

# SuperMap Solution for Mobile Surveying and 3D Cadastre

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# Mobile Surveying



# Background

Organization needs to configure a workflow to maintain GIS data

Some data needs to be collected from scratch in the field

Some data needs to be validated by ground truthing

Existing data needs to be assessed and updated

Organization needs to improve data quality

Organization needs to track and report area visited while collecting data

# What do we need? The application for ...

Data collection  
field app

Works offline  
(synchronizations)  
and online

Capture asset and  
inventories

Observation  
Location Tracking

Perform  
inspections

Editing and  
Analyzing  
Capabilities

Importing, Storing  
Spatial  
Measurement and  
Computational

etc



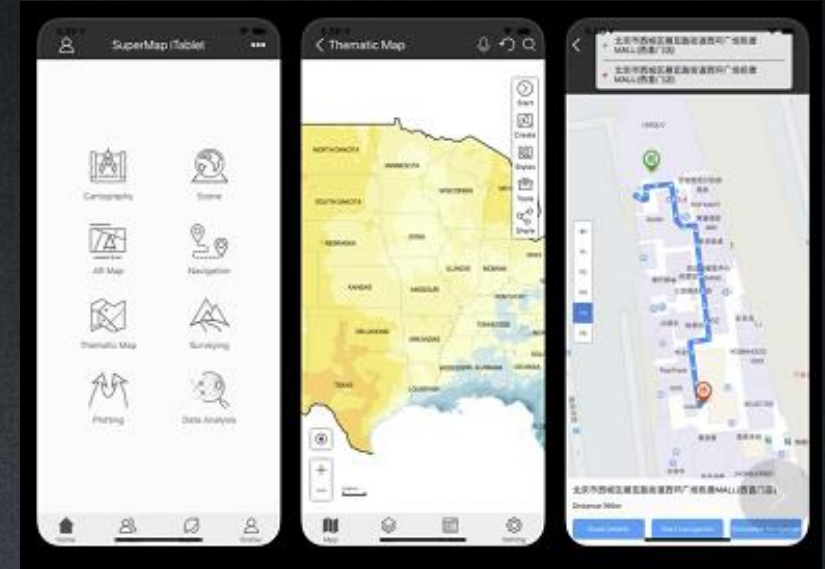
# How to use?



Collect Assets and Data

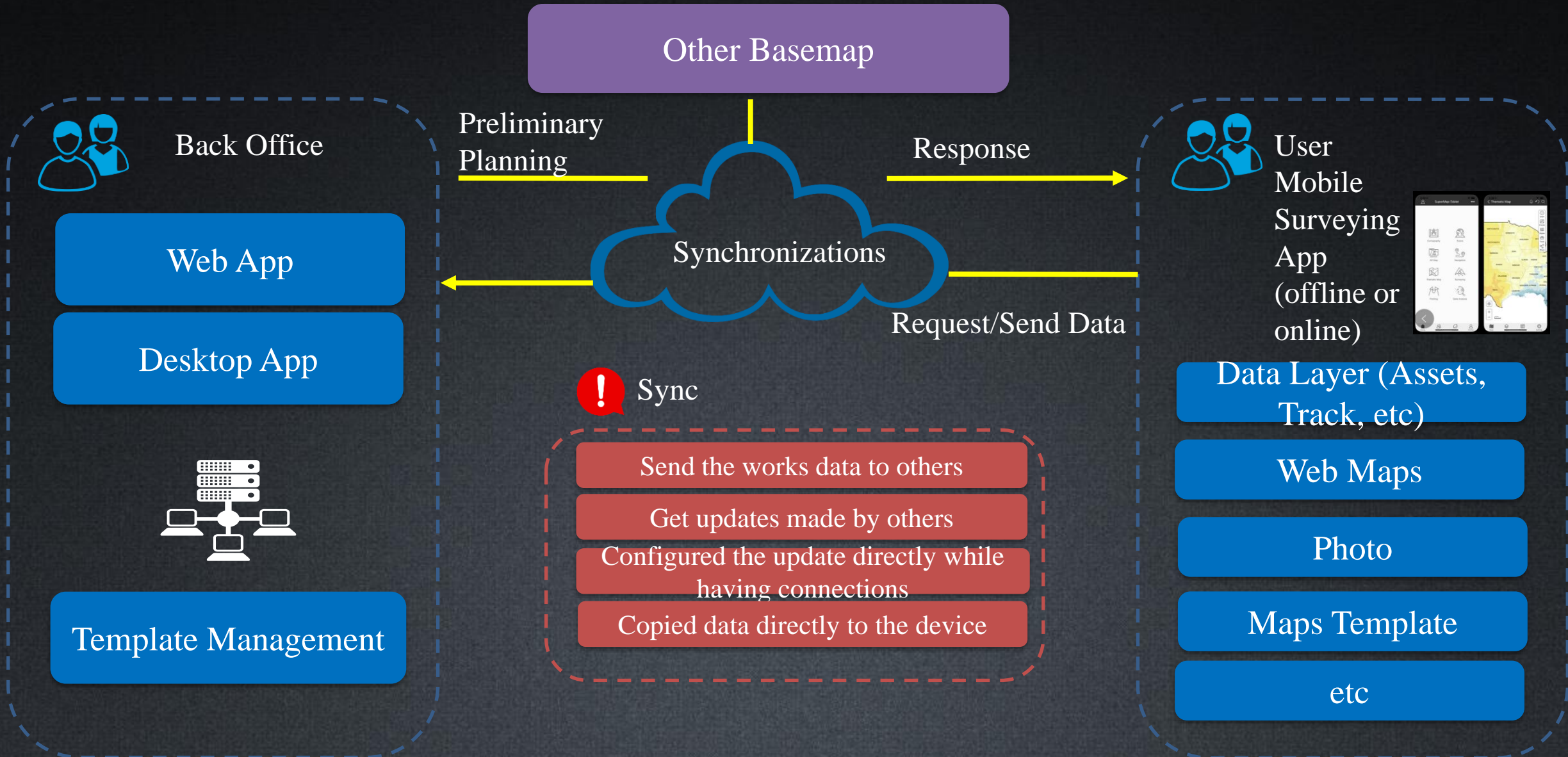


Capture Observations by Taking Picture



Data Editing

# Workflow



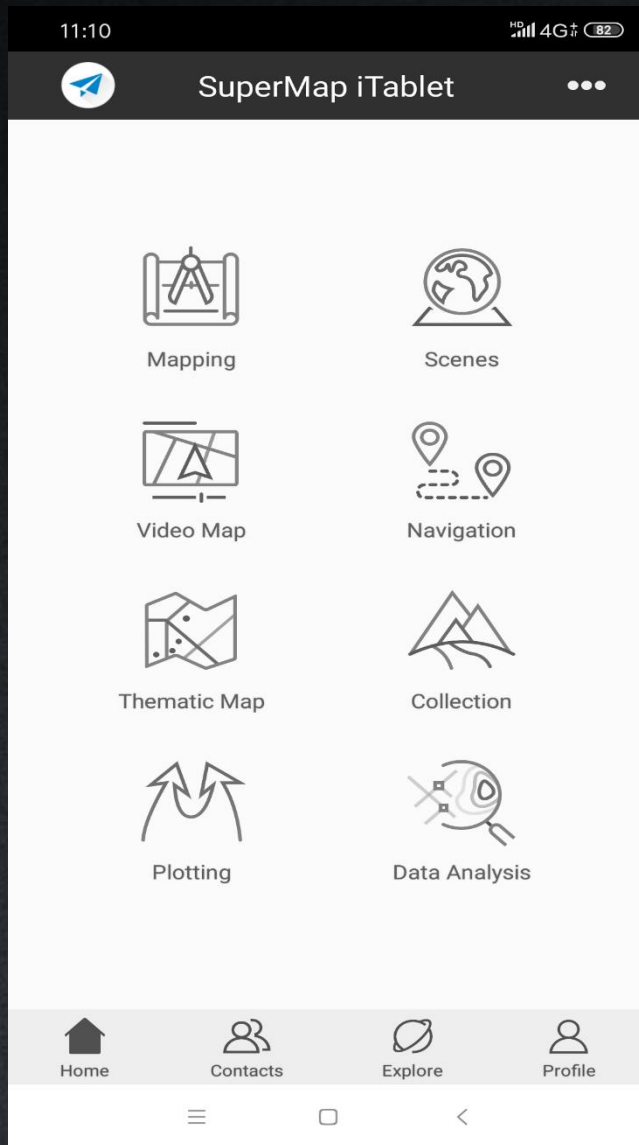


# SuperMap iTablet



- ◆ Universal **Mobile Desktop App**
- ◆ No **Development** Required
- ◆ Industry-Wide **Surveying and Mapping**

