



GeoAI PLATFORM

COMPANY PROFILE · IR

# AI-powered infrastructure intelligence from satellite & drone data

GeoAI for Smart Infrastructure

# Table of Contents



## Who We Are

Company · Vision · History · Team · Infrastructure

01



## What We Do

D-ROAD · K-AQUAS · D-FIND · Core Tech

02



## Proof & Trust

Project history · Clients · Global · Awards

03



## Where We're Going

Roadmap · Why DroMii · Contact

04

# Turning satellite & drone data into **infrastructure insight**

A GeoAI software company that precisely diagnoses road, water & land infrastructure with AI object detection on satellite, aerial & drone data.

## About Us

DroMii analyzes geospatial data from satellites, aircraft and drones with AI to automatically surface risks in public infrastructure — D-ROAD (road pothole·crack), K-AQUAS (water-pollution monitoring), and D-FIND (public-land survey automation) on one GeoAI platform, expanding agency-validated technology to global smart cities.

Founded

**2017.09**

HQ

**Seoul · Pangyo**

Website

[www.DroMii.com](http://www.DroMii.com)



### Road Diagnostics

AI pothole, crack & FOD detection



### Water Monitoring

Satellite-AI pollution tracking



### Land Survey

Automated illegal-use & obstacle reporting

2017 Founded

9 Patents

12+ Global  
Expos

# Safer cities, built on geospatial AI

CEO Message



**Stefano Lee**

CEO · Founder

“

Since 2017, DroMii has built **a GeoAI platform that diagnoses national infrastructure** by combining satellite, aerial and drone data with AI object detection.

Proven with Korea's public agencies, we are building the GeoAI diagnostics partner for smart cities worldwide — expanding to the Middle East, Africa and Southeast Asia.

---

**With 30 years in remote sensing & GIS and a global research network, we will keep building safer cities on geospatial data and AI.**

# Why we **exist**, where we're headed

Mission · Vision · Core Values

## MISSION

Diagnose infrastructure more safely  
with data and AI

## VISION

The GeoAI diagnostics partner for  
smart cities worldwide

## Core Values



### Tech First

Proprietary models that  
push accuracy higher



### Proven Trust

Validated through public-sector  
deployments



### Global Reach

Export-ready GeoAI built to scale

## 8 years, from Korea to the world

Key milestones from founding to global expansion

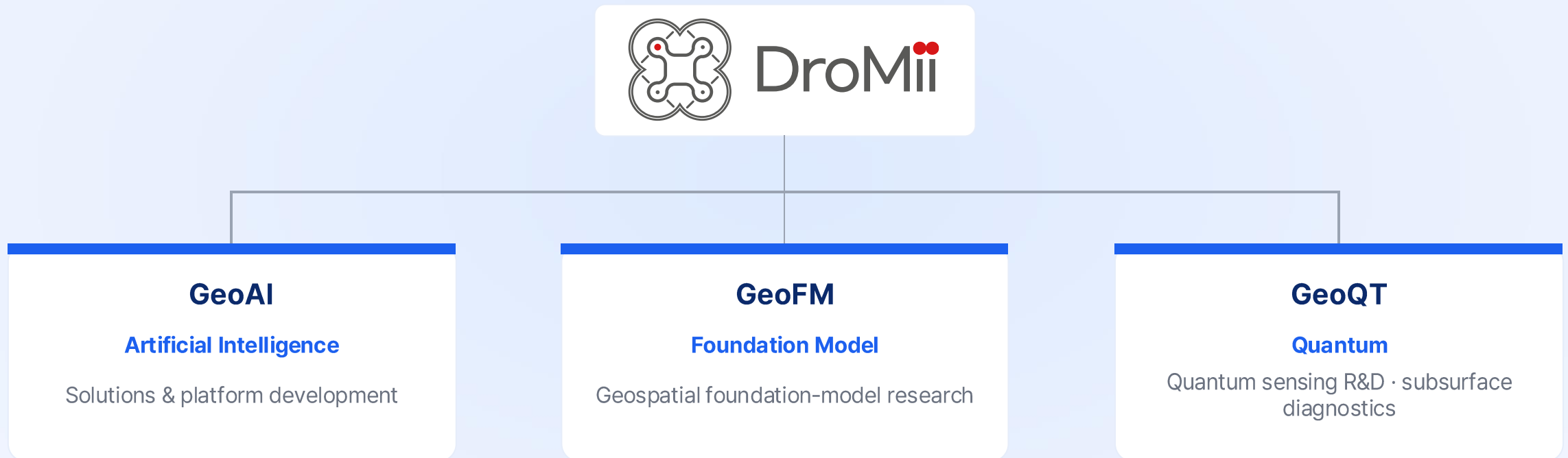


### Our Partners



# A team built on geospatial expertise and AI

3 technical divisions



# Five core technologies behind every solution

DaaS, DTM & CfSM are reusable, scalable technology assets — not tied to any single product

