Intelligent geo-spatial information service company

#### MuhanIT Business Introduction 2022. 11

#### Part 1.

# Company

**CEO Message** 

Mission/Vision

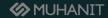
History/Revenue

**Partners** 

IP Rights

**Awards/Certifications** 

Press Release



MuhanIT innovates geo-spatial information product constantly for anyone for can easily use.

In our 4th industrial revolution, we face up the demand of digital twin and metaverse service. especially during Covid and digital transformation era, Geo-Fusion industry has grown with geo technology.

Combination of IT with field knowledge strengths the industry to concern our future needs. The world we live in is changing and we are following.

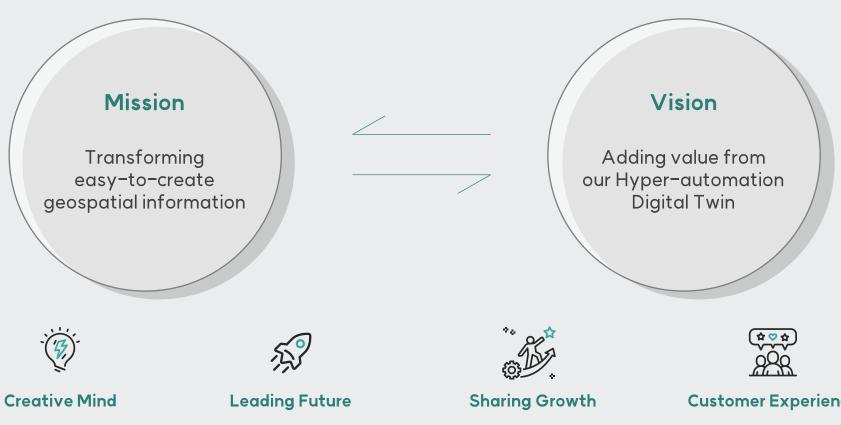
**MuhanIT's SW called <AiMAPS>**, providing automation of 3D modeling and air traffic management of drones which are our core-technology in Geo field, also preparing <Site Reality Platform> for each industry.

We provide from our technologies based on ICT experience and knowledge to service that's customizable that fits the variety of area.

With our partners, working to be the "First Mover" of this industry with sharing social responsibilities and growing together. Please interest yourself and support MuhanIT in the future. Thank you.



MuhanIT, a company specializing in intelligent spatial information, Based on change and innovation, we will do our best to meet your needs



Providing the right solution from the creative mind

Leading the technology from our new ICT skills

Customers, partners, and Employees Everyone grows up **Customer Experience** 

Providing the right solution from our customer needs

## History



# MuhanIT forwards until everyone fulfills and overcome their dreams



2022	10 06 03 02. 01.	AiMAPS 3DMapper Product Launch RAPA, Dev of new kind metaverse platform and service_Metanomics platform ATC+_Dev of 3D scanning for safety of autonomous vehicle KIAST, Drone law sandbox and test-bed project Patent_land management from geo-spatial information using Al Patent_building up data of land information and analysis MOU with XBStation, EGIS 2022 TOP 100 To-Watch Al company
2021	12. 08. 06. 05. 02.	AiMAPS EWMS v1.0 GS 1st grade certification Patent_road scanning footage matching service system from personal vehicle CR_disaster risk management total monitoring system company KSGIS_technology part awards CR_AiMAPS MOU with Gwangju Metropolitan City
2020	12. 08. 07. 06. 04.	2020 ICT Grand Prize Winner Award for Excellence in Intelligent Information CR_drone sensor viewer, AI analysis platform CR_Field Investigation System Using Smartphones Oversea construction certified Artificial Intelligence Drone Research Institute established Seoul Branch CR_Geo AI facilities for land infrastructure Registration of information and communication construction business Patent_Pavement Damage Analysis System and Analysis Method
2019	12. 11. 10. 09. 04.	2019 special award for Happy Mid-Term Management Surveying of underground facilities business Act. Ultra light vehicle business Act. GIS business Act. Patent_surveying system to calculate altitude using drones Selected for Youth-friendly Small and Medium Enterprises
2018	12. 09. 07. 02.	Achieved Inno-Biz certification Joined Korea Geospatial Information Industries Cooperative Certified as Corporate R&D Center CR_PMS planner
2017	06. 05. 04.	Certified as woman biz company Achieved venture business certification CR_Field Planner CR_Greeda Agreement of manpower training and growth in strategic area
2016	12.	Surveying Business Act. Establishment of an enterprise-affiliated research institute Industry-Academic Cooperation
2015	11.	System integration service business Act. Established MuhanIT

