



G.U.I.D.E.
DIGITAL

Generative Urban Intelligence for Digital Environments

Rapid Digital Twin Prototyping

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Chief Science Officer

Who We Are & Our Digital Twin Expertise



Specialization

We specialize in the development of city-scale digital twins. Our core technology stack is based on GIS compatible with Cesium, ArcGIS and others. We use Unreal Engine 5 for real-time visualization



Projects

Our project portfolio includes multiple cities and regions worldwide, including the USA, Europe, Australia, Southeast Asia, the UAE, and Saudi Arabia



Additional

We are also actively developing GeoAI capabilities, Generative Urban Design and conducting R&D in 3D Gaussian Splatting and NVIDIA Omniverse

Challenges in City-Scale Digital Twin



High Entry Barrier

Developing city-scale digital twins remains complex, requiring integration of multiple services and advanced data visualization – both costly and resource-intensive



Fragmented Market

The ecosystem is split between geospatial data providers (imagery, photogrammetry) and platform developers, leading to inefficiencies and integration challenges



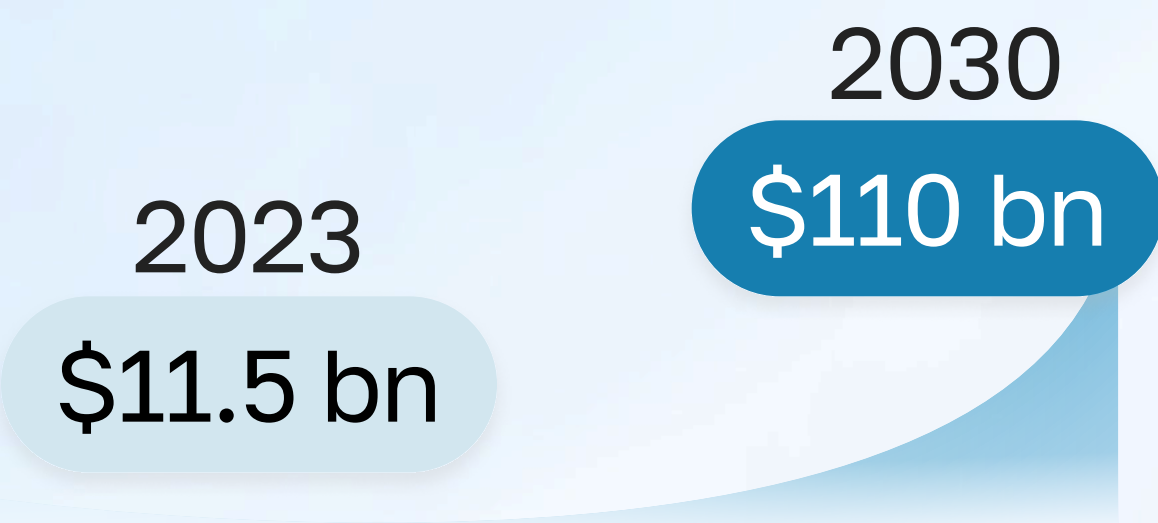
Limited Accessibility

As a result, only large metropolitan areas with significant budgets can deploy digital twins, leaving smaller cities underserved and constrained in adoption