## DaaS Pano

### Drone 360° panorama

Auto-stitching  
· HTML5 VR  
· remote site review

## DaaS 3D

### 3D geospatial modeling

Auto orthophoto  
· point cloud  
· 3D maps

## DTM ML

### Road surface analysis

Multi-lane capture  
+ ML pavement analysis

## DTM AI

### Asset condition forecasting

Big-data prediction  
& maintenance optimization

## CfSM

### Road image cleanup

Removes vehicles &  
shadows for  
clean road imagery

## Products

K-AQUAS · D-ROAD with CfSM · D-FIND — standalone products solving specific industry problems

## Foundation Tech (assets)

Extends to façade inspection, HD safety maps, autonomous-driving simulation & more

# Automated drone 360° panorama processing

Cloud-processed panoramas, viewable instantly on mobile & PC

## DaaS Pano

- 1 Auto-stitch & color-balance**  
Merges multiple shots into one with auto color correction
- 2 HTML5 360° VR**  
View on any device, no app needed
- 3 Remote site review**  
Inspect, log & collaborate without site visits  
· time-series compare

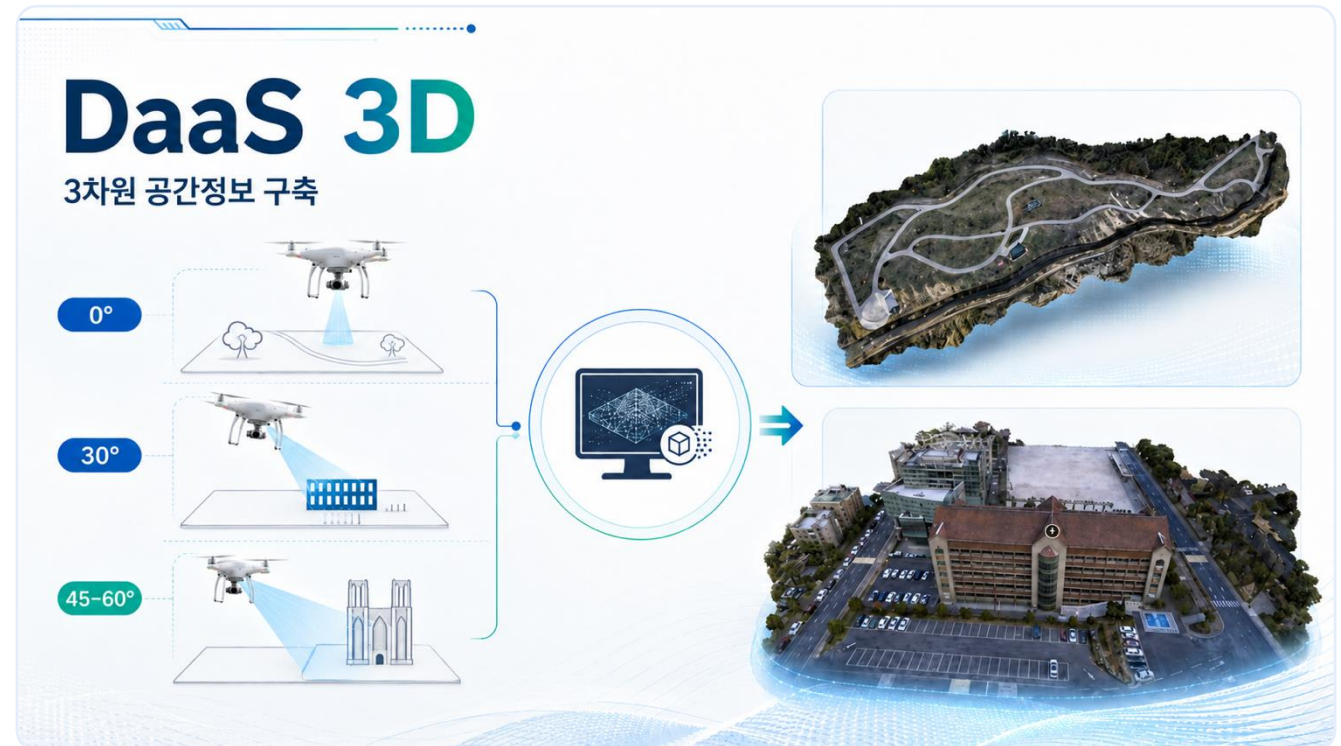


# 3D geospatial modeling from drone imagery

Auto-build 3D maps and analyze assets & terrain in 3D

## DaaS 3D

- 1 Auto 3D reconstruction**  
Aligns 0°/30°/45–60° shots into 3D maps
- 2 Rich outputs**  
Orthophoto, classified point cloud, DEM, 3D map
- 3 Asset & terrain analysis**  
Façade, bridge, tunnel, rail inspection + terrain



# Drone & ML-based road surface analysis

Capture multi-lane roads and auto-detect distress segments

## DTM ML

### 1 Multi-lane capture

Scan several lanes at once for efficient data capture

### 2 Auto pavement analysis

ML flags distress & repair-priority segments

### 3 Beyond legacy limits

Drone imagery overcomes per-lane capture limits



# AI & big-data asset condition forecasting

Predict asset condition and rank maintenance by risk

## DTM AI

- 1 Condition forecasting**  
Predict deterioration from accumulated data
- 2 Maintenance optimization**  
Risk-based repair priority & budget efficiency
- 3 Shift to prevention**  
From reactive fixes to predictive upkeep