# SuperMap iTablet Main module

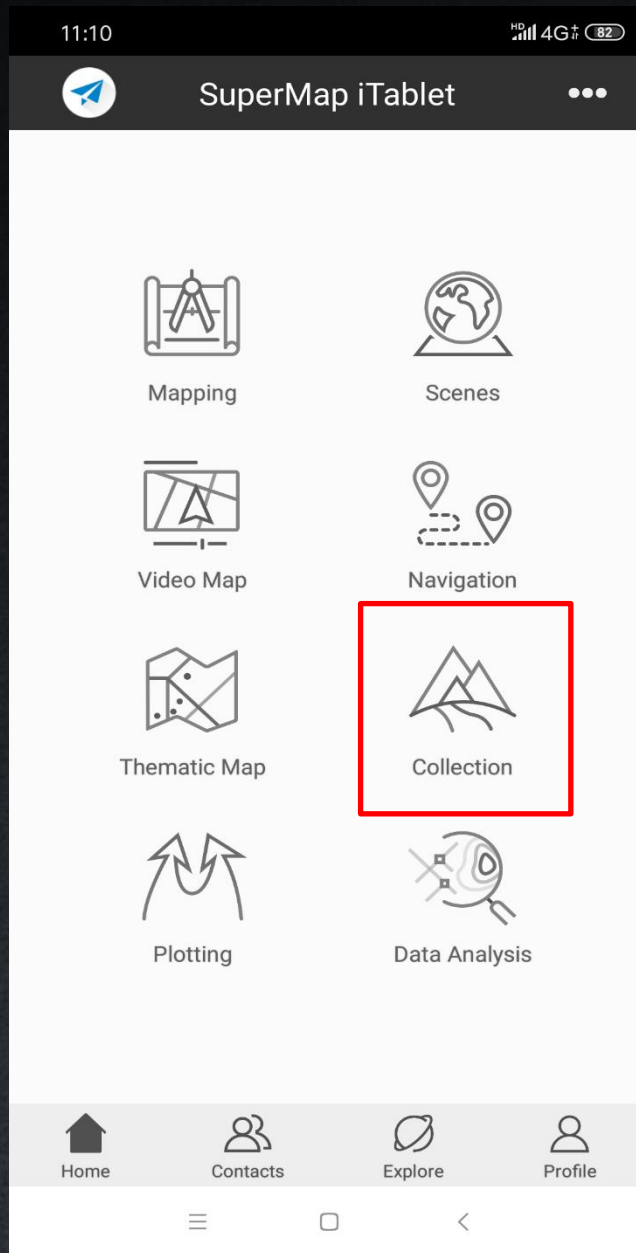


**8 Functions**

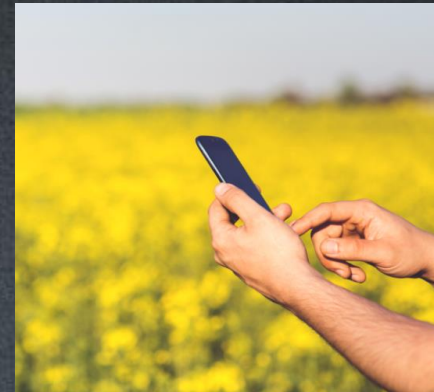


**Data Sharing**

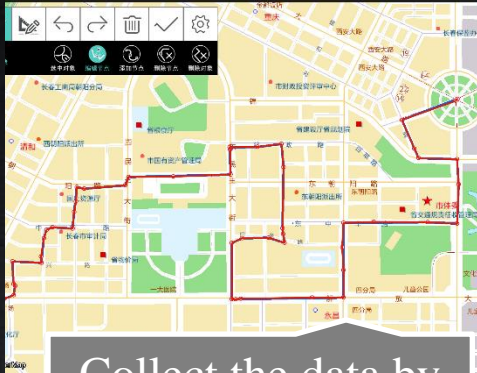




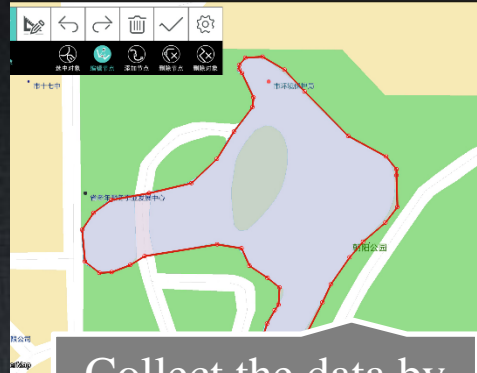
# Data Collection



# Data Collection Tools



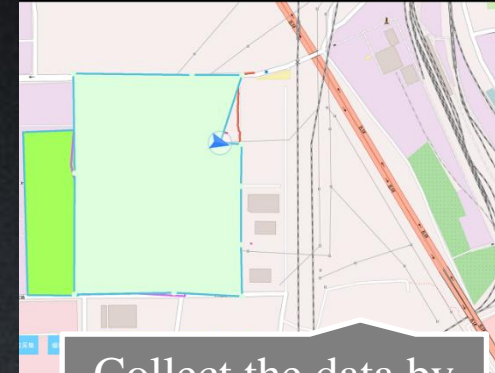
Collect the data by  
point



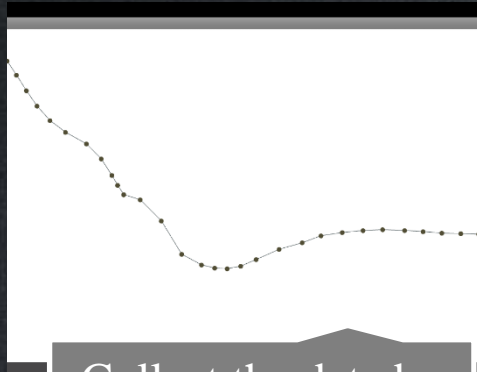
Collect the data by  
polygon



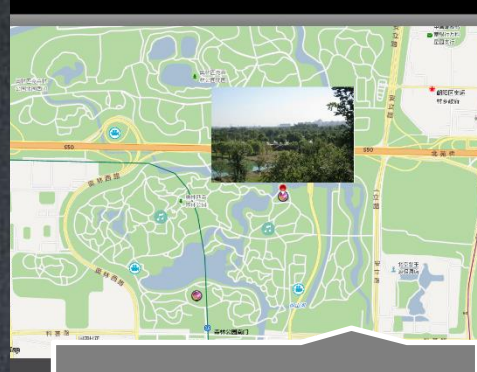
Collect the data by  
line



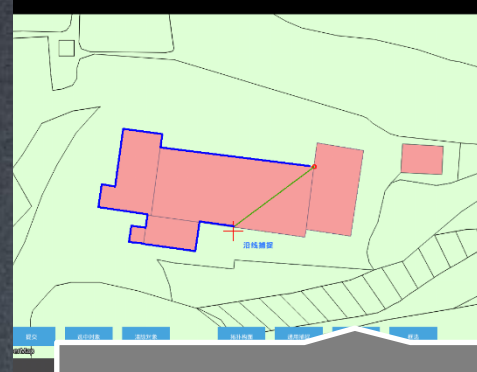
Collect the data by  
GPS



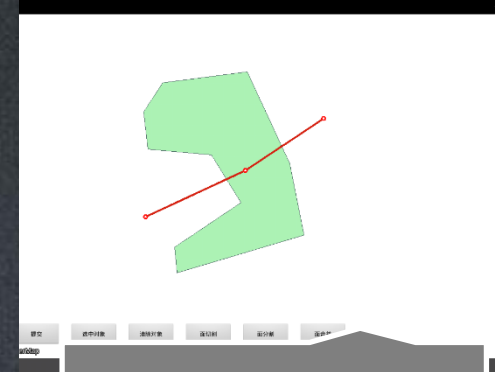
Collect the data by  
tracking



Collect the photo



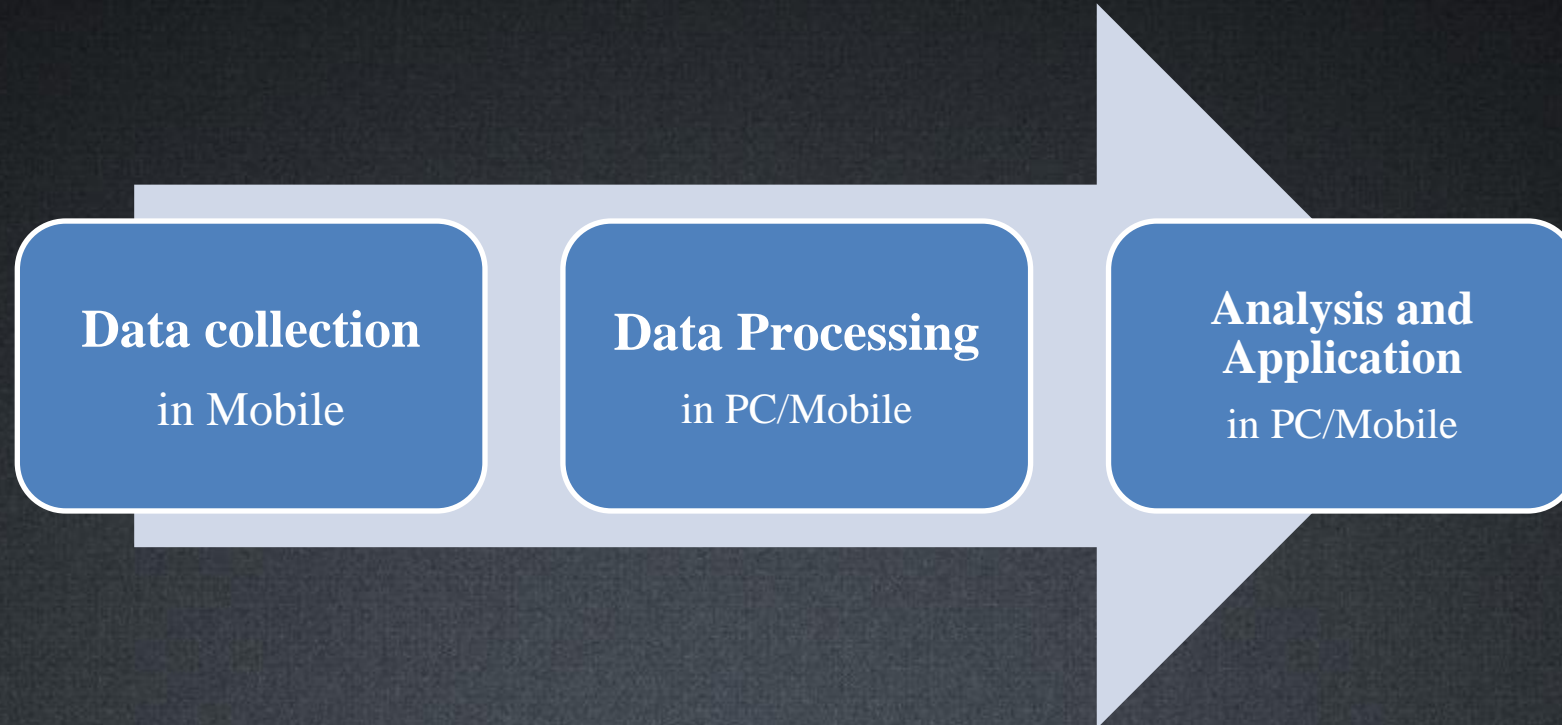
Topology Capture

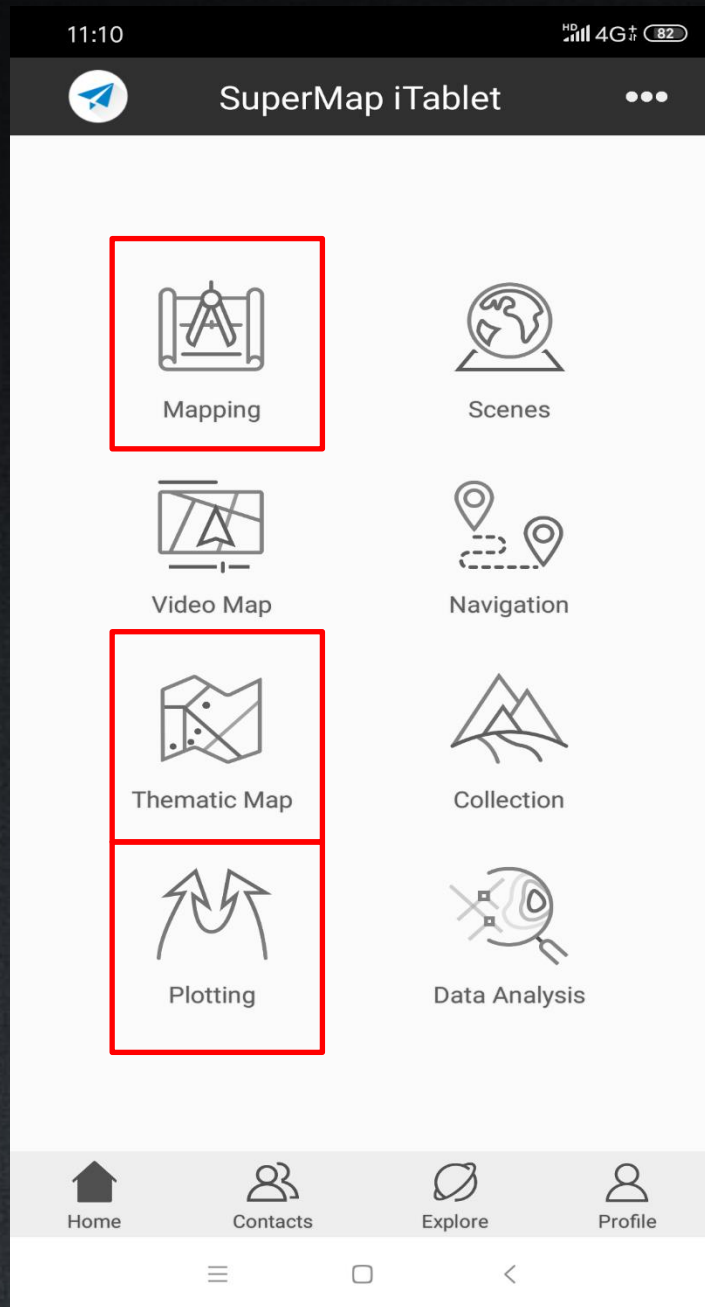


Topology editor

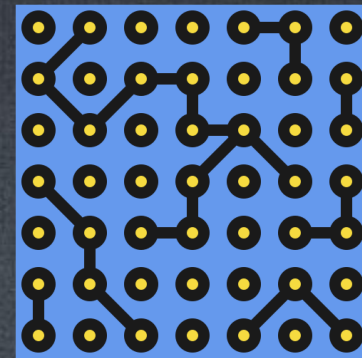


# Workflow for Data Production



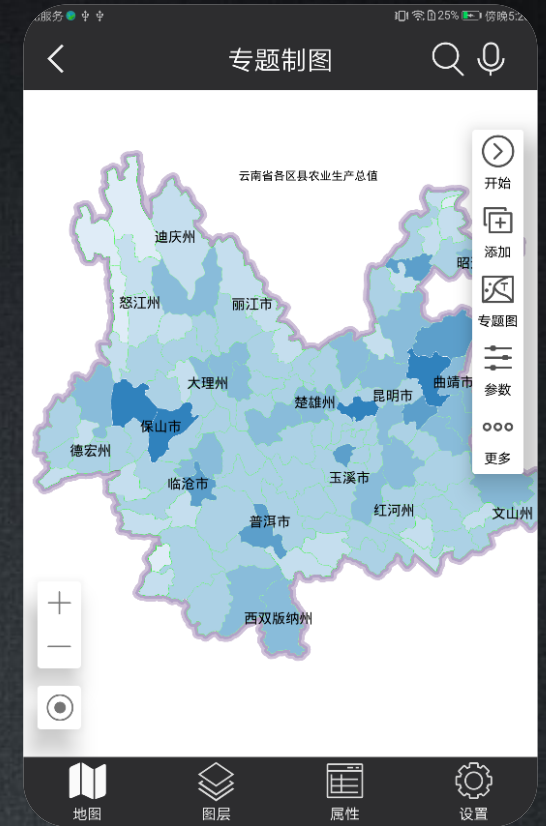
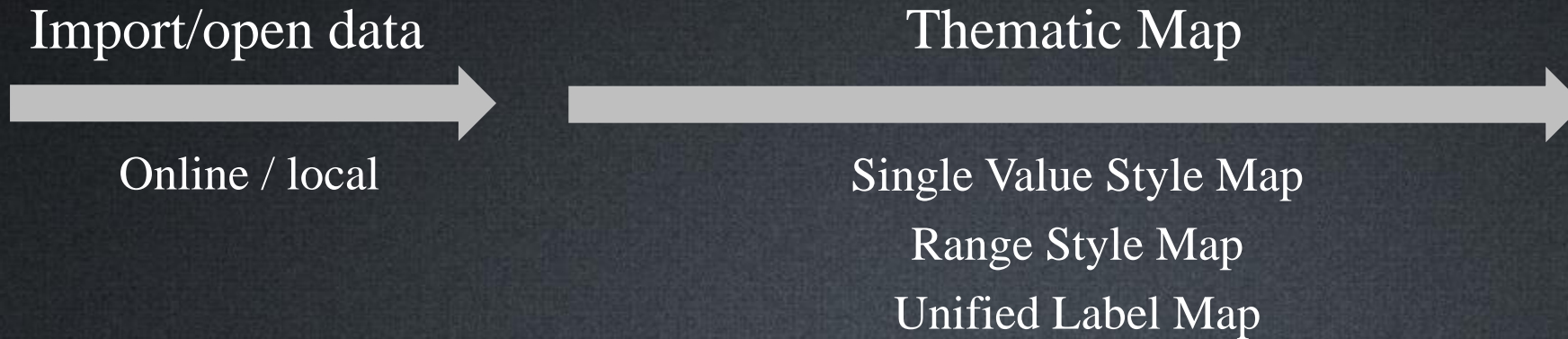