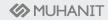


Established in November 2015, grown to be the specialists in geo-spatial information. We are expanding our business by establishing research institutes and collaborating with our partners.

#### Muhanit's annual revenue (unit – 100M Won)



#### **Partners**



#### Partners and key customers with MuhanIT

#### **Partners**



















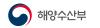






#### Clients









































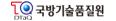






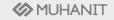








### Intellectual Property Rights (Patent/Copyright)



#### MuhanIT covers intellectual property in all areas such as AI analysis, 3D Modeling, Drone Control, IoT etc with sustainable R&D



#### **Major Patent**

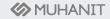
10-2376912	Land management from geo-spatial information using AI	10-1915294	Measurement System for the Height of Ground Geography Using Drone
10-2271608	Recommendation System for Road Repair Method Based on Artificial Intelligence for Road Life Extension	10-1892454	GEO advertisement and method on map information
		2021-0114417	Road scanning footage matching service system from personal vehicle
10-2376921	Database construction device and method for analyzing land status	10-2020-0005623	Pavement Damage Analysis System and Damage Analysis Method



#### **Major Copyrights**

C-2021-009921	Al Crack Analysis System for Asphalt Pavement based on Mobile (AlCAS)	C-2020-010809	Al-based Geo Alfacility reading Agent for National Land
	•	C-2019-011840	Potholes monitoring Planner
C-2021-009886	Construction Quality Management System		Road Sinking Management Planner
C-2021-009885	Mobile Construction Site Support System (MCQCS)	C-2019-010902	
C-2021-009884	Asphalt Mixture Quality Management System (AQCS)	C-2019-010749	ICT-based Road Pavement FWD Reverse Analysis Program (sFWD)
	, , ,	C-2019-010748	ICT-based Road Pavement FWD Reverse Analysis Program (iFWD)
C-2021-009883	Maintenance Method Recommendation System (PMRS)	C-2018-004229	PMSPlanner
C-2020-038906	AlmapstLN		
C-2020-038905	AlmapstMN	C-2017-010351-2	Greeda
	·	C-2017-010350-2	FieldPlanner
C-2020-030785	Greeda Viewer		
C-2020-013564	Field Survey System Using Smartphones (SPSS)		

#### **Awards/Certifications**



#### MuhanIT's product performance are consistently recognized by leading trusted organizations



### Major awards/certification

Major awards/certification history for MuhanIT from 2021 to 2022



**ISO Certification** 

ISO 9001, ISO 14001

2022.07



2022 Emerging AI+X Top 100 Company

NEW/Emerging Market Division

2022,01



Good Software (GS) Certification Grade 1

Early Warning Management System V 1.0

2021,12



**Smart Construction Challenge 2021** 

Winner of Smart Safety

2021.11

#### Press Release

We are working hard to achieve various external activities and business results

View all Articles

## ISO9001 and ISO 14001 certification are obtained at the same time

MUHANIT announced on the 11th that it has simultaneously obtained the International Standard for Quality Management (ISO9001) and the International Standard for Environmental Management (ISO 14001) established by the International Organization for Standardization (ISO).

07-24-2022

## on

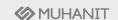
This MOU aims to set the basic direction and main contents of cooperation and partnership between the two companies in promoting cooperation and joint development based on technology and cloud platforms owned by MUHANIT and EGIS, and to enhance joint profits...

MUHANIT-EGIS MOU signed...