# One GeoAI platform, **three solutions**

DroMii's integrated lineup connecting satellite & drone data with AI detection



## Road Diagnostics

Drone-AI pothole, crack, FOD & asset detection

**Drone-AI road diagnosis**



## Water Monitoring

Satellite-drone-AI land-cover & pollution  
detection · unified public-data management

**Water Monitoring**



## Land Survey

Public-land illegal-use & obstacle detection  
with auto-reporting

**Land Survey**

**Shared Foundation Tech**

**Satellite·aerial·drone processing · Super-Resolution (SR)  
· deep-learning detection · digital twin · one-stop web dashboard**

# A shared 5-layer pipeline across all three solutions

Collect → Process → AI → Assess → Serve — all three run on the same 5-layer pipeline

|                      |  |  |  |
|----------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| 1 Data Collection    | Drone imagery · road segments<br>· asset DB                                        | Satellite · drone · watershed<br>· land DB                                          | Satellite · drone · cadastral<br>I · public-land DB                                 |
| 2 Spatial Processing | CfSM vehicle/shadow removal<br>· tiling                                            | Super-resolution<br>· time-series align                                             | Parcel-boundary align · SR<br>· correction                                          |
| 3 AI Analysis        | Pothole · crack · FOD<br>· asset detection                                         | Land-cover classification<br>· pollution detection                                  | Change detection · zero-shot<br>· object detection                                  |
| 4 Spatial Assessment | Area · severity · action priority                                                  | Watershed proximity · risk scoring                                                  | Parcel overlap · illegal-use flagging                                               |
| 5 Service Delivery   | Map dashboard · alerts · repair log                                                | Web GIS · inspection log · reports                                                  | Survey list · report generation                                                     |

**Platform edge** Build the GeoAI base once, extend across road, water & land — agency-level customization and SaaS in parallel.

# AI finds potholes, cracks & FOD automatically

D-ROAD detects road hazards from drone imagery with instant web & SMS alerts

## Pothole IoU $\geq 80\%$

Mask R-CNN + Flood Fill

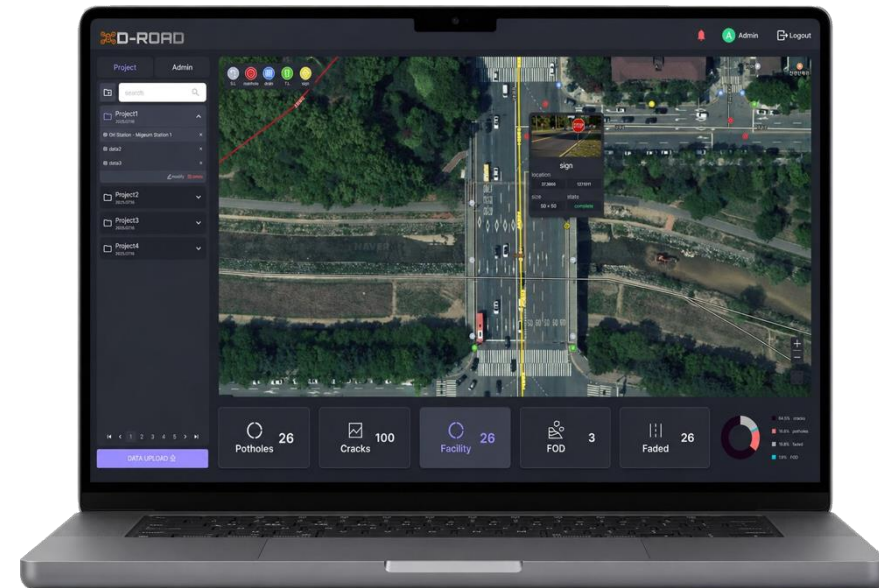
## Crack mIoU $\geq 80\%$

HC-Unet++ · Deep Feature Fusion

## Asset-FOD mAP $\geq 85\%$

YOLO · RF-DETR · risk-grade classification

### D-ROAD web dashboard



# AI clears vehicle-blocked roads

CfSM (Car-free Street Mapping) — deep learning auto-removes vehicles from road imagery

BEFORE

Traffic blocks road-surface data



AFTER

Vehicles removed → clean surface → higher AI accuracy



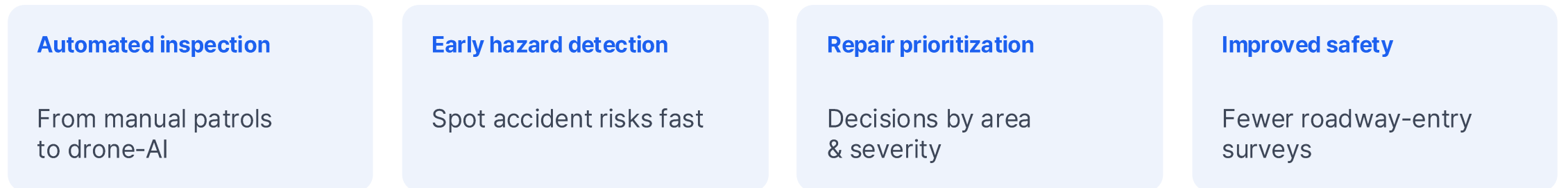
**Validated & procurement-ready** Published in an ASCE journal (2022) and designated an Innovative Product by Korea's Public Procurement Service.

