative Service of Platforms

① Local Business Trade Network Analysis

● Provide policy support to key companies through identification of key companies within a specific industry group through by figuring out the structure of interests of the company's customers, providers, and competitors by understanding the transaction relationship of a specific company or between companies that produces a specific product in order to analyze corporate competency and establish big data-based policy

② Local Business Ecosystem Analysis

● A visualization service which is implemented in a dashboard by combining corporate information, such as company status, employment trend, financial status, production trend, patent status by region, to enhance the effectiveness of local industry policy in the entire lifecycle through monitoring the status of local industry. This service identifies local industrial status in a timely manner by city, county, and gu(a sub-unit of a city) unit

③ Strategic Industry New Trend Analysis Service

● A visualization service which implements news articles related to the 12 major industries (machinery/material/IT industry) in 2021 in a word-cloud and time-series graph. This service detects and manages risk situation in each industry in advance and responds preemptively
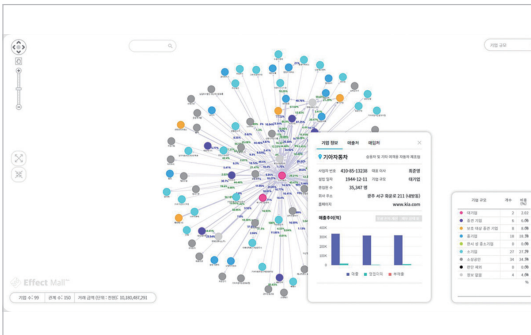
[Local Business Trade Network Analysis]
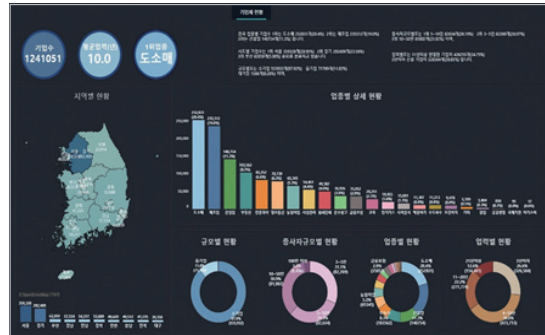
[Local Business Ecosystem Analysis]

[Strategic Industry New Trend Analysis Service]

▶ Best Practices

| Company providing data | | Company utilizing data | | Main contents |

Company providing data → **Company utilizing data**

GAION → **Classys** →

- 'Classys,' a company specialized in beauty and medical device, was in need of analyzing the market size, local buyer, distributor, competitor of the Indian market to move into the Indian market following the Brazilian market. GAION, a center in digital industrial innovation field, contributed to the establishment of the strategy for entering into the Indian market by Classys by using data on 'the volume of goods of import/export company with India,' 'the volume of goods at the Indian trading port,' and 'analysis of the volume of goods in strategic industry of the Indian market'

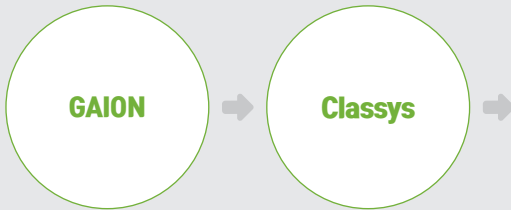 *Established the market entry strategy by providing annual import amount, changes in monthly import amount, Top50 competitors, a list of promising buyers of the Indian market in the year of 2019-2020 for the Indian Beauty Care Equipment and medical skincare equipment market

KMX → **The Herald Business** →
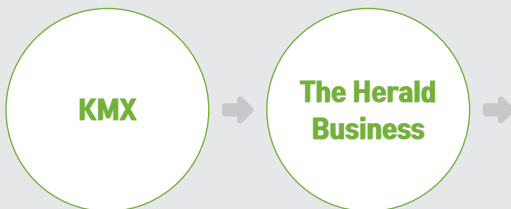
- The Herald Business, a media company, conducted press release by using the M&A statistics data of the 1H in 2021. This PR contributes to securing fixed subscribers for M&A and establishing strategic information by providing statistical data on the increase in the number of M&A cases compared to the previous year and M&A preference.