Agreement for the Joint Use

of Digital Twin Platforms

03-17-2022



#### MUHANIT selected by AI Top 100 companies in 2022

MUHANIT announced on the 25th that it was selected as the 2022 Emerging AI+X Top 100 organized by the Intelligent Information Industry Association, a subsidiary of the Ministry of Science and ICT. Among them, MUHANIT was...

01-28-2022

### 'Aimaps-EWMS v1.0' GS certification grade 1 obtained

MUHANIT announced on December 27 that its disaster early warning monitoring system, "Aimaps—EWMS v1.0 (Early Warning Management System), has obtained the first grade of GS (Good Software) certification from the Korea Information and Communication Technology Association (TTA).

GS certification is a system that

certifies software quality given by ...

01-17-2022

#### NDA signed with Israeli company HIGH LANDER

MUHANIT announced on the 1st that it signed a memorandum of understanding (MOU) with HIGH LANDER (Israel), a global drone integrated control and drone delivery company, and signed a confidentiality agreement (NDA) with the launch of the cloud-based drone operation platform "AiMaps+" through technology verification and service development for seven months...

03-08-2022

# Introduced as a disaster safety company in the 2022–2024 SME Technology Roadmap

MUHANIT was introduced as a company in the disaster safety sector in the "2022-2024 Small and Medium Business Technology Roadmap" announced by the Ministry of SMEs and Startups on the 27th.