# From drone capture to **repair priority**

A 5-step flow: capture → CfSM cleanup → AI detection → action management



## Expected Impact



# Satellite & AI for unified water-pollution management

K-AQUAS — water-pollution monitoring platform deployed on K-water's Yeongju Dam basin

1

## Data collection · SR

Sentinel-2 imagery 10m → 1m super-resolution

2

## AI pollution detection

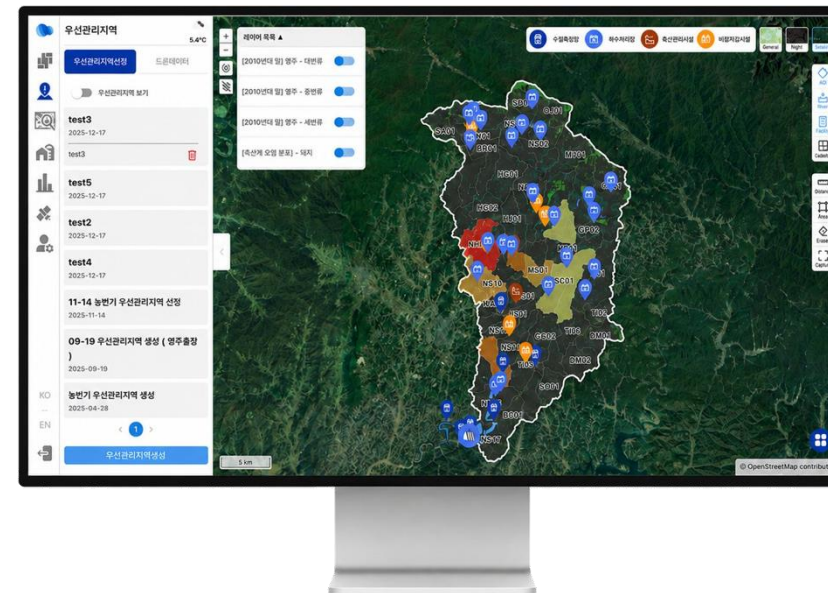
13-class land cover · auto point/non-point source extraction

3

## Priority-area scoring

Auto-ranked by BOD·TN·TP via public-data linkage via public-data linkage

## K-AQUAS Yeongju Dam basin monitoring



## Sentinel-2 super-resolution: 10m → 1m

AI Super-Resolution restores blurry satellite imagery for sharper object recognition

BEFORE Sentinel-2 original (10m / pixel)



AFTER AI super-resolution (1m / pixel, 100× sharper)