  * Media report on July 15th, 2021/The number of M&A in the 1H of 2021 has increased by 48% compared to the same period last year

STH.I.S → **Taeyoung Hyosung FMS, CMS Marketing Partner** →
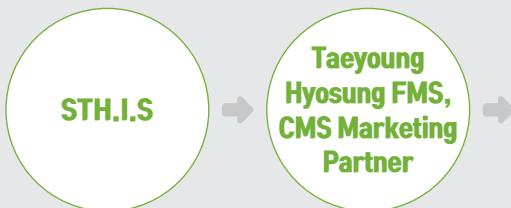
- Taeyoung HyoseongFMS, CMS Marketing Partner, the shopping mall for women, utilized keyword and behavior data to analyze customers who have left and their interests. This data usage improves media performance and reducing the marketing expense and increasing sales through TGI(Target Group Index) and growth hacking analysis.

  * Redefine the marketing product keywords (key, sub, brand, situation) by using field-specific search keyword data, user cognitive behavior data information, and user behavior information raw-data

13 | Lifelog Big Data Platform
www.bigdata-lifelog.kr

▶ Status of Platform Building

As the hub, the Wonju Severance Christian Hospital (WSCH), which has the largest lifelog data for the chronically ill and the severely ill in Korea, provides the service of the level of blood sugar management evaluation and prediction by collaborating with 12 centers, which produce data on hospital/patient, clinical, chronic disease, hospital/pharmacy, and Life–Air

[Homepage Screen]

[Platform Concept Diagram]

▶ Major Data

Name	Category	Data Provided
Wonju Severance Christian Hospital(WSCH)	Lifelog	Metabolic syndrome patient's lifelog, chronic obstructive pulmonary disease life log, diabetic patient's lifelog, etc.
Korea University Medicine	Hospital/patient	PHR-based lifelog data, CDM data, etc.
KNUH	Clinic-based lifelog	KNUH-based treatment, medical administration insurance data, lifelog, dietary intake image data, etc.
Hallym University Medical Center	Chronic disease	Remote medical information, smart healthcare information, pain negativity, depression, etc.
Huraypositive	Chronic disease	Weight, blood pressure, blood glucose, amount of physical activity, the amount of exercise, meal, nutrition, gestational blood glucose/meal data, etc.
i-SENS	Blood pressure/ Blood glucose	Blood glucose, blood pressure, ketone insulin, etc.
Bagel Labs	Hospital/patient	Analysis data of major individual body types (hip, waist, biceps), height, weight, body shape, etc.
Gooddoc	Hospital/pharmacy	Hospital search, pharmacy search, health content search, preferred hospital, preferred pharmacy, medical procedure and treatment consultation, hospital visit information (purpose, route, date, satisfaction), etc.
The Korean Audiological Society (KAS)	Hearing test	Test result of pure tone hearing and auditory brainstem reaction, etc. of 5 advanced-level general hospital
HealthMax	Metabolic Syndrome	Metabolic syndrome measurement data, such as height, body composition, blood pressure, blood glucose, cholesterol, etc.
Kweather	Life-Air	Indoor air quality data, such as shared residential facility, multi-use facility (daycare center, elementary school, middle school, sports facility), facility used by the vulnerable (postpartum care center, elderly welfare facility), cohort facility, etc.
Health Bridge	Mental Health	Stress diagnosis, mental health coaching information, stress-disease change information, etc.
LG Uplus	Telecommunication-Lifelog	Floating population, IPTV, U+ mobile TV, phone call volume, physical training at home, etc.