02-08-2022

### Part 2.

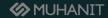
# Business

**Business Area** 

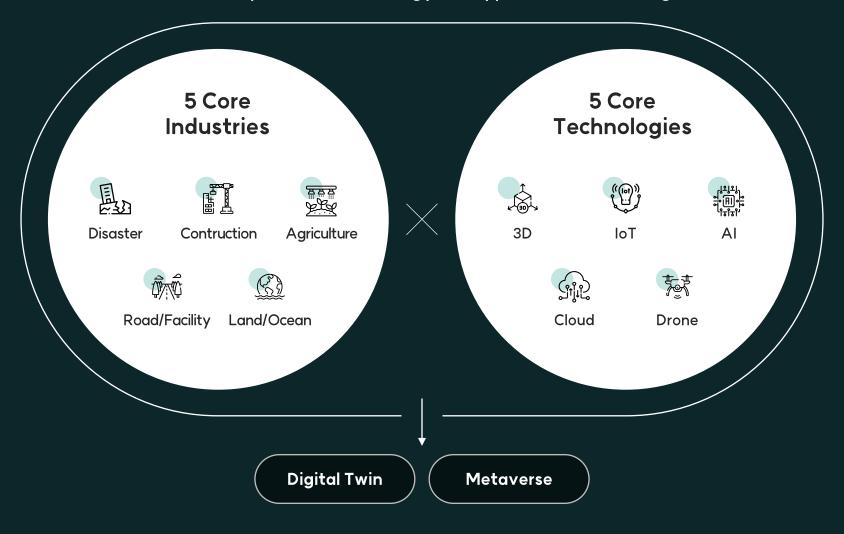
Software

Solution

Platform

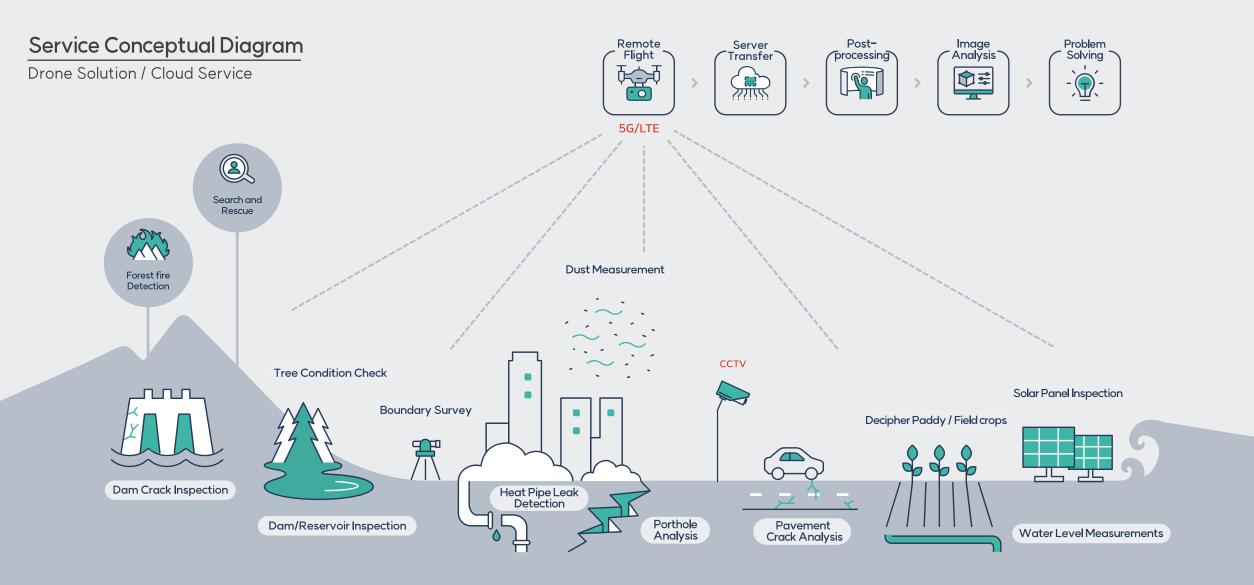


#### MuhanIT develops core-technology for hyper automated digital twin



#### **Business Area**





#### **Business Area**



MuhanlT is developing, expanding, and applying core technologies for automation, focusing on its software <AiMAPS> that supports spatial information services.





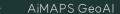
#### Core Tech







#### Software



- AiMAPS 3DMapper
- AiMAPS DroneGCS



#### Solution



- AiMAPS PMS
- AiMAPS ATF
- AiMAPS iDAM



#### Platform Meerkat

- Drone-i
- Road-i



# MAPS

AiMAPS provides geo-spatial information cycle services from Image collection to conversion, analysis, and visualization

Our Core Technology



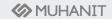








#### Software



#### AiMAPS, one-cycle spatial information service support software

Expertly analyzes the needs of a variety of companies to provide optimal solutions for each sector.





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#### Securing safety

In order to strengthen
the safety management of facilities
due to the increase of
old and dangerous facilities,
loT technology can be applied
to preemptively manage risk factors.





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#### **Work Efficiency**

To compensate
or the shortage of professionals,
processes can be organized
rom research/collection to transformation,
analysis, and visualization
to increase work efficiency.





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#### Technological Innovation

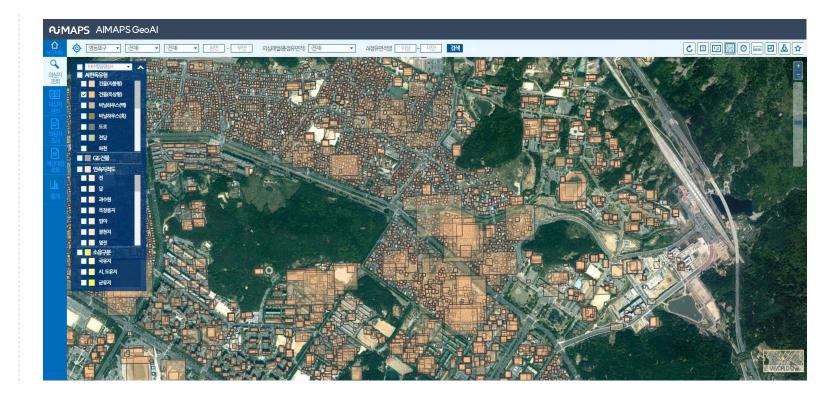
It is equipped with advanced
ICT new technologies such as
artificial intelligence, drones, 3D,
and IoT and provides intelligent spatial
information services
hat apply international standards.