Digital Twin Market

Source: Geospatial World Analysis

39% CAGR



Aerial Imaging Market

Source: Grand View Research

16% CAGR



Our Solution



Democratizing City Digital Twins



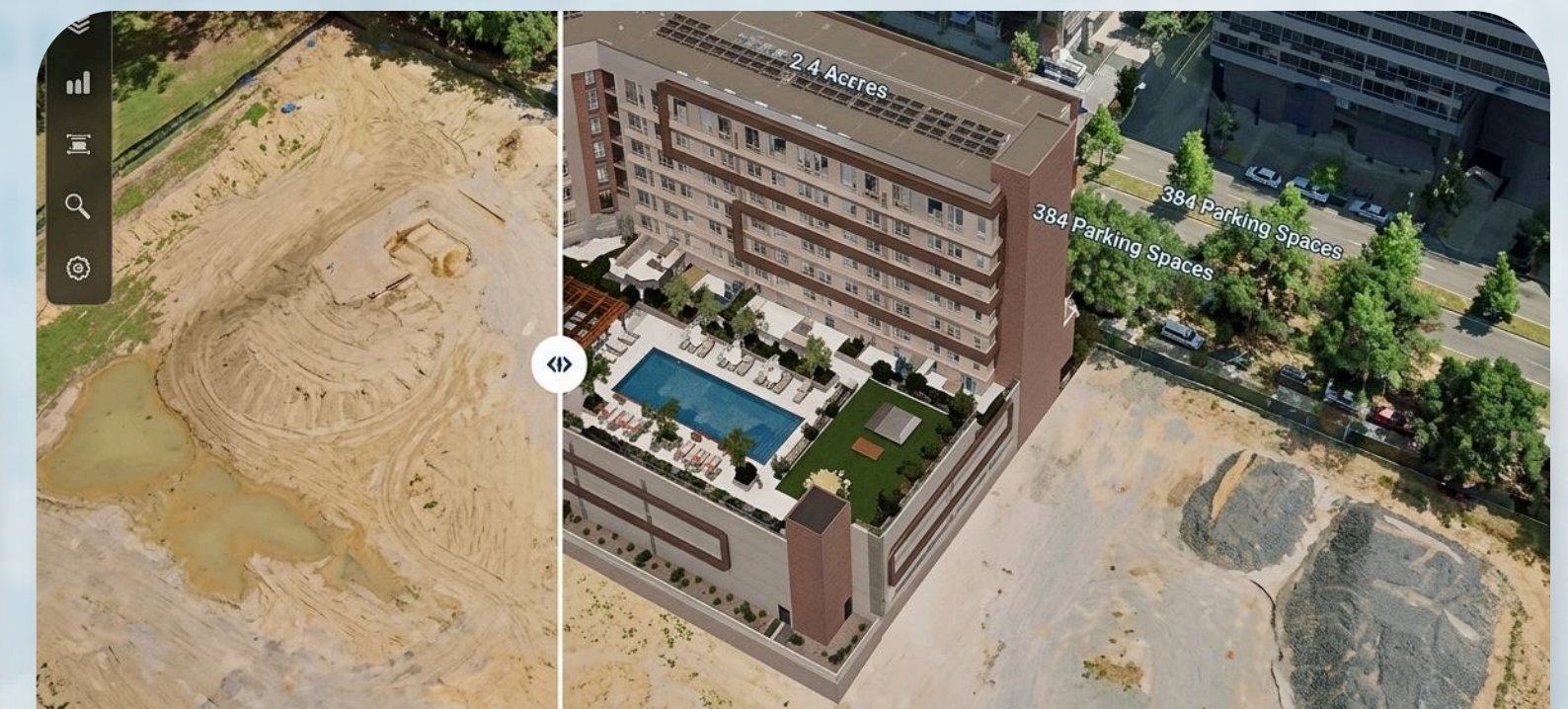
Our Approach

We are transforming the market by developing plugins, ready-made solutions, and tools, enabling rapid creation of urban digital twins.



Lowering the Barrier to Entry

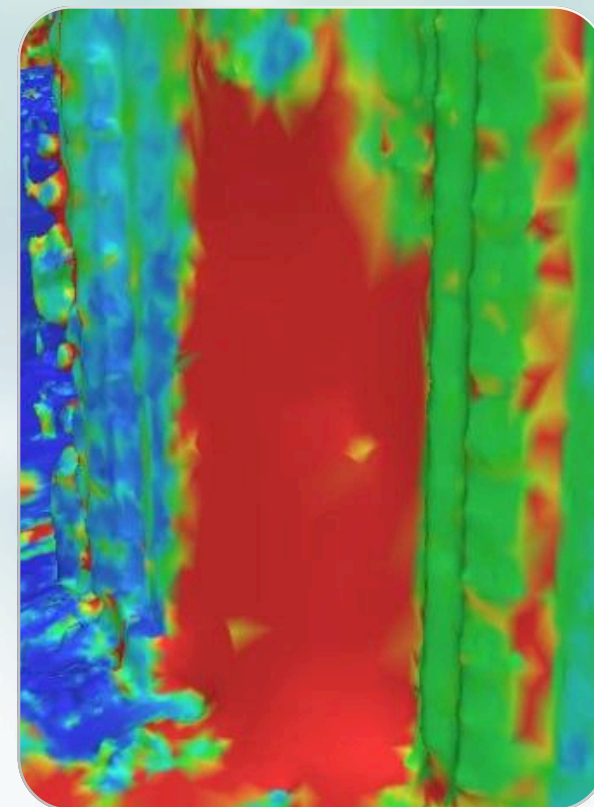
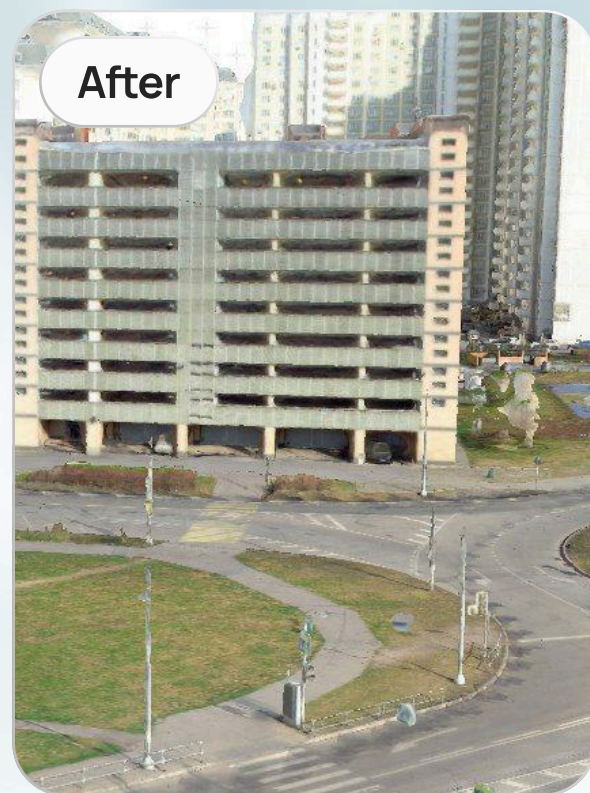
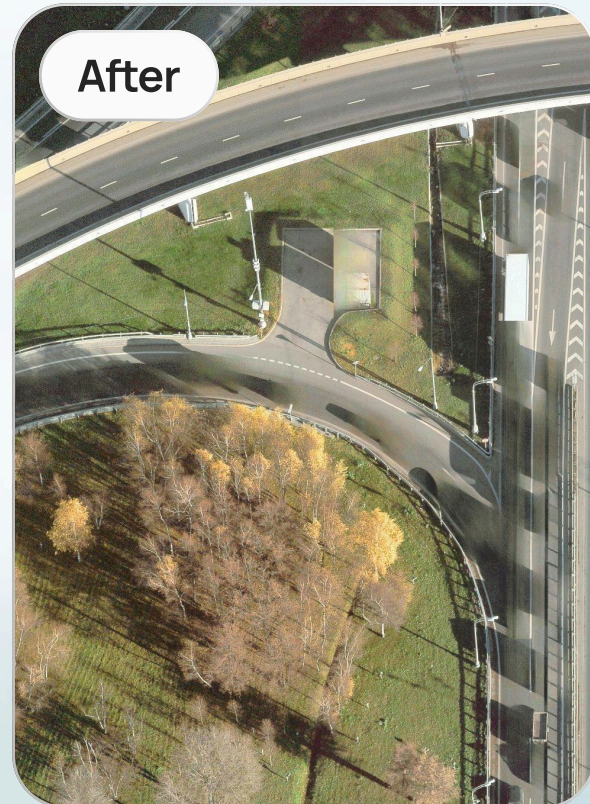
Developers and geospatial data owners can build city-scale digital twins quickly and cost-effectively, without deep expertise in GIS, AI, or software engineering in this niche area



