

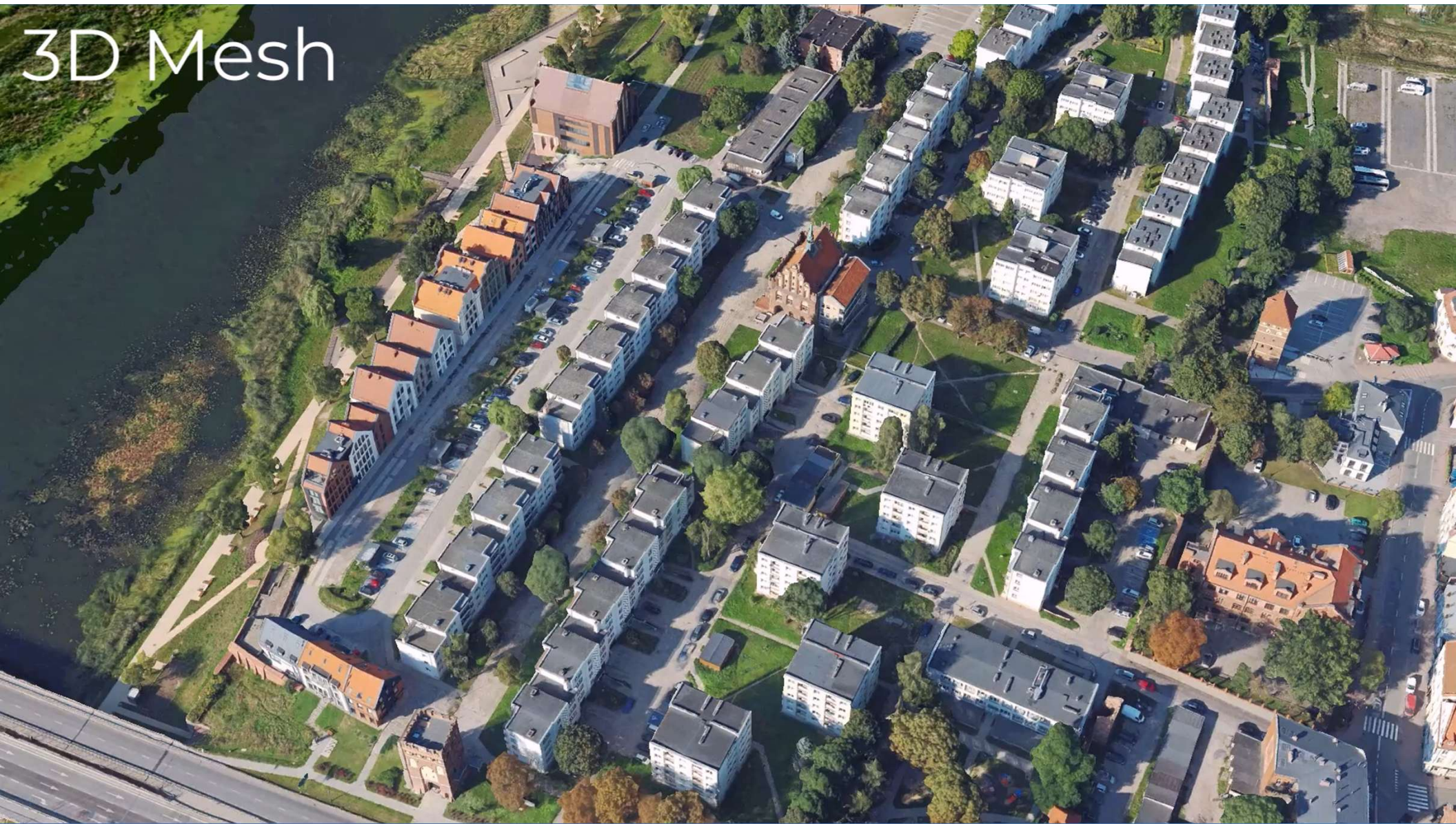
MESHES AND OBJECT DATA IN 3D

*Ashleigh Sier - Business Development Manager for
Imagery & Reality Mapping Team - Esri Inc*

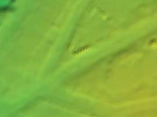
WHERE WE ARE
TODAY

THE OPPORTUNITY

3D Mesh



ONE CAPTURE, MANY
OUTCOMES



This micrograph shows a polymer matrix with a central white region, likely a void or a different phase, surrounded by a green/yellow area. The matrix has a textured, fibrous appearance.