100× spatial resolution gain

SRCNN·ESRGAN·SwinIR models

1m / pixel restored resolution

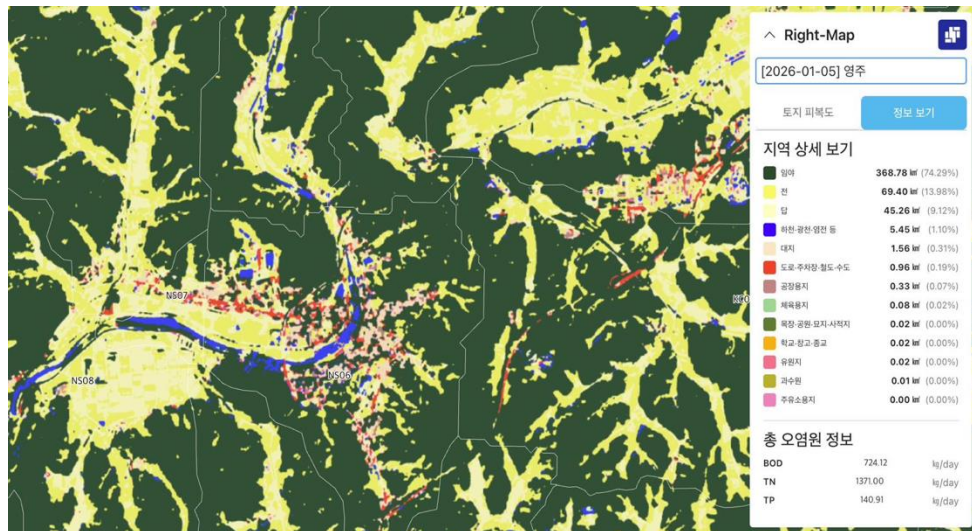
Sentinel-2

# AI auto-classifies & prioritizes pollution geography

AI land cover (13-class) + public data → auto priority-area scoring

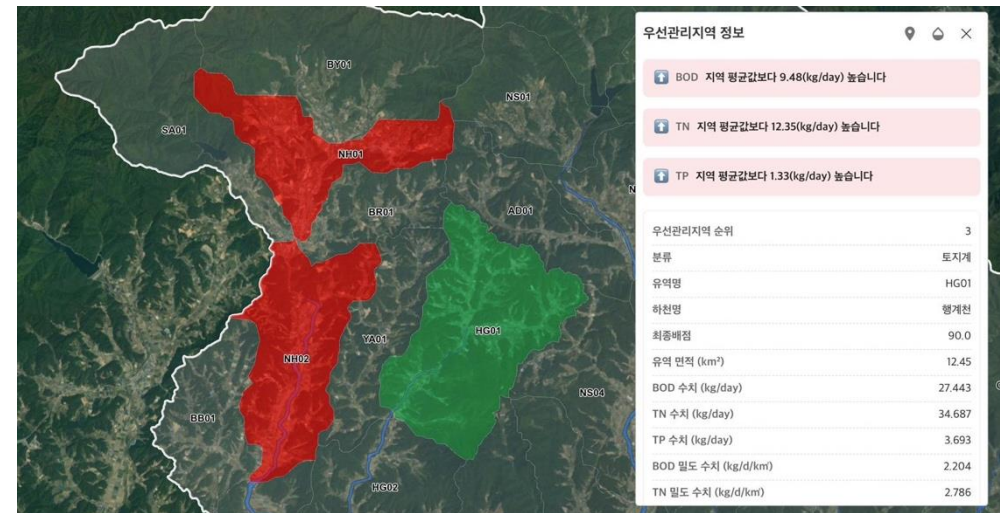
## AI land-cover classification

13 classes · auto-refresh monthly



## Auto priority-area scoring

Watershed risk ranking by BOD·TN·TP



13 classes

Monthly update (was yearly ↑)

F1 ≥ 0.8 classification accuracy

3 indicators BOD · TN · TP

# Quantifying field pollution with drone & AI

Auto-measures location, area & volume of compost, livestock waste & other sources



**Compost-pile detection**

Confidence 0.94



**Multi-pile detection**

Auto-separates & quantifies multiple piles

## AI Quantification Results

Per-object area & volume, auto-measured

| Detected object | Area <sup>m²</sup> | Volume <sup>m³</sup> |
|-----------------|--------------------|----------------------|
| compost #1      | 2.31               | 0.92                 |
| compost #2      | 2.24               | 0.88                 |
| compost #3      | 2.57               | 1.09                 |
| compost #4      | 1.96               | 0.72                 |

Per-object confidence 0.92 - 0.95

## Auto area & volume

Per-object area & volume

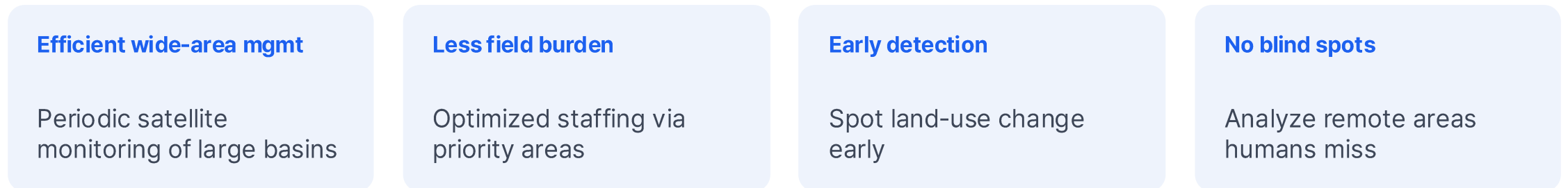
**AI accuracy 95%+** Instance segmentation on drone orthophotos — per-object confidence, area & volume for prioritization

# From data to priority-area identification

A 5-step flow from wide-area monitoring to field inspection & history



## Expected Impact



# AI auto-finds obstacles on public land

D-FIND detects containers, greenhouses & illegal farming from satellite/drone imagery with auto-reporting



Sample — 6 containers · 6 greenhouses  
(confidence 0.90–0.98)

## How it works

- 1 **Satellite SR · change detection**  
16× resolution · quarterly change detection
- 2 **AI obstacle detection**  
CNN·VLM·SAM2 quantify location, area, count
- 3 **Auto-reporting**  
Auto-generates reports in agency formats