End-to-End Pipeline

We have developed a proprietary pipeline covering the full lifecycle – from geospatial data acquisition to end-user delivery as a fully deployed digital twin

Automated Photogrammetry Pipeline



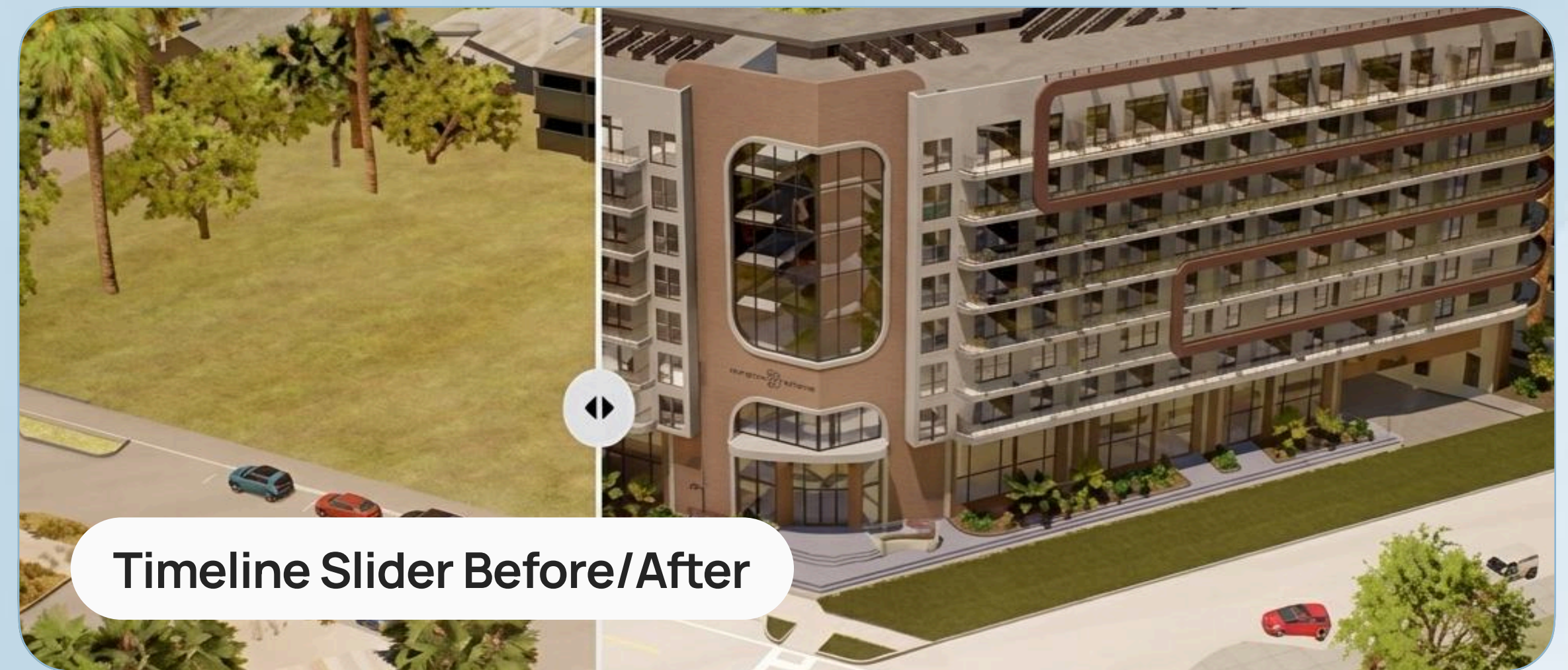
- **Tile-based AI processing** → per-tile 3D reconstruction
- **Dynamic object masking** (vehicles, water glare) → cleaned input
- **Object-based segmentation** → buildings, roads, vegetation as searchable entities
- **Incremental updates** → modify tiles, not the entire model
- **Raw data** → **production-ready twin**: hours, not weeks



