



V&G provides new value in GIS.



37°24'32.5"N

37°24'32.5"N 127°05'43.4"E

01

Introduction of V&G

GIS specialist
Solution provider
Leader in New normal era

02

Differentiation of V&G

Mission of V&G
Numbers of V&G
Footprint of V&G

03

Solution intro.

Specific solution
Applied industry

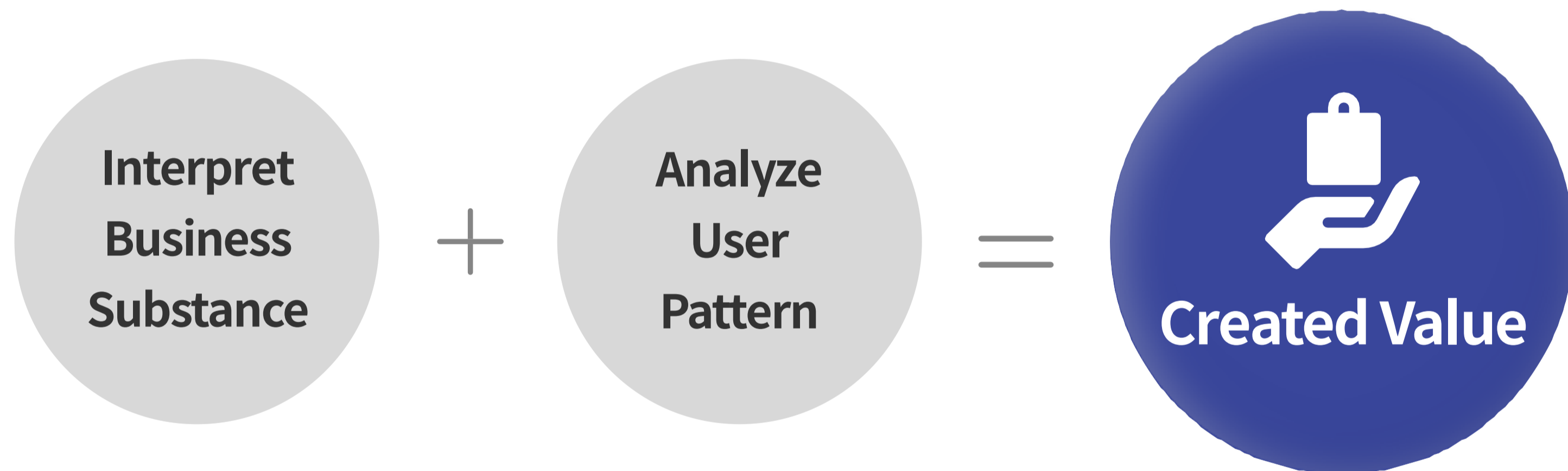
04

References

Public Institutions

01. GIS specialist

: V&G delivers company vision and mission to customers

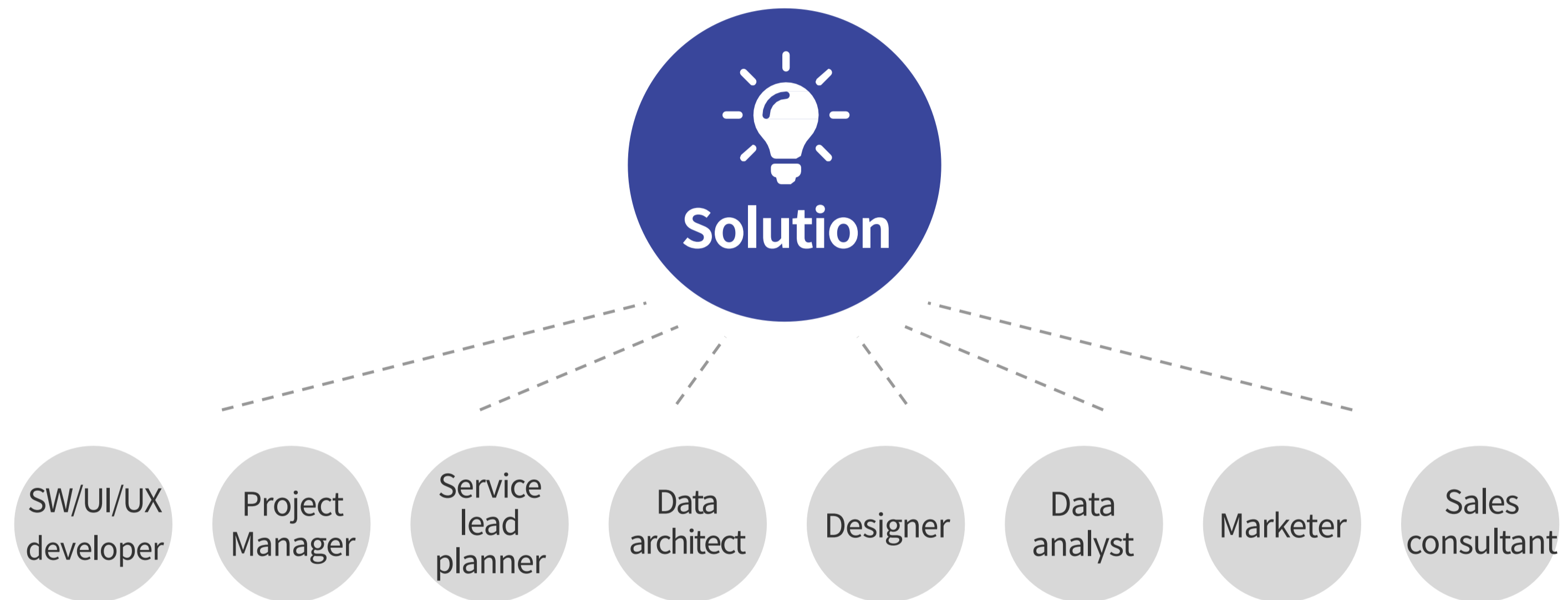


V&G provides new value of spatial information

by interpreting spatial information from the point of view of business use and analyzing user patterns.

02. Solution provider

: V&G solves problems from the user's point of view with various experts.



V&G focuses on practical problem solving
not just the number of sum of function



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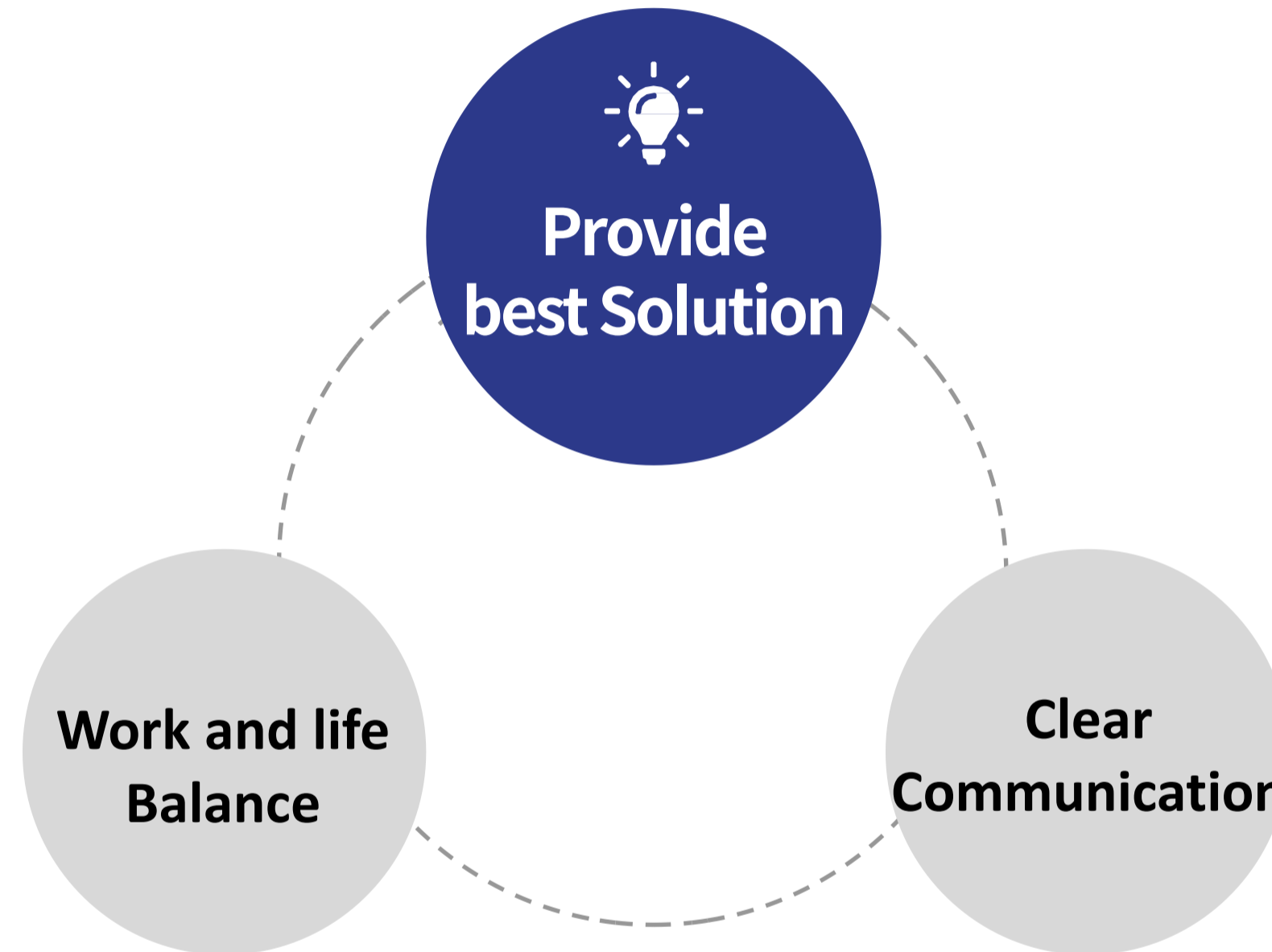
04

