Utilization of AI Cadastral Mapping Engine

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Spatial Predictive Artificial Intelligent Data

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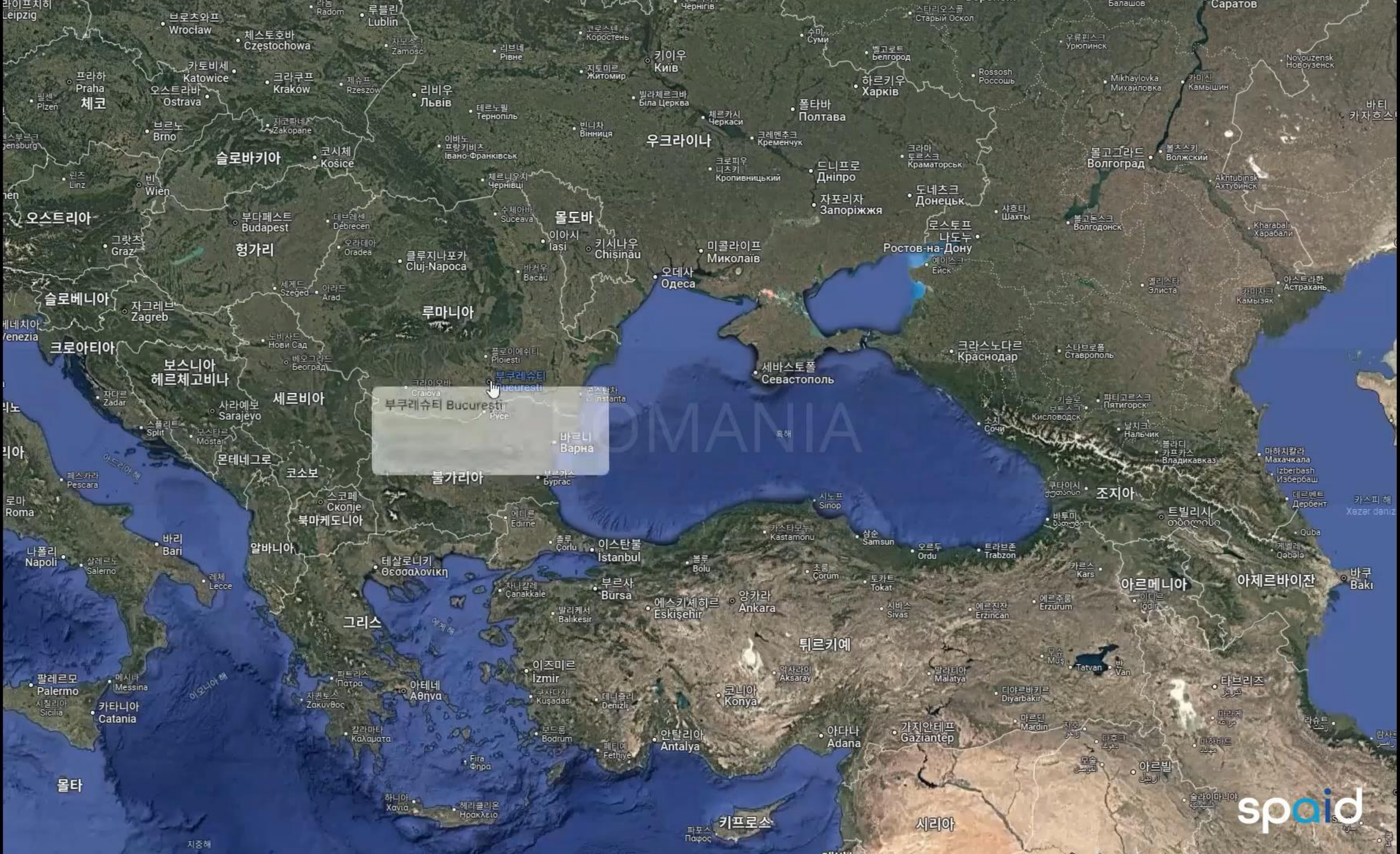
Why does the AI Cadastral Mapping Engine work?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spaid

AI2RE's Project Step (case location: Rumania)