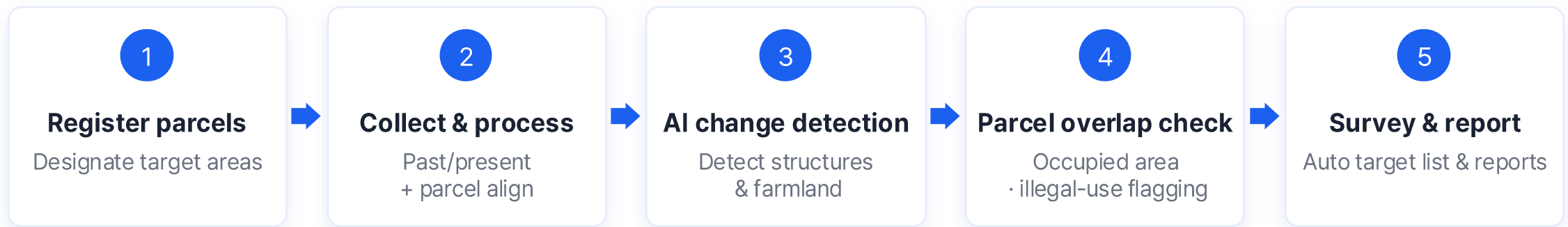
**SR 16×** satellite resolution gain

**Mask R-CNN** ResNet101-FPN based

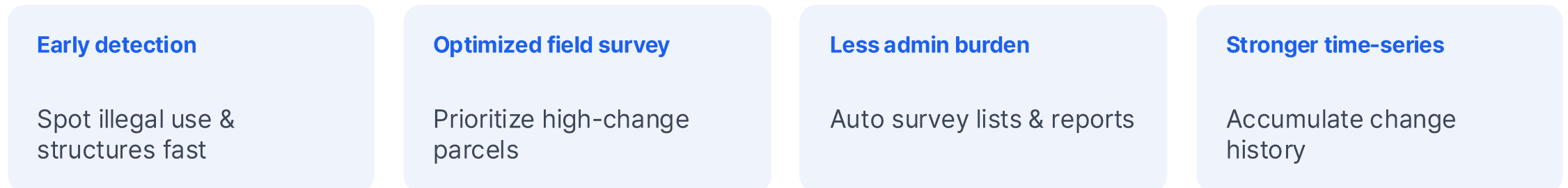
**VLM · SAM2** zero-shot quantification

# From parcel registry to **survey & reporting**

A 5-step flow: change detection → parcel overlap → survey targets



## Expected Impact



# Quantum-sensing for **buried objects & sinkholes**

Subsurface diagnostics combining high-sensitivity quantum magnetometers with drones (new)

1

## Beyond GPR limits

Quantum sensing covers depth & environmental gaps in GPR

2

## Quantum magnetometer drone

Detects buried objects & sinkholes early via drone-based sensing

3

## 3D digital-twin prediction

3D subsurface mapping · digital-twin road-collapse forecasting

### 01 Quantum sensing

Drone quantum sensors capture magnetic data

### 02 Data processing

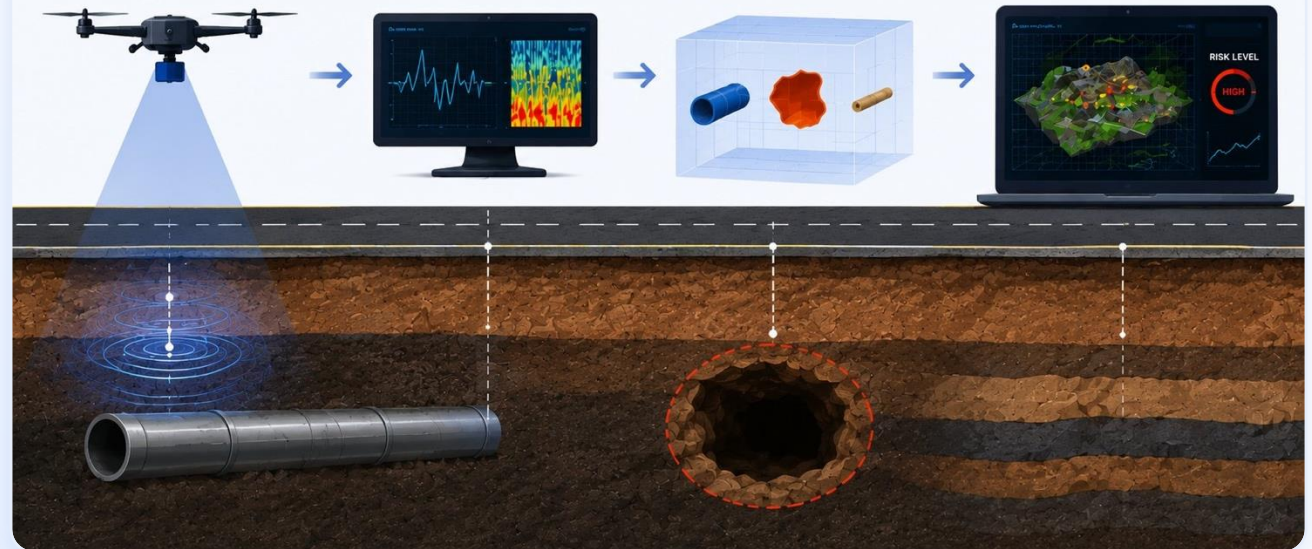
Process quantum signals to extract anomalies

### 03 Subsurface ID

AI pattern analysis finds buried objects & sinkholes

### 04 3D map & forecast

Build precise 3D maps, forecast & visualize risk



## In-house drone & survey equipment

Flight platforms and precision-positioning gear we operate in the field

**Drones** DJI Mavic·Matrice · FIXAR · ADTi (HEQ)



**GNSS** SingularXYZ · CHCNAV RTK surveying



**6 models** drone lineup

**Multicopter·fixed-wing** VTOL

**DJI·FIXAR·HEQ** global makers

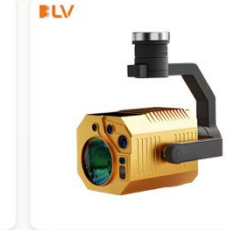
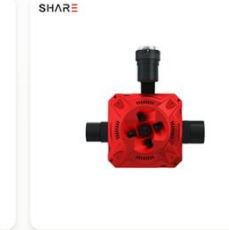
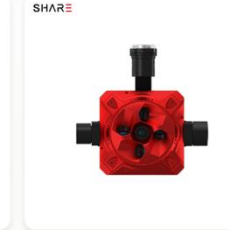
**mm-cm grade** GNSS·RTK