References

Public Institutions

01. Mission of V&G

: V&G delivers company vision and mission to customers



Build up

Final goal is to build up user focused ecosystem

Best service solution

Through customized consulting, we create the best services and provide solutions

In one cycle

To be cycled in one circle of all processes

For everyone

Even power users who are new to spatial information or are using it

02. Numbers of V&G

: Market share no.1 for 6 years in geospatial information system advancement business

Geospatial information system market share no.1 in 2020

Geospatial information system market share no.1 in 2019

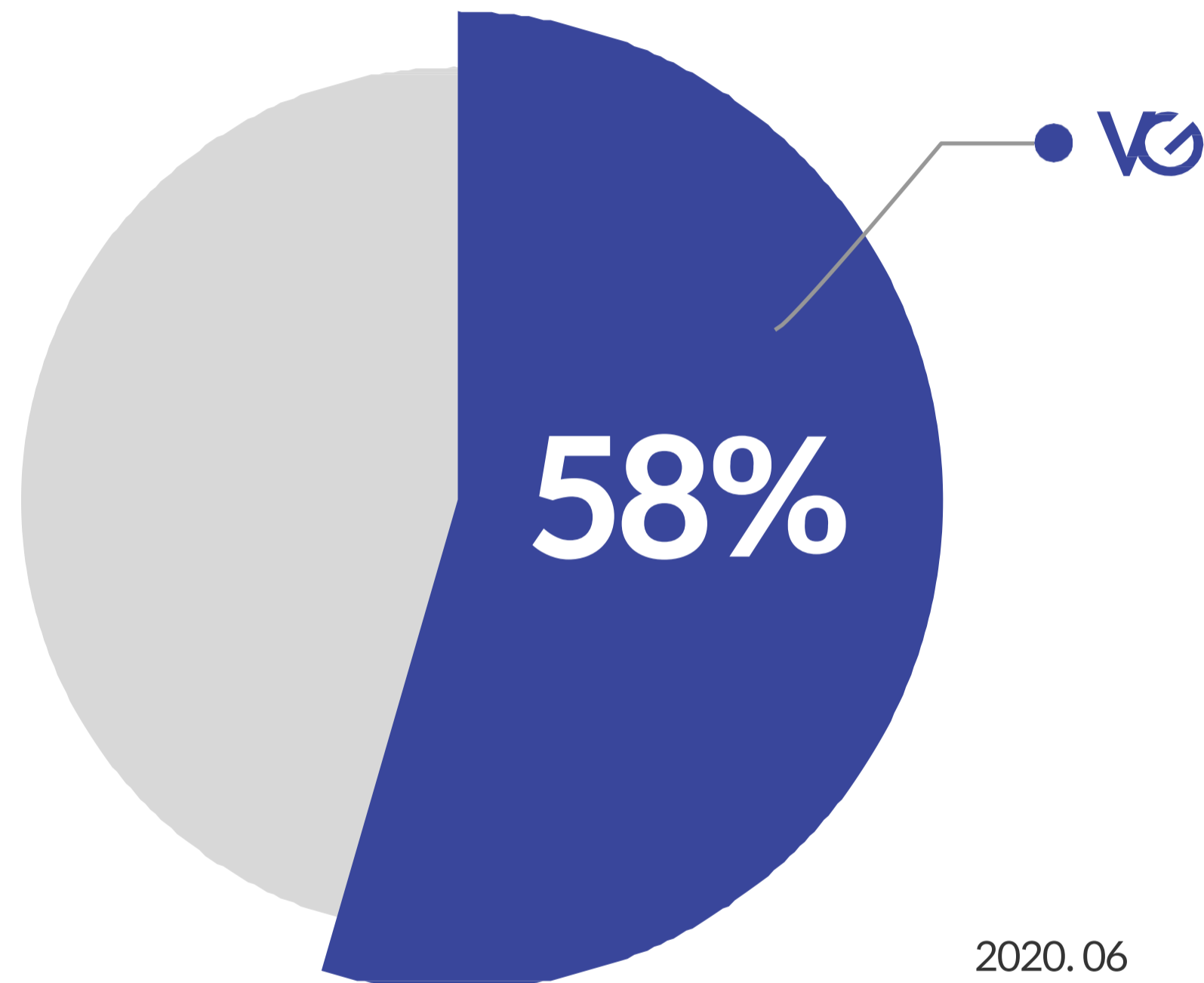
Geospatial information system market share no.1 in 2018

Geospatial information system market share no.1 in 2017

Geospatial information system market share no.1 in 2016

Geospatial information system market share no.1 in 2015

02. Numbers of V&G



Market share of V&G system in Gyeonggi-do

02. Numbers of V&G

USD

20.0 Million

2021.12

Accumulated sales target of geospatial information system business

03. Footprint of V&G

Good Program certificate by Ministry of the Interior and Safety

2020. 'GT Map' GS Certificate **1st grade by TTA**

2019. Standard Licensing Decision support system GS Certificate **1st grade by TTA**

2019. Received the **Daejeon city mayor's Award at GP**

2018. Received the Excellence Award at Public big-data Award by Ministry of the Interior and Safety

2018. Received the Excellence Award at information and communication banquet

2018. Selected as an excellent institution

2017. Received the Excellence Award at Informatization Federation

2017. Received the Excellence Award at Local government Award

2017. Received the big-data administration Award by Gyeonggi-do





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01. V&G Technology & Solution Roadmap



01. Smart Spatial Information Platform

Outline of the solution
Platform of smart spatial information based on open source

1 Definition of solution

As a platform for spatial data of public institutions based on the latest open source, address-based administrative information is visualized and analyzed to support various decisions

The basic function of GIS



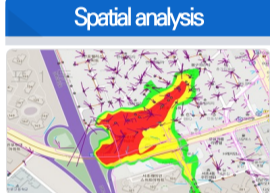
Smart space information platform



Visualization of text files



Spatial analysis

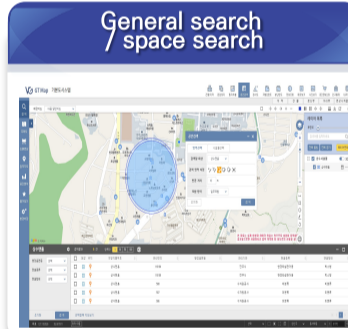


Editing the data



2 The basic function of the solution


General search / space search



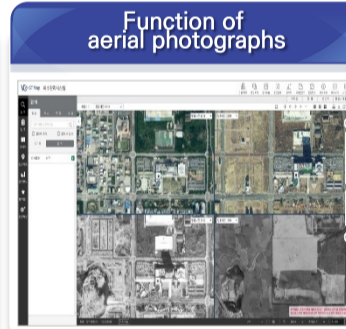
Inquiry of integrated administrative information



Setting symbols and labels



Function of aerial photographs



3 Features and expected effects

01

Excellent performance, quality, and scalability as a platform for the latest opensource spatial information

02

It is easy to combine various administrative tasks of local governments and to connect with internal and external systems

03

It can be efficiently utilized for untact work between departments through functions of sharing and collaboration

Local government of introduction
Local governments (about 40 nationwide) of the introduction of GT Map

Goyang city (2021)



Pohang city(2020)



Tongyeong city(2020)



Icheon city(2019)



Wonju city(2018)



Jeonju city(2018)



02. Citizen service platform

Outline of the solution
Citizen service solution –responsive web-based

1 Definition of solution

A solution that is supported by a system of openness of spatial information that is useful to citizens is provided on a mobile and PC basis and to communicate with citizens as the data provided by citizens is utilized for administrative work

1 Citizen content sharing

2 Utilization of citizen spatial data

Convergence and composite production of new contents

3 Sharing and recycling of contents

Creation of new spatial data

2 The main function of the solution

Community map

Information map

Theme map

Media map

3 Features and effects of expectations

01

Enhancing the satisfaction of citizens by providing useful contents that can be disclosed to citizens.