Core Platform Capabilities



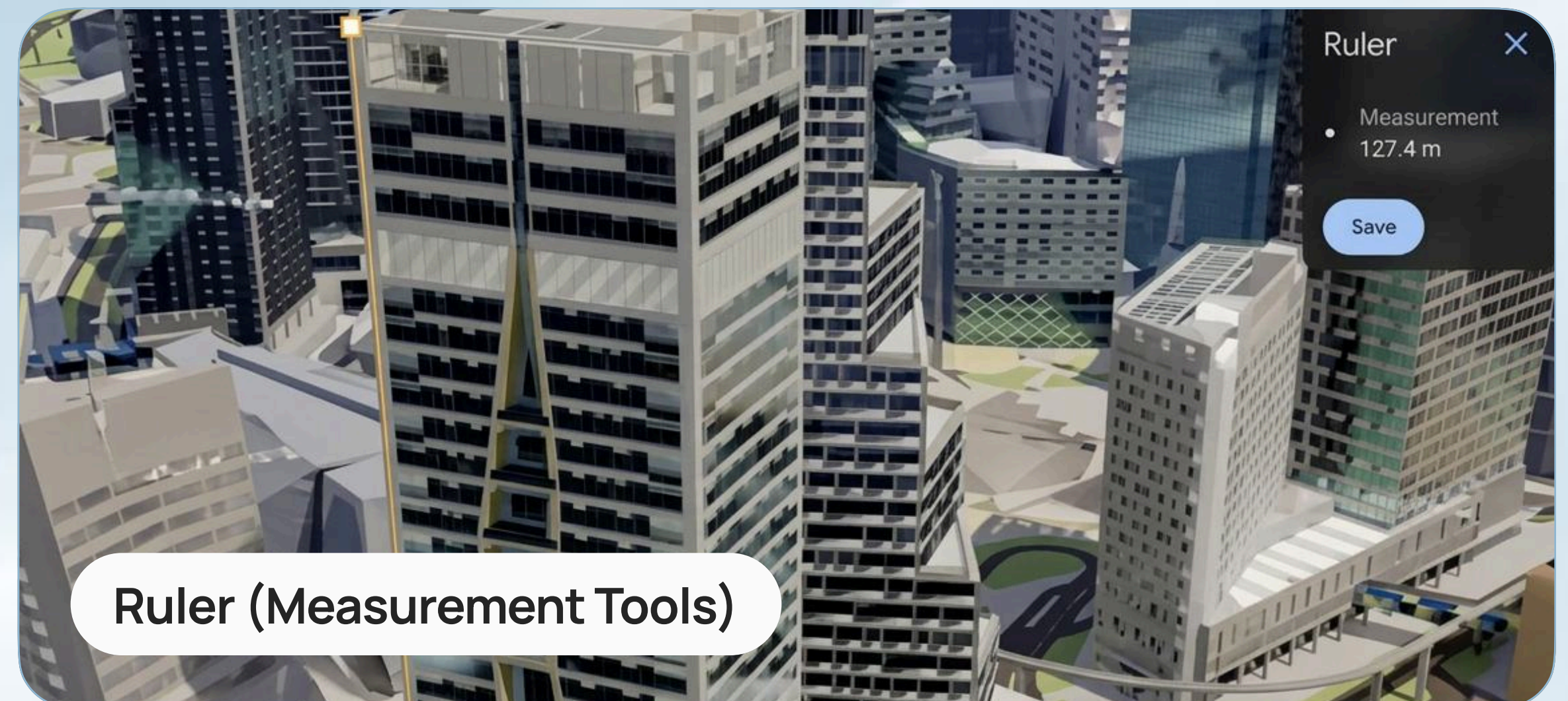
Generative Urban Planning



Timeline Slider Before/After



Interactive Dashboards powered by GeoAI Analysis



Ruler (Measurement Tools)

Core Platform Capabilities



Automated 3D Model Publishing System (LiveOps)

01

Provides real-time ingestion, updating, and publishing of 3D models within the digital twin

Vector Data Tiling Service

02

Optimizes and tiles large-scale vector datasets for efficient streaming and visualization

Pixel Streaming for Web Services

03

Streams the digital twin to web browsers, eliminating the need for local installation and run on any devices