▶ Innovative Service of Platforms

① The service of blood glucose management level evaluation and prediction

- Evaluation and prediction service linking individual blood glucose management level and CVD (cardiovascular disease) risk with an algorithm, which links blood glucose data and glycated hemoglobin (HbA1c) level
- (Expected effect) There is an effect of improving health and reducing medical expense through efficient diabetes management. Plan to link healthcare company, blood glucose device, and management application through OpenAPI

② The service of ECG-based blood component prediction

- Shorten blood test time and reduce medical expense, since it is able to check blood component level without blood test by providing information on blood sodium (Na) and potassium (K) level using electrocardiogram signal (Scheduled to reopen in September 2021 due to algorithm modification)

③ Cardiovascular disease prediction service for metabolic syndrome patients (2021)

- A service which predicts the occurrence of cardiovascular disease using lifelog data of patients with metabolic syndrome
- Develop artificial intelligence-based prediction algorithm by integrating cohort and metabolic syndrome patient data
- (Expected effect) Reduce treatment cost and improve the quality of life through early prediction of cardiovascular disease with high mortality

④ Diabetes patients' comorbidity prediction service (2021)

- A service which predicts the occurrence of comorbid diseases using the lifelog data of diabetic patients
- Develop AI algorithm to predict the occurrence of comorbid diseases based on cohort data of diabetic patients
- (Expected effect) Improve health and the quality of life by providing diabetes management and daily habit guideline for healthcare guidelines and the prevention of complications through predicting complications in diabetic patients

[The service of blood glucose management level evaluation and prediction]   [The service of ECG-based blood component prediction]

▶ Best Practices

Company providing data	Company utilizing data	Main contents
i-SENS ➡	**Mynormal Company** ➡	● Plan the data management service of blood glucose and ketone of 'Ketotable,' a ketogenic lifestyle platform ● Expand health promotion (fat breakdown and maintenance measurement) service by providing lifelog big data of 'Ketotable' ● Confirmed to develop the data linkage service of blood glucose and ketone data to the data management service of 'Ketotable'
KAS ➡	**INOGENIX** ➡	● Utilize it for the development of a kit to screen newborn hearing impairment using auditory brainstem response test data, and the neonatal atopy test ● Identify the needs of a new-market entry through data and make decision on possibility ● Design business model and develop new market through the development of hearing impairment screening kit
Bagel Labs ➡	**YSCH** ➡	● Conduct a clinical test on diabetic patients to test health improvement effect (whether glycated hemoglobin level is upgraded) by enhancing thigh muscle strength ● Perform monitoring of thigh muscle strength improvement by using thigh circumference data ● Deliver meticulous monitoring on the influence of waist circumference and thigh circumference on diabetic patients and its correlation, while monitoring waist circumference and thigh circumference together with blood glucose, physical activity amount, body composition data in clinical tests

14 | **Firefighting Safety**
Big Data Platform   www.bigdata-119.kr

▶ Status of Platform Building

Firefighting Safety Big Data Hub, a platform based on data openness, sharing, distribution, and transaction which supports public safety and innovation in the firefighting industry, is established and provides high-quality specialized data service, such as Safety-119 Service*, collaborating with 9 centers

* Safety-119 Service : Provide innovative service with infographics based on storytelling necessary for firefighting safety to make users understand easily by using data collected from 9 centers public data portals

[Homepage Screen]

[Platform Concept Diagram]