# Cameras, LiDAR & sensors for precise field records

Mapping cameras, 3D scanners & special sensors mounted on drones

## Sensors

Get3D · SHARE · high-res (102MP, 61MP) · 5-lens oblique · thermal · methane (CH<sub>4</sub>) · handheld LiDAR



**Mapping** high-res camera

**5-lens** oblique capture

**LiDAR** 3D scanner

**Thermal-methane** sensors

# A massive infrastructure market — entering now with GeoAI

Road maintenance & smart water — expanding share with proven tech in two huge markets

TAM Global smart-city market

~ **\$767B**

SAM Global road-maintenance market

~ **\$155B**

SOM Korea road-repair market

~ **\$1.9B**

## Growth Drivers · Why Now

**25.2%**

Global smart-city market CAGR

**11.3%**

Global smart-water management CAGR

## Smart-city investment accelerating overseas

Saudi \$16.7B · South Africa \$20.4B · Dubai \$7.9B smart-city tenders — linked to DroMii's MOU network

\* Sources: Korea road-repair KRIHS · Global road-maintenance Market Research Intellect · Global smart-city Fortune Business Insights · Smart-water Data Bridge Market Research | at ₩1,350/\$

## Two revenue engines: on-premise & subscription

A dual model fit to each market — from domestic PoC to overseas government tenders, targeting \$3.7M revenue by 2030

### ON-PREMISE

#### On-premise revenue

On-site servers for Middle East & Africa government tenders where security, data ownership & customization matter.

**\$370K–590K / project · secure gov tenders**

### SAAS SUBSCRIPTION

#### Subscription revenue

Cloud-based web-dashboard SaaS.  
Low upfront cost & real-time updates,  
scaling as recurring revenue across Korea & SE Asia.

**Monthly subscription · recurring revenue**

**Expansion** Domestic public PoC → full build + SaaS → overseas gov tenders (Saudi · South Africa · DEWA · Canada · Vietnam)

# A track record built with public agencies

Proven public references: Seoul · MOLIT · LH · K-water · LX

| Year    | Client · Partner                   | Project                                                                     |
|---------|------------------------------------|-----------------------------------------------------------------------------|
| 2017    | Seoul·SBA                          | Predictive asset-maintenance via drone & geospatial data                    |
| 2018    | Seoul·SBA                          | Drone road-surface monitoring · vehicle-removal tech                        |
| 2020    | MOLIT·KIAST                        | Drone Testbed City — asset-safety inspection (Goyang)                       |
| 2020–23 | LH                                 | DroneWorks platform build + 2nd/3rd upgrades                                |
| 2021    | MOLIT·KIAST                        | Drone Testbed City — 3D Map·GCP·360 panorama                                |
| 2023    | MOLIT·KIAST                        | Drone Testbed City — real-time drone data processing (Seoul)                |
| 2024    | K-water                            | Open-innovation — unified water-pollution mgmt (Yeongju), “Excellent”       |
| 2024–25 | K-water                            | Purchase-conditioned — drone·satellite·AI water-pollution monitoring        |
| 2025    | Gyeonggi·GBSA                      | AI pilot — pothole·crack·FOD detection & web alerts                         |
| 2025–27 | Korea Land & Geospatial Corp. (LX) | Geospatial Growth Program I — public-land illegal-farming & obstacle survey |

\* Selected 2017–2025 public projects. Numerous PoCs · pilots · build-outs delivered.

## Public, private & global partners bound by trust

A domestic & global network proven through pilots and collaboration

### Public · Korea



LH · Seongnam City · Gyeonggi · GBSA · ROK Army · K-Testbed

### Global · Private partners



EMG Consulting (Saudi) · Mariwind Energy (UAE) · SHARE · GDU · ADTi | Targets — DEWA · SANRAL · DRVN

# A **global network** built through expos & roadshows

Overseas footing secured via international expos and MOUs

## Overseas expos · roadshows

USA

CES 2018–2023 — partnerships (SHARE·CHCNAV·GDU)

France

VIVA Tech 2023·2024

Germany

InterGeo 2021·2023·2025

SE Asia

GeoConnect · Hanoi buyer meetings

South Africa

Drone roadshow · ABSA · KCCI meetings

Middle East

UAE IT Center membership program

## Global MOUs

**EMG Consulting** **Saudi Arabia**

Water-mgmt drones · NWC dam modeling · digital twin

**ATHENA** **UAE · Dubai**

Marine-pollution monitoring · thermal/gas detection · satellite & drone data

**Mariwind Energy** **UAE · Dubai**

Drone delivery · 3D modeling · local-market mapping

# Awards & IP that prove our technology

Government & public awards plus a patent portfolio

## Key awards



2024.05

**AI Defense Innovation Forum — Grand Prize**

ROK Army Chief of Staff



2023.12

**Drone Application Contest — Grand Prize**

Seoul Mayor



2018.08

**Forest Open-Data Startup Contest — Excellence**

Korea Forestry Promotion Institute



2018.07

**AI Convergence Idea Contest — Grand Prize**

Seoul CCEI



2017.12

**Seoul Innovation Challenge — Award**

Seoul Mayor

# 9 cases

patents filed/registered + PCT



UAV survey system



Road-condition survey system



Traffic-info system



Geo-coordinate acquisition (PCT)