#### AIMAPS GeoAl

# Providing services related to artificial intelligence analysis for intelligent spatial information services

- Al learning dataset processing, Al learning model development, image reading, and GIS visualization support
- Supports crop cultivation area, reading of growth status, and aerial photographic object detection



#### Software



#### AIMAPS 3DMapper

## Provides RGB-based 3D modeling automation services to build digital twin, metaverse environments

- Supports 3D modeling automation developed with proprietary technology
- Support for 3D Mesh Modeling automation using RGB



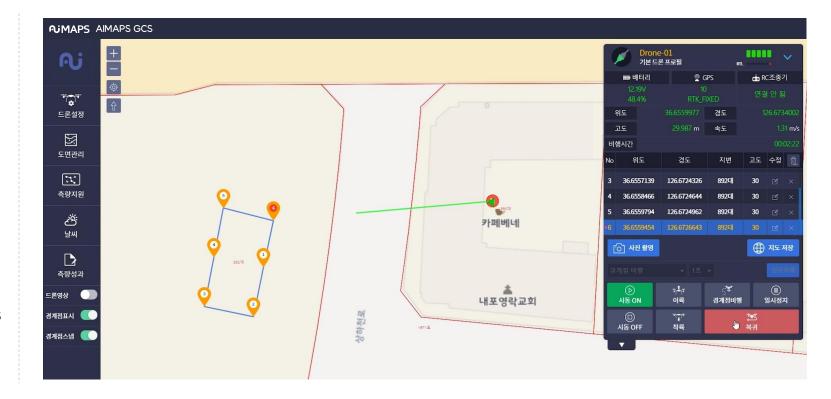




#### AIMAPS DroneGCS 2D/3D

# Providing drone unmanned control technology and various IoT information linkage services for non-visible flight

- Total drone control solution developed with its own technology
- Support for cadastral surveying, survey and management of construction site topography status
- Implementation of safety inspection diagnosis for large structures



#### Solution

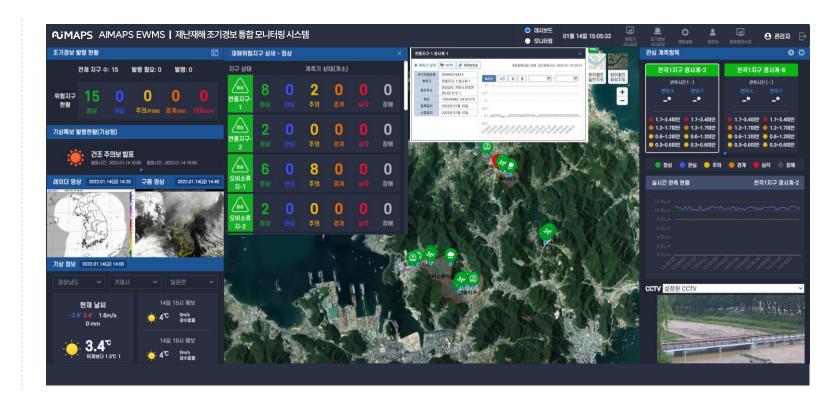




# Comprehensive disaster management solution for real-time monitoring and response

- Consider user convenience based on a map of various sensors
- Threshold setting, CCTV linkage, Meteorological Agency linkage
- Processing large IoT sensor information
- AIMAPS EWMS v1.0 Get GS Certification

  Grade 1 See more information

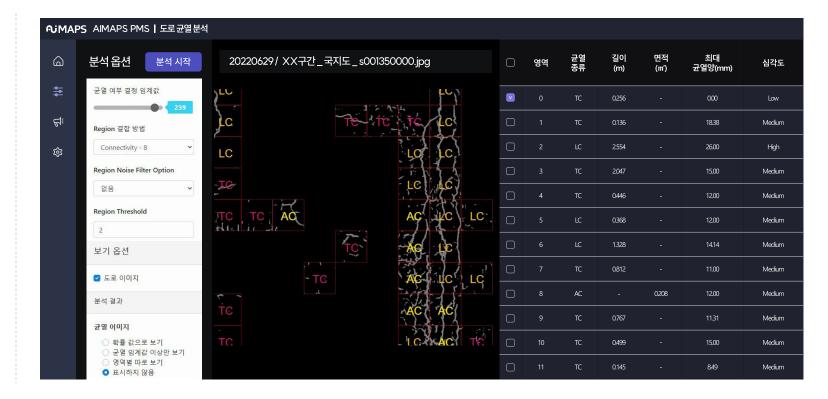




#### **AIMAPS PMS**

## Integrated management of processes for road pavement management from site survey to repair method selection

- Al automatic crack analysis, packaging status evaluation management, repair target selection, and repair method selection function support
- Support for proactive maintenance response