An aerial photograph showing a railway track with multiple parallel tracks. Overhead power lines are visible, supported by white poles. The tracks are surrounded by green grass and some trees on the left. On the right, there are some industrial or construction structures.

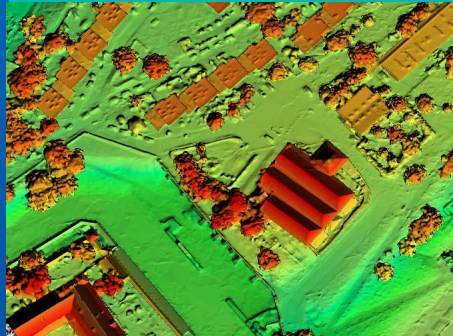
One nadir capture. Six products.

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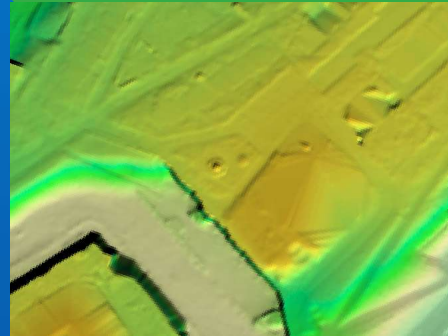
True Ortho



DSM



DTM



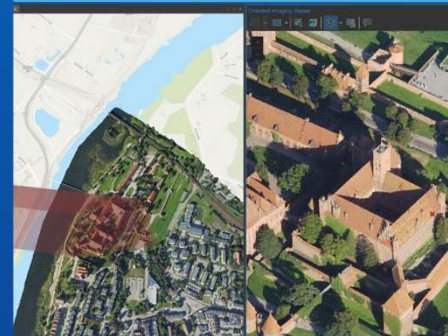
DSM Mesh



LOD2 Buildings



Oriented Imagery



みなとみらい デジタルツイン

3D

2D



GSi, Esri, TomTom, Garmin, GeoTechnologies, Inc, METI/NASA, USGS | 国土交通省都市局都市政策課, ESRIジャパン株式会社 | Kokusai Kogyo Ltd.