02

Provision of measures to protect citizens' property and safety through prompt notification in the event of a disaster.

03

The establishment of a smart city system that has increased the level through a smooth communication system of information between local governments and citizens.

The local government of application
Local governments (15 nationwide) of the construction of service solutions for citizens

Ansan city(2021)

Pohang city(2020)

Icheon city(2019)

Wonju city(2018)

Seongnam city(2017)

Miryang city(2016)

03. Platform for supporting work based on spatial data

Solution 1 Smart park green management system

Definition of solution

- A solution constructed to handle the overall affairs of the park that leads to the creation, registration, transfer, and operation of the park, rather than simple account management

Solution 3 Online system for NonF2F water supply

Definition of solution

- A solution in which the complaints of the telephone, visiting, and fax water supply work and the design and management of the document-oriented water supply work are systemized online, thereby resolving the inconvenience of the water supply work and the efficiency of the person in charge of the water supply work

Solution 2 The online system of occupation management

Definition of solution

- The system of civil service and management of permission for occupation and use (roads, rivers, and old houses) focused on the management of existing paper documents is made online to increase the satisfaction of civil petitions related to occupation and use and to increase the efficiency of related tasks

Solution 4 A hidden tax source excavation support system

Definition of solution

- A solution in which data from various non-tax revenues, including public property, are managed based on spatial data, not text-based accounts, and the omission of tax sources and unauthorized maintenance are extracted to support the local government's securing of tax sources


04. Mobile-based field support solution

Outline of the solution
Smart field support solution


1 Definition of solution

Due to the person in charge of frequent work at the site, various spatial information including roads, water and sewage facilities, and underground facilities are inquired online in real time and the facilities are managed efficiently

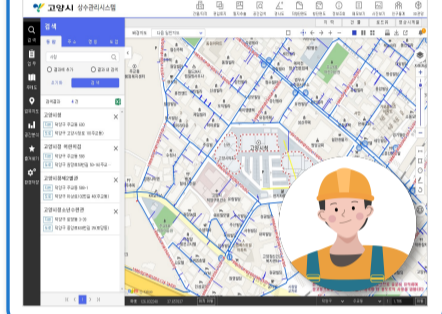
Mobile field support solution



Spatial data integration DB



Spatial information platform (PC)

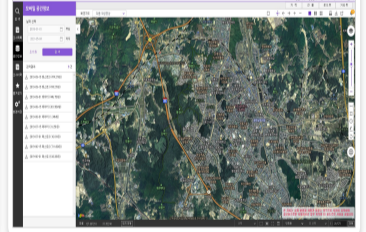


2 Major functions of the solution

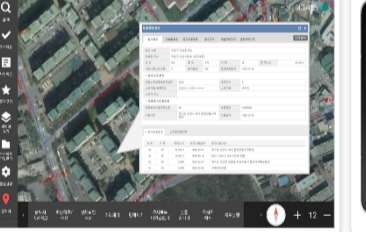
Basic function

- 지도 기본 기능
 - 확대/축소/이동 기능
 - 최신 항공영상조회
 - 각종 시설물 조회
- 카메라 기능
 - 현장 시설물 촬영
 - 메모에 사진 등록
 - 시설물 사진관리
- 펜 메모
 - 지점 및 시설물 메모
 - 메모 등록 / 지우기
 - 메모 저장 / 덮어쓰기
- GPS
 - 내 위치 자동확인
 - 정확한 방위 찾기
 - GPS 연적, 거리측정

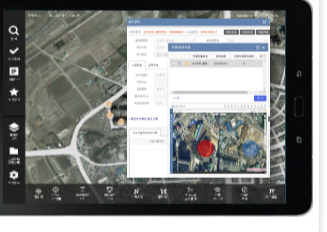
Searching addresses and facilities



Location and property management of facilities



Maintenance and registration of photographs



3 Features and expected effects

01 The possibility of preventing accidents through the inquiry and management of urban infrastructure at the site and coping with the rapid work

02 Improvement of the efficiency of the work of the department of water and sewage, the cadastral department, and the department of the management of national and public property.

03 The possibility of management of spatial data that has increased due to rapid investigation and update of various facilities.

Applied agency
Public institution of construction of on-site support solution

1 Korea District Heating Corporation

Facilities related to heat transport network managed by Korea District Heating Corporation are managed by mobile field support solution conveniently and efficiently. The tasks of maintenance and inspection of facilities are managed directly by mobile devices.

Inquiry of facilities



Analysis of blocking valve



Maintenance of facilities



2 Gwangmyeong City, Wonju City, Yongin City, and Gimpo City

Roads, water supply, sewage, and underground facilities managed by local governments are inquired on a mobile basis, and the details investigated on-site are registered and managed conveniently in the spatial information system.

Gwangmyeong City



- Facility search, location/facility inquiry
- The task of field research based on mobile.

Yongin City



- Download of data via platform.
- Server upload of the history of the field survey.

Tongyeong City



- The use of AR/VR technology to view 3D-type facilities in the field

05. Drone data platform

Outline of the solution
Drone-based administrative support solution

1 Definition of solution

✓ A solution that supports the smart progress of administrative tasks such as general administration, intellectual affairs, tax administration, and the management of national and public property using drones, which is the core technology of the 4th Industrial Revolution.

Drone administrative support solution

2 Basic functions of the solution

Drone image inquiry and search

Checking the overlap of the subject map of the drone image

Comparison of drone images

Download of drone output

3 Features and expected effects

01 Drastically reducing the maximum time from one month to one day from drone shooting to service provision

02 Optimization of performance, stability, and compatibility by leveraging the latest open source-based technology

03 Maximize satisfaction and efficiency of work through drone service in various administrative tasks

Main functions
The main function of the solution of drone-based administrative support.

1 The function of uploading/downloading and managing data of drones

Drone data upload

- Uploading outputs of drones such as orthoimage, point cloud, panorama, and video

Drone layer management

- The orthoimage of the drone can be added, modified, and removed on the map like the layer of the facility

Make a drone map / view

- Creating and searching the background map by combining the orthoimage of the drone shooting

2 The provision of data services for drones

DSM/DTM data inquiry

Point Cloud data inquiry

Panorama data inquiry

Video data inquiry

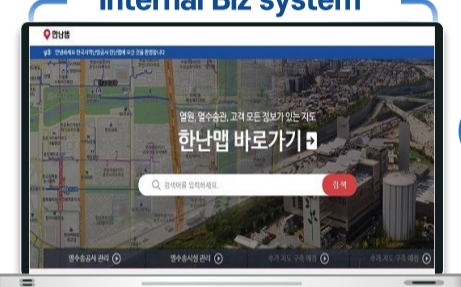
06. Heat Transport Integrated Management Solution

Solution
Korea District Heating Corporation Case


1 Definition of Solution

✓ A solution that manages various facilities including heat transfer pipes based on spatial information, and manages all heat transport tasks such as accident prevention and shutoff valve analysis in case of an accident, and ERP interlocking based on spatial information


Internal Biz system



Mobile on-site support




Work system of Const.