1 Visiting the InterGEO 2024

Visiting Cadastral Surveying Company in Rumania

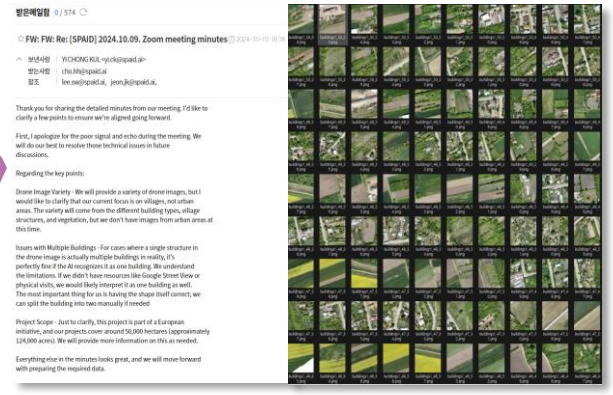
- Producing Results for Certain Regions of Romania in 1 Day
- Collaboration request for cadastral surveying digitization project

2 Reception & Inspection

Processing of building & pole type data

- Review of drone imagery and meeting(Zoom)
- Review of 360° image data and meeting(Zoom)

3 AI Training & Recognition



EU-funded cadastral surveying digitization

- 50,000ha
- Building and pole AI dataset development in Romania

SPAID's Process

AI
Machine Learning

SPAID
Algorithm

3D Modelling
Automation

STAGE 1

Raw data (.geotiff)

STAGE 2

Recognition/Classification

STAGE 3

2D Data Extraction

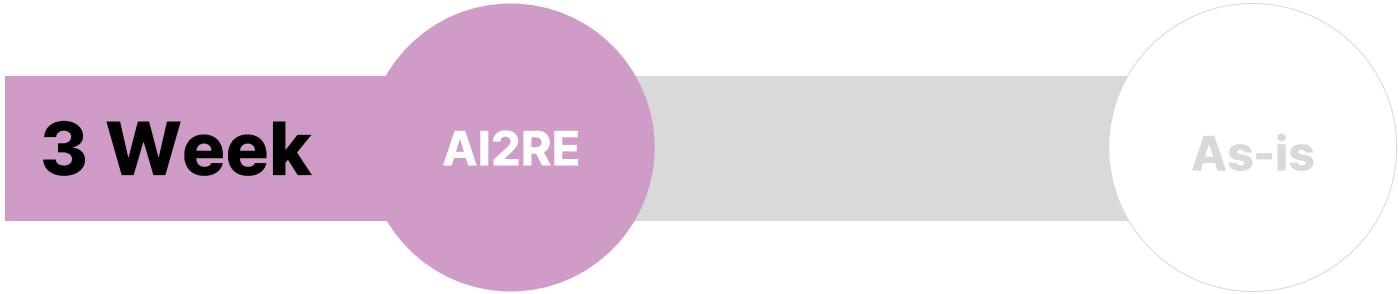
STAGE 4

3D Data Modelling

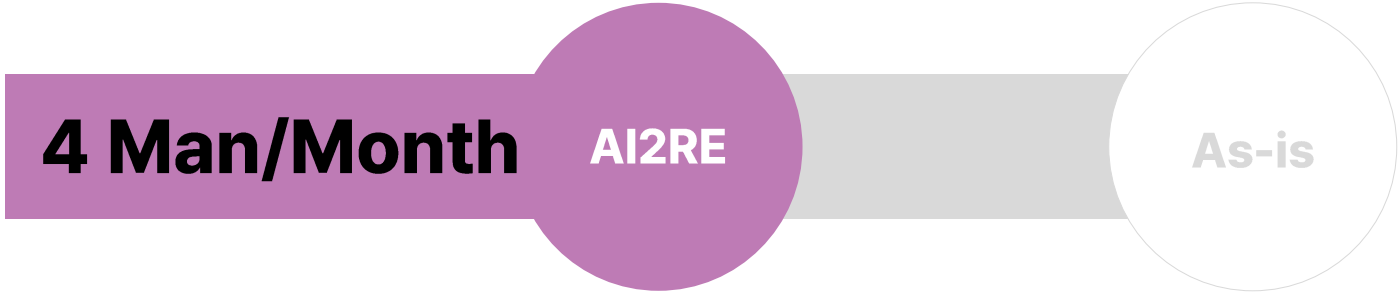
SPAID's AI2RE

Imagery Data Processing
(Aerial imagery, based on 600㎢)