Pod Manager

04

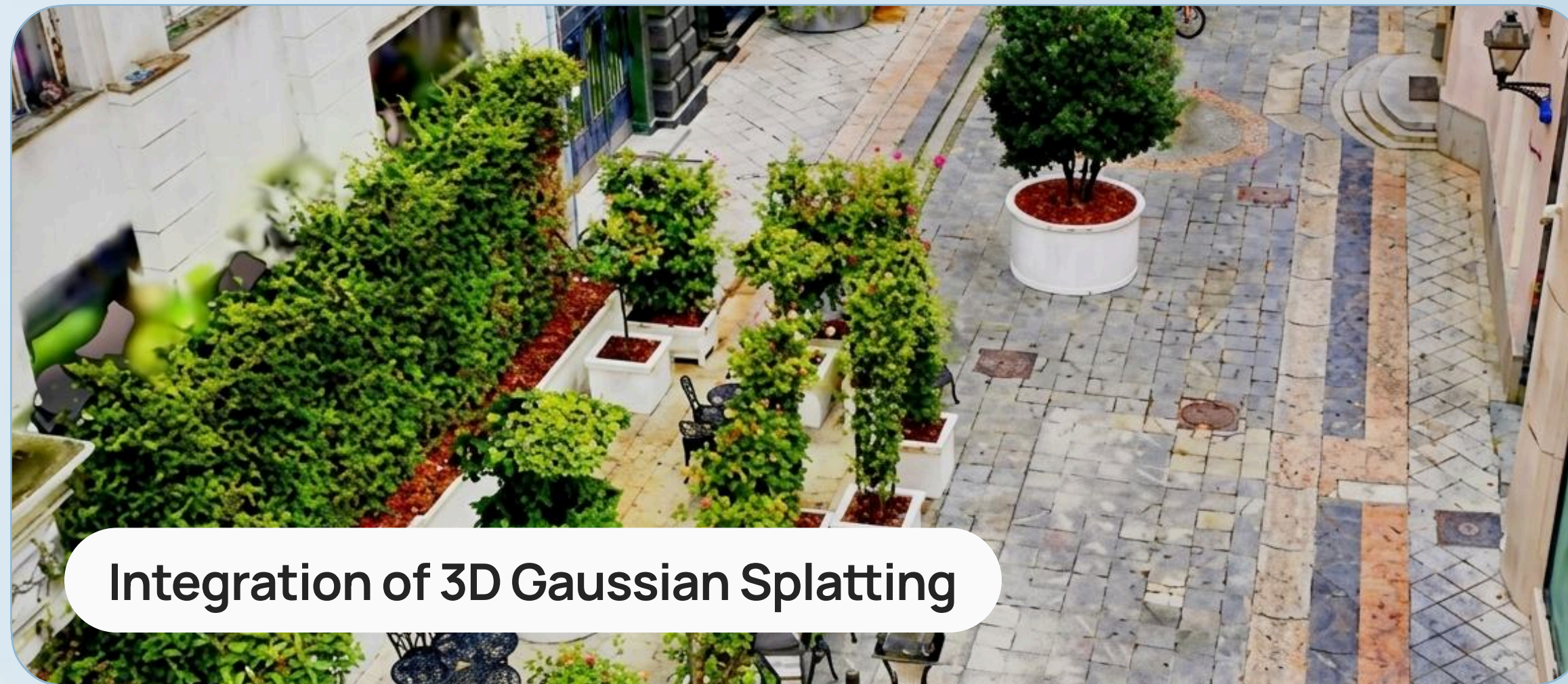
Manages compute resources and containerized services to ensure scalability and system reliability