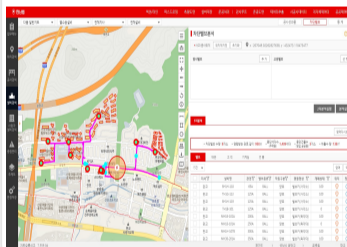


2 Basic functions of the solution

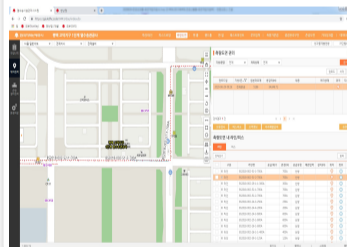
Facility search / inquiry




Shut-off valve simulation



Upload survey drawing



Real-time monitoring



3 Features and Expected Effects

01

heat transport business support by managing heat transport facilities based on the latest GIS technology

02

Accident prevention and prompt response in case of an accident through shut-off valve analysis and real-time monitoring of heat transport pipe

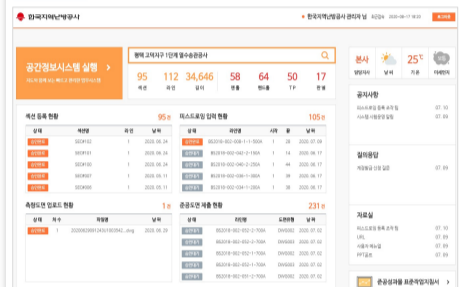
03

Contribute to the government's underground space safety policy through an accurate data update system

function
Functions of integrated heat transport sol.

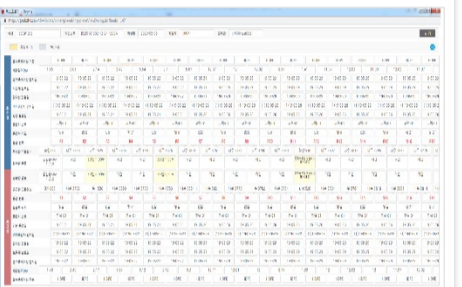
1 Functions of the construction company performance registration system

Monitoring of process



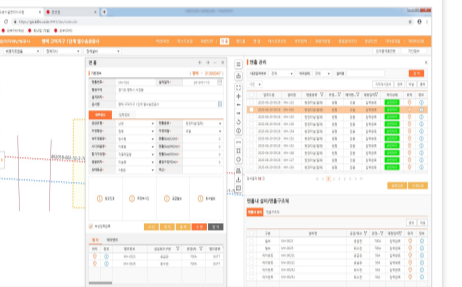
- Monitoring of Registration of achievements.
- Inquire about the progress of work, such as the supervisory approval status for registered achievements

Register Peace draw.



- Pipe laying information is stored as computerized information input by the form of a piece drawing
- Record/manage all information related to welding and plumbing material construction


Upload the const. draw.



- Upload to vertical floor plan and ISO drawing during completion
- Automatically converts lines, mappings, and PDFs into ready-to-use forms

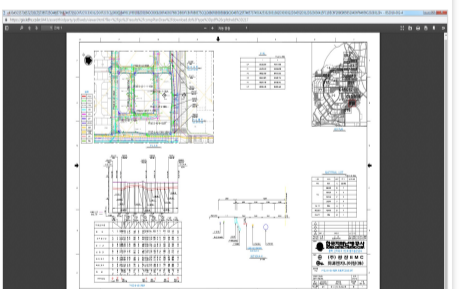
2 Main functions of the system for internal business personnel

Search/inquire facilities




- Search/inquiry for heat transport pipes and accessories
- Management of specifications and status for each facility

Use of drawings



- Confirmation of as-built drawings (vertical floor plans, ISO drawings) converted to PDF
- Drawing management by construction/line

Create SAP master



- Creation of facility master through SAP linkage with construction completion (disposal processing)
- Creation and connection of asset information based on the created master

07. Composition of Metaverse Geo platform

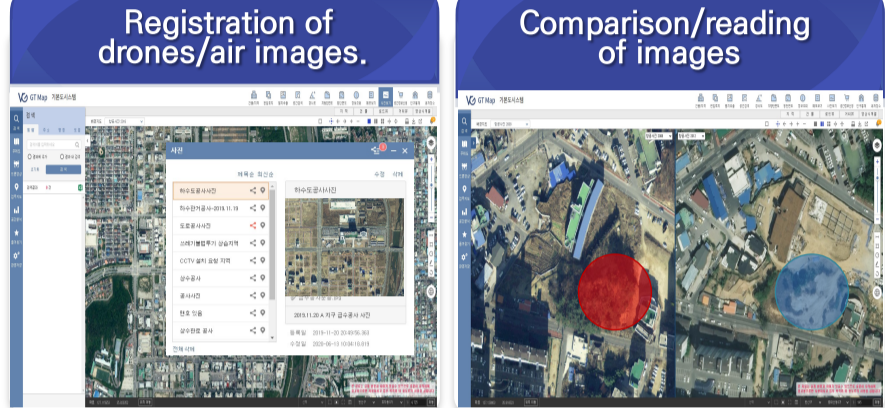
Digital twin data-based administrative business model



Local government administrative data is modeled based on 2D/3D, used for the utilization of common administrative work, and provided for spatial analysis and simulation to help policy decisions. In addition, the underground facilities VR and XR for the field work with the generated data are visualized to match the internal work and the field data.

- Spatial information
- Digital twin(Point Cloud)
- 5G - XR

AI image analysis based administrative business model

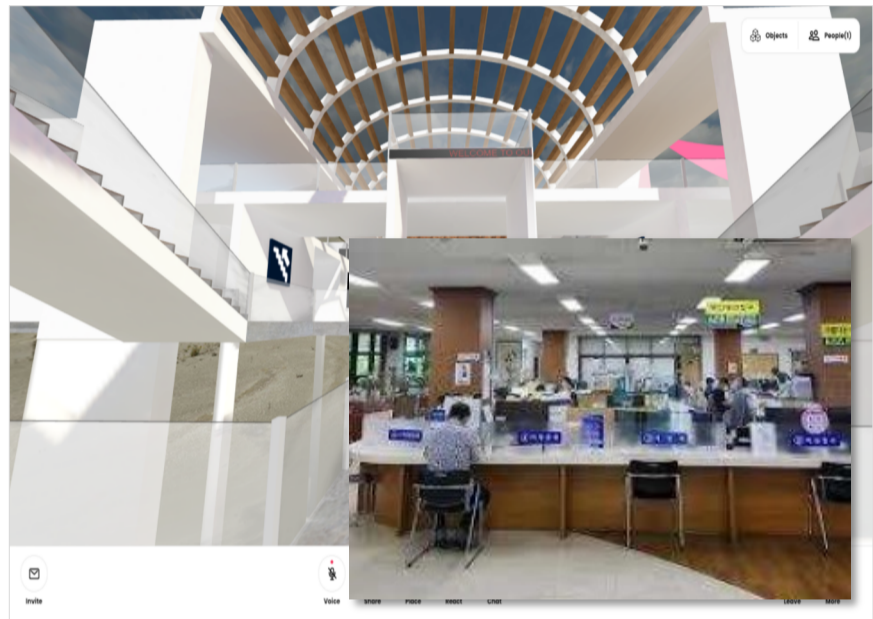


- 분야1 불법 건축물 의심지 추출
- 분야2 불법 형질변경 의심지 추출
- 분야3 국공유지 무단점유 의심지 추출
- 분야4 용도지역지구 불법행위 조회
- 분야5 연도별 항공영상 비교
- 분야6 수치지도 업데이트 활용

MMS, drones, and CCTV's video data and administrative data are matched to enable an algorithm for the processing and analysis of images, enabling the extraction of illegal activities such as illegal construction and expansion of buildings, and remodeling of illegal rooftops. It is also used for unauthorized occupation of state-owned lands and the extraction of illegal activities in land-use zones. It can be expanded by applying to various administrative work models..

- Spatial information
- AI image analysis(MMS, drone image)
- Processing large amounts of data

Metaverse-based civil service administrative model



In order to solve time and spatial problems, a virtual space that allows the AI chatbot and the actor of AI in the virtual space to perform the local government's civil affairs (reception, process, and check) is implemented. In addition, information on municipal administration activities and major status of local governments is provided, and the convergence of external data provides services for citizens in both directions.

- Spatial information
- Metaverse (Unity, WebGL, Unreal)
- Processing large amounts of data



Spatial virtual model



Location virtual model



Connected virtual model



Intelligent virtual model

08. Digital Twin Platform

Solution 01 Digital twin solution combined with administrative information

1 Definition of solution

These are digital twin solutions in ground space where digital twins, not simple 3D modeling for cities, and data through links between local administrative data and systems can be combined to provide practical help to administrative work.



2 Major functions of the solution

Various analysis functions based on 3D Analysis of solar rights Analysis of view area Analysis of landscape Analysis of slope	3D-based administrative information inquiry	3D-based precise demographic inquiry	Overlap of administrative subject map
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3 Features and expected effects

- 01** The possibility of efficient city planning and management through various analysis and simulation functions based on 3D
- 02** Maximizing the efficiency of the administration's work by combining the advantages of the digital twin with the data of various administrations
- 03** The realization of smart city that can solve and sustain problems of cities through the function of analysis linked to big data.

