

CSDI 2024

# Localis 3D

extending immersive real estate experience with 3D GIS



# Challenge & Key Issue

- There has been a rise in technology adoption in the real estate sector, to ensure Home Seekers get the best User Experience.
- Research shows that the market size of Proptech is projected to grow 4 folds from 2022 to 2032 ([JLL 2023](#))
- Many of the technologies focus on the internal environment of the house and always neglect the **external environment as a decision making factor** of home seekers.
- Furthermore, the marketing materials from developers also provide unrealistic impression to the home seekers
- Therefore a platform that could provide **unbiased presentation**, and **all-rounded information** of the Home will enhance home seekers' user experience and decision making process. For developers and landlord, this platform can also ensure **transparency** to home seekers that could **increase business opportunities**.

View from Home



Pleasantness of surrounding



Noise & Air pollution Index



Sun / Shadow analysis



# Solution

- One stop 3D VR real estate experience, integrating surrounding environment elements to improve decision making



**Developer**

Add Property BIM Model into 3D VR environment



**Landlord**

Add Property Photogrammetry / Point Cloud into 3D VR environment



**House Seeker**

Checkout Property 3D models in V, view environment analysis of surroundings

# Solution

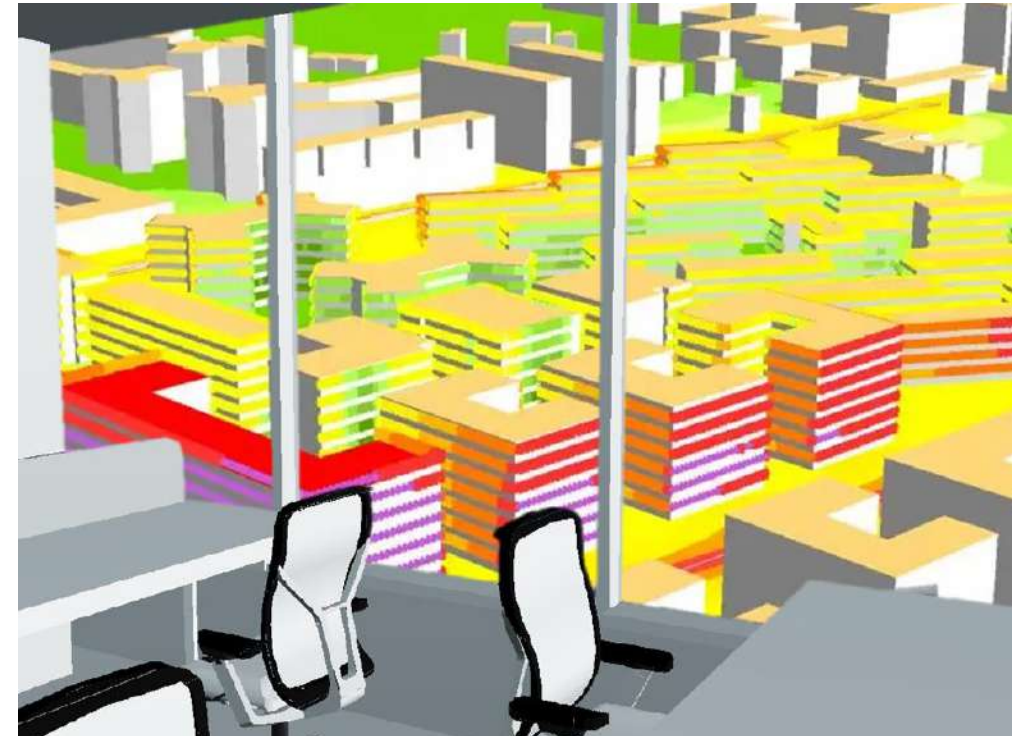
## Visualizing External Environment from 3D Model

- Developers and Landlords can upload their property model for renters & buyers to explore and visualize the view from the property
- It could also be used to simulate weather conditions such as sunshine and weather conditions, and overlay layers of air and noise pollution index.

Immersive Office environment with Weather simulation



Pollution simulation



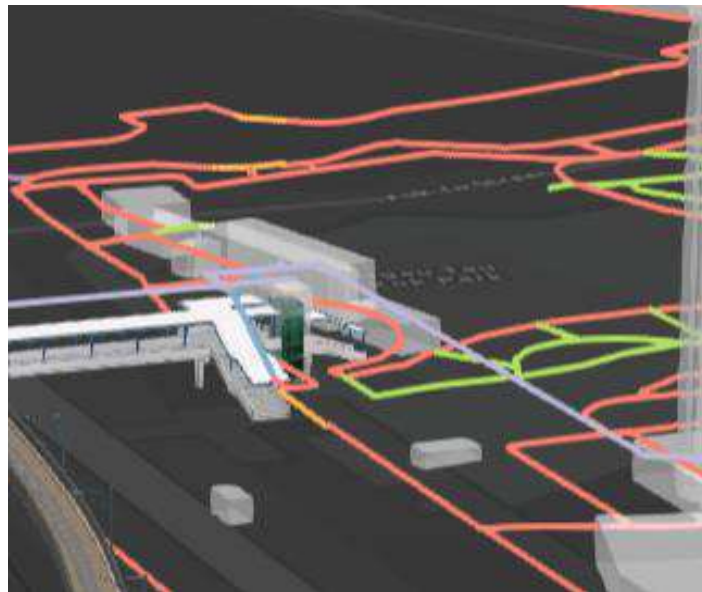
# Solution – GIS Functionalities

## Analyzing External Factors with 3D GIS

- 15min - 1 hour living circle, to simulate travel time coverage from the property, and then can use the service area to query amenities near by for a realistic estimation of reachable services in the proximity.
- Provides a 3D visualization to the current 2.5D geospatial context.