# Mapping





# Mapping Operation Steps



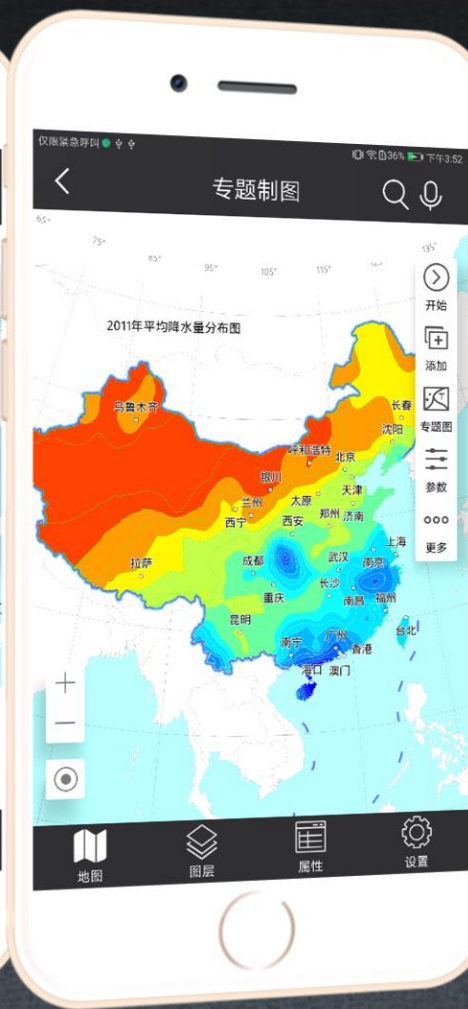
## P14



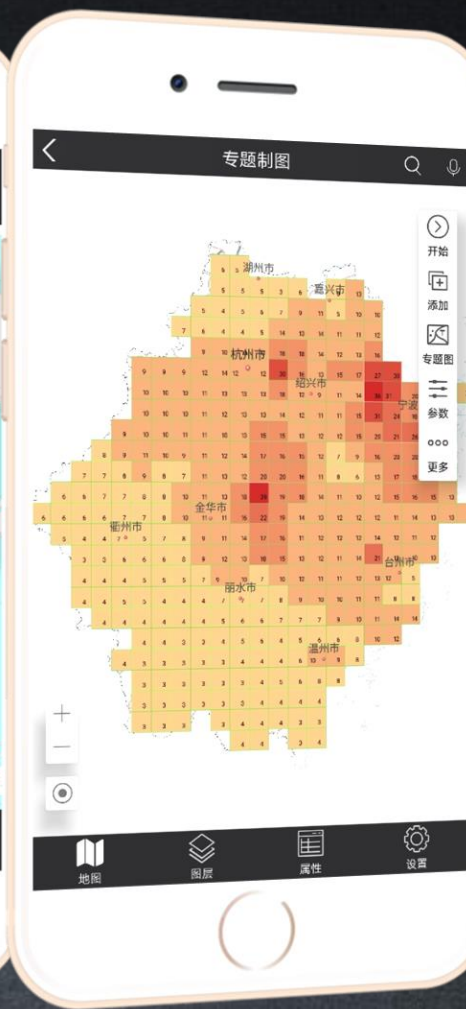
# Landuse Map



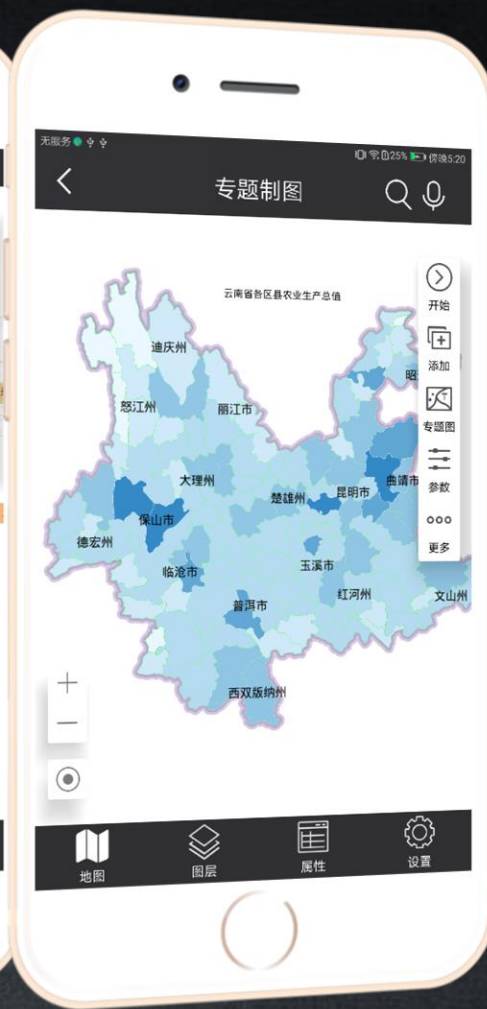
# Political Map



# Precipitation Map

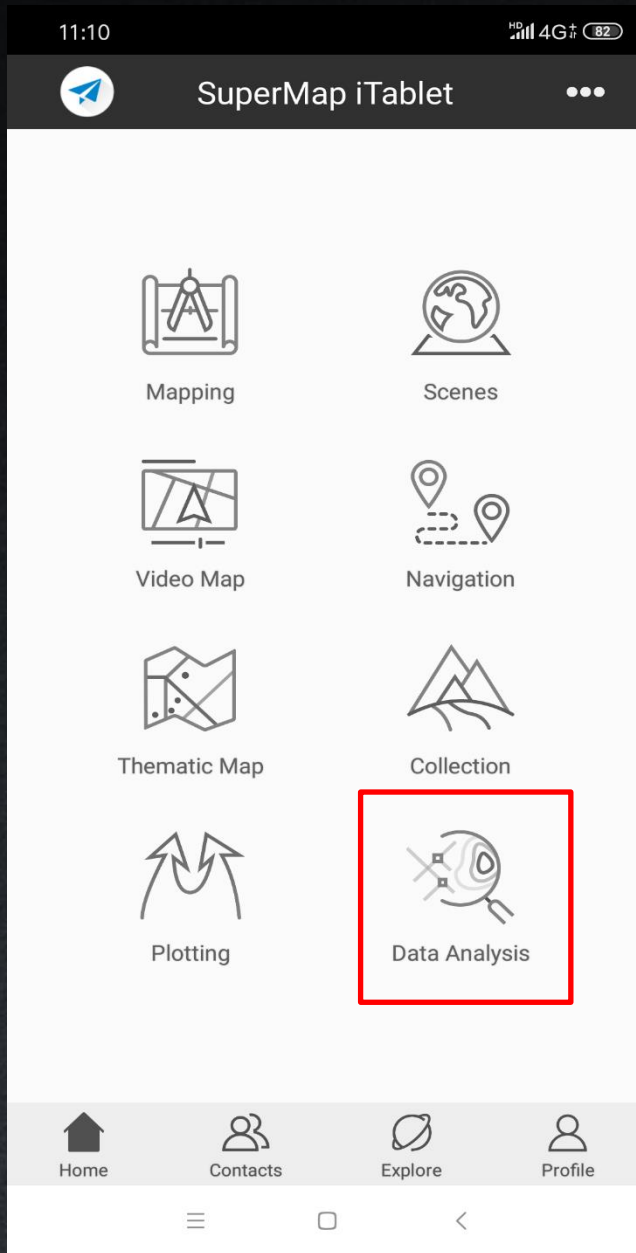


# Science and Education Map



## Agricultural map

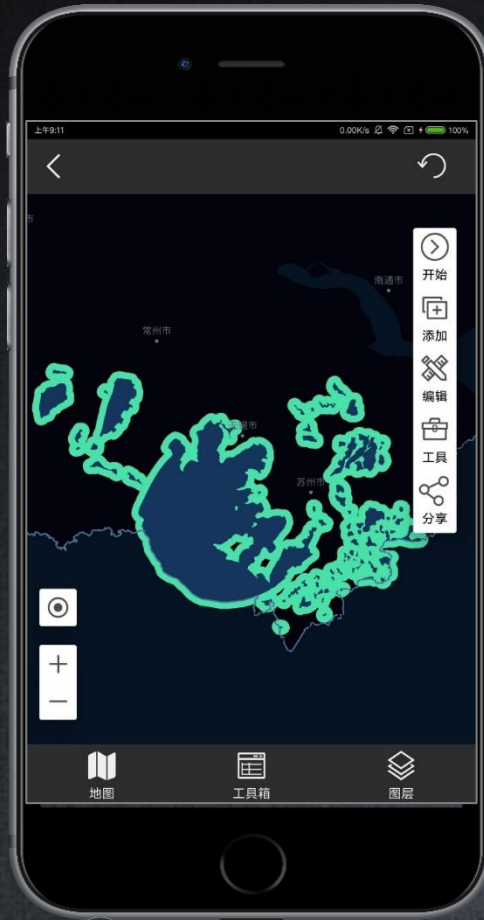




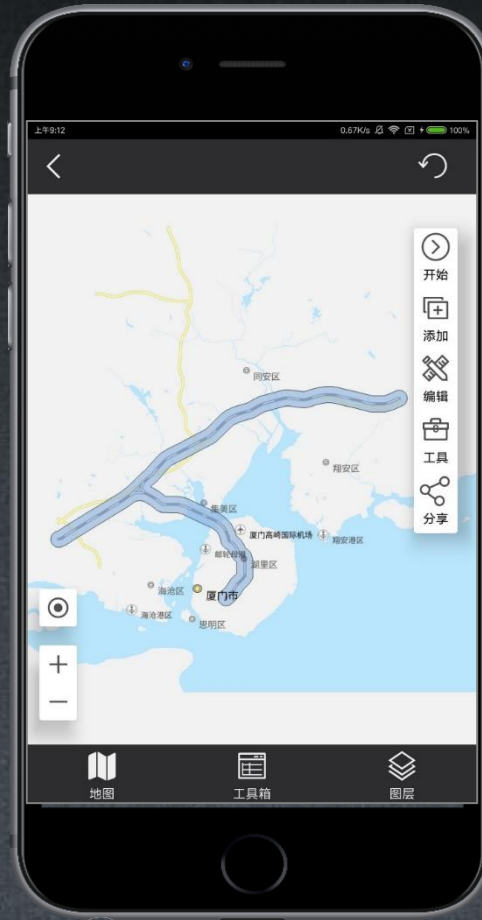
# Data Analysis



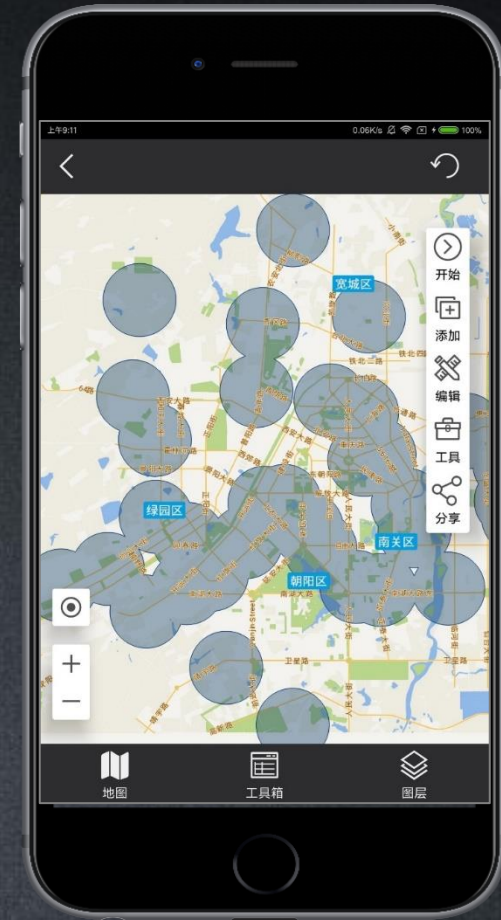
# Spatial Analysis



Flood Analysis

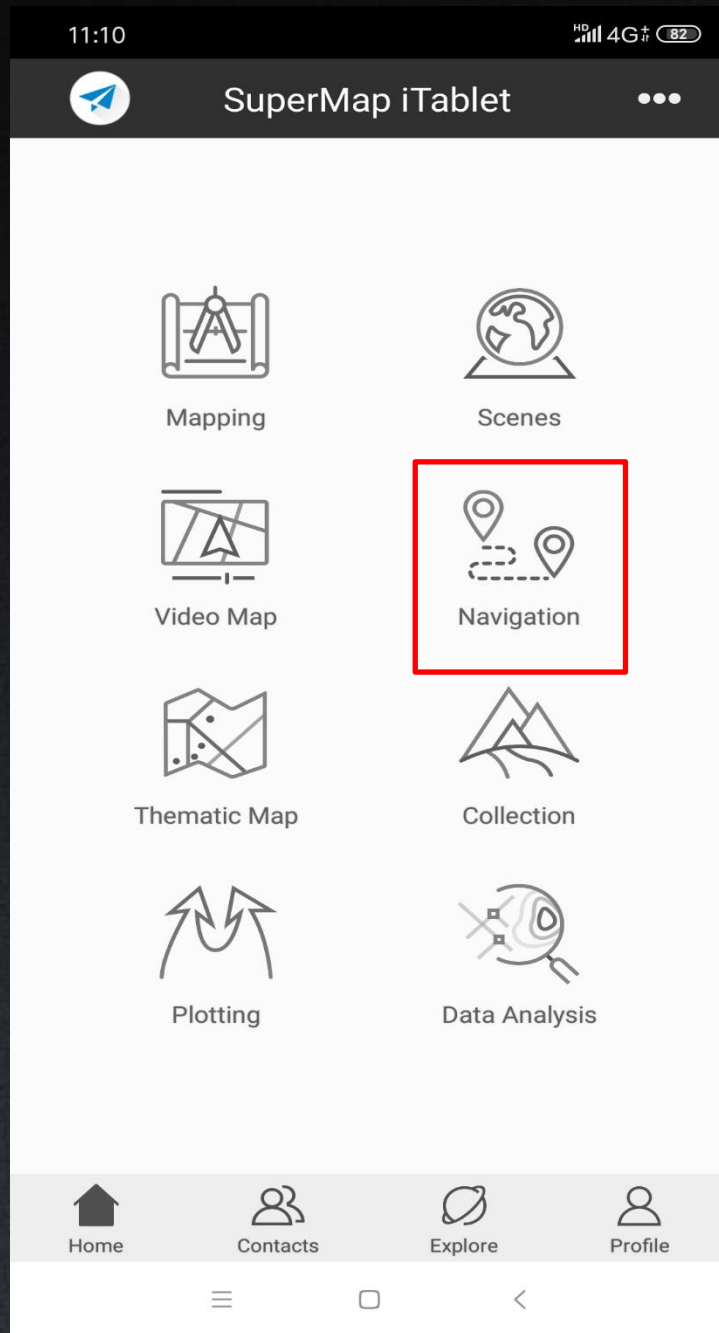


Road Buffer Analysis



Site Selection Analysis

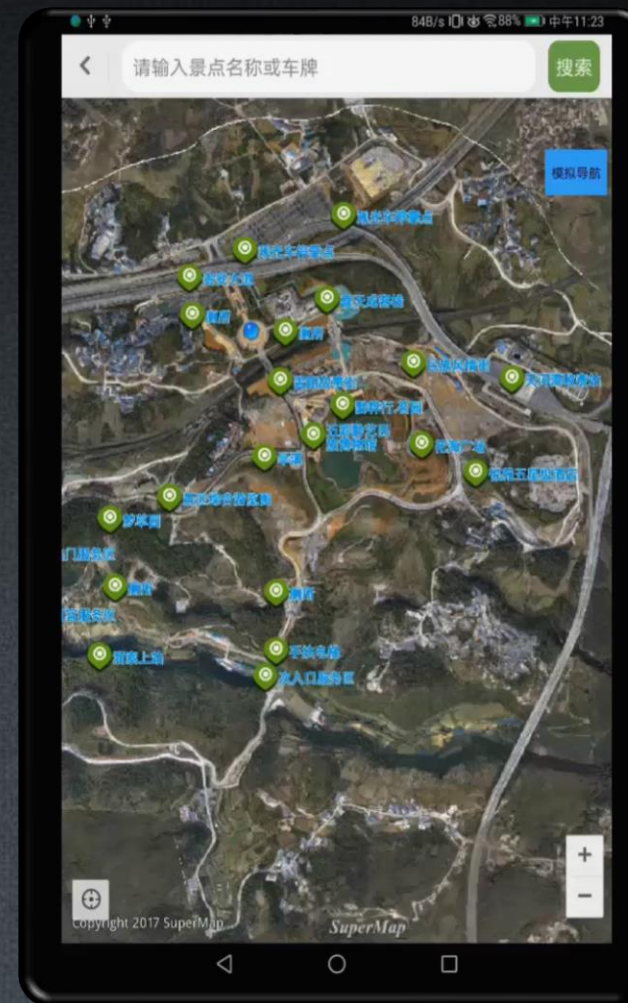
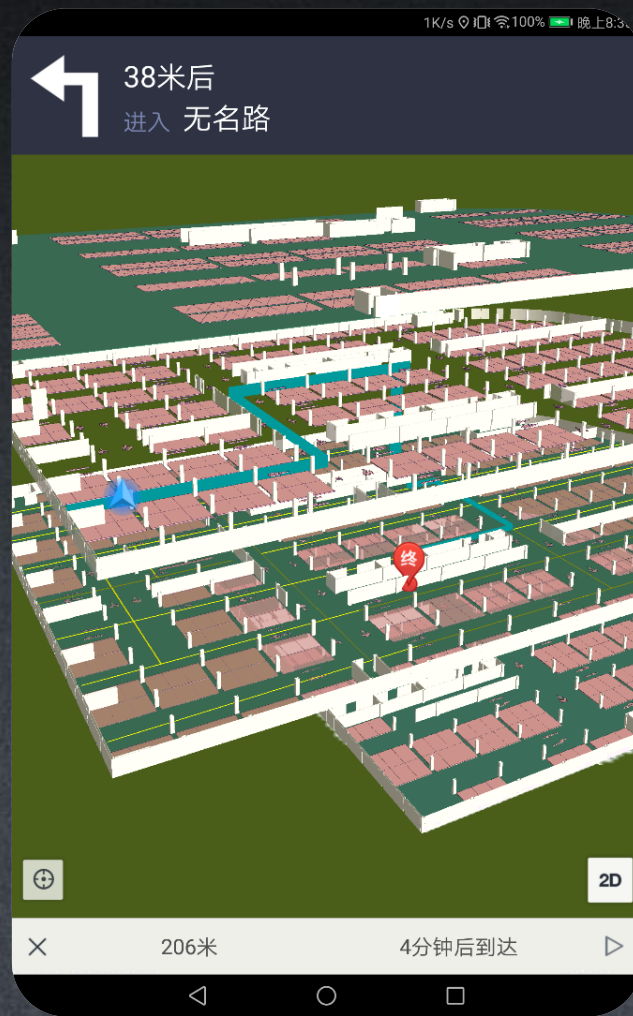
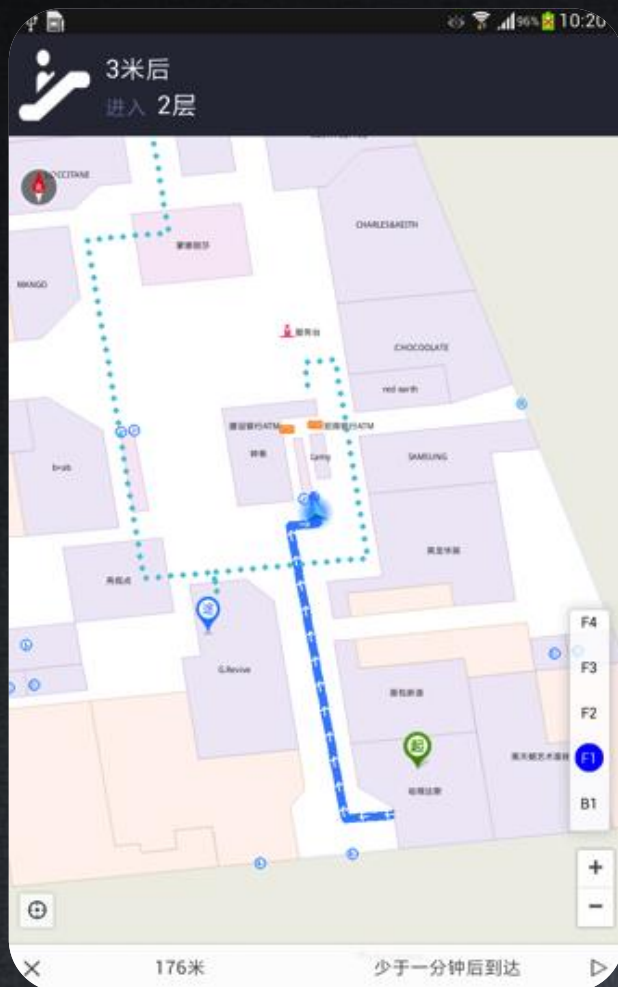




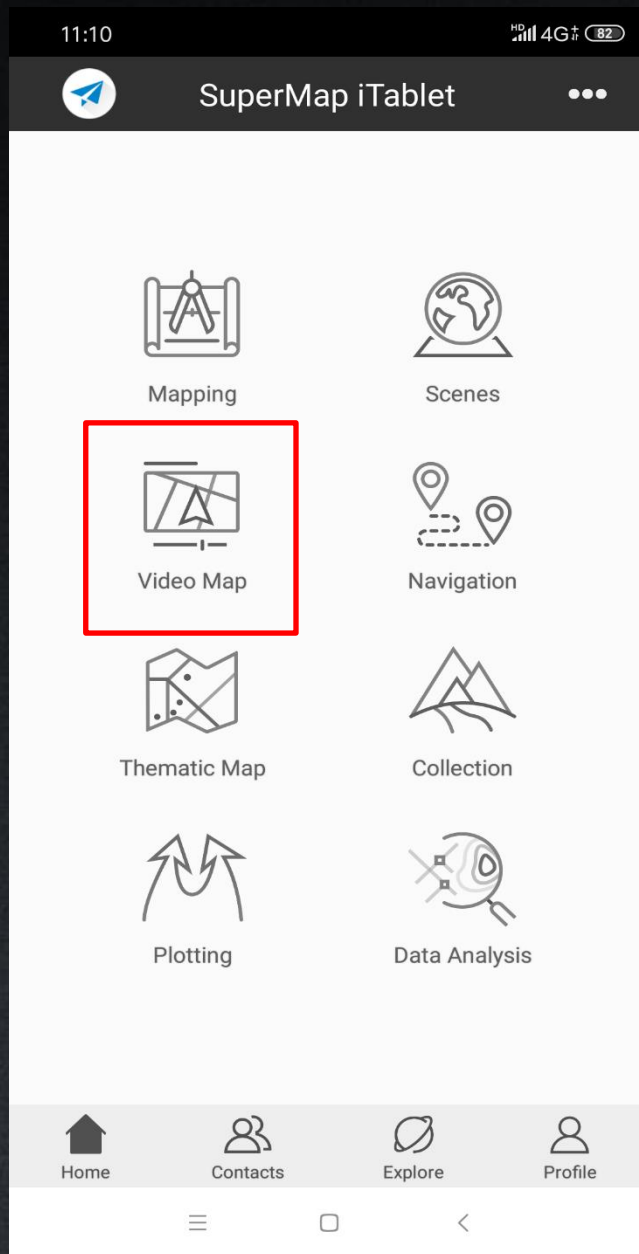
# Navigation



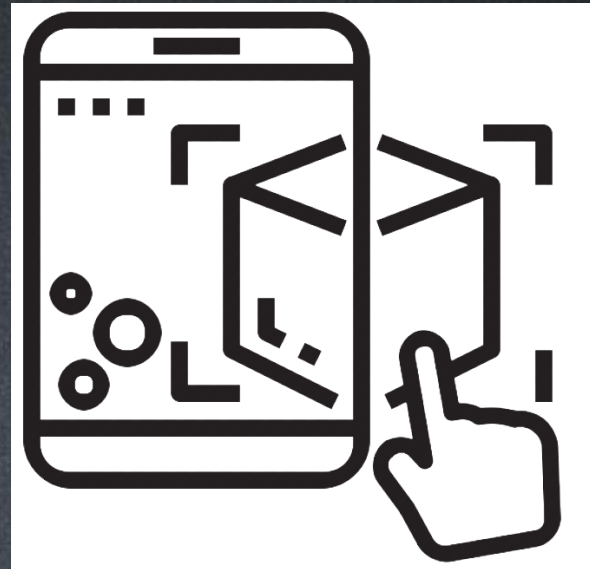
# Indoor and outdoor integrated navigation