Solution 02 Solutions for remote collaboration of 5G XR-based underground facilities.

1 Definition of solution

The digital of underground space that enables the construction/inspection/management/analysis of underground facilities in office spaces and sites by combining the technologies of 5G communication, augmented reality, IOT, and spatial information platforms.



2 Major functions of the solution

Visualization of underground facilities in 3D	Detailed information inquiry of facilities	5G-based remote collaboration	Support of tablet devices
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3 Features and expected effects

- 01** Improving efficiency and reducing costs of work through collaboration with remote experts in the event of construction or accidents
- 02** Searching the location and account of facilities based on expansion reality by utilizing digital twin technology
- 03** 5G-based technology for transmitting large amounts of data is applied to enable rapid collaboration between the field and the office

09. A platform of business support based on AI

Outline of the solution
AI-based illegal activity monitoring solution

1 Definition of solution

A solution used by AI technology to help prevent disasters caused by changes in illegal buildings/illegal traits by deciphering images or aerial images of drones

Drone/air video registration

- The image of the subject of analysis is registered in the system
- The video of the object of comparison is selected from the system

AI-based image analysis

- The selection of the area of the image to be analyzed
- Execution of an analysis of the comparison of the selected two images

Analysis report

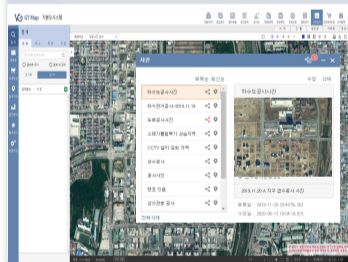
- Checking the results of the video analysis
- Reporting of the results of the analysis for on-site investigation

Administrative procedures

- Investigation of the site about the location of the result of analysis
- Administrative procedures for illegal activities after the on-site investigation

2 Major functions of the solution


Registration of drones/air images




Comparison/reading of images



Storage of information of video reading



Output of video reading information



3 Features and expected effects

01 Extraction of illegal activities such as illegal construction and extension of buildings using AI technology, and illegal remodeling of rooftops

02 Prevention of landslides and floods by pre-extracting illegal streams and illegal deforestation

03 Reducing the cost of streamlining administrative procedures by utilizing technologies from the Fourth Industrial Revolution such as drones and AI.

Case Study
Examples of major areas of utilization and business utilization

Major areas of use

01
Extraction of suspected sites of illegal buildings

02
Extraction of suspected sites of illegal modification of traits

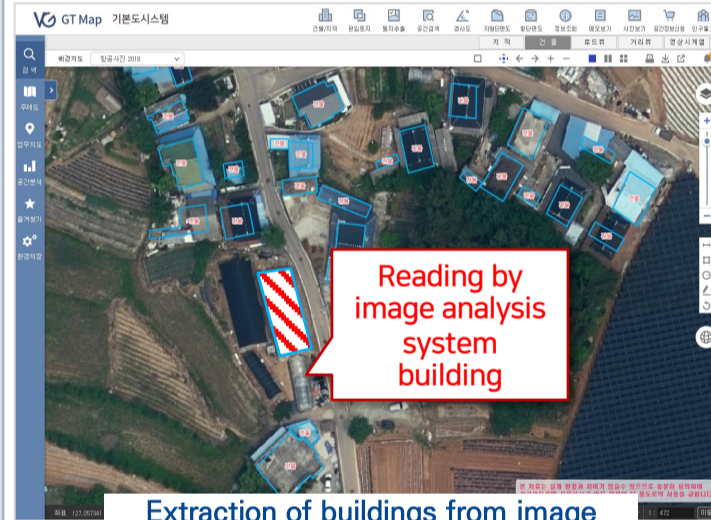
03
Extraction of unauthorized occupation of the State or public land

04
Inquiry of illegal activities in the district of use.

05
Comparison of aerial images by year

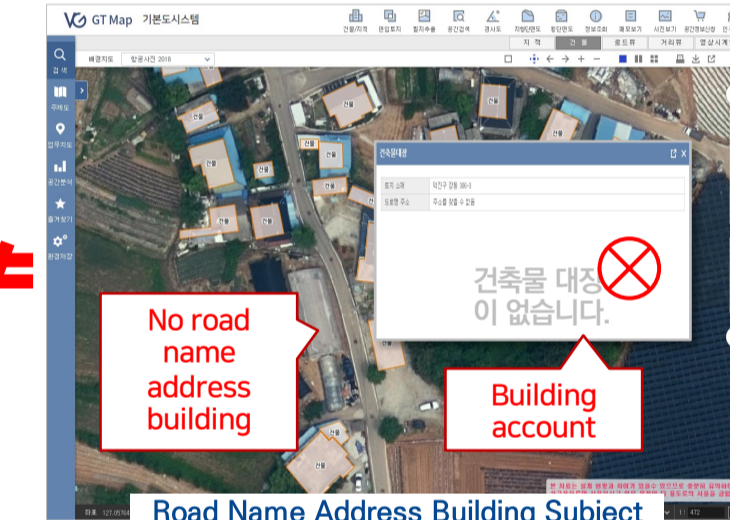
06
Utilizing digital map update

4 An example of business use - the extraction of illegal buildings



Reading by image analysis system building

Extraction of buildings from image analysis systems

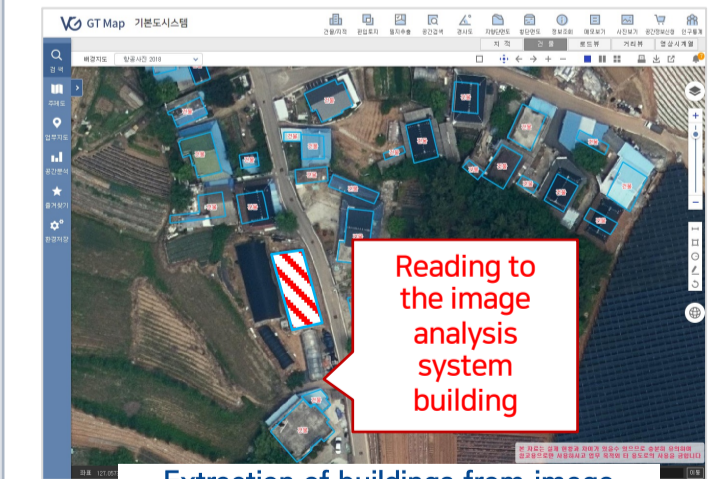


No road name address building

Building account

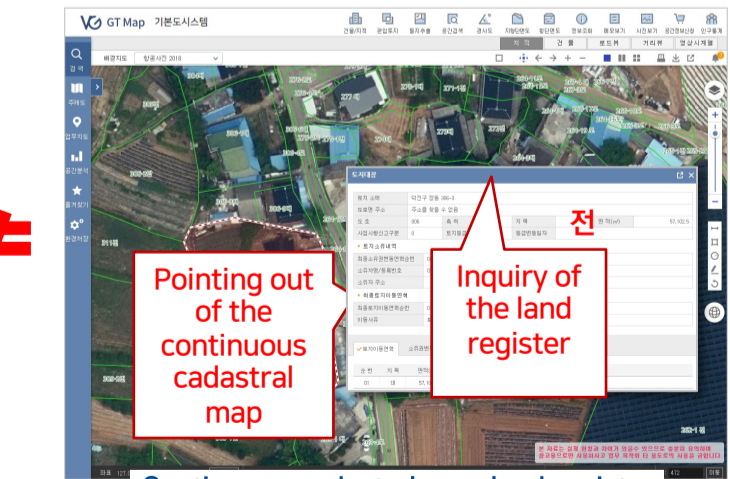
Road Name Address Building Subject Map ON + Building account

5 Examples of business utilization - Extraction of changes in illegal traits



Reading to the image analysis system building

Extraction of buildings from image analysis systems



Pointing out of the continuous cadastral map

Inquiry of the land register

Continuous cadastral map land register ON + Viewing of land account

10. Metaverse Platform

Metaverse Alliance Outline

1 Metaverse Alliance Outline

In order to focus on industries and associations related to Korea's extended virtual world (Metaverse) to create an ecosystem of the extended virtual world (Metaverse) and to plan and realize an open metaverse platform in various areas of reality and virtual reality, it was launched by the Ministry of Science and ICT on May 18, 2021.