#### **AIMAPS ATF**

# Providing Al reading service for crop cultivation area and growth condition management

- Reading Crop Types Using Various Sensor Information
- Machine Learning-Based Crop Reading
- C/S version of the entry-level software



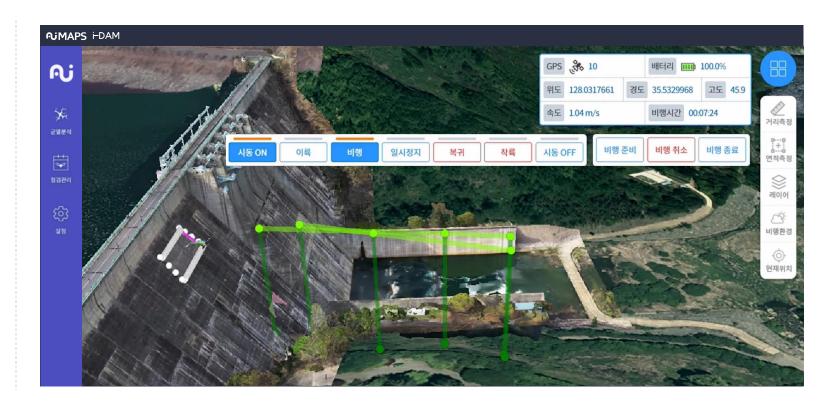
#### Solution



#### AiMAPS iDAM

# Securely manage and inspect large facilities based on digital twin

- Remote dam photography and high-precision image acquisition through 3D drone control
- RGB Semi-annual 3D Mesh Modeling Assimilation
- Automatic crack analysis using AI and 3D technology
- Automatic generation of standing image and CAD matching of dam appearance



## **MUHANIT**

# meerkat

Platform where anyone can easily collect and update 3D spatial information using low-end equipment.

Data Acquisition







Drone



Mobile Phone



Data Producer

Financial benefits to drone pilots, companies, individuals, etc

## meerkat

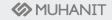
#### Meerkat Platform

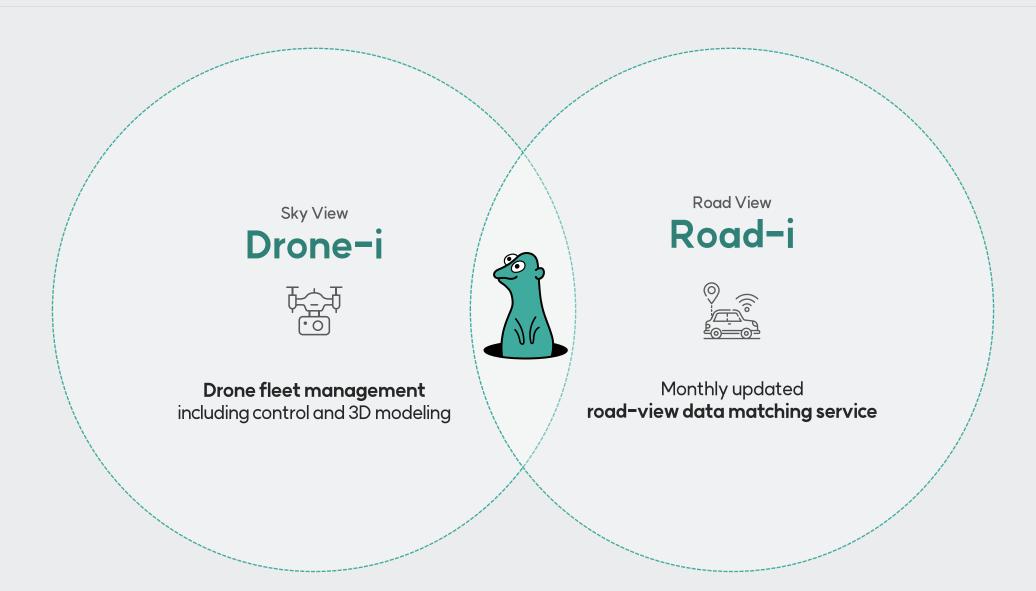
Operate and profit from the platform through data processing and sales