# Video Map



# AR

①

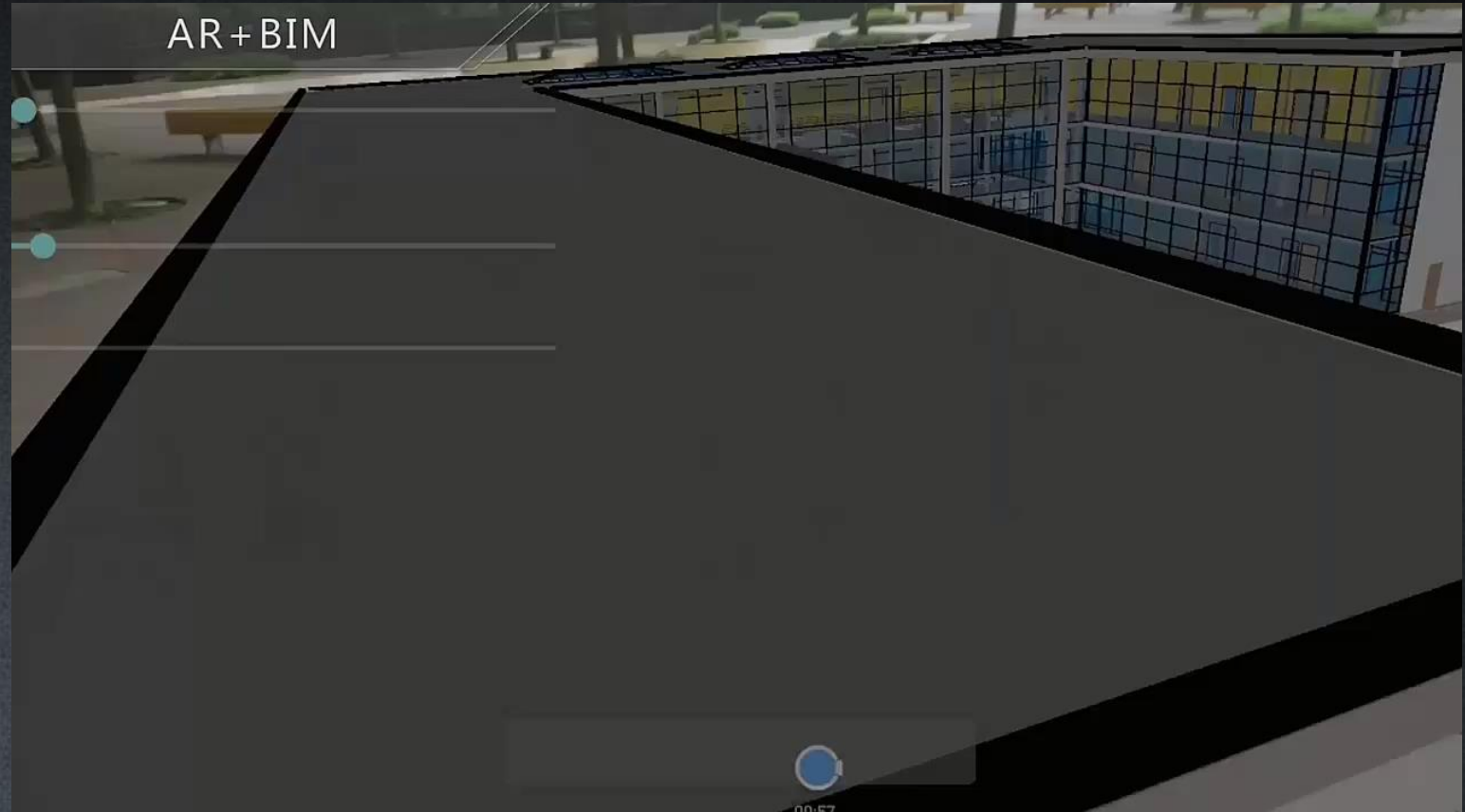
2D & 3D Integrated

②

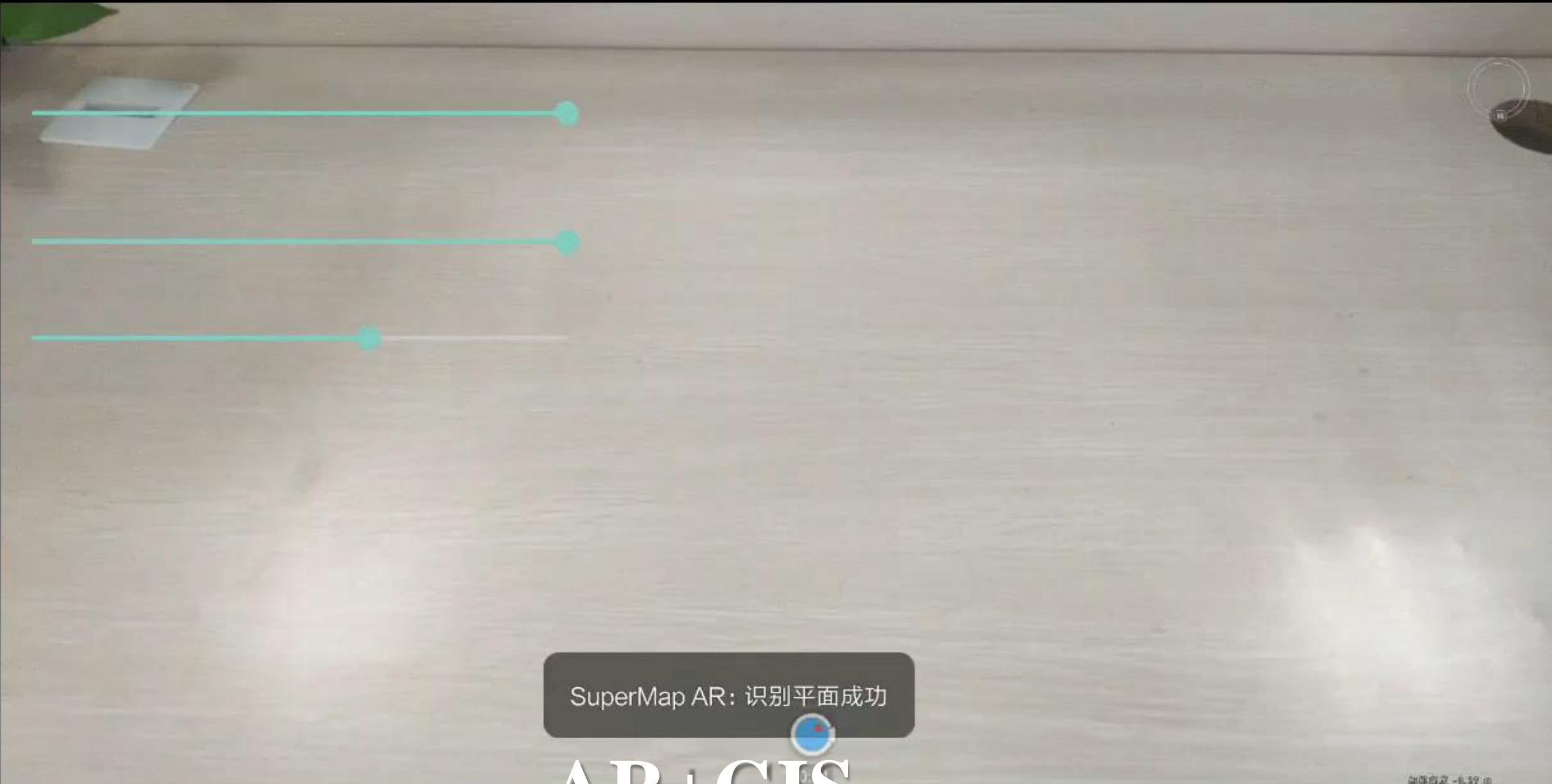
Multiple browsing modes

③

AR+GIS





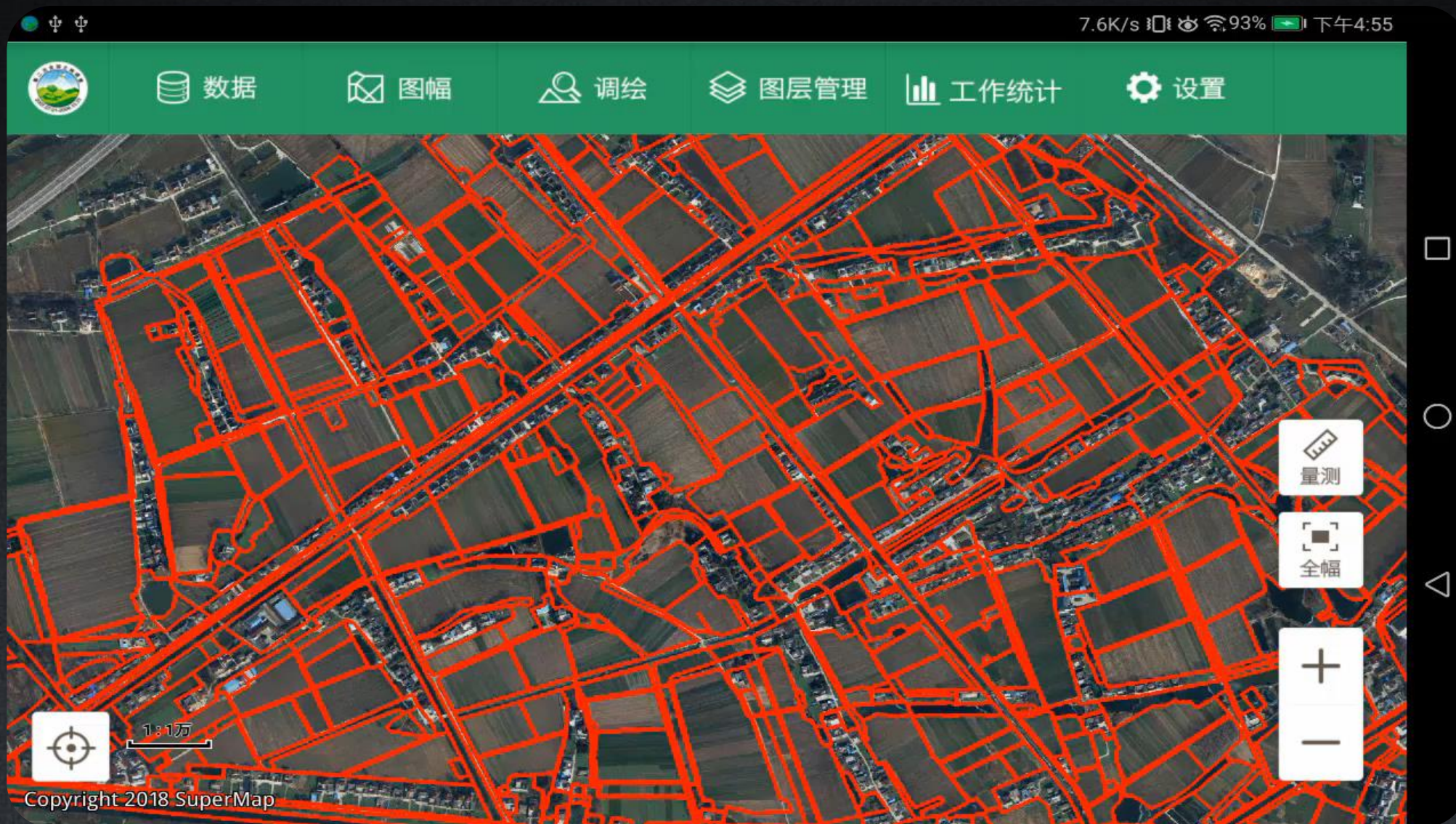


SuperMap AR: 识别平面成功

AR+GIS

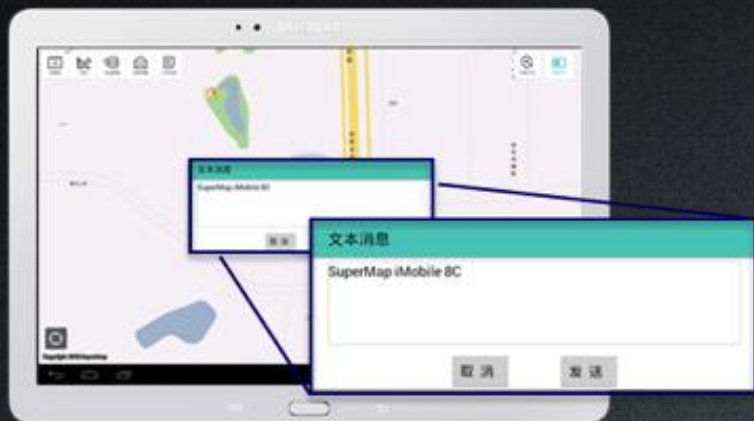


# High Performance Map Operations

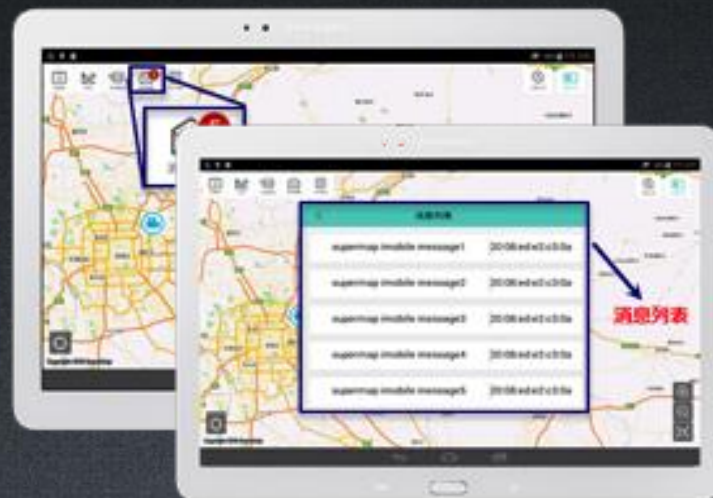




# Data Sharing



Send Data



Receive data



Multi-terminal  
interaction



# Mobile GIS





# Easy to customize the Mobile Application

Map Display



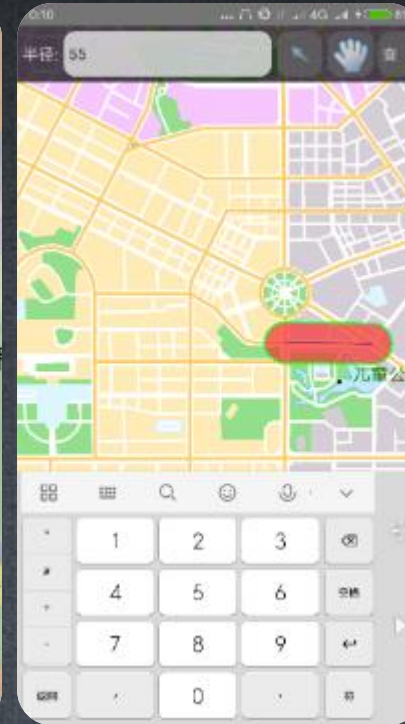
Data Editing



Data Querying



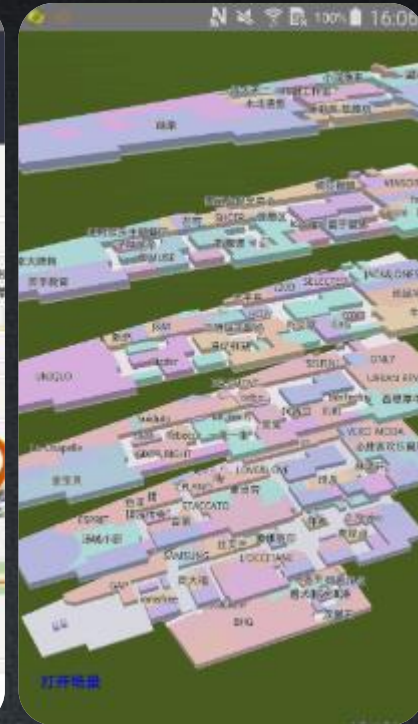
Spatial Analysis



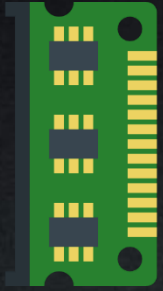
Navigation



3D Scene



# Advantages of Field Surveying



**Memory Saving**



**Power Saving**



**Mobile Data Saving**



**High Efficiency**



**Searchable**



**Dynamic Interaction**



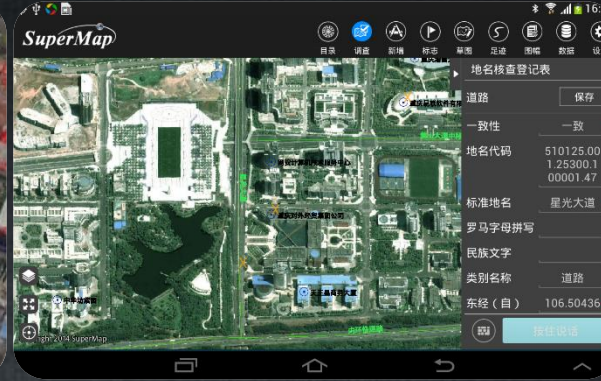
# Cases



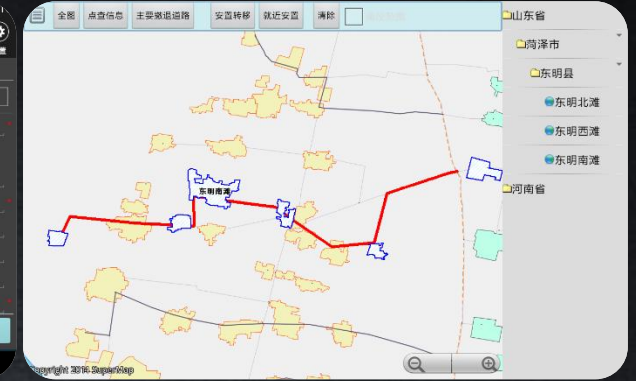
Marine Monitoring Law  
Enforcement Project



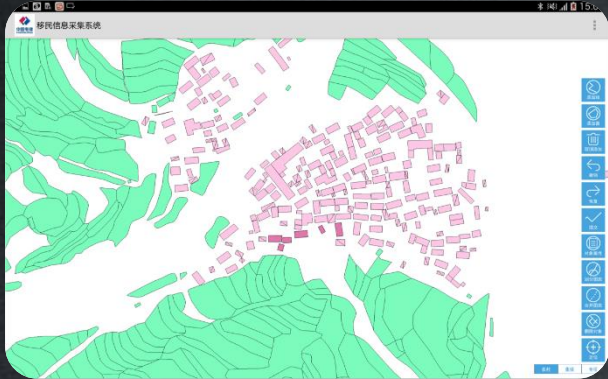
National Census Project



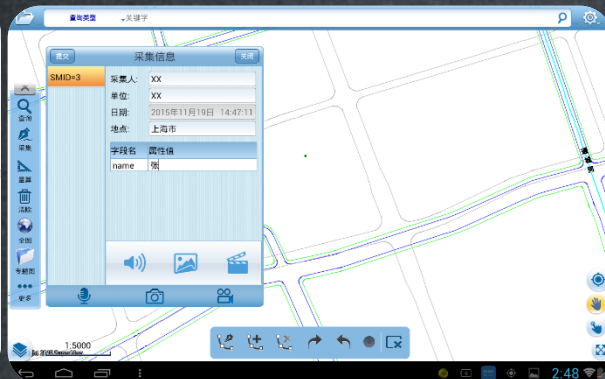
POI Survey Project



Flood Prediction Project



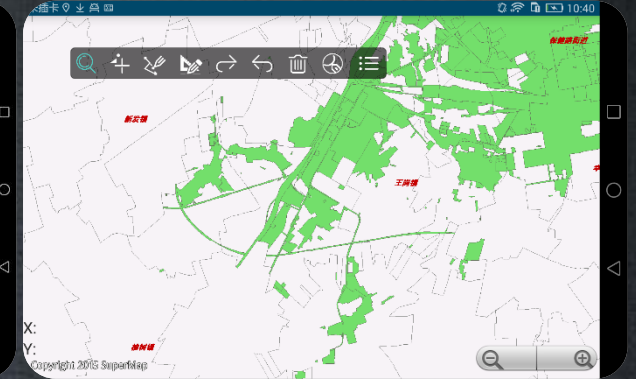
Immigration  
Project



Hydraulic  
Engineering



Land Survey  
Project



Grassland Monitoring  
Project





# 3D Cadastre



# Background

Population growth and  
existing land supply  
imbalance

Intensive use of space  
above and below land  
parcels

Legal status on  
utilization of space

Difficulties to reflect  
the spatial aspect of  
rights in 2D cadastral  
registration systems

Unavailability of  
relevant regulations in  
the implementation of  
3D Cadastral

Value of a property  
become higher and  
higher

The development of  
the 3D Technology

# Intensive use of Space





# Technology Review

Update the 2D & 3D models for buildings

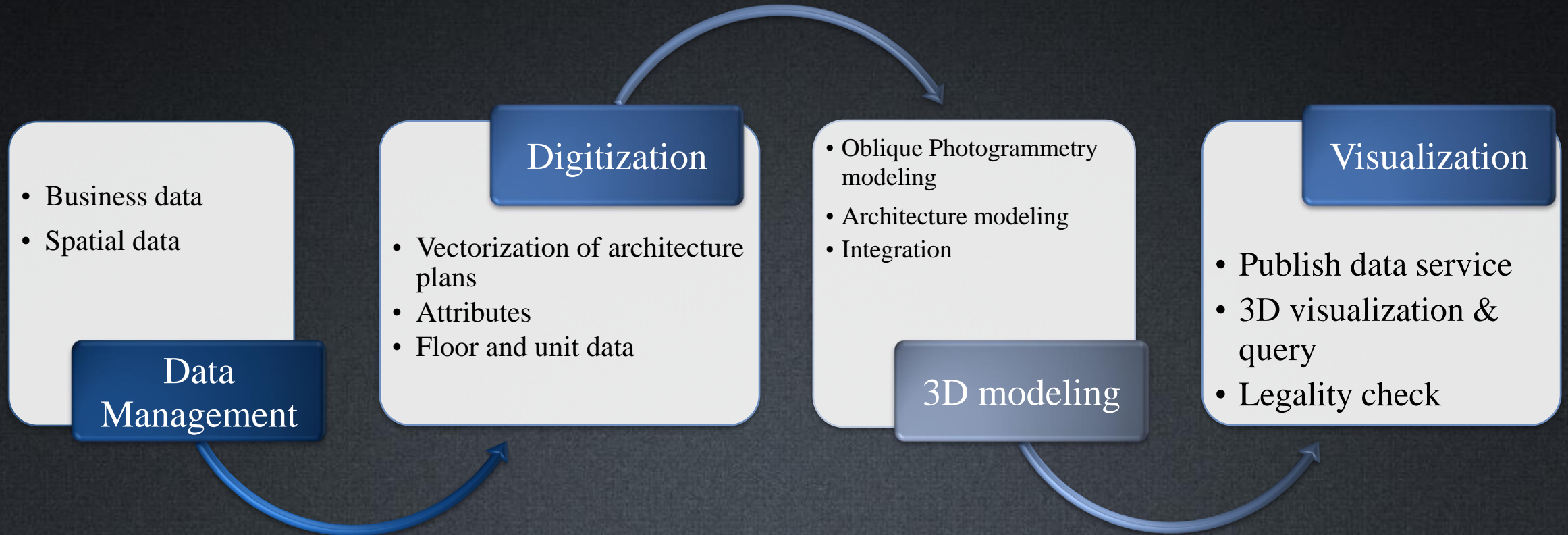
Connect the attributes with 2D & 3D data