3D Model BIM Checker

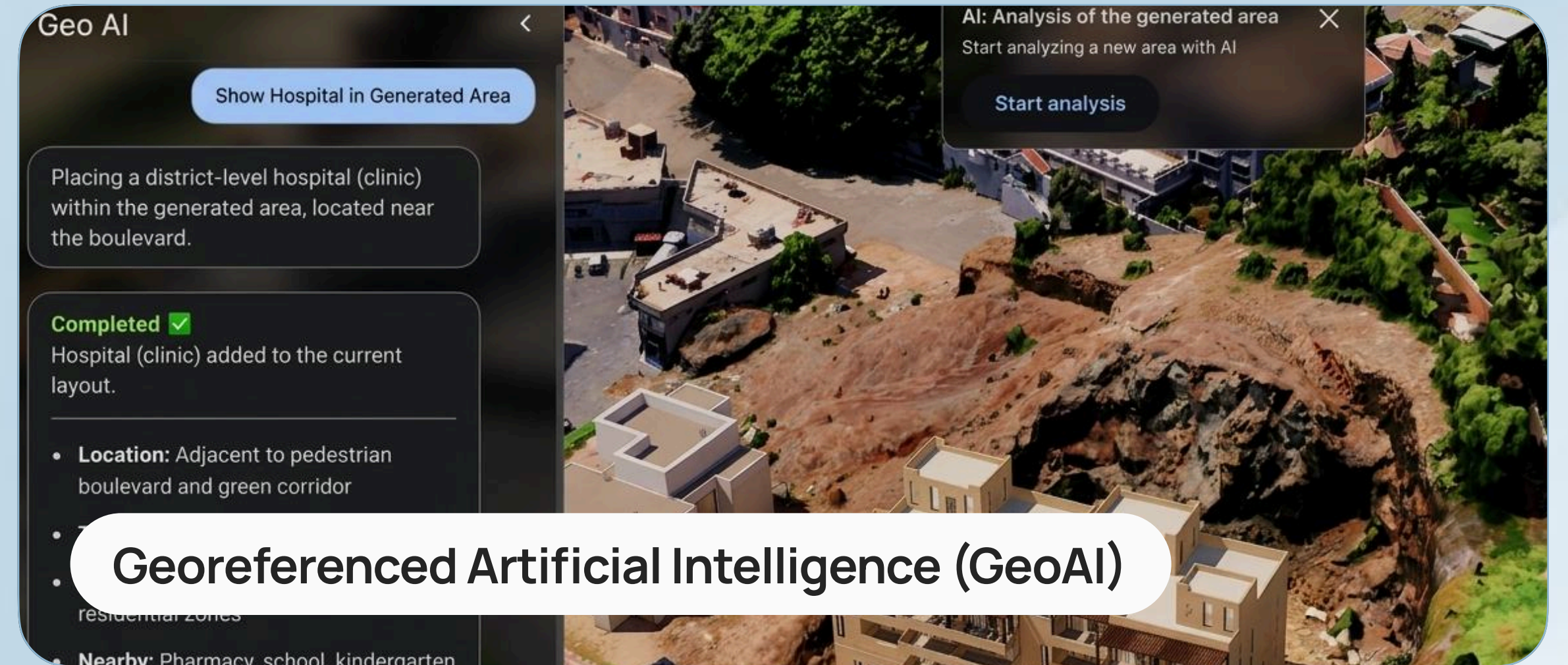
05

Validates BIM models for compliance, data integrity, and seamless integration into the digital twin