Multi-dimensional input device

# Trust recognized by government & public sector

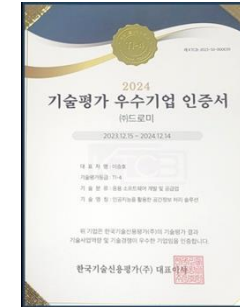
Key awards · corporate certifications



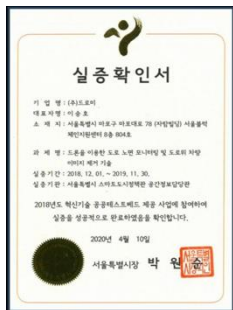
**Start-up NEST  
selected**  
KODIT · 2019



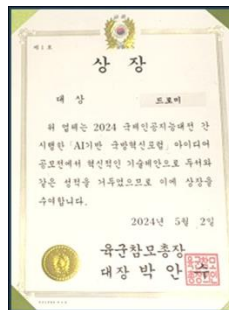
**Seoul-type Excellent  
Company**  
Seoul · 2022



**Tech-Evaluation  
Excellent**  
TCB · 2024



**Pilot Verification**  
Seoul · 2020



**Defense Innovation  
Grand Prize**  
ROK Army · 2024



**Drone Application  
Contest — Grand  
Prize**  
Seoul · 2023

# Proven research depth & a [global academic network](#)

Journal publications & industry-academia collaboration prove our credibility.



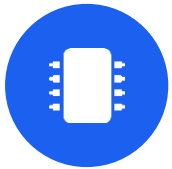
## Journal publication

Core CfSM tech published in an ASCE journal  
(2022)  
— global-grade validation



## Industry-academia research

Joint research with KAIST · UNSW in remote  
sensing & GIS



## In-house AI models

Self-trained SR · land-cover · multi-model detection  
— continuously upgraded

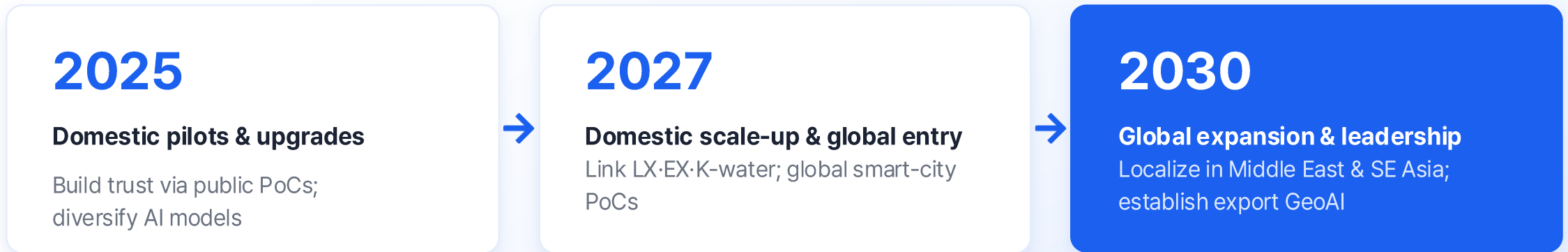


## Global research network

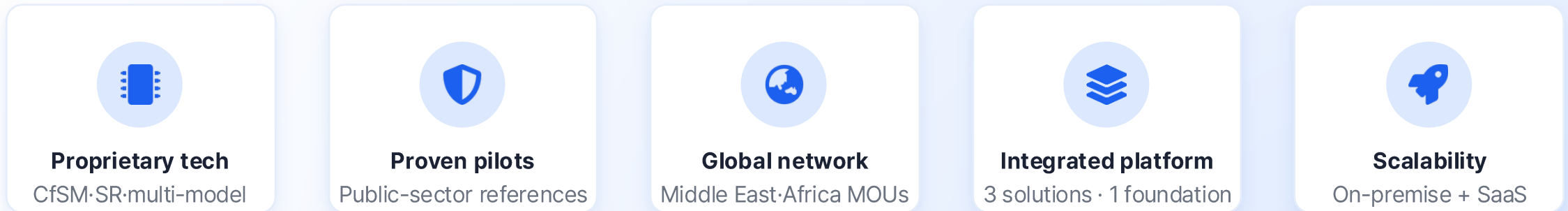
Partnerships across Australia, Middle East & Africa

# From domestic pilots to global expansion

2025–2030 growth roadmap and why DroMii



## Why DroMii



## CONTACT

# Geospatial AI for safer cities

Beyond Korea's leading GeoAI platform — the infrastructure-diagnostics partner for smart cities across the Middle East, SE Asia & Africa.

---



### Website

[www.DroMii.com](http://www.DroMii.com)



### Email

[info@DroMii.com](mailto:info@DroMii.com)



### Office

Seoul HQ · Pangyo Global Biz Center