Unified the standard for cadastral data

Legality check

Public information sharing

# Workflow





# Data management

## Data management

Business data

Spatial data

## Digitalization

Vectorization

Attributes

## 3D Modeling

Architecture modeling

Integration of models

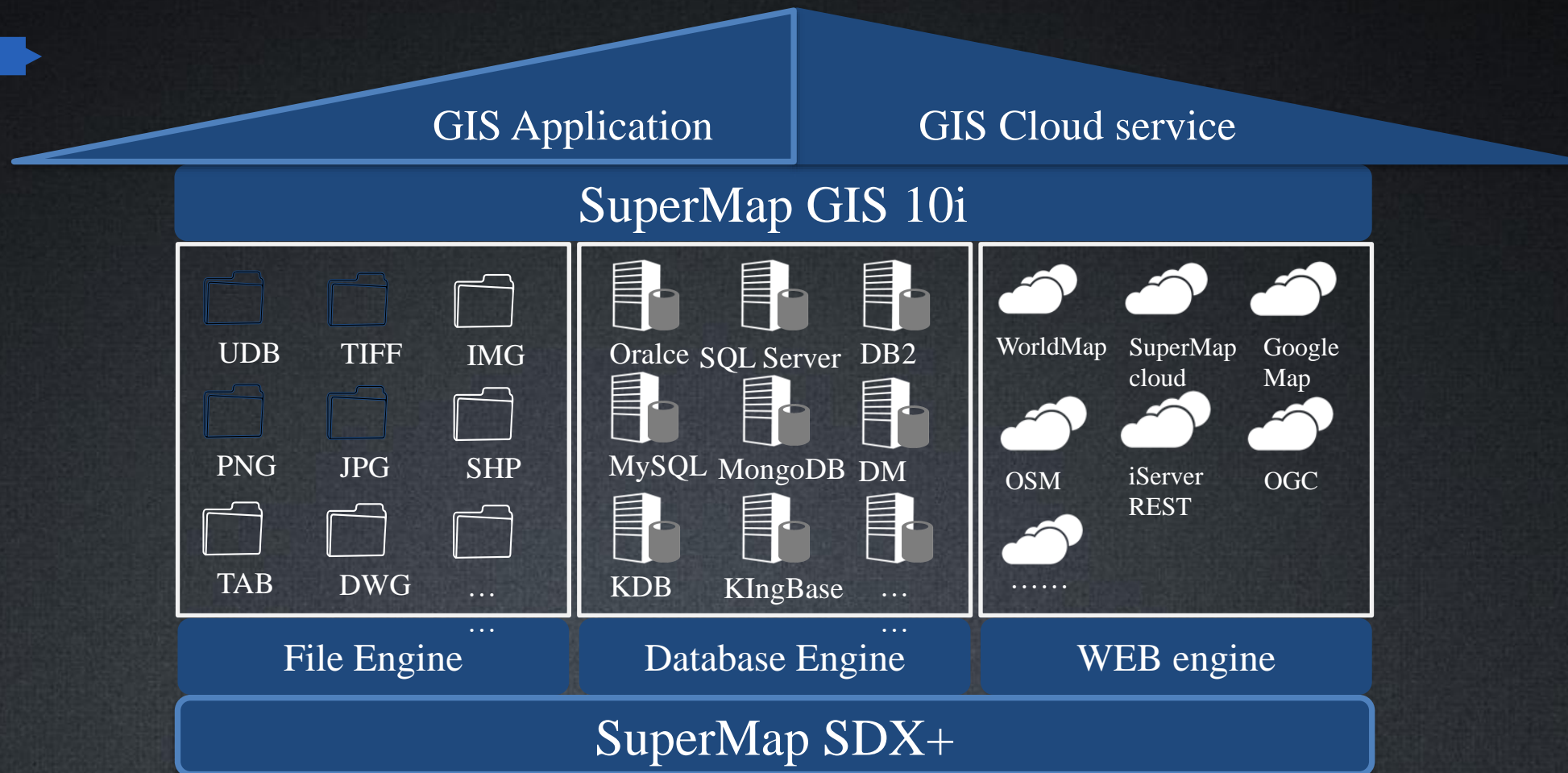
## Visualization

Publish Service

Display & Query

## Analysis

Legality



# Data management

## Data management

Business data  
Spatial data

## Digitalization

Vectorization  
Attributes

## 3D Modeling

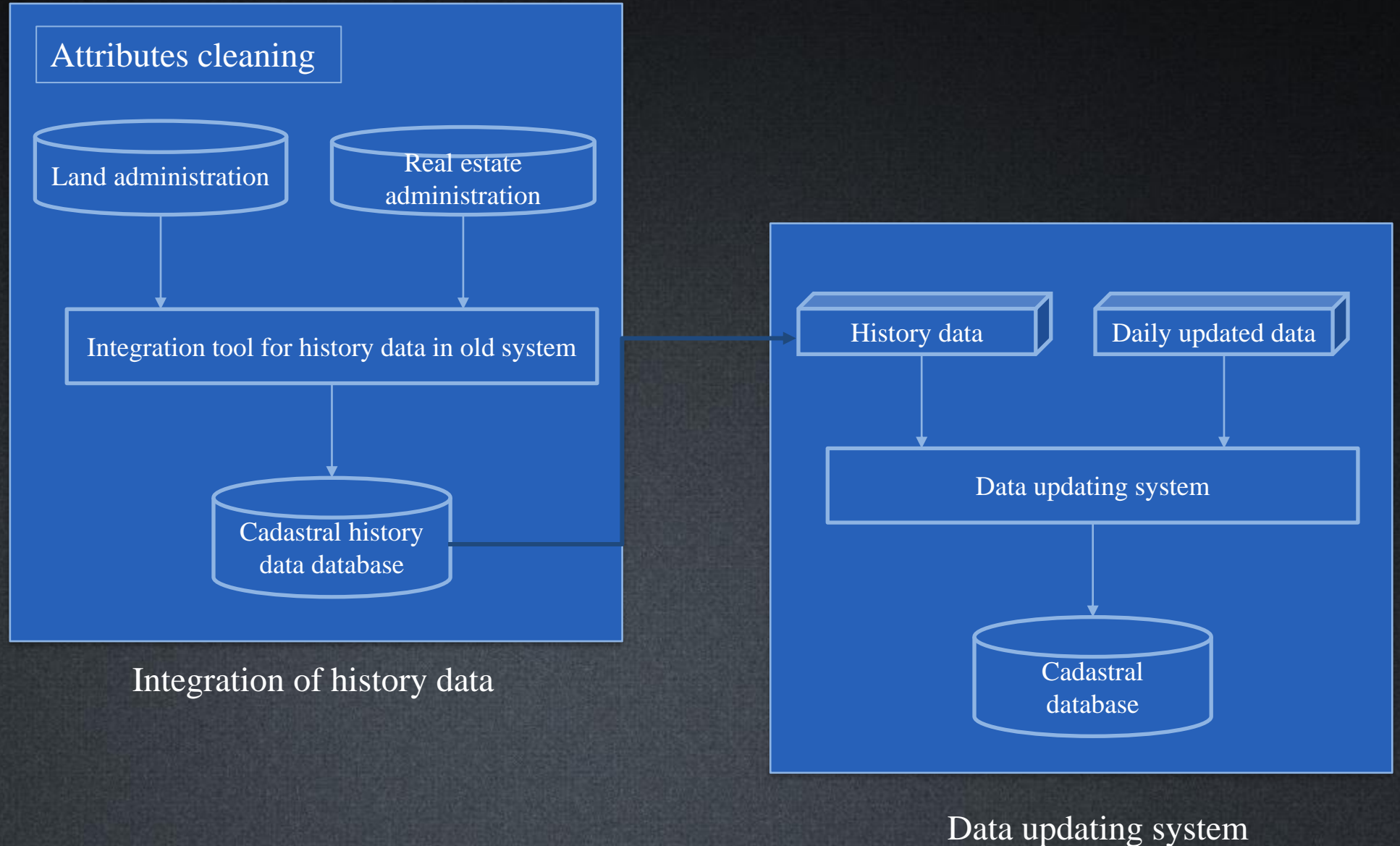
Architecture modeling  
Integration of models

## Visualization

Publish Service  
Display & Query

## Analysis

Legality





# Data management

## Data management

Business data

Spatial data

## Digitalization

Vectorization

Attributes

## 3D Modeling

Architecture modeling

Integration of models

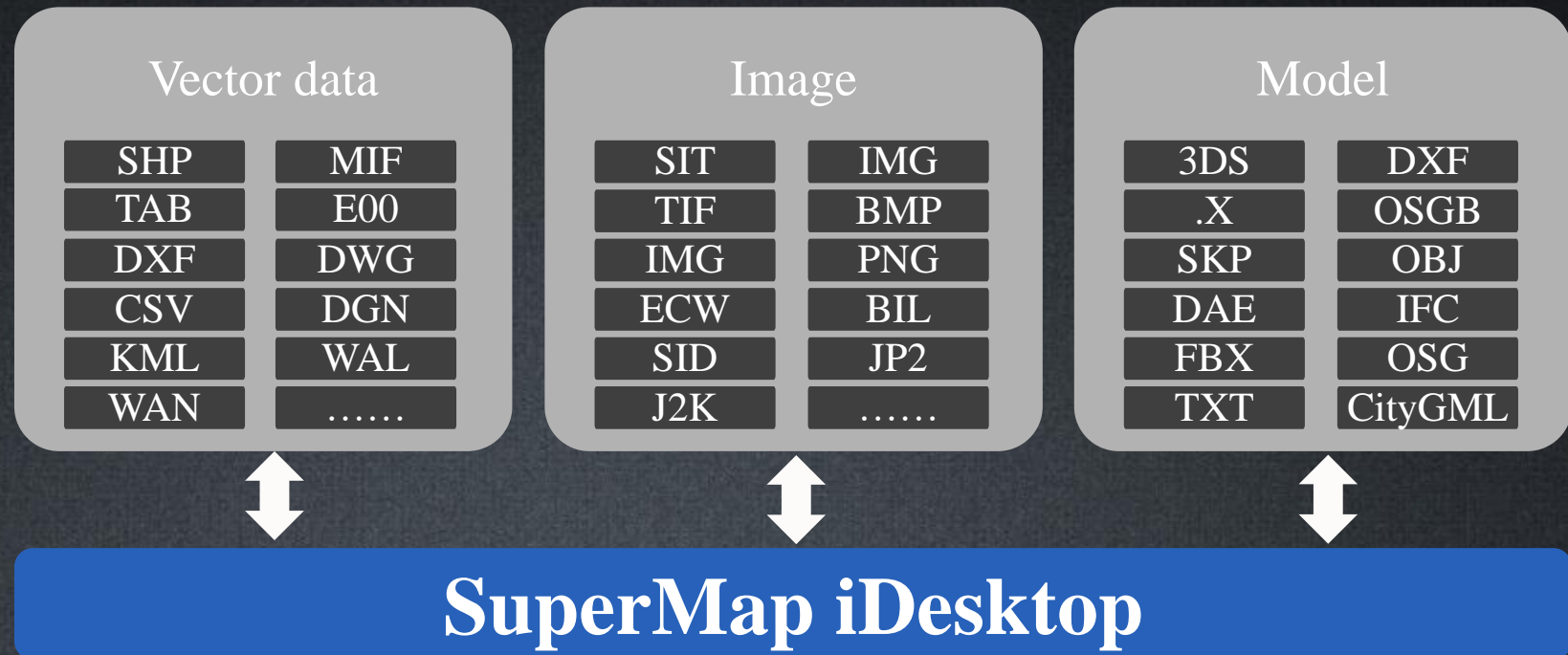
## Visualization

Publish Service

Display & Query

## Analysis

Legality



# Digitization

## Data management

Business data  
Spatial data

## Digitalization

Vectorization  
Attributes

## 3D Modeling

Architecture modeling  
Integration of models

## Visualization

Publish Service  
Display & Query

## Analysis

Legality

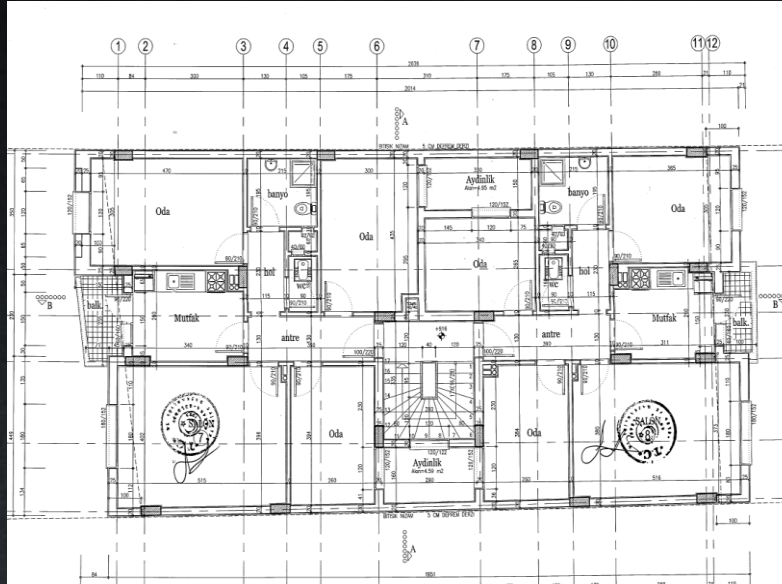
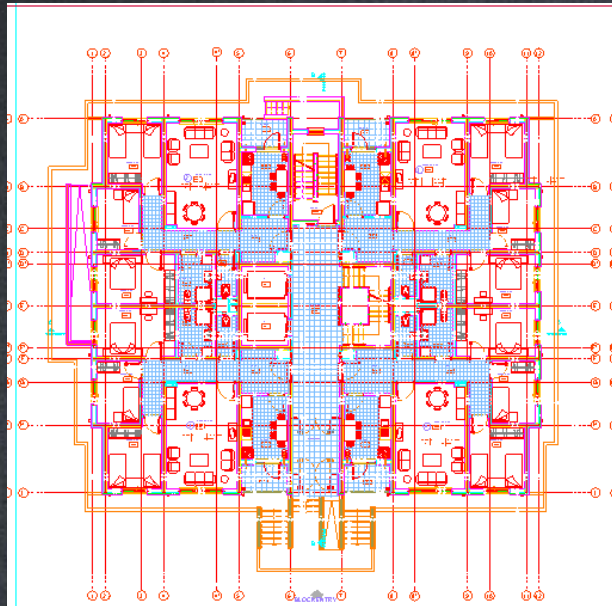
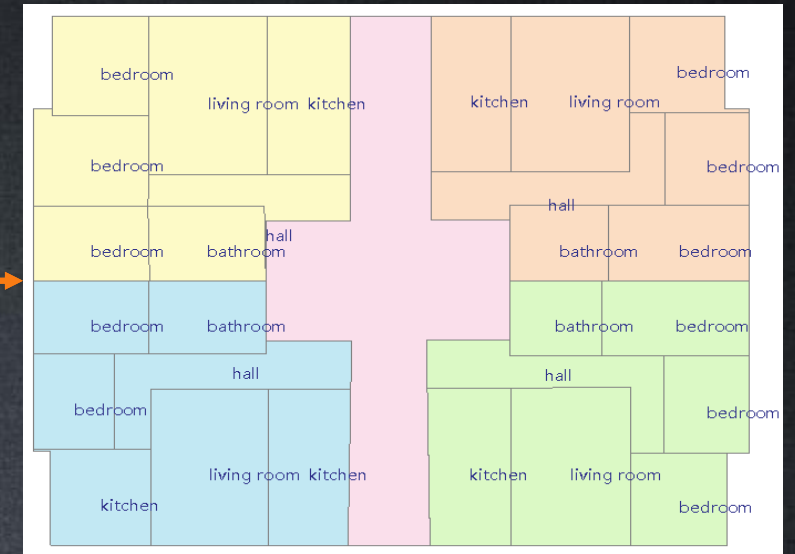