Powered by Esri



ガウシアン スラット



GS - ランドマークタワー



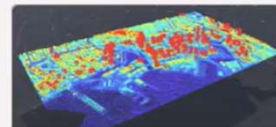
GS - パシフィコ横浜



GS - 横浜スタジアム



GS - 横浜駅



点群



3D メッシュ

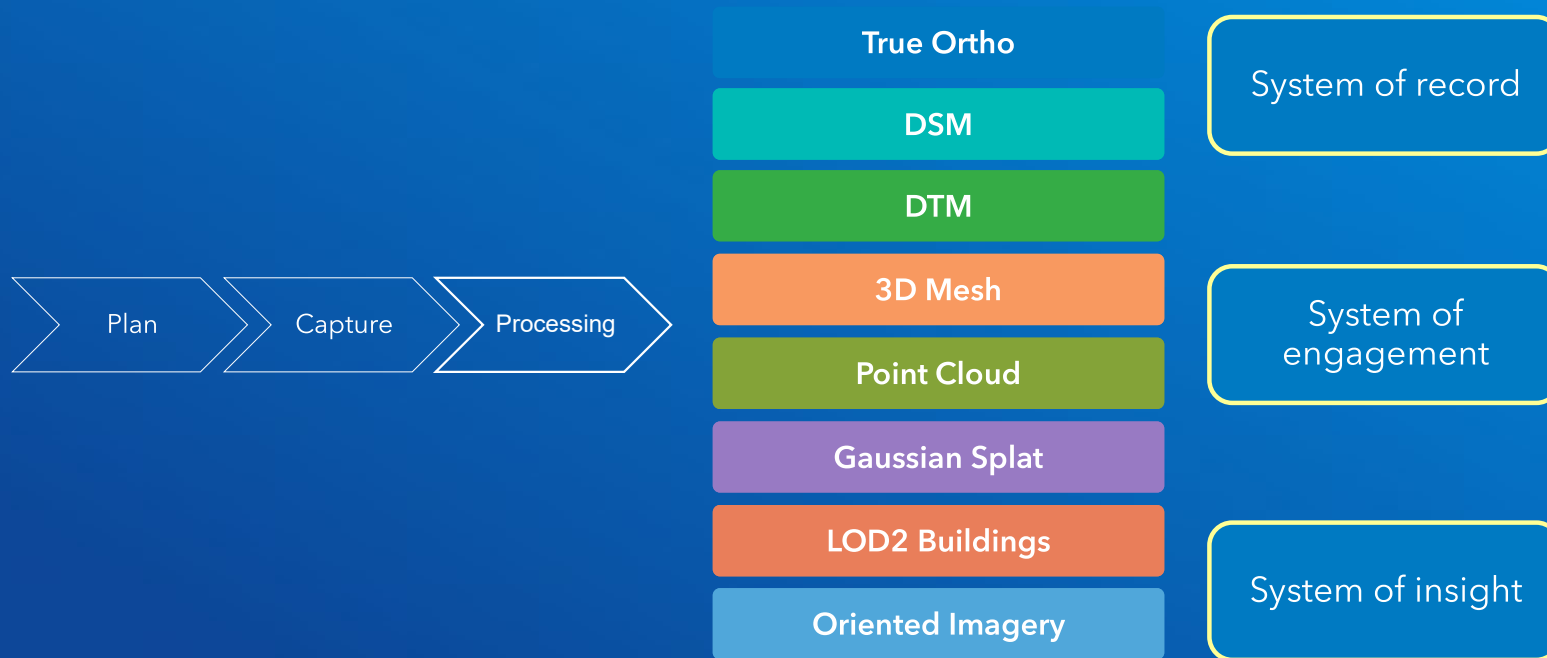
STANDARDS AND INTEROPERABILITY



OPERATIONS Twin
Data courtesy of: KAVEL 10 & Esri NL



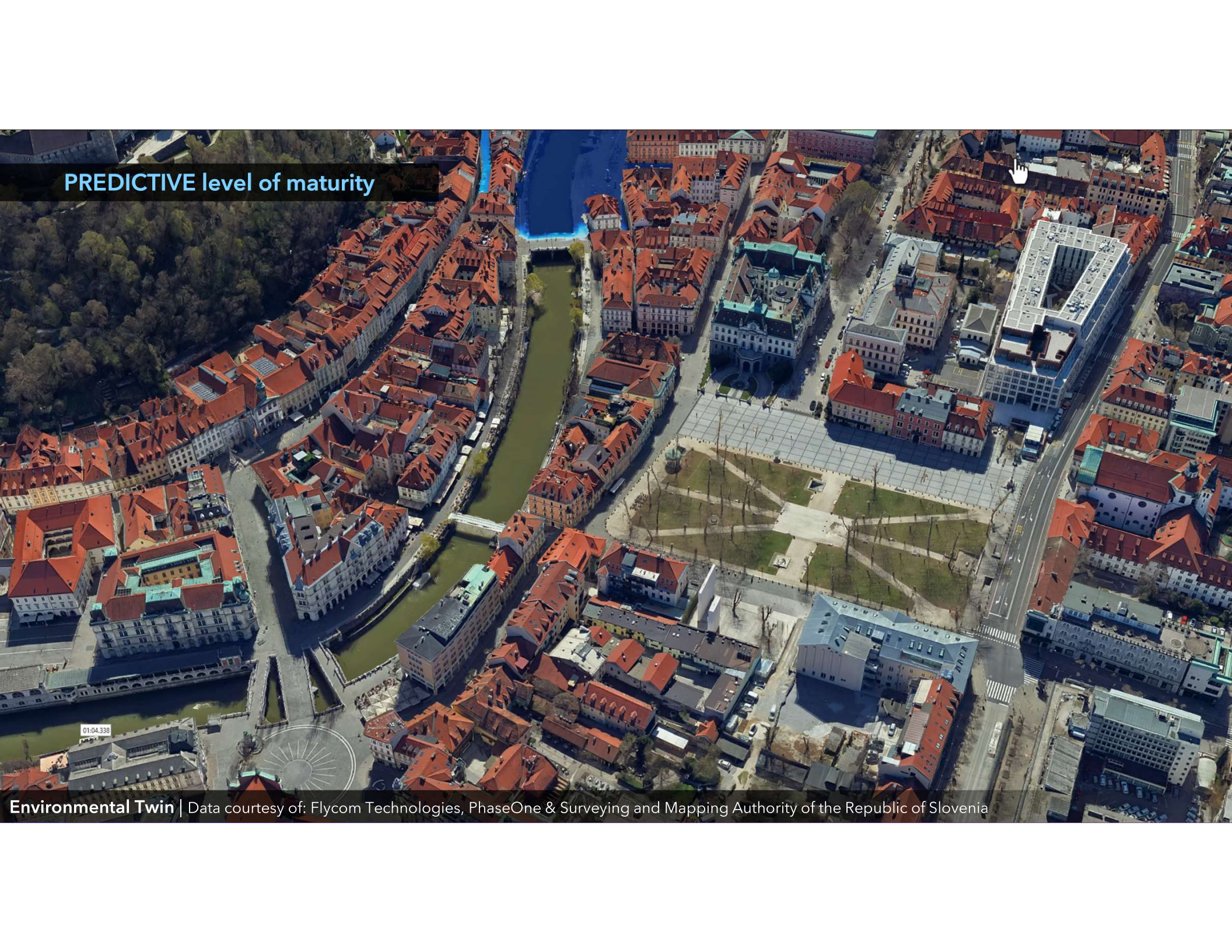
More squeeze from what you already have



Own the foundation

Layer, don't replace

Define the standard

An aerial photograph of a city, likely Ljubljana, Slovenia, showing a river (Ljubljanica) flowing through the center. The city is characterized by dense, historic buildings with red-tiled roofs. A heatmap overlay is visible, with a blue area in the upper left and a red area in the upper right, indicating different levels of maturity. A white mouse cursor is pointing at the red area. The text "PREDICTIVE level of maturity" is overlaid in the top left. A small white box with the number "01-04.338" is located in the bottom left corner of the image.