▶ Major Data

Name	Category	Data Provided
National Fire Agency	Firefighting and disaster safety information	Fire safety special investigation data, firefighting complaint information, etc.
Sejong Fire Headquarters	Firefighting and disaster safety information	Emergency rescue standard, dangerous goods data, dangerous goods disaster data, etc.
Ulsan Fire Headquarters	Firefighting and disaster safety information	Emergency rescue standard, hazardous chemical accident data, disaster metadata, etc.
Jeonbuk Fire Safety Headquarters	Firefighting and disaster safety information	Emergency rescue standard, rural fire occurrence status, urban fire occurrence status data, etc.
Jeju Fire Safety Headquarters	Firefighting and disaster safety information	Emergency rescue standard, car accident (tourism) emergency information, water accident (marine) emergency information data, etc.
KFI	Fire industry demand, statistics	Firefighting product certification / test data, firefighting product inquiry test data, firefighting product inspection data, firefighting equipment inspection data, firefighting equipment precision inspection, dangerous goods manufacturing and tank test inspection data, firefighting industry data, sales statistics data related with firefighting industry, etc.
KFPA	Fire Insurance	Natural disaster risk level investigation status of special building, location-based special building natural disaster risk information, fire accident information, safety standard and technical data, press release data of accident, etc.
Alllitelife	Fire Sensor	Sensor installation information, real-time sensing information, disaster status information, prediction information, fire spread and evacuation simulation data, fire spread prediction information, occupant movement tracking information, etc.
Updater Group	Geo AI fire hazard	Integrated data of fire risk by building unit, integrated data by use of building unit, 5 grade data of fire risk prediction by lattice unit, special building fire prediction data, integrated data of fire occurrence frequency by lattice unit, etc.
Korea Fire Protection UBIS	Firefighting engineering ICT information	Fire simulation data, evacuation simulation data, disaster prevention plan, fire design data, construction supervision image data, construction supervision performance test evaluation data, etc.
PDTech	Underground pipeline safety management information	Underground pipe sound emission data, underground pipe vibration data, underground accident risk assessment data, underground pipe protective potential data, etc.
Gangwon Province	Firefighting and disaster safety information	Report, disaster data, status of wildfire in Gangwon province, 119 ambulance data etc.

▶ Innovative Service of Platforms

① SAFETY119 (emergency)

- Provide the innovative service with infographics based on storytelling to provide basic firefighting safety information on a national level in an easy-to-understand manner to the public by using open data collected from 8 centers and public data portals

② Can I use a fire extinguisher in my house?

- Provide a public service, which informs the replacement time and cycle of a fire extinguisher in home and office, based on fire extinguisher information, such as appropriate pressure for use, replacement time, and how-to-use of a fire extinguisher
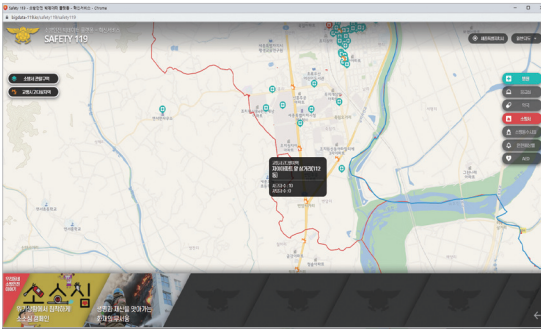
[SAFETY119]

[Can I use a fire extinguisher in my house?]

▶ Best Practices

Company providing data	Company utilizing data	Main contents
Updater Group	**Korea Tour Pass**	● Provide information on 'Building Fire Risk Index and Grade' to derive the level of fire risk of tourist facility in five (5) East Coast counties (Pan-East Sea, etc.) - Need to strengthen the safety management of multi-use facility, such as marine tourism facility, accommodation business, and restaurant business, due to the increase in marine tourists on the East Coast → Establish a preemptive fire prevention system by deriving the level of fire risk of tourist facility → Conduct customized safety inspection through individualization of safety inspection cycle and method for each facility

15 | Smart Policing
Big Data Platform www.bigdata-policing.kr

▶ Status of Platform Building

As the hub, Korean National Police University (KNPU), a research institute specialized in smart security responsible for public security, provides service, such as the Crime Risk in Our Neighborhood, by collaborating with 10 centers, which produces data, such as public safety, security, private fraud, dark web, etc

[Homepage Screen]

Smart Public Security Big Data Platform

Service	My-Community safety map	MY POL (My police)	Colligation Integrated safety service	STOP-PISHING	CLEAN-WEB	Anti-N Chat

Collection / Analysis: Community safety · Customized safety · Life safety · Dark-web crime · Private fraud management · Cyber safety