Image to vector



CAD to vector





# Customized Module

## Data management

Business data  
Spatial data

## Digitalization

Vectorization  
Attributes

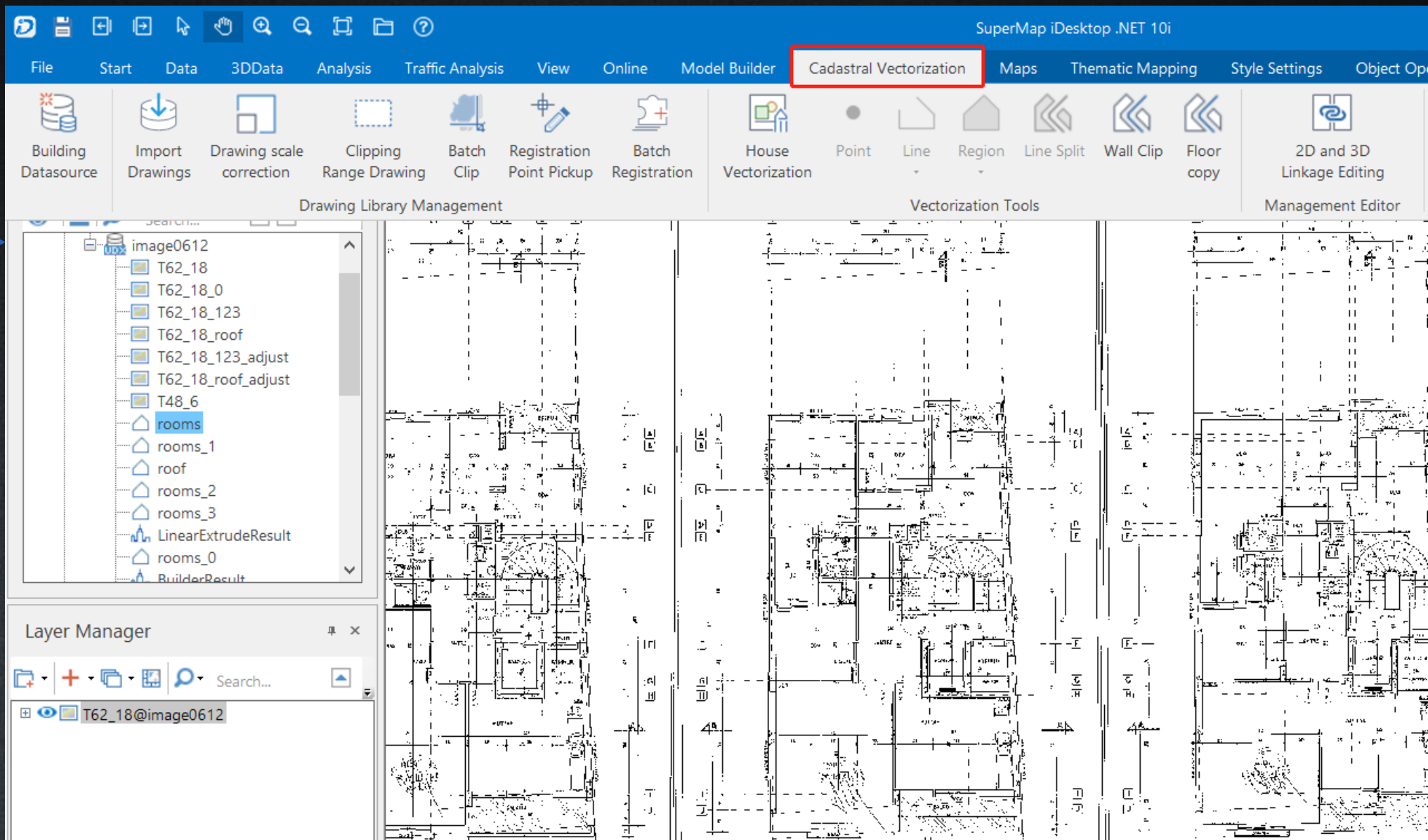
## 3D Modeling

Architecture modeling  
Integration of models

## Visualization

Publish Service  
Display & Query

Analysis  
Legality



# Batch Importing Images

Data management

Business data  
Spatial data

Digitalization

Vectorization  
Attributes

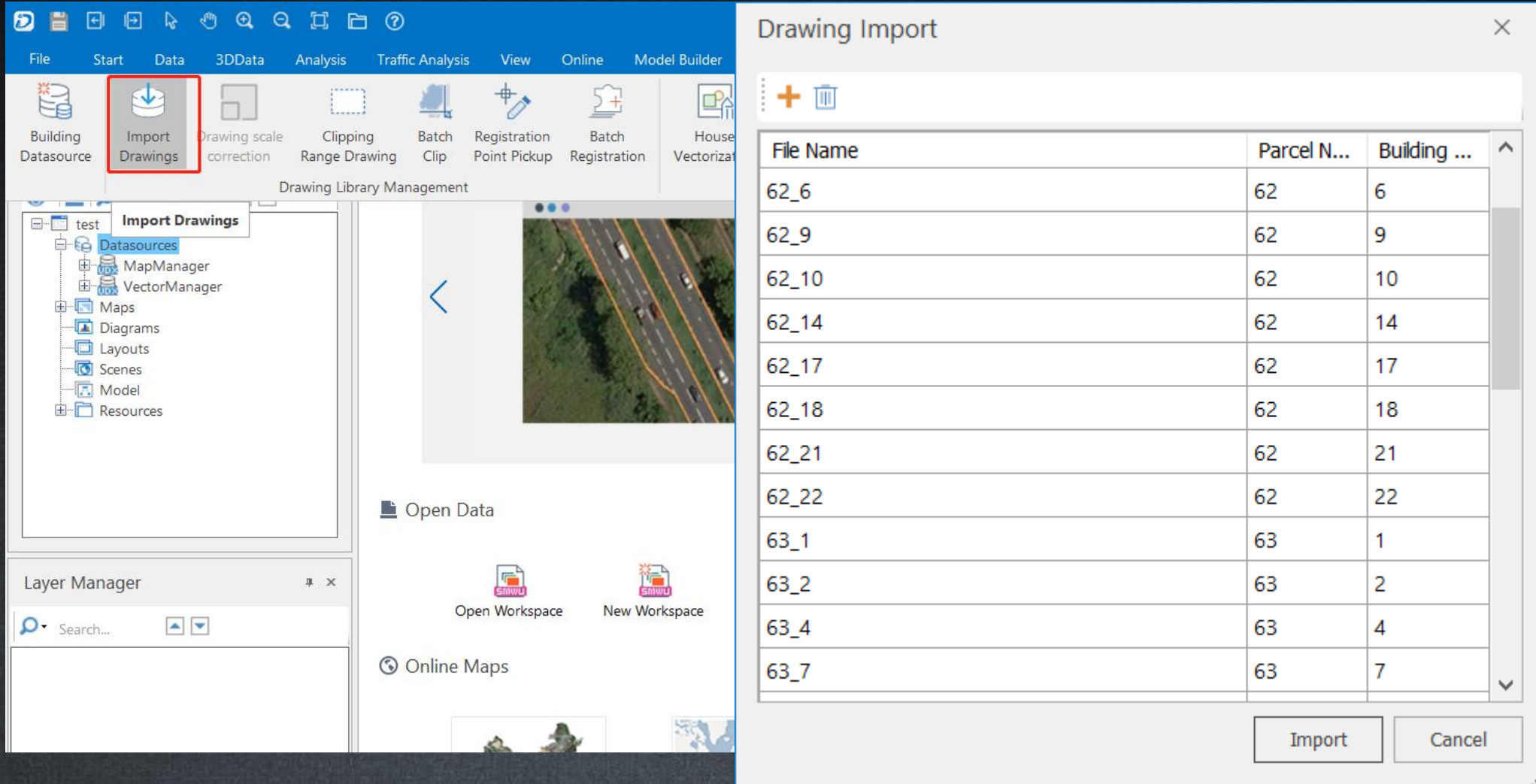
3D Modeling

Architecture modeling  
Integration of models

Visualization

Publish Service  
Display & Query

Analysis  
Legality



The screenshot displays the software's main interface and a 'Drawing Import' dialog box. In the main interface, the 'Data' menu is open, and the 'Import Drawings' option is highlighted with a red box. The 'Drawing Library Management' panel shows a tree view with 'Import Drawings' selected. The 'Open Data' section shows 'Open Workspace' and 'New Workspace' buttons. The 'Online Maps' section shows a map preview. The 'Drawing Import' dialog box is open, showing a table with the following data:

File Name	Parcel N...	Building ...
62_6	62	6
62_9	62	9
62_10	62	10
62_14	62	14
62_17	62	17
62_18	62	18
62_21	62	21
62_22	62	22
63_1	63	1
63_2	63	2
63_4	63	4
63_7	63	7

The dialog box also features an 'Import' button and a 'Cancel' button at the bottom right.



# Efficient Digitizing Process

Data management

Business data  
Spatial data

Digitalization

Vectorization  
Attributes

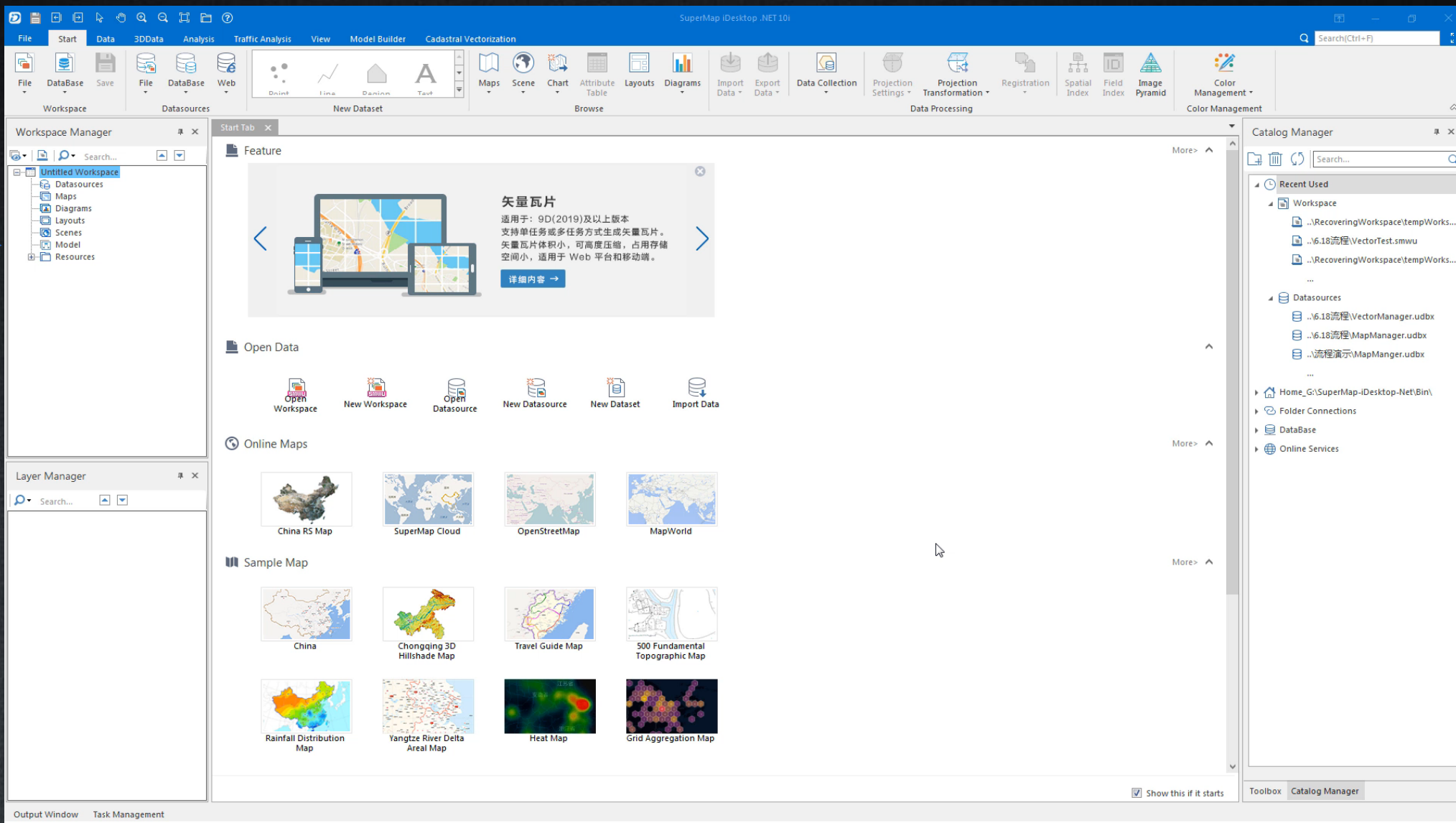
3D Modeling

Architecture modeling  
Integration of models

Visualization

Publish Service  
Display & Query

Analysis  
Legality



# Data Conversion

## Data management

Business data  
Spatial data

## Digitalization

Vectorization  
Attributes

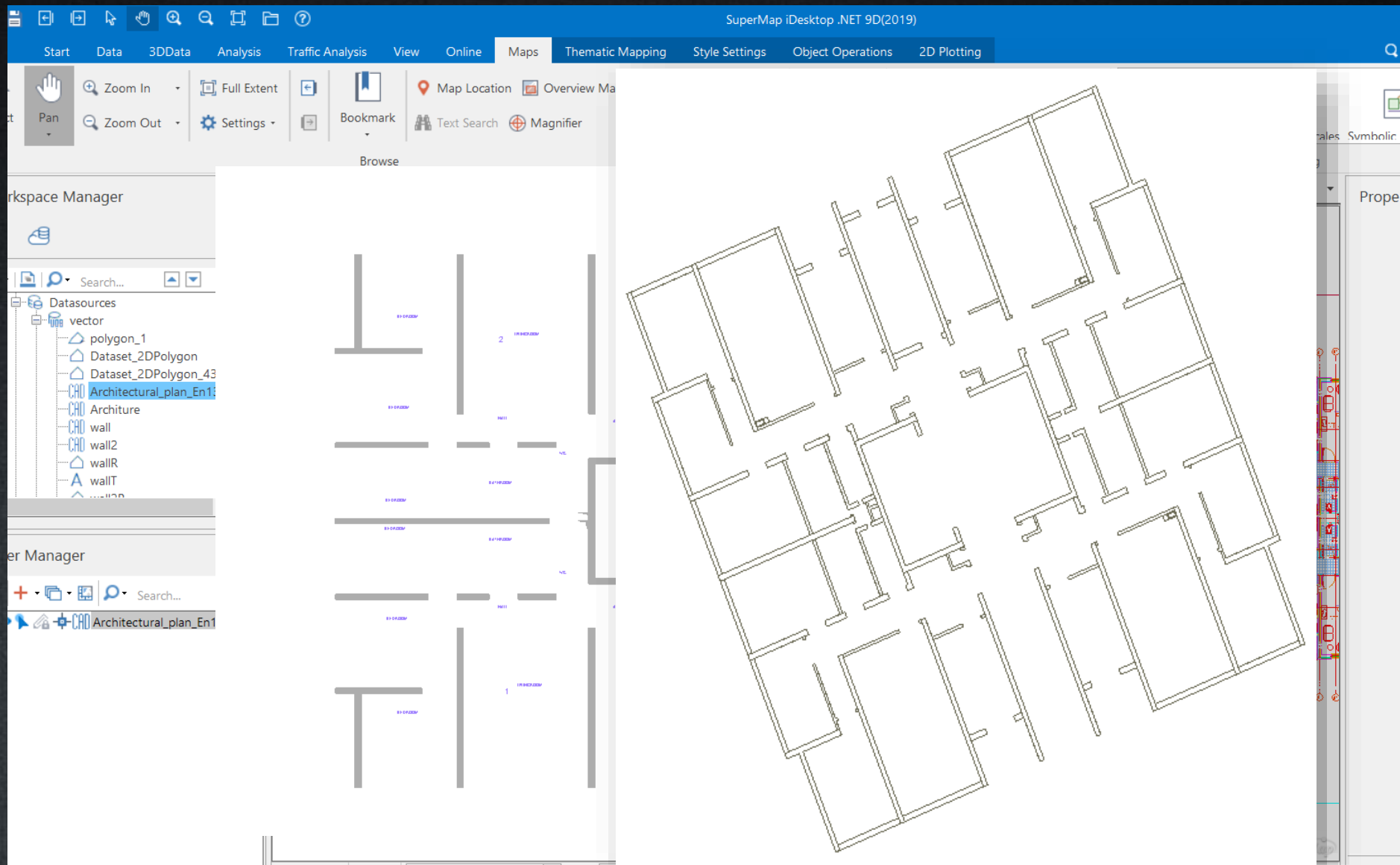
## 3D Modeling

Architecture modeling  
Integration of models

## Visualization

Publish Service  
Display & Query

Analysis  
Legality





## Data management

Business data  
Spatial data

## Digitalization

Vectorization  
Attributes

## 3D Modeling

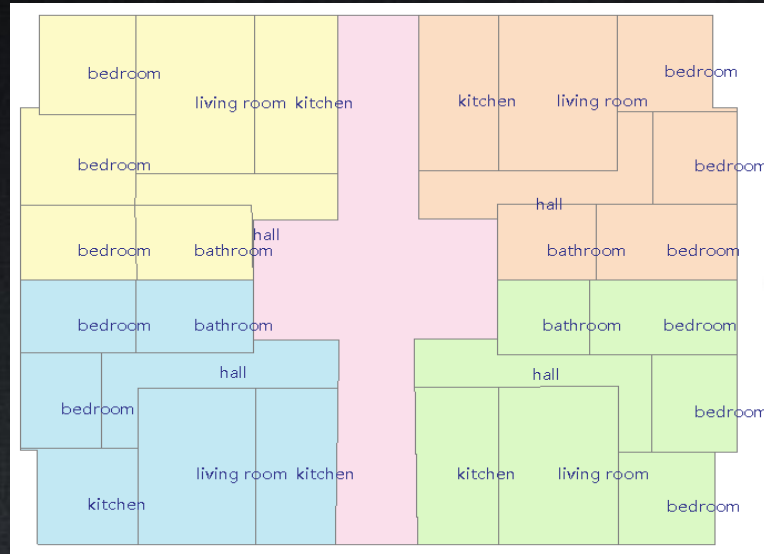
Architecture modeling  
Integration of models