2 Major memberships of participation - a total of 299 companies

No	기업명	No	기업명	No	기업명
1	가온미디어	38	라온텍	75	비넥트
2	고백기술	39	라이브몰로	76	버츠크넥스트
3	고브이알	40	라젠	77	버티플라이웍스
4	공엔컴퍼니	41	라츠온	78	벤티브이알
5	교원크리에이티브	42	레빅스	79	볼버스
6	국민은행	43	레드캡투어	80	브레인하우스
7	국제방송교류재단 (아리랑국제방송)	44	레티널	81	브리지텍
8	그라프디자인	45	렛시	82	브이스토리
9	그랙션	46	로보로보	83	브이일북
10	그리드	47	로커스	84	브이일카버
11	글래드파크	48	롯데컬처웍스	85	브이엔지

Metaverse Project Group Activity

1 Overview of the Project Group

Project Group Name	The construction of Metaverse's platform and content for public services
Activity Goals and Topics	Building public service platforms and contents based on citizen participatory metaverses and commercializing them
Participating Companies and Institutions	Extriple Co., Ltd., V&G Co., Ltd., Kyungnam Techno Park Foundation., and 5 other companies

2 The Contents of the Main Business of the Project Group

The construction of infrastructure in the Metaverse space



- Building a three-dimensional mirror world in the city
- The creation of a model of connectivity to the Internet of Things.

Metaverse for public administration service



- Management of various public facilities based on metaverse
- Management of underground facilities based on Time Labs

Metaverse platform for public service



- Metaverse-based virtual complaint platform (building Meta City Hall)

3 Plans and Steps for Commercialization

- 1 step** Construction and Demonstration of Data – Building the foundation of the scientific data collection system for the development of metaverse systems
- 2 step** Standardization and Diffusion of Platform – Model of Standard of Data, Release of Guide of Platform Construction
- 3 step** Reproduction as a convergence content between Metaverse platforms and entry into overseas markets

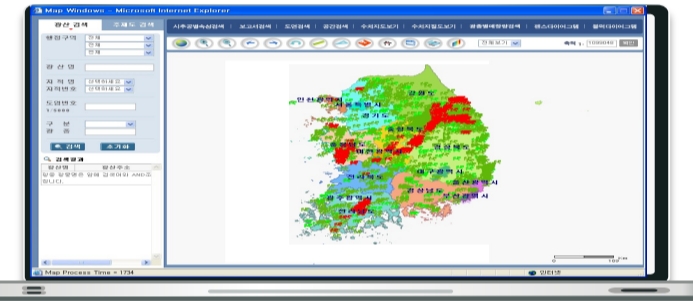
11. National Mineral Resources Geographic Information System(KMRGIS) – Case Study

Solution overview
National Mineral Resources Geographic Information Solution


1 Solution Definition

✓ A system built to be effectively utilized in resource development and related fields as well as SOC projects by applying the latest GIS technology to the results of mineral resource research projects conducted by national institutions GIS

Internal business system




Citizen Service




2 Solution Basic Features

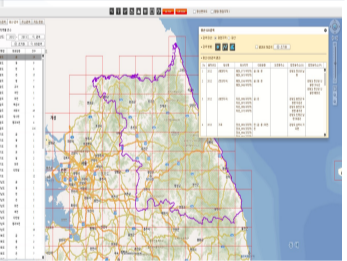
Mineral Resources Report



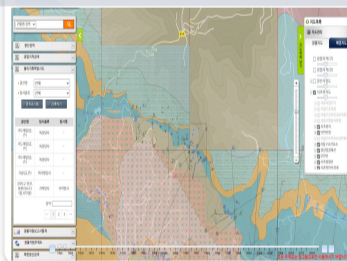
Distribution survey



Inquiry of thematic map



Inquiry of physical geochemical exploration map



3 Features and expected effects

01
Provision of information necessary for domestic and foreign resource development projects as well as information on SOC business areas

02
Used for mining Analysis of survey data , ore body development, exploration data analysis, etc.

03
Selection of routes and locations, which are important factors in the design of large-scale projects such as highways, high-speed rail, and dams

Major Function
KMRGIS construction process and field of application

1 Implementation process of KMRGIS

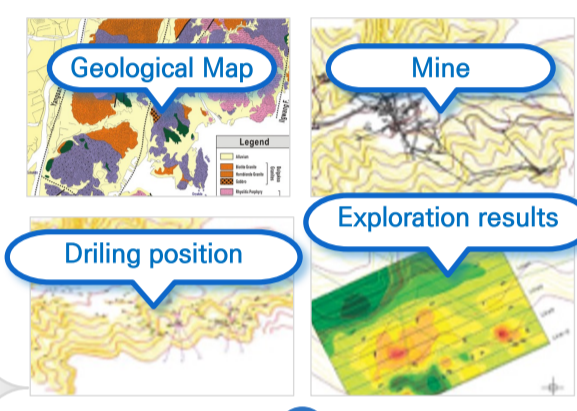
Report


- Scrutiny
- Technical research
- Basic research
- Reserve Survey

+

Drawing

- Topographical map
- Geological map
- Mine map
- Exploration map





Property	ngmt No	mine name	Location	type	Main product	Sub product
1	23	Haenam	Jun-ra city	Magma	Gold	Silver
2	24	Nohwdo	Jun-ra city	Sedimentary	Pyrophyllite	
3	25	Homyoung	Kwang-won	Sedimentary	Limestone	

2 Applications

1 Mineral resources

- Resource exploration
- Mine development
- Investment analysis

2 Environment

- Biology
- Ecological analysis
- Pollution level analysis

3 Civil Construction

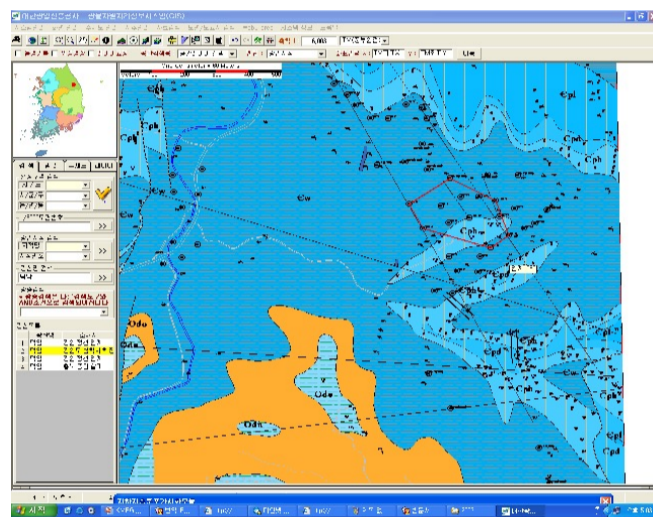
- Rail
- Road
- Various SOC construction fields

4 Safety Field

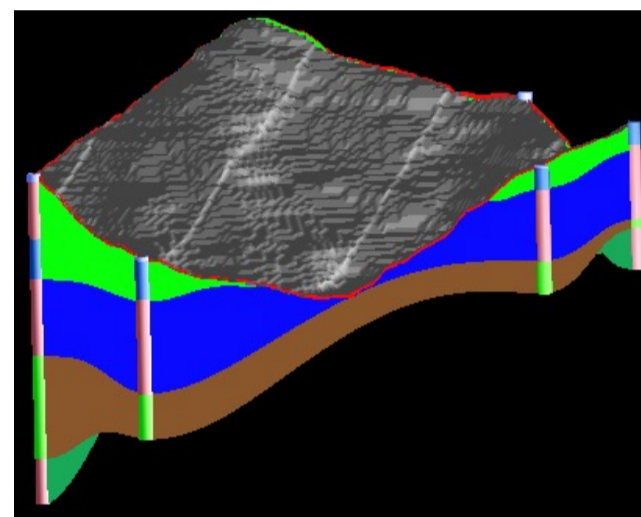
- Mining damage such as surface collapse
- landslide
- Geological Hazard Analysis

11. National Mineral Resources Geographic Information System(KMRGIS) – Case Study

Limestone mine exploration in Deok-am area, Gangwon-do Korea

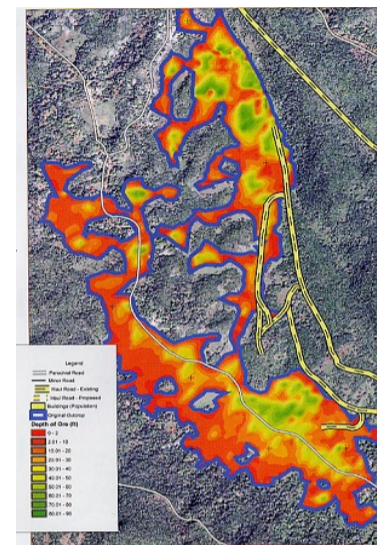


underground lipid 3D distribution area setting in the KMRGIS

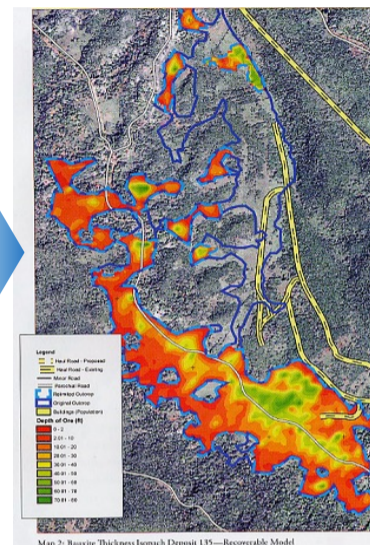


Three-dimensional analysis of the distribution of geological ore bodies using boreholes.