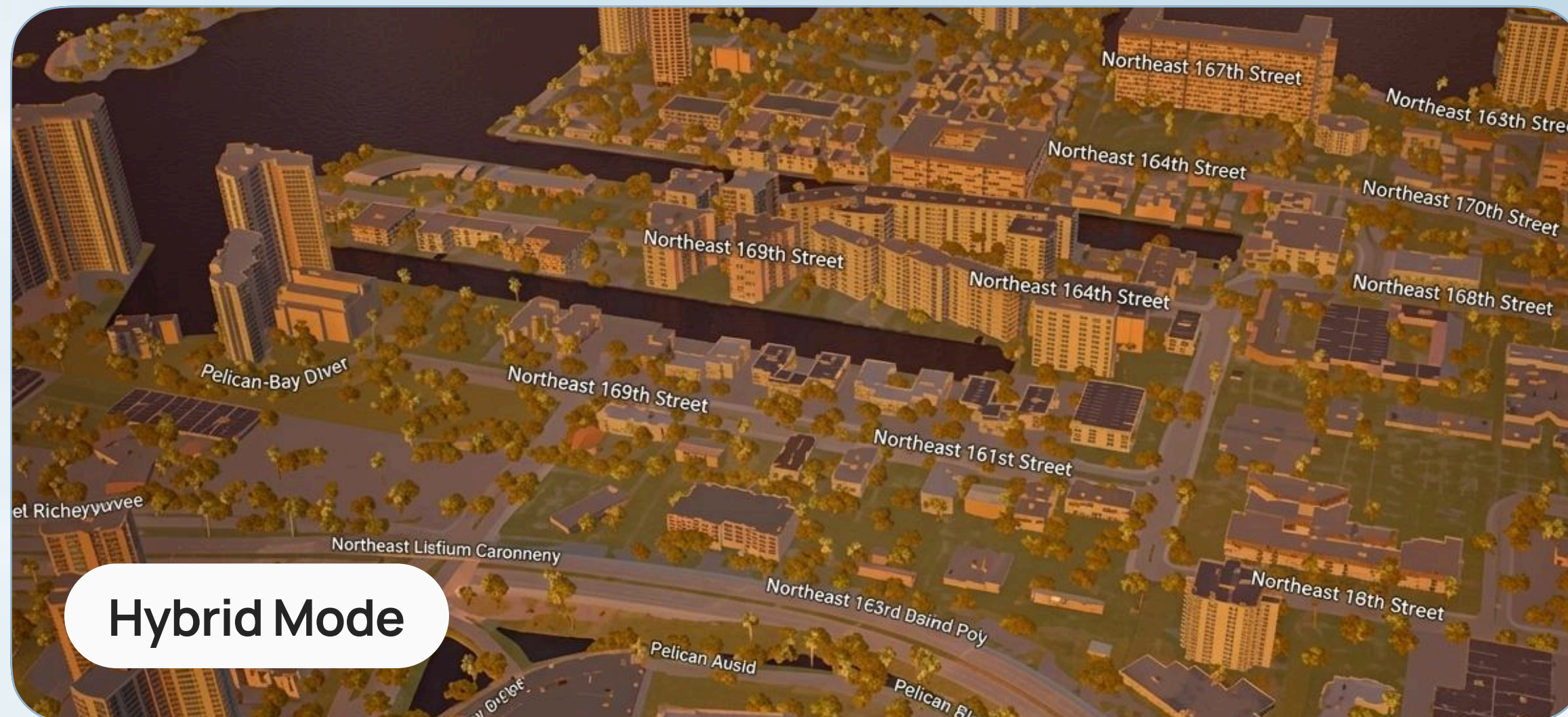
Core Platform Capabilities



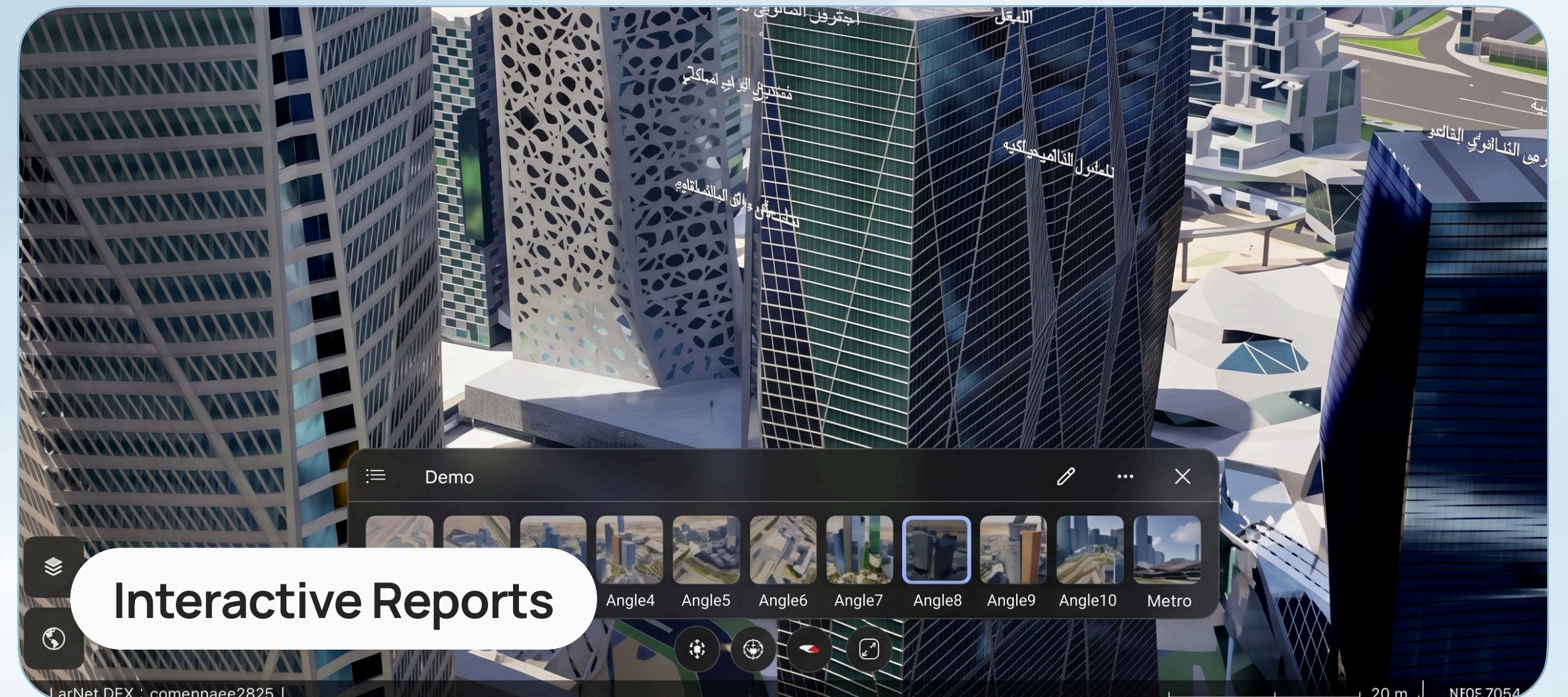
Integration of 3D Gaussian Splatting



Georeferenced Artificial Intelligence (GeoAI)



Hybrid Mode



Interactive Reports

Large Geospatial Model (LGM) as the GeoAI Foundation



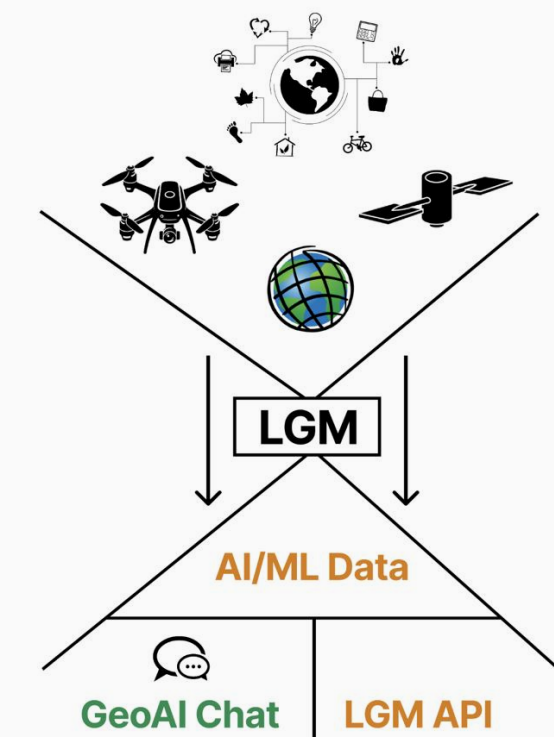
Purpose-Built for Geospatial Data

LGM is a foundational AI framework designed specifically for georeferenced environments, going beyond traditional AI approaches