Production:

Security data	Public, Administration	Traffic Floating population	Space information	Public safety post	Malicious URL
치안정책연구소	수원시 SUWON CITY	Seoul Credit Guarantee Foundation	LH KOREA LAND & HOUSING CORPORATION	AMGINE SECURUS	JIRANDATA
Data Platform	Private fraud	Dark web	Private security activities	Public housing information	Public security news
	THECHEAT	S2W LAB	e2on	iTRO	YONHAP NEWS AGENCY

Institutions of Data Center

[Platform Concept Diagram]

▶ Major Data

Name	Category	Data Provided
KNPU	Security	Perceived safety level, customer satisfaction level, customer satisfaction level of security in Seoul Metropolitan Government, national 112(public order/police emergency number) report, crime statistics table, crime arrest table, sexual violence case data, information about photo crimes such as camera, etc.
Seoul Credit Guarantee Foundation	Local currency, Administration	The number of open/closed businesses, survival rate, average business period, rent, start-up risk, industry overcrowding level, commercial district activation index, small business owner's finance cost, commercial district change index, residential and working population, constantly residing population, etc.
LH	Space information	Business district boundary map, land use plan, land sales information, housing/commercial building information, housing/commercial building sales information, basic information of lot-unit land, serial cadastral map, rental housing information, etc.
Amgine Securus	News community for security	Criminal behavior characteristics, criminal activity site owner information, criminal activity site congestion information, illegal storage data, crime and accident news, news community data of personal information theft, etc.
JIRAN DATA	Malicious URL	Phishing URL information, malicious URL information, malicious URL location information, etc.
TheCheat	Private fraud	Information of goods used in financial fraud, information of damage caused by financial fraud, contact information and account number caution information related to financial fraud, information of harmful websites, etc.
S2W	Dark web	Drug and sexual exploitation related post in Korean, cyber defamation text, cybercrime image, dark web victim and criminal information, cybercrime statistics, etc.
E2ON	Private security activities	Intrusion crime case information, fire accident information, commercial district size by time in accident area, CCTV location information by region, etc.
ITRO	Life safety	Multi-household housing security information by region, crime information, multi-household housing safety detection information, traffic management and living safety information, etc.
Suwon City	Public, administration	Population data(single household, five household, registered foreigners), homeless self-support facility, free food service center, housing data(status/statistics), street lights, security lights, emergency bell data, etc.
Yonhap News Agency	Security News	Domestic accident news collection, international accident news collection, accident issues, accident-related keyword extraction data by time period, etc.

▶ Innovative Service of Platforms

① My Neighborhood Safety Map Service

- Utilize this service to discover policy for crime prevention and early response by local governments and relative security response service through a visualization* service of frequent occurrence of domestic violence and sexual crime targeting Seoul

  * Compare accident frequency by Eup/Myeon/Dong (an administrative subunit for city and county) based on 112 report and registration (112 is a Korean emergency number for public order/security)

② MY POL (Safe Return Service)

- Promote the safe return of local residents by visualizing through categorization of crime-vulnerable time and place, crime frequent location, etc., customized for citizens based on police data
- Contribute to crime prevention activities by using a mobile application to measure the level of safety in my area according to user characteristics (gender, age, etc.)

[My Neighborhood Safety Map Service]

[MY POL(Safe Return Service)]