Final Output Processing
(Object Recognition, 2D Line, 3D Mass Model)



Human resources

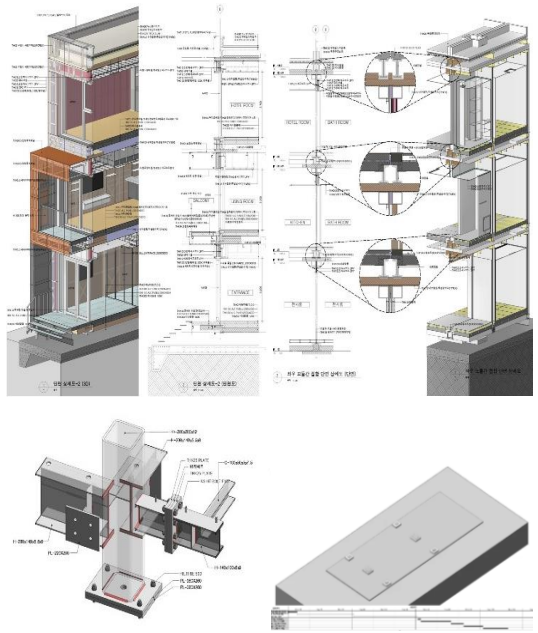


How is SPAID possible?

SPAID's 3D Modeling technology

BIM(Building Information Modeling)

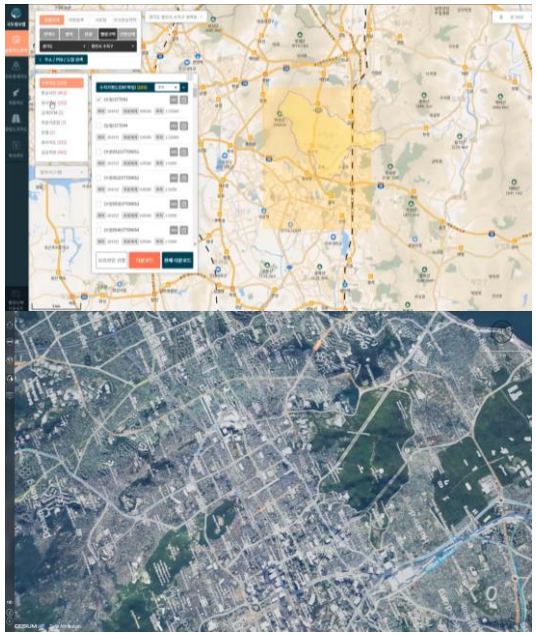
: Quantity Takeoff, 3D Fabrication Drawings