**Data Consumer** 

Get the latest spatial data at a reasonable price





#### Platform Meerkat





## Drone-i (Sky View)

# Drone fleet management including control and 3D modeling

- Re-establishment of Platform-Based
   Data Renewal Schemes
- Utilization of low-cost/distributed photographing equipment
- Provide the services required to collect aerial view data collection
- Provides data postprocessing conversion services



## Road-i (Road View)

# Monthly updated road-view data matching service

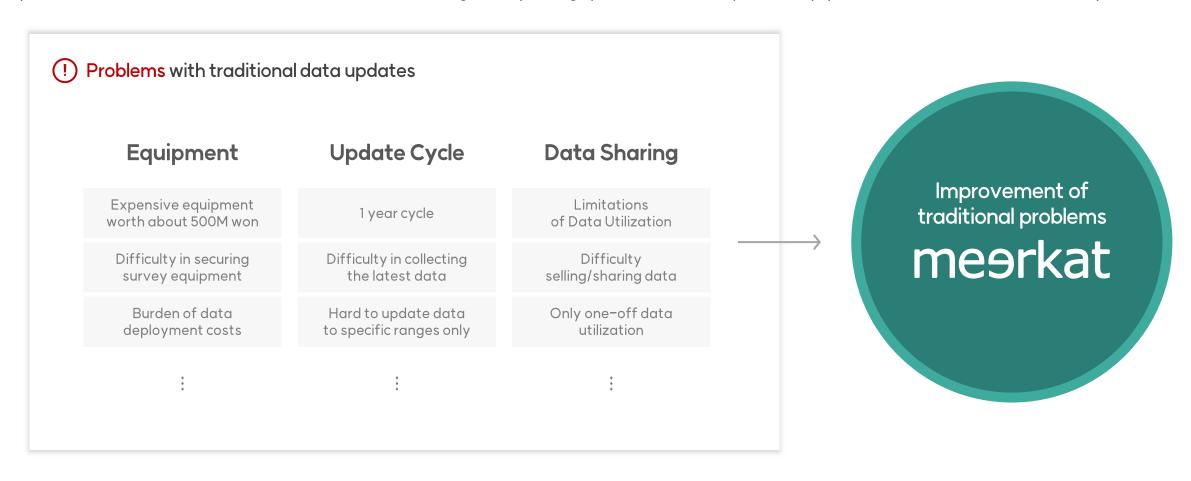
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#### Platform Meerkat



#### Improve data with low-cost equipment

The platform Meerkat has been created to address the challenges of updating spatial data with expensive equipment and to utilize data effectively.



#### Platform Meerkat



#### Service Strengths of Meerkat Platform

Spanning the use of spatial data by improving traditional problems



#### Anyone can research data

Drone, owner of own vehicle, smartphone user, etc. can upload spatial data through Meerkat platform.



#### Deliver cloud-based services

You can save your work data in the cloud and view it anytime, anywhere, on any device.



#### Save deployment costs by about 1/3

Data can also be utilized with entry-level equipment, which reduces budgets by about a third of existing deployment costs.



#### Al-based analysis capabilities

Acquired images provide various analysis functions that users want through Al data learning.



#### 3D Point Cloud Automatic Conversion

Provides capabilities for utilizing additional data, such as automatic conversion from 2D images to 3D Point Cloud.



#### Provide 3D Metaverse Basic Data

It provides 3D spatial data that is the basis of the metaverse environment such as disaster, construction, agriculture, roads, and facilities.

# Thank you