▶ Best Practices

Company providing data	Company utilizing data	Main contents
KNPU ➡	**KNPU, LH** ➡	● Analyze the factors affecting the public's perceived safety level of police activity targeting government offices in five (5) cities, including Seoul, using public security data / Promote a data analysis task for deriving outstanding analysis solution through the participation and competition of ordinary citizens by using 'COMPAS,' a LH's urban problem solution platform, to prepare a system for predicting perceived safety level ● Able to establish efficient security activity and policy through the correlation analysis of factors affecting perceived safety level and establishment of a predictive model to improve perceived safety level
Seoul Credit Guarantee Foundation ➡	**Seoul Metropolitan Government** ➡	● Develop safety index by commercial district by integrating Seoul commercial district data and police data ● Conduct a study on recommendation and relevance by industry through the development and analysis of safety index by commercial district by using the nation's first commercial district and security data
Seoul Credit Guarantee Foundation ➡	**Seoul Metropolitan Government** ➡	● Hold the joint seminar by Seoul Credit Guarantee Foundation and KNPU : Provide commercial district data and security data to institutions contracted business agreement, and develop a new model and conduct research by the analysis through the virtual space operated by the Foundation ● Secure data utility and expandability through new model development and research

16 | Maritime Affairs and Fisheries
Big Data Platform   www.bigdata-sea.kr
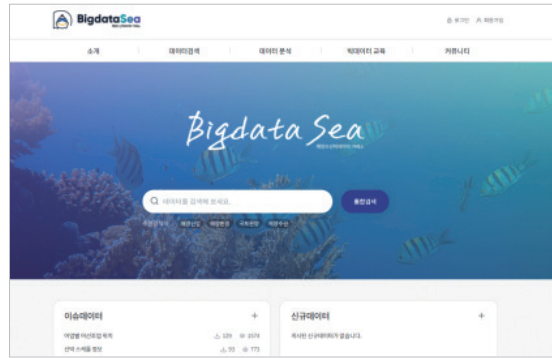
▶ Status of Platform Building

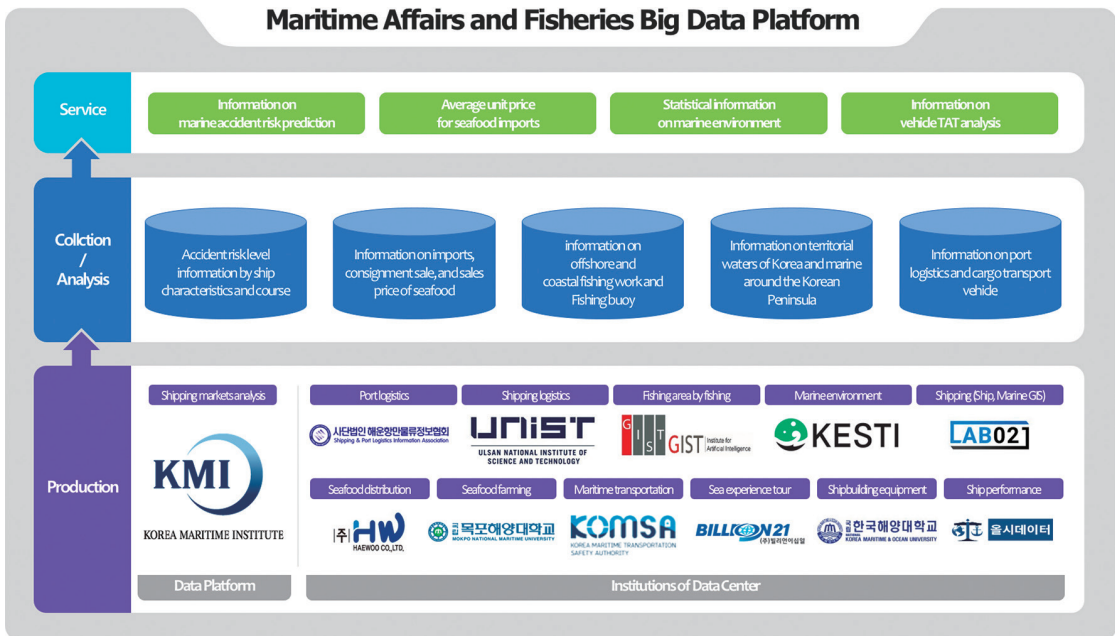As the hub, Korea Maritime Institute (KMI), a national research institute in the field of maritime affairs and fisheries, provides service, such as seafood consumption index and securing stability of marine transportation, by collaborating with 11 centers, which produce data, such as shipping, marine environment, shipbuilding, fishing, port, and etc.