- Level of Detail 100~500
- Quantity takeoff available

Geospatial

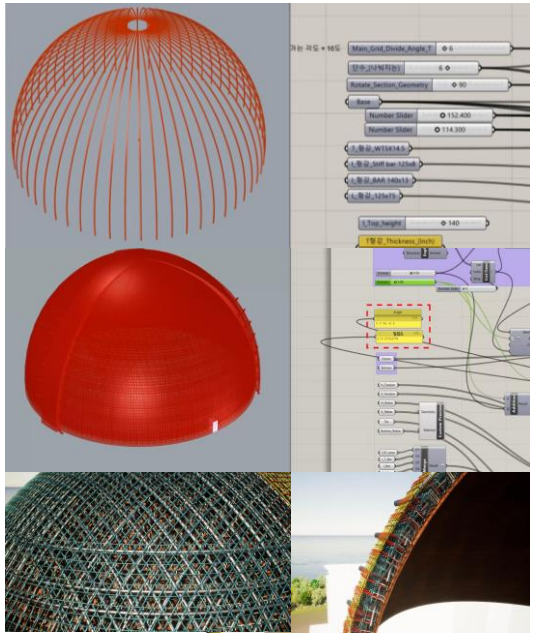
: 3D Map Creation



- Modeling of terrain, buildings, and roads based on public data

Algorithm

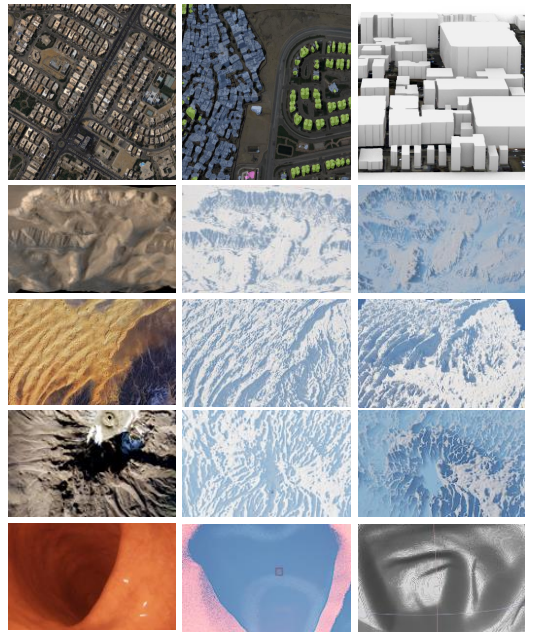
: Dome, Regular Pattern modeling



- Implementation of Dome algorithms
- Rapid response to design changes

AI

: Short-term / Hard to reach places

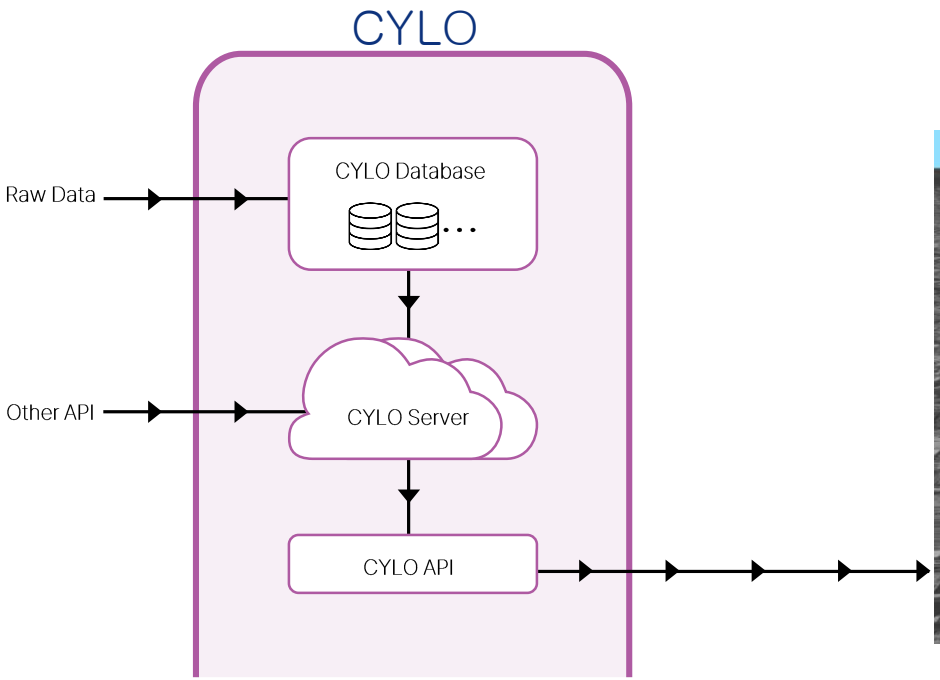


- Footprint extraction & 3D mass modeling based on Drone & Satellite imagery

SPAID's Data processing Engine / Digital Twin Platform

Engines

Automated Pipeline for Data Processing



Platform

AI based Cadastral Mapping and Data Utilizing

Imagery / Scanning data

Urban / Rural / Pole

The future utilizing SPAID's technology?

Who uses AI-based Cadastral Mapping ?

Cadastral Mapping

Government and Public Administration

-Land Management, Tax Assessment, and Land Registration
-Essential for Resolving Boundary Disputes and Ensuring Legal Ownership

Surveying and Geospatial Technologies

-Collecting, Updating, and Maintaining Land Information
-Essential for Digital Twin Platforms and 3D GIS Mapping Systems

Infrastructure and Utilities

-Infrastructure Installation and Placement for Utilities: Electricity, Water, and Telecommunications
-Essential for Avoiding Conflicts with Private Property and Ensuring Efficient Layout

Legal and Land Dispute Resolution

-Used by Land Dispute Mediators to Resolve Boundary Issues, Land Ownership Conflicts, and Legal Matters Related to Real Estate Property