Beyond LLMs

Unlike Large Language Models (LLMs) focused on text, LGM processes multimodal geospatial data – including raster, vector, and 3D



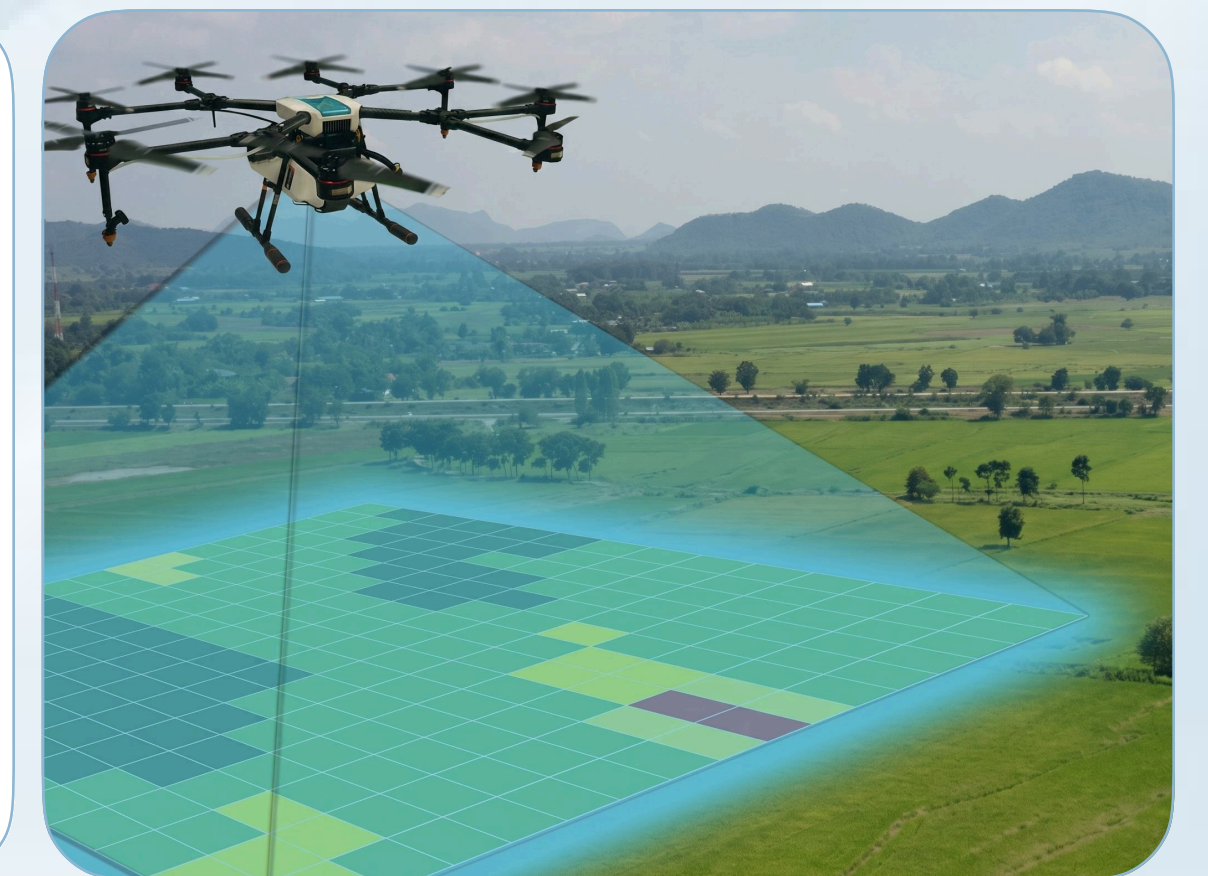
Spatial Intelligence at Scale

Enables spatial reasoning, simulation, and real-world scenario analysis within complex environments



Core of GeoAI Digital Twins

Serves as a powerful backbone for next-generation Urban Digital Twins powered by GeoAI



Conclusion: Unlocking Scalable Digital Twins

Lowering cost and complexity of deployment

for cities of all sizes

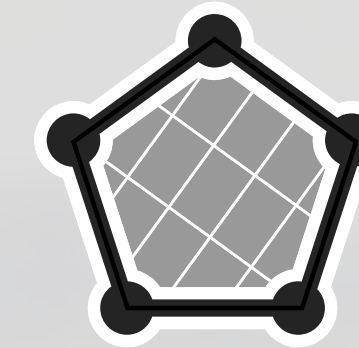
Enabling rapid adoption

from months to weeks

LGM as the GeoAI foundation

spatial intelligence at scale

Let's discuss your digital twin



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Exploring AI and Digital Twin solutions
for the future of urban development

digitalguide.pro

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