[Homepage Screen]

[Platform Concept Diagram]

▶ Major Data

Name	Category	Data Provided
SPLIA	Port, logistics	Vessel schedule, container entry/exist information, container loading/unloading information, cargo information, transport vehicle information, etc.
UNIST	Shipping, logistics	Marine export logistics price (quotation, invoice, contract, forwarder, etc.), container service schedule information, port real-time entry/exit information, petrochemical/chemical/cargo logistics volume information, etc.
GIST	Fishing, fishing location by fishery	Fishing information by fishery, catching volume information by fishery, location information of fishing gear by fishery, etc.
Korea Environment Science & Technology Institute	Marine environment	Marine information around the Korean Peninsula (SST distribution in time series, CDOM distribution, chlorophyll distribution, daylight hour at sea, water quality, etc.), Korea's territorial sea information (water quality, low quality particle size, turbidity), global surface water temperature information, shoreline and coastal landfill area information, etc.
LabO21	Shipping	Vessel sailing information, vessel greenhouse gas emission information, shipbuilding equipment information, the shortest route information, global weather, high-sea/wave, current, water temperature, atmospheric pressure, etc.
Haewoo	Seafood distribution and processing	Average unit price of import for seafood, sales information of seafood product (product, distribution), information of market (commission-based sales) (quality of fish, price on sale), information, etc.
Mokpo National University Industry-Academic Cooperation Foundation	Seafood farming	Fish farming environment, disease and activity data (flounder, mullet, eel, shrimp, flounder, sea bream, abalone), etc.
KOMSA	Maritime transportation safety	Ship information subject to Ship inspection (fishing ship, general ship, etc.), fishing ship information (measurement, horsepower, photo, etc.), internal port passenger ship information (operation, weather, route, a port of call, etc.), etc.
Billion21	Sea experience tour	Sea village information (location, tourism and living condition, facility, local economy, usage status, etc.), Marine tourist destination information (main tour site status, marine leisure, travel route, etc.), etc.
Korea Maritime and Ocean University Marine Venture Development Center	Shipbuilding equipment	Vessel monitoring information (propulsion shaft, engine, etc.), vessel space environment information (engine room, cargo room, sleeping room, etc.), vessel sailing information (AIS, sailing route, etc.), material and equipment status information, etc.
AllSeaData	Analysis of ship performance & efficiency	Sailing information by vessel/vessel type/route/ship owner (speed, sailing distance, cargo transport volume, cargo transport ton-mile), vessel performance information (by shipyard/vessel/vessel type), vessel engine load level (fuel consumption amount, CO_2 generation amount, NOx generation amount), utilization rate by vessel (cargo/ballast tank, etc.), etc.

▶ Innovative Service of Platforms

① Vehicle turnaround and terminal congestion analysis information service (2020)

- Use this service to improve the logistics environment by providing the analysis service of terminal waiting time and delay cause using big data of port logistics*, and to improve terminal operation productivity and to utilize into customer service (residing freight company, driver, etc.)
 * Pre container entry/exit application information, container entry/exit result information, transportation vehicle operation information, real-time terminal arrival prediction information, etc.

② Marine environment data service by domestic observatory (2020)

- Statistical information provision service for ocean survey and observation status that can be identified at a glance by providing integrated data of marine environment (water temperature, temperature, wind speed, flow velocity, etc.) for each domestic coastal observatory (85)

③ Average unit price provision service for seafood import (2020, under development)