## Visualization

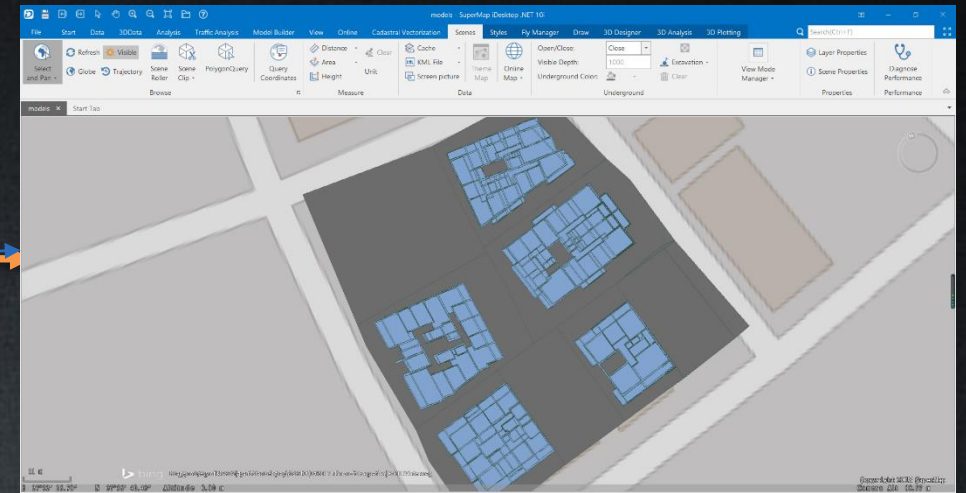
Publish Service  
Display & Query

Analysis  
Legality

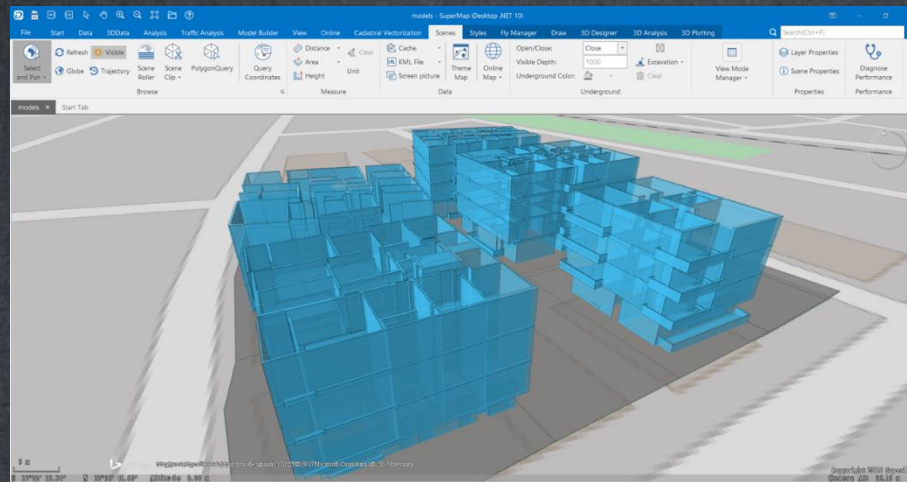
# Stretch



Floors for apartment



Overlay



Stretch

# 2D&3D Display

Data management

Business data  
Spatial data

Digitalization

Vectorization  
Attributes

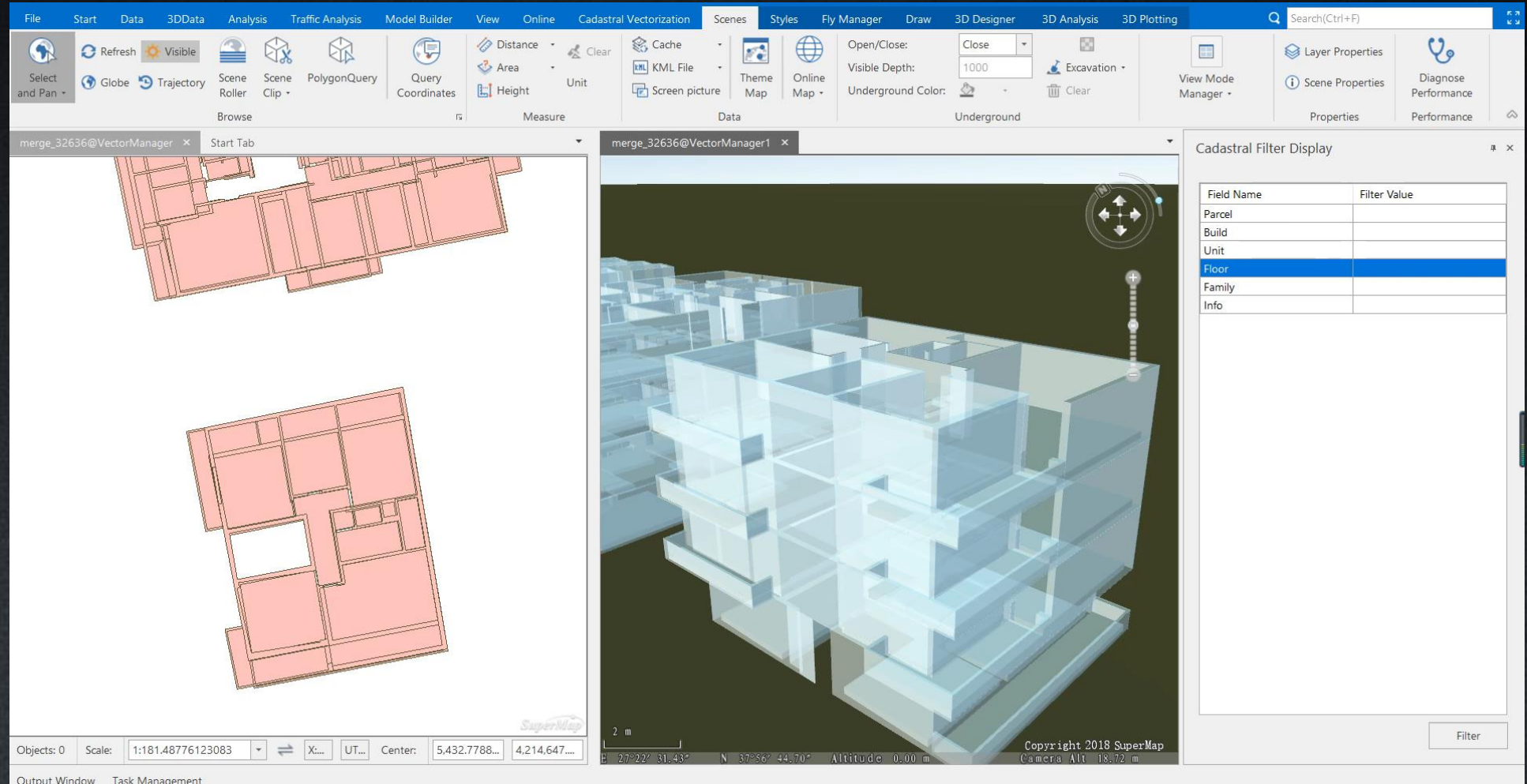
3D Modeling

Architecture modeling  
Integration of models

Visualization

Publish Service  
Display & Query

Analysis  
Legality





# Match

## Data management

Business data  
Spatial data

## Digitalization

Vectorization  
Attributes

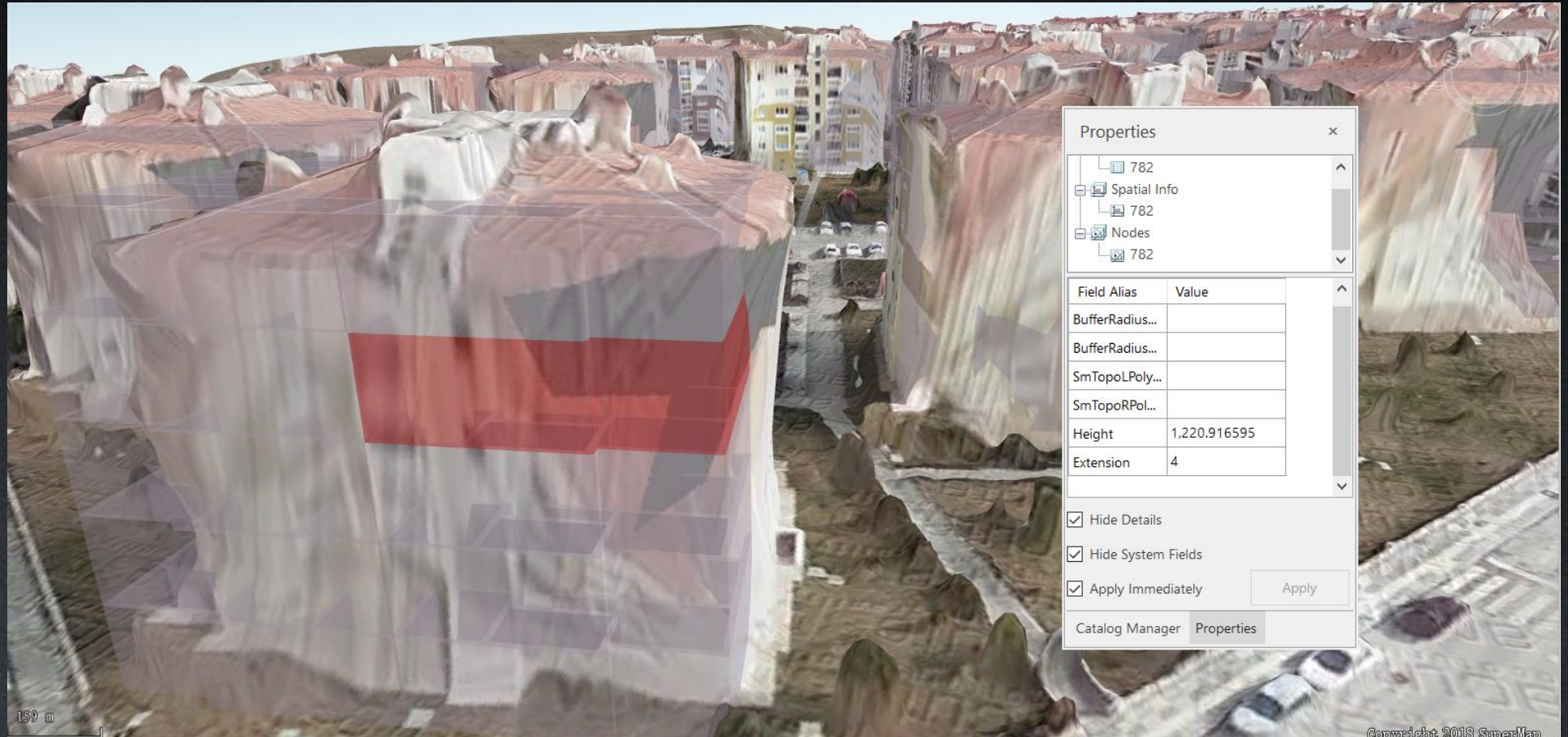
## 3D Modeling

Architecture modeling  
Integration of models

## Visualization

Publish Service  
Display & Query

Analysis  
Legality

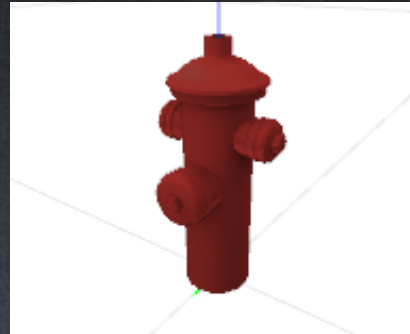


# 3D symbols

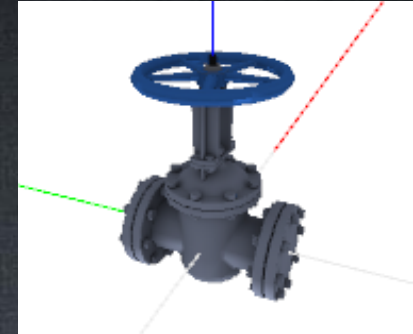
SuperMap iDesktop provides rich and realistic 3D symbols such as trees, street lights, cars, airplanes, pipe points, roads, pipelines, line tracking symbols, dynamic water surfaces, and more



Tree



Fire hydrant



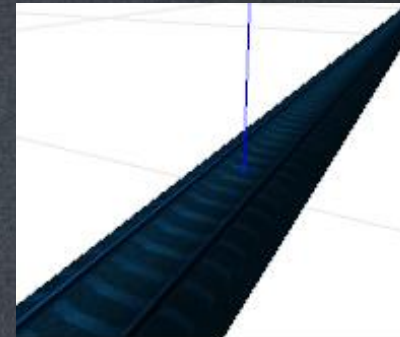
Valve



Car



Bus station



Railway



# 3D symbols

01  
Street light

02  
Road

03  
Water  
surface

04  
Trees



# Service Publish

## Data management

Business data  
Spatial data

## Digitalization

Vectorization  
Attributes

## 3D Modeling

Architecture modeling  
Integration of models

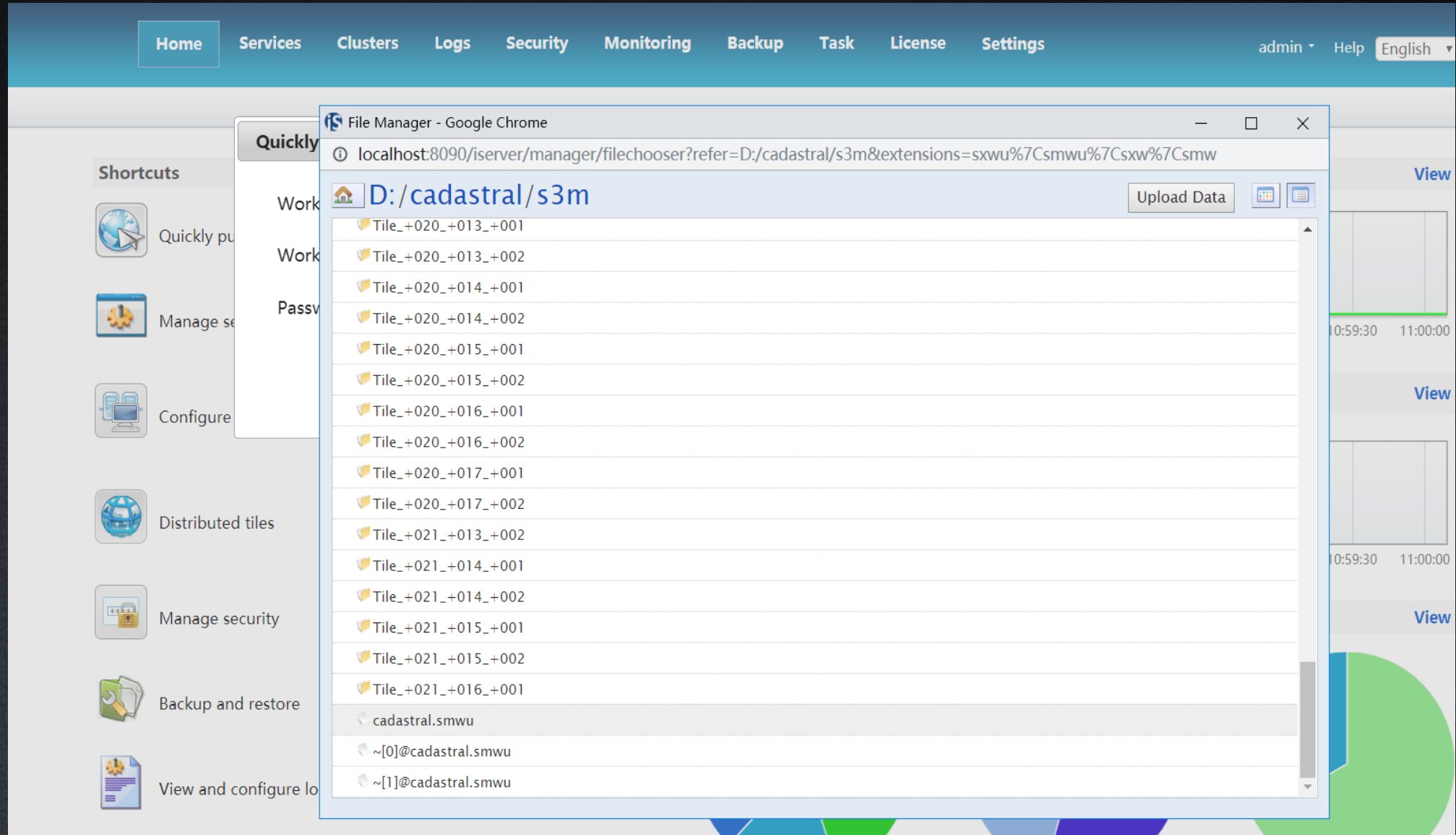
## Visualization

Publish Service

Display & Query

## Analysis

Legality





# WebGL3D

## Data management

Business data  
Spatial data

## Digitalization

Vectorization  
Attributes

## 3D Modeling

Architecture modeling  
Integration of models

## Visualization

Publish Service  
Display & Query

Analysis  
Legality



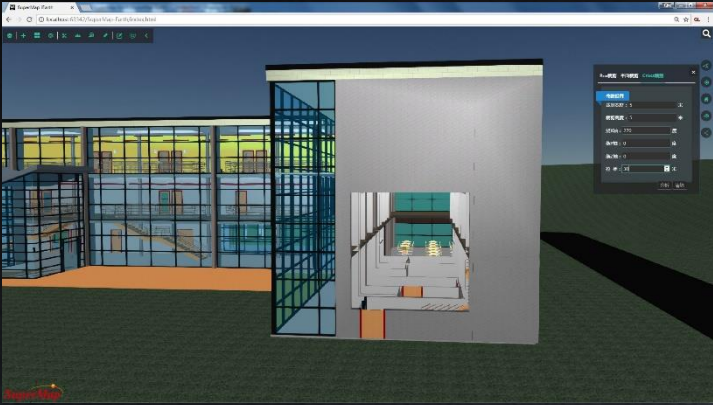


# Full-Featured 3D WebGL Client





# 3D WebGL Support Multi-Function



Sectioning



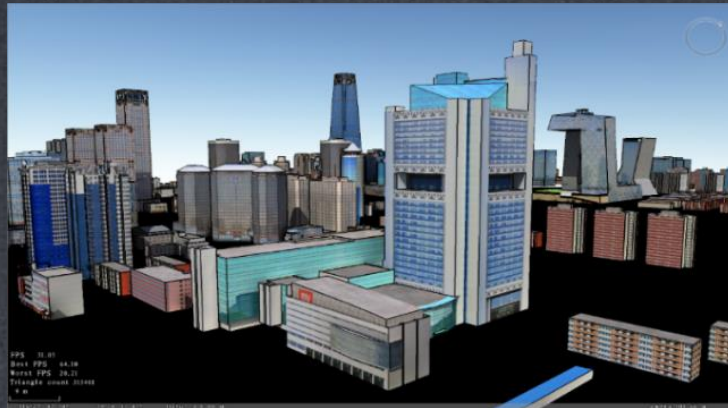
Measure



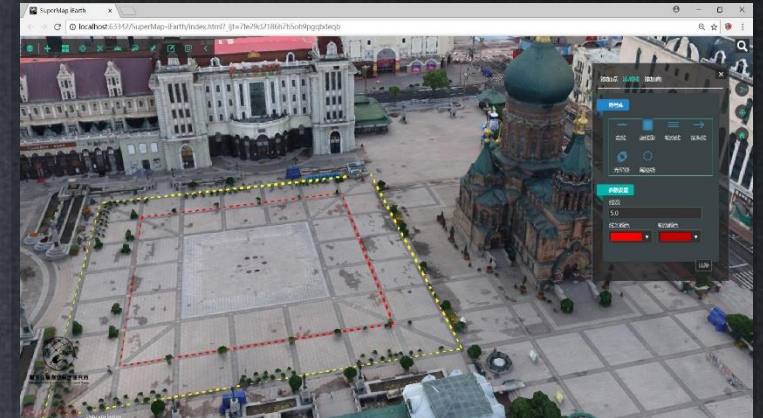
3D Analysis



Scene Configuration



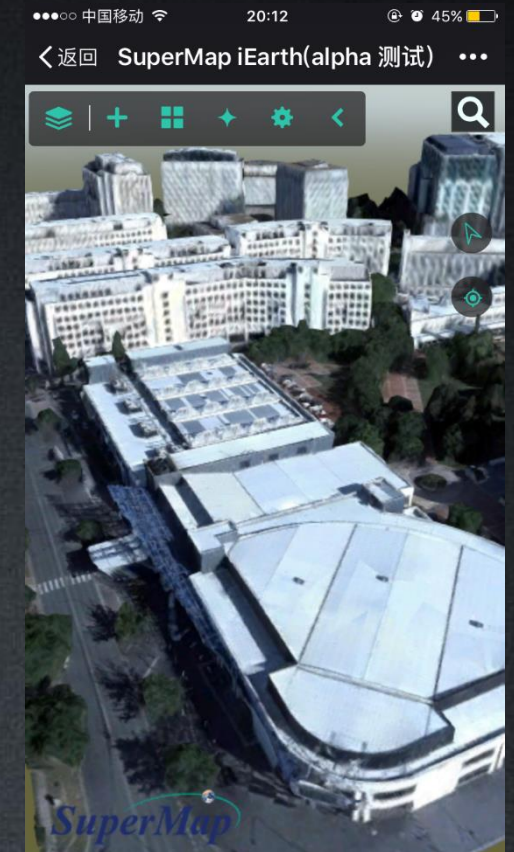
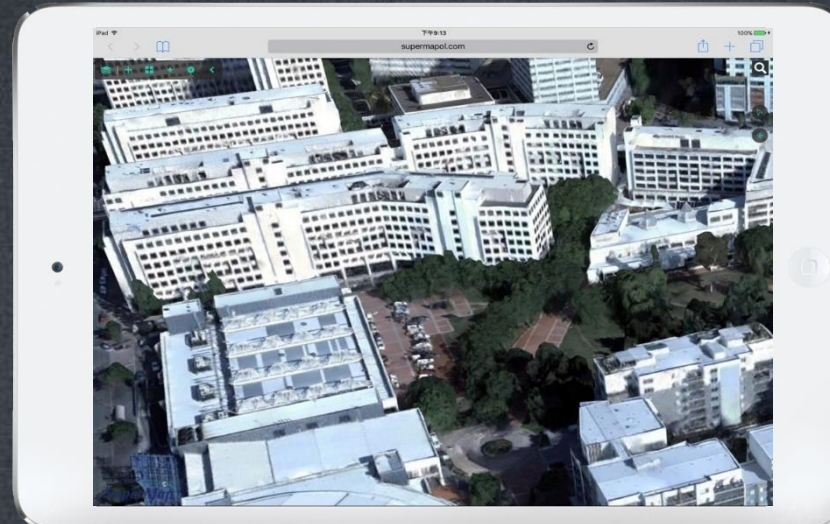
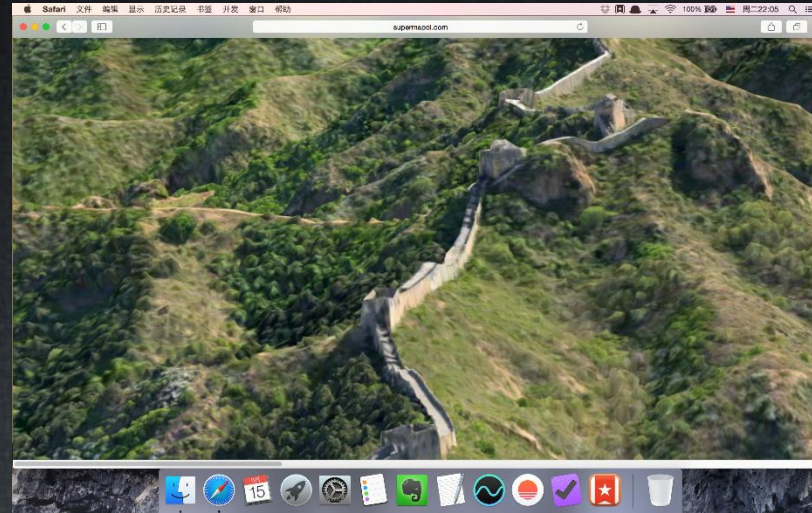
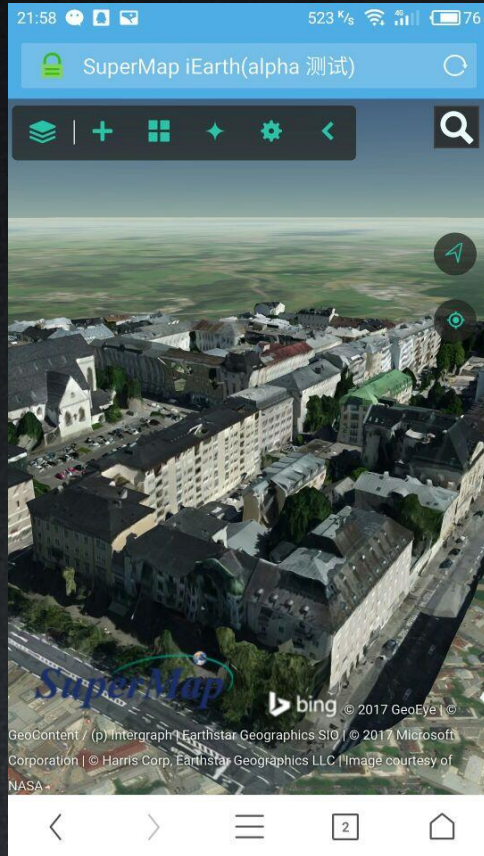
Visualization