PREDICTIVE level of maturity

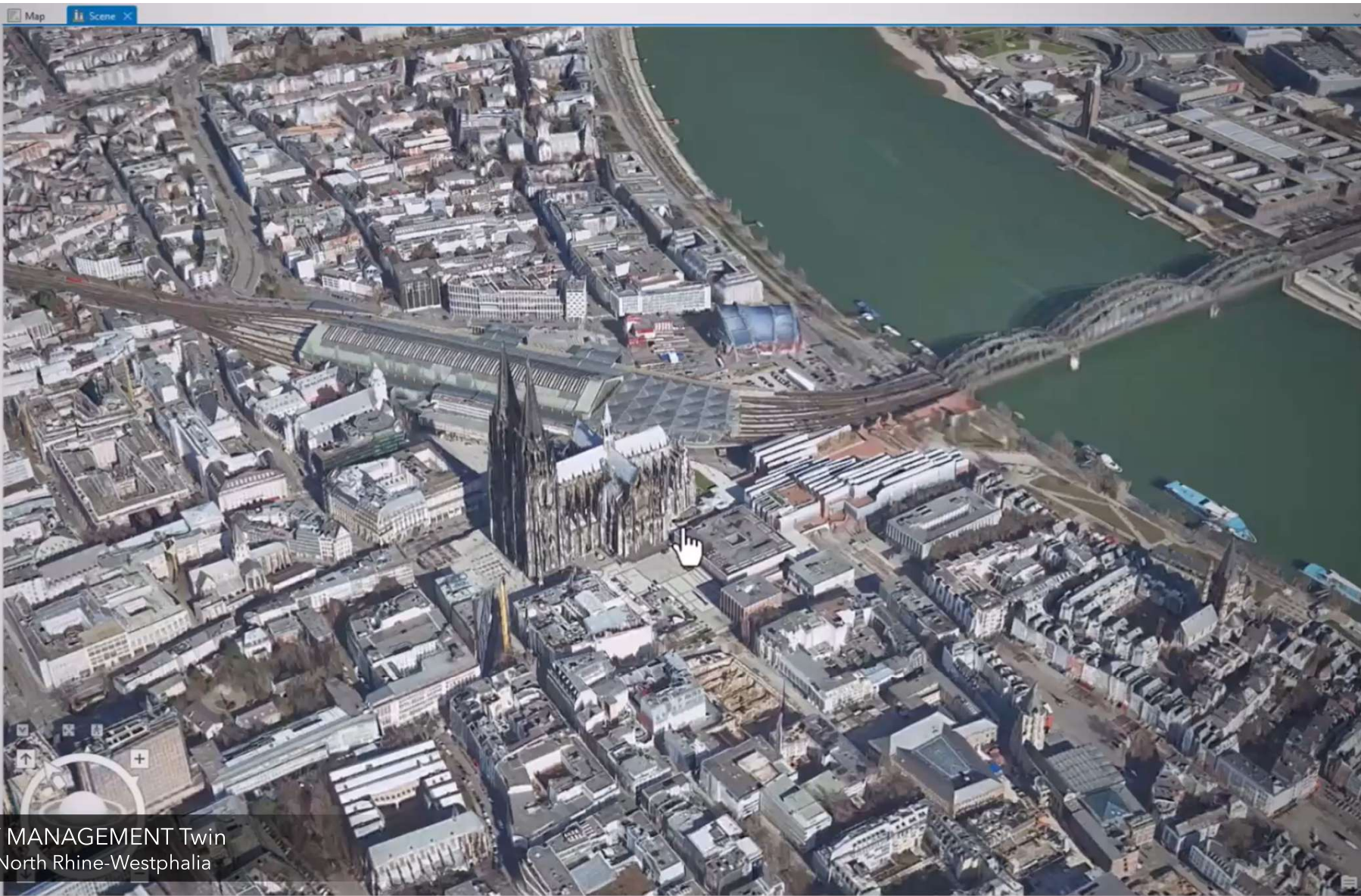
01-04.338

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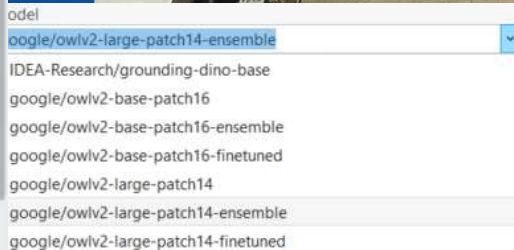
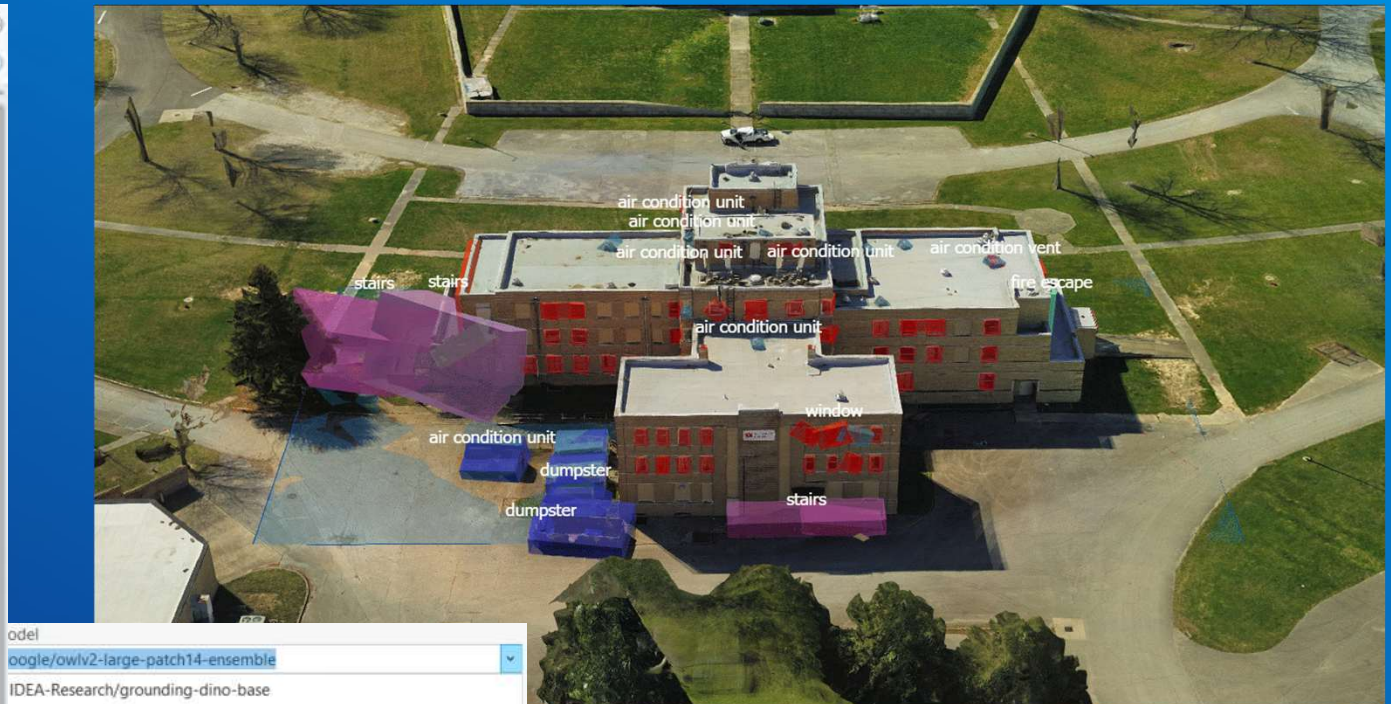
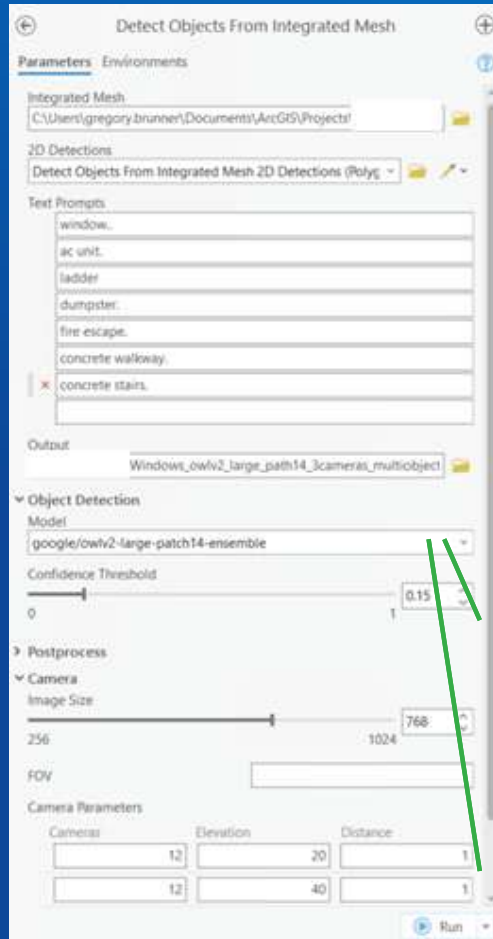
Drawing Order

- Scene
- 3D Layers
 - Mesh
- 2D Layers
 - Light Gray Reference
 - Light Gray Base
- Elevation Surfaces
- Ground
 - WorldElevation3D/Terrain3D



EMERGENCY MANAGEMENT Twin
Data courtesy: North Rhine-Westphalia

Object Detection from 3D Point clouds & 3D Mesh



Choose from various
object detection model

ROI of 3D

The evidence isn't missing.