Jamaica Bauxite Mine Exploration



Bauxite ore body thickness distribution (before using GIS)



Bauxite ore body thickness distribution using GIS (satellite, aerial photography)

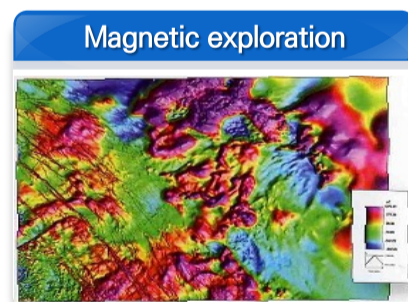


Manage and analyze information on the reserves, locations, and owners of bauxite mines

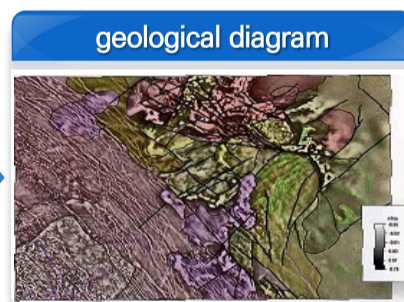


Efficient / reasonable mining work

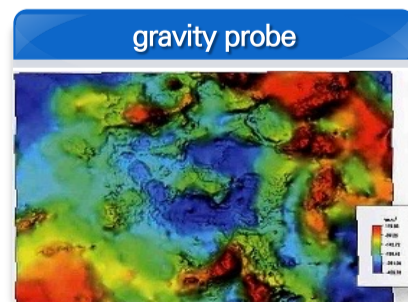
Interpretation of data from physical exploration of copper-gold mines in Gawler, Australia



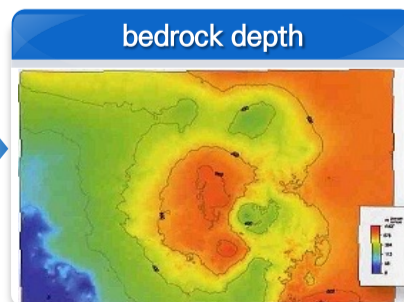
Magnetic exploration



geological diagram



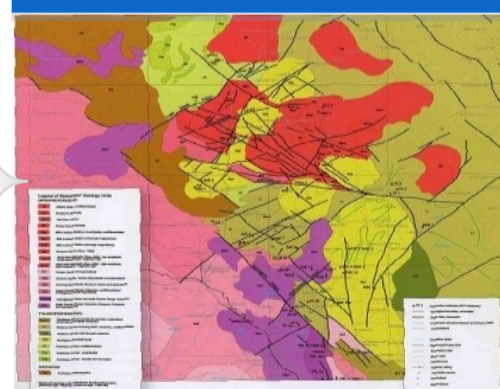
gravity probe



bedrock depth

Statistical processing

Precise geological mapping and identification of ore bodies



Comprehensive analysis

Brazil Oil Exploration



Schematic diagram of the southern coast oilfield



Schematic diagram of the oil Field (GIS construction)



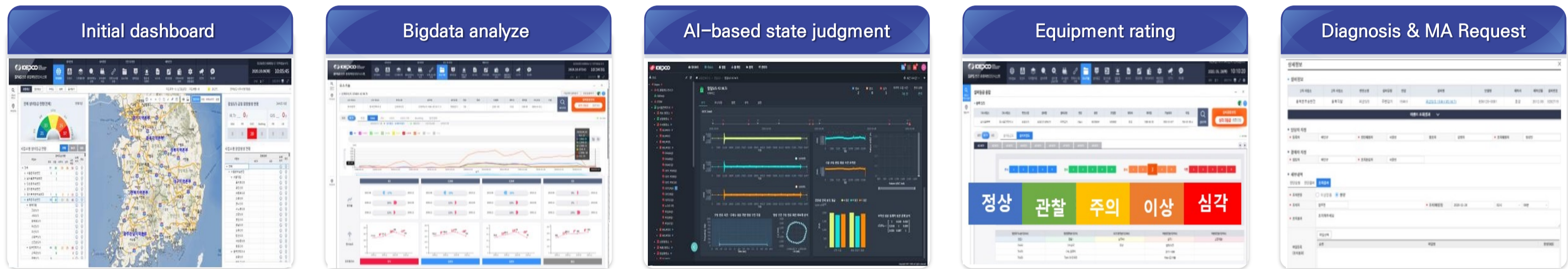
Oilfield about reserves, location, etc. manage and analyze information



Efficient / reasonable oil production

12. Substation Equipment Diagnostic & Analysis system(SEDA) intro.

“ The system automatically determines the rating and requests diagnosis & maintenance By synthesizing all information of the facility ”



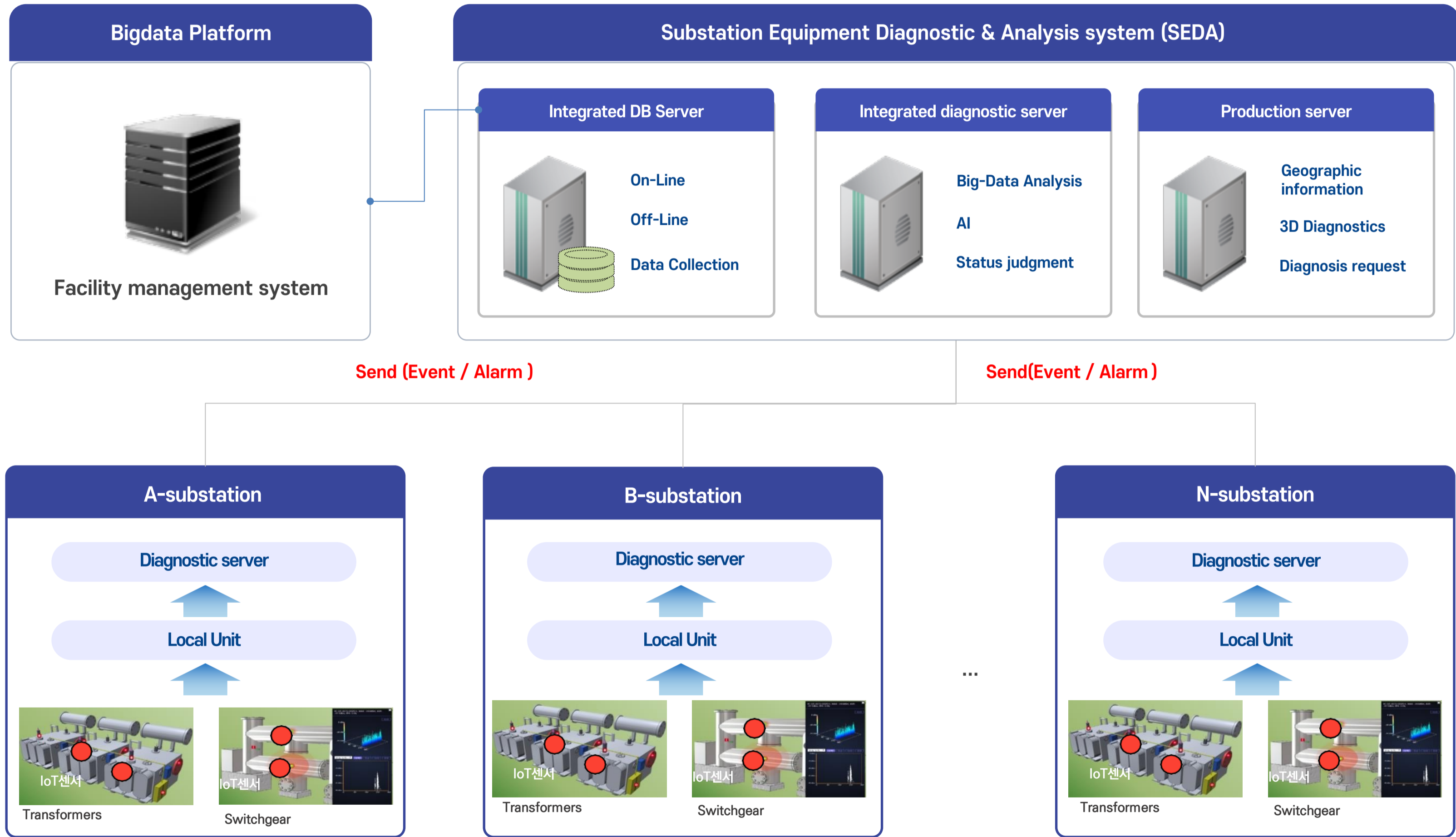
Diagnosis request is issued automatically when equipment grade “abnormal, serious” is judged