3D Editing



# 3D Display(Multi-type Mobile Terminal )





# Information Query

## Data management

Business data  
Spatial data

## Digitalization

Vectorization  
Attributes

## 3D Modeling

Architecture modeling  
Integration of models

## Visualization

Publish Service  
Display & Query

Analysis  
Legality



# 3D Legality

## Data management

Business data  
Spatial data

## Digitalization

Vectorization  
Attributes

## 3D Modeling

Oblique photogrammetry  
Performance & Monomer

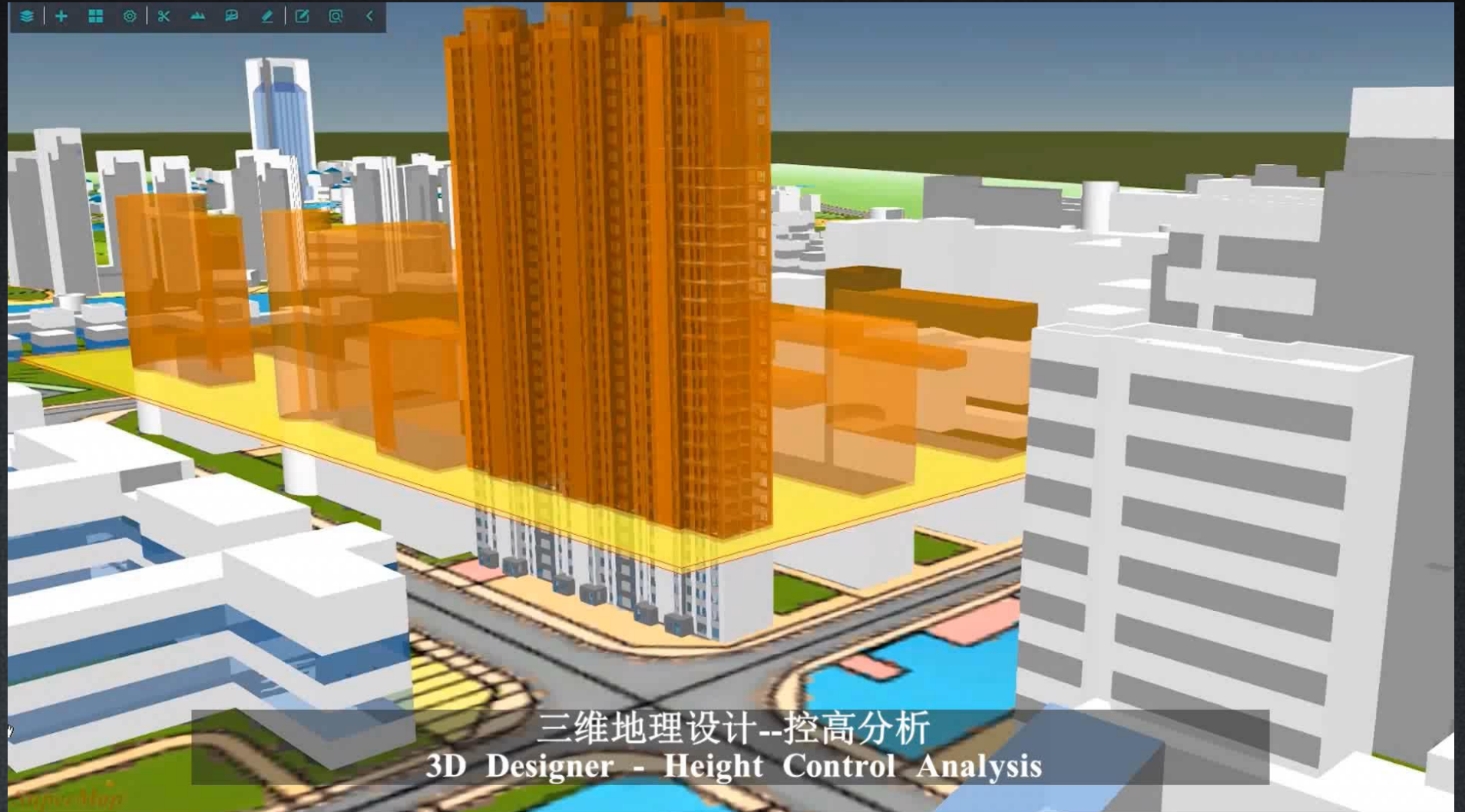
Architecture modeling  
Integration of models

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Legality





# 3D Legality

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Business data  
Spatial data

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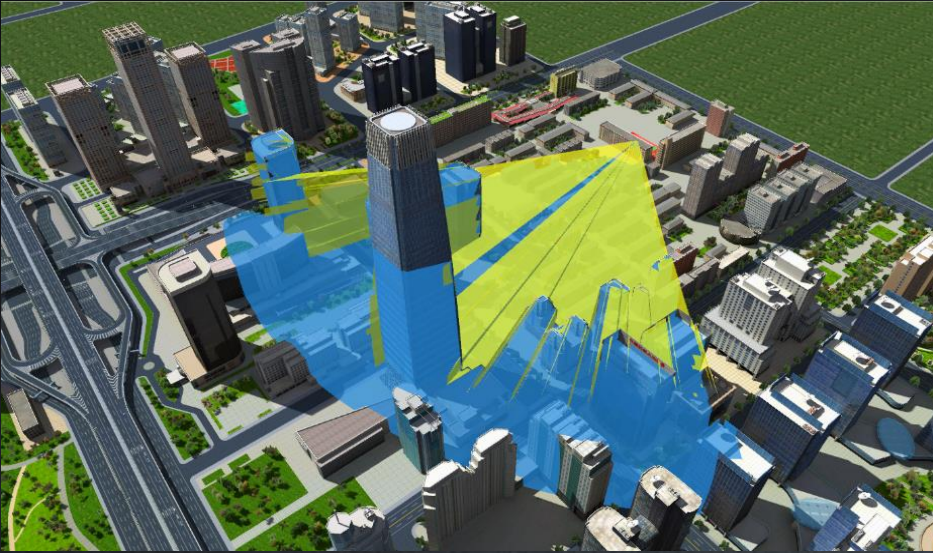
## Analysis

Legality

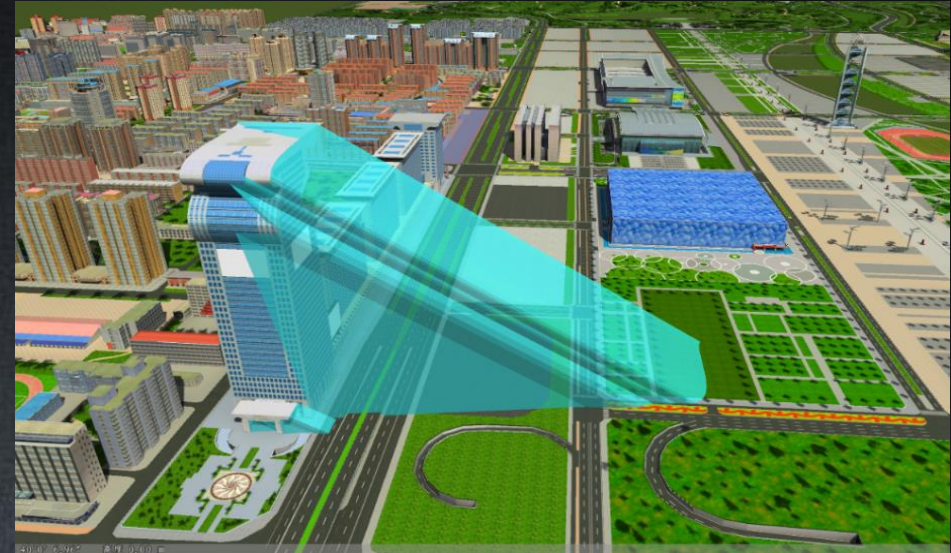




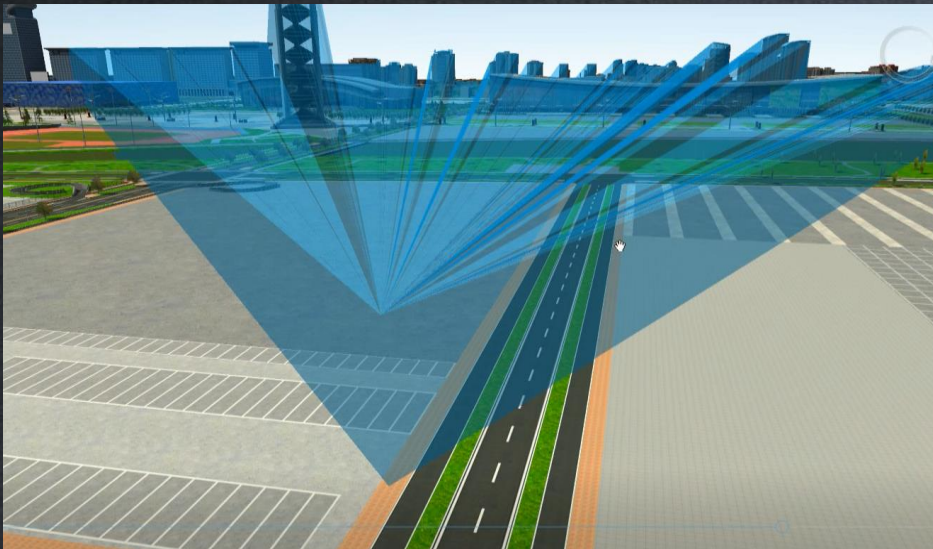
# 3D Spatial Analysis



Visible Analysis  
Skyline Analysis



Shadow Analysis  
Openness Analysis

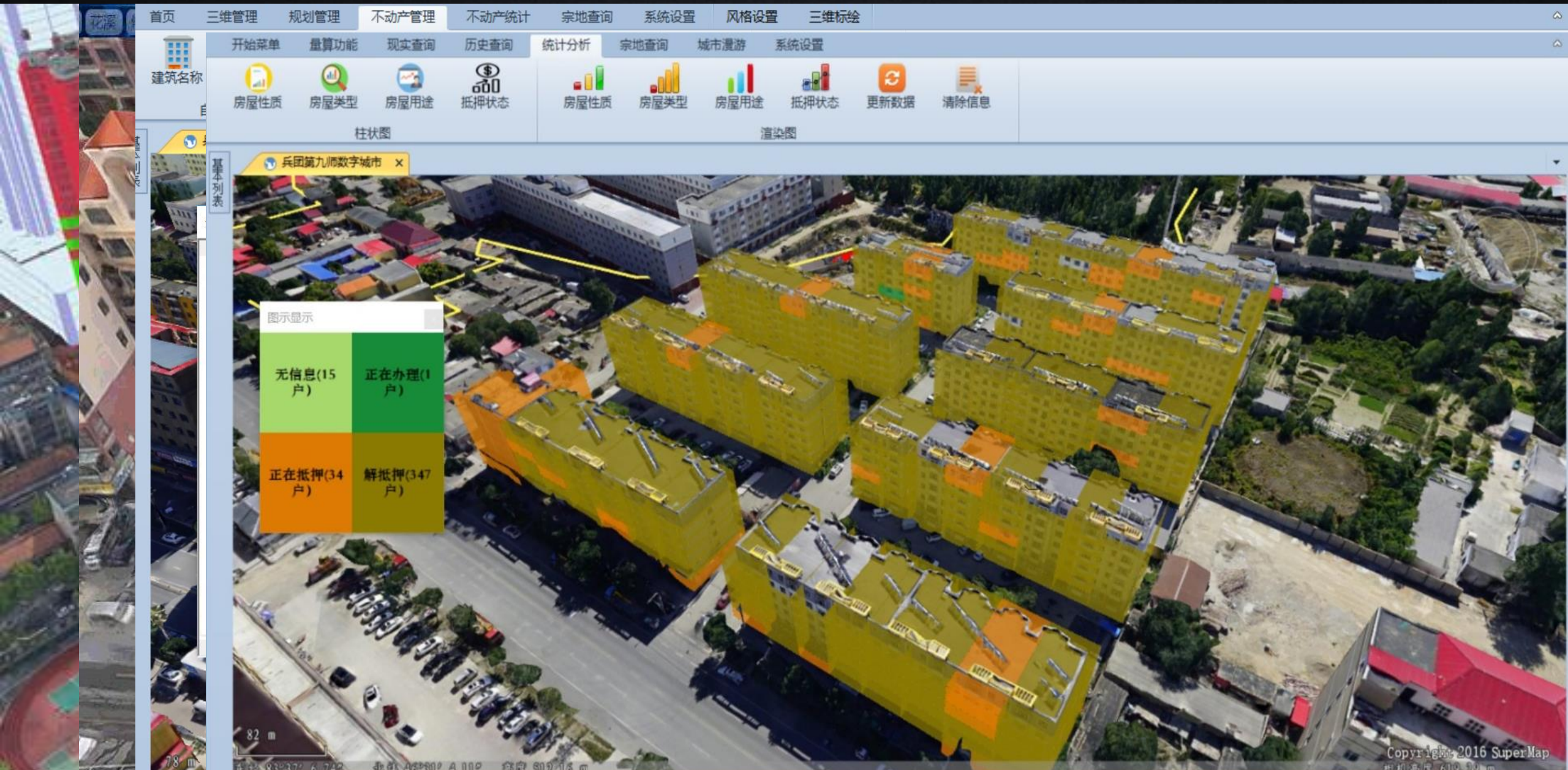




# Case



# 3D Cadastre in China





案卷统计

16927  
案卷总数

517  
正在办理

16330  
结案数

217  
今日结案

5  
会商总数

218  
今日上报

视频AI预警



舆情预警



二维 三维

车辆预警



今日围栏预警 0 (辆)

今日未登记预警 13 (辆)

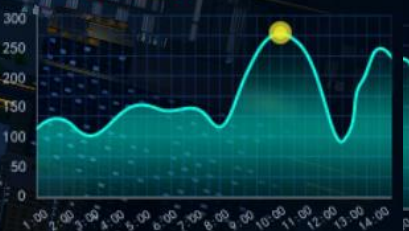
未获取GPS车辆 41 (辆)



空气预警



人员在线监测



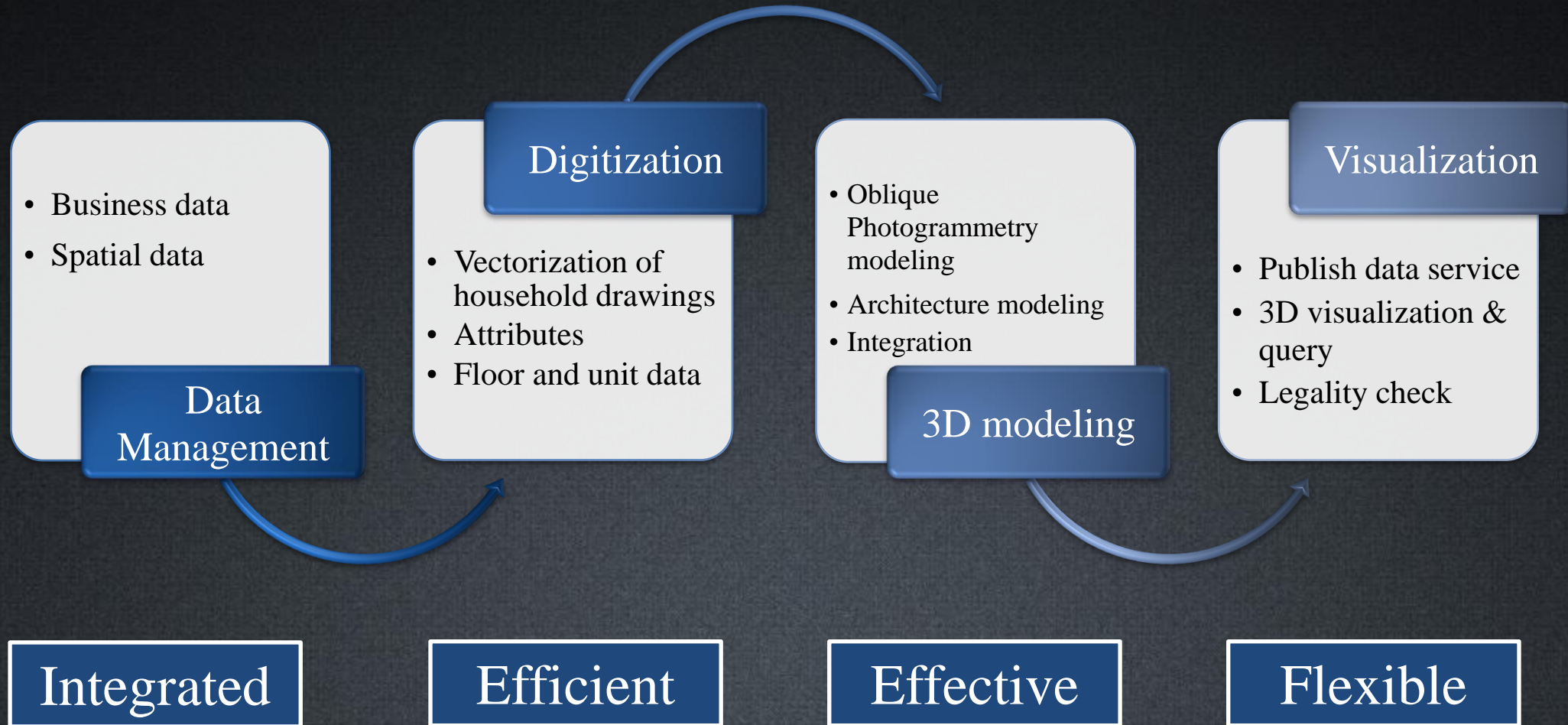
SuperMap



# Summary



# Review



# Thank You!

Email: [vella@supermap.com](mailto:vella@supermap.com)