It's been here all along.



Your next step doesn't have to be big. It just has to be real.

One city

One dataset

One
conversation

Regeneración Urbana

Gemelo Digital - Datos del proyecto Urban3R

Sobre el proyecto Urban 3R

Urban 3R es una herramienta enfocada a impulsar la regeneración urbana de España y ayudar a la toma de decisiones para el diseño de planes y estrategias de regeneración a escala urbana.

Inmuebles susceptibles de rehabilitación

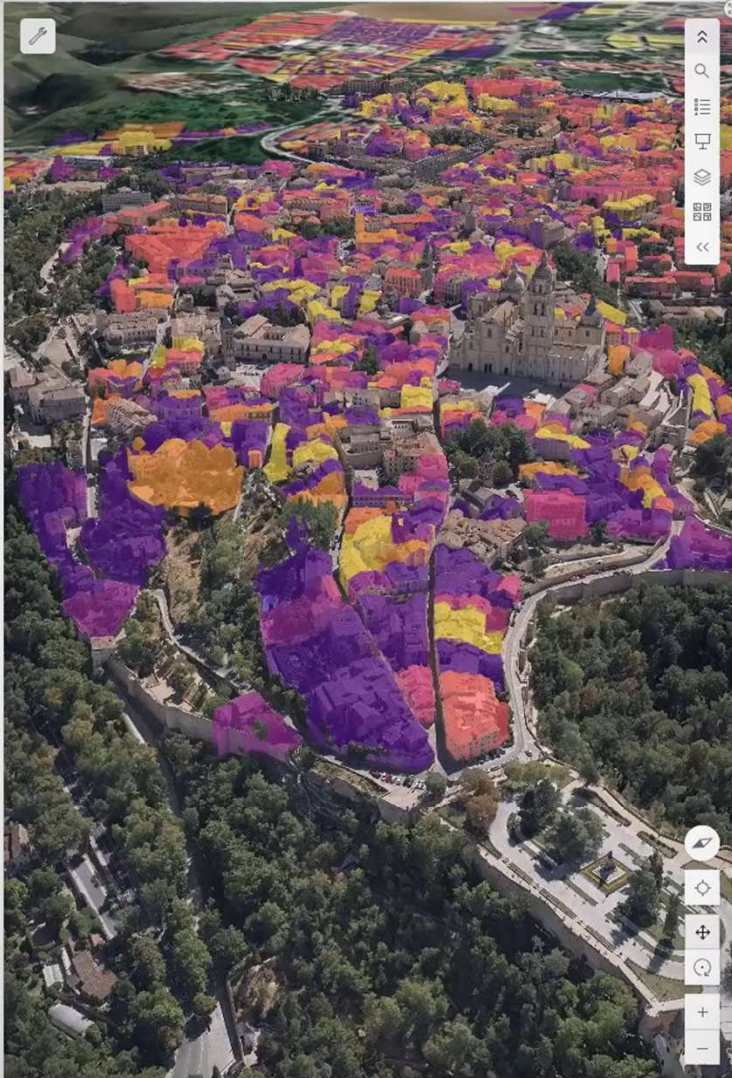
176

Datos Urban3R

41,790000
61,870000

Demanda estimada de calefacción

> 150
100
< 50



Gob. España, Madrid, Microsoft, Vantor | Sources: Maxar, Airbus DS, USGS, NGA, NASA, CGIAR, GEB... Powered by Esri

Todos Sin PEAHIS

Demanda de calefacción

Pre-intervención
26.341
kWh/m2 año

Post intervención
8.881
kWh/m2 año

Ahorro energético
estimado

-17.460
kWh/m2 año 26.341

-66 % de consumo anual

Coste estimado

114,6 €/m2

28.614 €/vivienda



State & Local Government "Urban Digital Twin"

Data courtesy of: City of Segovia, SPASA, Esri Spain

Captured with: Vexcel Osprey 4.1 | Processed with ArcGIS Reality & ArcGIS Pro



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