설비등급 상세현황 (M.Tr: 79건, GIS: 287건) 진단요청 진행상태 비례 1 진단요청중 2 진단요청 3 진단진행중 4 조치요청(진단완료) 5 조치진행중 6 조치완료 진단요청반려 조치요청반려 M.Tr GIS

1차사업소	2차사업소	변전소	대상설비	전압(kV)	제작사	제작년월	설비등급	세부 판정내역						진단요청 진행현황		
								DGA(OFF)	DGA	M.Tr PD	OLTC	OLTC PD	Bushing	절연열화	정밀진단요청	예방진단요청
충북본부송변전	충북직할	신중부S/S	신중부S/S 765kV #4 M.Tr B-2	765KV	효성	2018.03	이상	정상	정상	이상	정상	-	정상	-	진단요청중	
충북본부송변전	충북직할	신중부S/S	신중부S/S 765kV #5 M.Tr A-2	765KV	효성	2018.02	이상	정상	정상	이상	정상	-	정상	-	진단요청중	
충북본부송변전	충북직할	신중부S/S	신중부S/S 765kV #5 M.Tr B-2	765KV	효성	2018.02	관심	정상	정상	-	정상	정상	관심	-		조치요청반려
충북본부송변전	충북직할	신중부S/S	신중부S/S 765kV #5 M.Tr C-1	765KV	효성	2018.02	관심	정상	정상	-	정상	-	관심	-		
충북본부송변전	충북직할	신중부S/S	신중부S/S 765kV #5 M.Tr C-2	765KV	효성	2018.02	관심	정상	정상	-	정상	-	관심	-		

Wasteful work & efficient work performance: Remarkably reduced unnecessary facility maintenance and diagnosis work (automatic system determination)

12. SEDA Diagram



12. SEDA – Main Function(1/2)

Company-wide facility level and event status

전사 설비등급 현황(종합)

구분	정상	경심	주의	이상	심각
합계	4,310	613	140	41	0

전사 설비등급 현황

구분	정상	경심	주의	이상	심각
전사	17,372	4,310	613	140	41
서울본부	869	163	29	4	1
남서울본부	1,144	322	44	5	3
인산본부	1,236	379	63	5	1
경기본부	2,427	424	65	25	5
경기북부본부	1,076	318	39	5	4
대전본부	942	245	26	7	1
충북본부	842	245	26	7	1
충남본부	1,679	438	72	26	7
강원본부	942	221	32	4	1
강원북부본부	712	176	24	8	4
강원남부본부	1,438	288	52	5	4
울진본부	232	38	5	1	0
비밀리/5	4	0	0	0	0
하남리/5	26	4	1	0	0
동성리/5	2	0	0	0	0

Company-wide equipment grade (details)

전사 설비등급 현황

구분	정상	경심	주의	이상	심각
합계	17,372	4,310	613	140	41

전사 M.Tr 설비등급 현황

M.Tr	정상	경심	주의	이상	심각
M.Tr DGA	707	706	1	0	0
M.Tr M.Tr PD	232	230	1	0	0
M.Tr OLTC	304	287	6	11	10
M.Tr OLTC PD	427	422	5	0	0

Single-line diagram based facility status inquiry

신중부전소 SEDA 운영화면

신중부전소 상세정보: 765/345 M.Tr, 23 [GAS] ETC, A1, A2

신중부전소 상세정보: 765/345 M.Tr, 23 [GAS] ETC, A1, A2

3D-based facility status inquiry

3D

신중부/5/765KV #4 M.Tr

신중부/5/765KV #4 M.Tr A-1

신중부/5/765KV #4 M.Tr B-1

신중부/5/765KV #4 M.Tr C-1

12. SEDA – Main Function(2/2)

Status diagnosis screen

Unit	Component	Status
신용부5/S 765kV #4 M.T.T A-1	DGA	Normal
	PD	Warning
	OLTC	Normal
	Bushing	Normal
신용부5/S 765kV #4 M.T.T A-2	DGA	Normal
	PD	Warning
	OLTC	Normal
	Bushing	Normal
신용부5/S 765kV #4 M.T.T B-1	DGA	Normal
	PD	Warning
	OLTC	Normal
	Bushing	Normal
신용부5/S 765kV #4 M.T.T B-2	DGA	Normal
	PD	Warning
	OLTC	Normal
	Bushing	Normal

PD(On-Line) Diagnosis

Item	Value	Unit
PPPD누락	0	PPPD
Normal(정상)	0	PPPD
최대크기	-34.1	dBm
평균크기	-55	dBm
지속시간	1M	시간
PD변칙	-	변칙

Facility inquiry – use of instantaneous diagnosis data

No.	1차 시설	2차 시설	변전소명	설비명	전압(kV)	설비명	모형명	제조사	제년월	가동일	가능용량	설비번호
1	경기본부	경기본부	경기본부	경기본부	154	우만/S/S 154kV #1 M.T.T A	MTC 9042	효성	1997.01	1997.06.26	2761-01-011	3007063

CCTV Lookup



37°24'32.5"N

37°24'32.5"N 127°05'43.4"E

01

**Introduction of
V&G**

GIS specialist

Solution provider

Leader in New normal era

02

**Differentiation of
V&G**

Mission of V&G

Numbers of V&G

Footprint of V&G

03

Solution intro.

Specific solution

Applied industry

04

References

Public Institutions

01. V&G Solutions References

Solution Classification	Major Clients
 <p>Spatial info. platform</p>	<ul style="list-style-type: none"> • 24 local gov. nationwide • Goyang / Ansan / Gyeongju / Taebaek • Jangsung / Gwangyang / Tongyeong / Pohang • Jeonju / Wonju / Changwon / Suncheon / Icheon / Namyangju • Seongnam / Yongin / Miryang / Yangpyeong • Gimpo / Hanam / Uijeongbu / Cheonan • Gwangju / Gwangmyeong 
 <p>Citizen service system</p>	<ul style="list-style-type: none"> • 14 local gov. nationwide • Miryang / Jeonju / Wonju / Seongnam / Icheon / Suncheon • Gwangyang / Pohang / Gimpo / Gwangju / Hanam / Ansan • Gyeongju / Taebaek
 <p>Mobile field support</p>	<ul style="list-style-type: none"> • 5 local gov. and one organization across the country • Yongin / Wonju / Gimpo / Gwangmyeong / Cheonan • Korea District Heating Corporation
 <p>Drone image management system</p>	<ul style="list-style-type: none"> • 5 local governments / 1 institution nationwide • Tongyeong / Sunnam / Wonju / Ansan / Goyang • Korea Institute of Geoscience and Mineral Resources 

Solution Classification	Major Clients
 <p>Licensing decision-making system</p>	<ul style="list-style-type: none"> • 26 local governments across the country • Gapyeong / Gwangju / Gwangmyeong / Gimpo / Namyangju • Five districts of Daejeon / Donghae / Sacheon • Seongnam / Siheung / Anyang / Yeosu • Yongin / Wonju / Uiwang / Uijeongbu • Icheon / Jangseong / Cheonan / Tongyeong / Pocheon 
 <p>A hidden tax source excavation system</p>	<ul style="list-style-type: none"> • 7 local governments nationwide • Changwon / Gimpo • Five Gus of Daejeon Metropolitan City (Dong-gu, Jung-gu, Seo-gu, Yuseong-gu, Daedeok-gu)
 <p>Facility management of related agencies</p>	<ul style="list-style-type: none"> • 2 institutions • KEPCO • Korea District Heating Corporation
 <p>Digital twin solution</p>	<ul style="list-style-type: none"> • 1 local governments/ 1 institution nationwide • Tongyeong city • KEPCO



Thank you.

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