- Derive the average unit price of imports of seafood through origin, import, and import price information of seafood, and provide a service to compare import price for popular squid and mackerel
- Provide seafood distribution consumption data service which can be used for decision making on seafood import, since there is currently no platform where domestic seafood importers can compare seafood prices
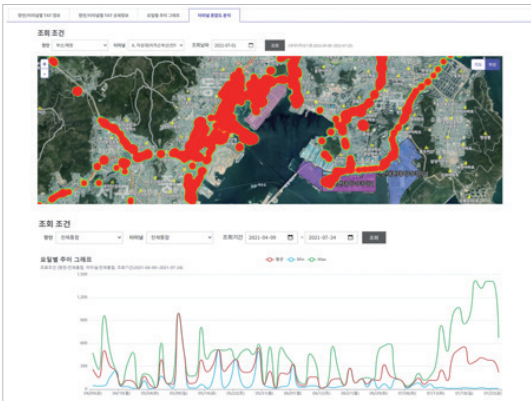
[Vehicle turnaround and terminal congestion analysis information]

[Marine environment data service by domestic observatory]

▶ Best Practices

Company providing data	Company utilizing data	Main contents
TRADLINX ➡	**Company L** ➡	● Establish an automated system for managing entry/exit for maritime import/export volume – Link transportation entry/exit data of container service with Company L's internal ERP system to automate the process of managing the entry/exit timing of container and monthly performance measurement of maritime import/export volume
TRADLINX ➡	**Company P** ➡	● Establish digital forwarding system to transform into digital forwarder – Develop a digital forwarder service, which enables customers directly inquire and book maritime logistics service by building an online website – Link the container service schedule data
Komachine ➡	**INT Co., Ltd.** ➡	● Develop a system for providing information on the cost of maritime export logistics and the estimated export logistics cost for small and medium-sized export companies – Provide maritime export logistics cost information to INT Co., Ltd., which exports to the United States, Thailand, Malaysia and Bangladesh. Utilize the input of shipping charge information in the quotation that must be submitted to overseas buyers in overseas sales. – This company incurred a loss of KRW 35 million in 2019 due to an error in the calculation of the maritime export logistics estimates
Sea-Life Science Lab ➡	**Company K** ➡	● Provide consulting on seafood collateral – Analyze the import status (price), domestic distribution market price, etc. of seafood products subject to the bank's security loan by using data on average unit price of imported seafood – Allow the bank to determine the amount of analyzed security loan and to check the borrower's additional documents for security loan

Status of Big Data Platform Domain

	Category	Title of the Platform	URL
00	NIA	Integrated map of public and private data	www.bigdata-map.kr

	Category	Title of the Platform	URL
01	Finance	Finance Big Data Platform	www.bigdata-finance.kr
02	Environment	Environment Big Data Platform	www.bigdata-environment.kr
03	Culture	Culture Big Data Platform	www.bigdata-culture.kr
04	Transportation	Transporation Data Exchange	www.bigdata-transportation.kr
05	Healthcare	Healthcare Big Data Platform (Cancer Big Data Platform -CONNECT)	www.bigdata-cancer.kr
06	Distribution, Consumption	Distribution·Consumption Big Data Platform (KDX, Korea Data Exchange)	www.bigdata-market.kr
07	Telecommunication	Telecommunication Big Data Platform (KT Telecommunication Big Data Platform)	www.bigdata-telecom.kr
08	SMEs	Small and Medium Enterprise Big Data Platform (WEHAGO Data Distribution Portal)	www.bigdata-sme.kr
09	Local Economy	Local Economy Big Data Platform (Local Economic Portal of Gyeonggi Province)	www.bigdata-region.kr
10	Forest	Forest Big Data Exchange	www.bigdata-forest.kr
11	Agrifood	Agrifood Big Data Platform	www.bigdata-agrofood.kr
12	Digital Industrial Innovation	Digital Industrial Innovation Big Data Platform	www.bigdata-dx.kr
13	Lifelog	Lifelog Big Data Platform	www.bigdata-lifelog.kr
14	Firefighting Safety	Firefighting Safety Big Data Platform	www.bigdata-119.kr
15	Smart Policing	Smart Policing Big Data Platform	www.bigdata-policing.kr
16	Maritime Affairs and Fisheries	Maritime Affairs and Fisheries Big Data Platform	www.bigdata-sea.kr