### 3D Pedestrian Network + 3D Travel Time Service Area

To create walking, cycling, driving and public transport reachable areas



### POI showing amenities in the neighbourhood

Number of sport or healthcare facility catering to needs of various social group



# Applied Location Data from CSDI / Open Source



**CSDI LandsD**

3D Mesh Model



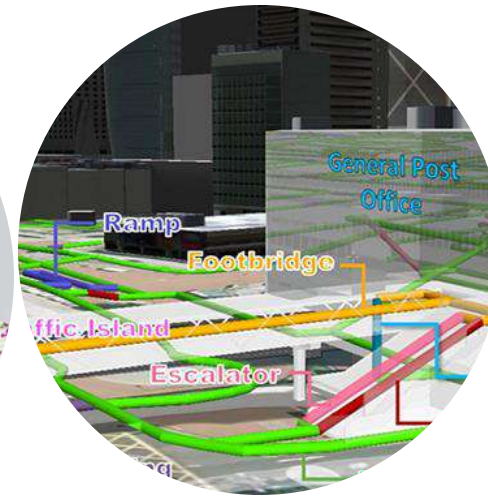
**Google**

Photorealistic 3D Tiles  
Cesium



**CSDI TD**

Road Network  
For Noise & Air pollution  
analysis



**CSDI LandsD**

3D Pedestrian Network



**CSDI LandsD**

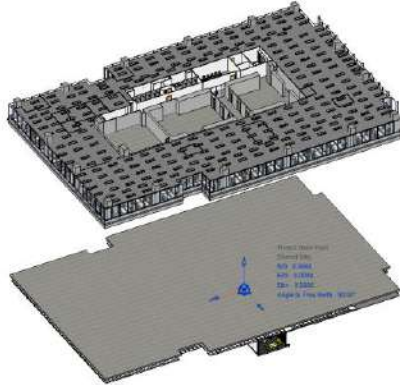
Amenities  
E.g. Kindergarden, Elderly  
Homes,

# Methodology



**Developer**

BIM Model



To increase utilization of BIM in Facilities/ future usage



Upload

## Localis 3D

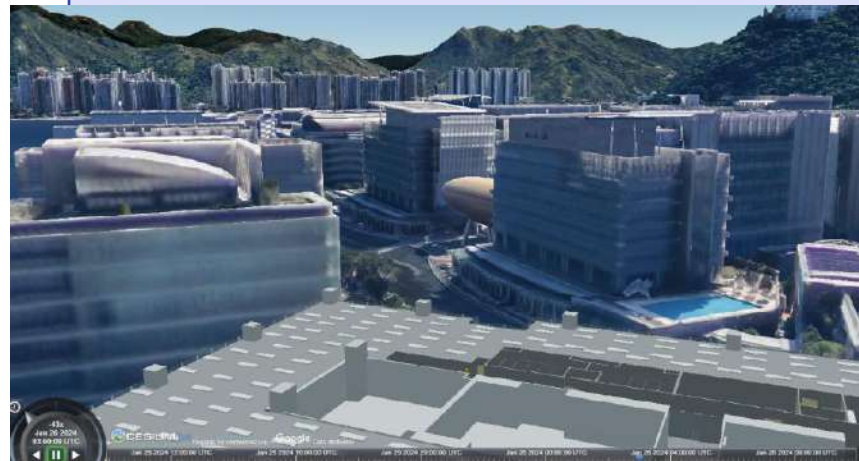
- Built with Cesium JS engine, a digital twin of the real world allowing placing location data in this 3D space easily
- Leverage AI to calculate environmental Big Data e.g. proximity analysis Noise / Air Pollution, Sun shadow analysis
- It can integrate with various location data, such as Point of interest, 3D models, BIM data creating comprehensive & up to date representation of the physical environment



**Landlord**

Scan 3D Model and upload

Creating Point Cloud is highly accessible in iPhone, apps such as Scaniverse



**House Seeker**

Interactively explore Property 3D models and view analysis in VR environment

# Benefits



- Localis 3D is a location driven platform, allowing property providers to democratize their property data transparently, and an all rounded insights platform for home seekers to make their decision
- Highly Sustainable
  - **Social Responsibility** - as core value. To provide unbiased information for consumers for decision making.
  - **Sustainability** - encourage industrial and private users to share their data, therefore foster a community driven data approach, and ultimately support the growth of **open data** practices.
  - **Scalability** - Highly scalable. Cesium JS and Google Maps is not limited to a geographic location. This solution could be available in any city as long as it has Google Maps, Squarespace coverage

**Thanks!**