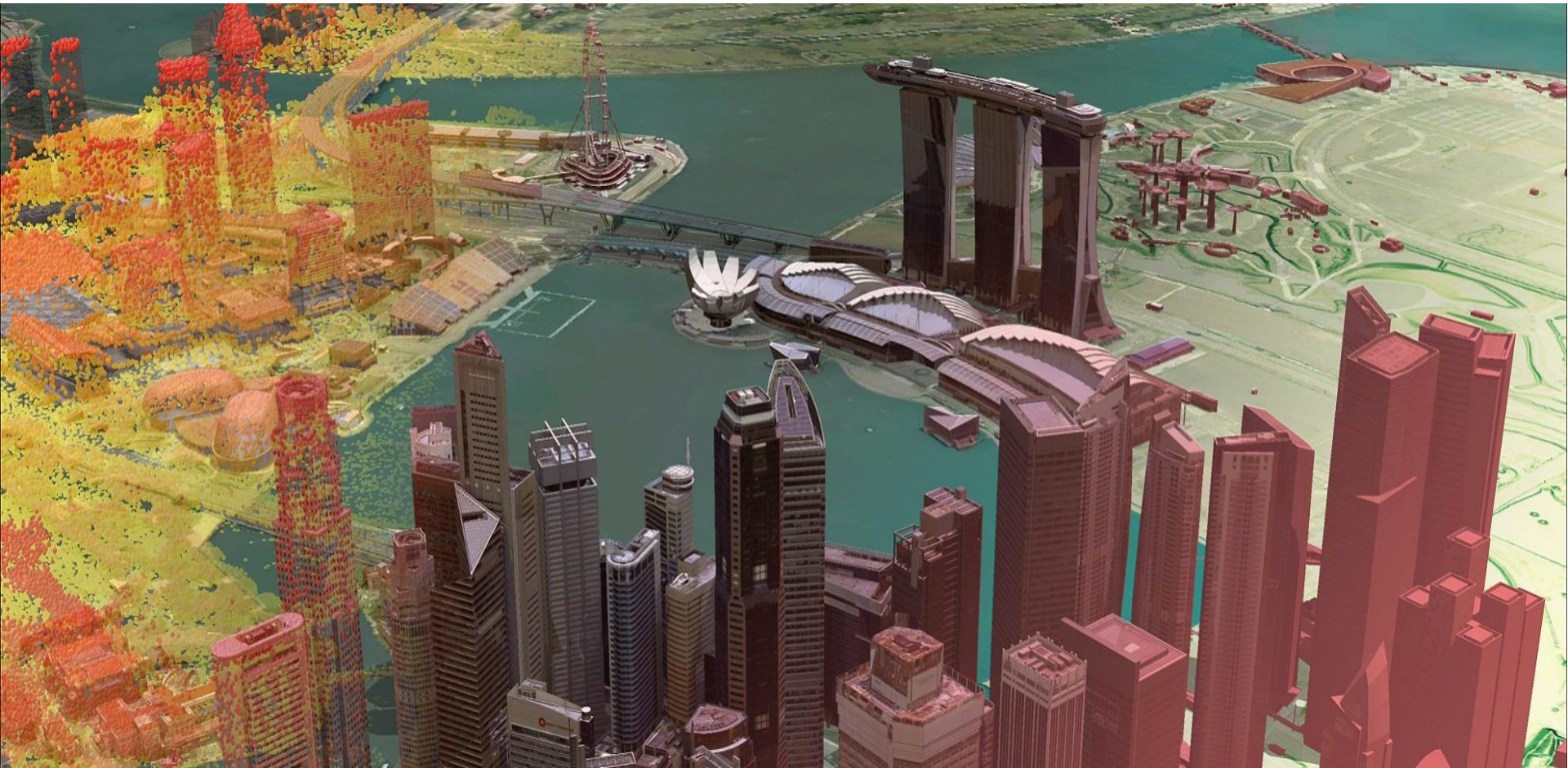


Survey and Geomatics Division



Soh Kheng Peng
Chief Surveyor, Singapore
© Singapore Land Authority 2019

Survey & Geomatics

Key Roles and Responsibilities

I. Uphold accurate national geospatial and positioning reference system

1. Geodesy

We establish national coordinate reference system and maintain the underlying control points infrastructure that underpin the data capture, map production and applications related to Geoinformation.

2. GNSS

We establish and maintain the national GNSS Continuously Operating Reference System (CORS) infrastructure and provide positioning services that enhance the GNSS positioning reliability and accuracy in Singapore.

II. Deliver reliable and trusted digital Geoinformation

3. Cadastre

We administer the cadastral survey legislation and approve cadastral survey plans to support registration of titles and maintain map database as the fundamental dataset for sustainable development of Singapore.

4. Mapping

We capture, create and maintain digital geoinformation of underground and above ground; and produce national map(s) to support sustainable development, environmental protection, digital economy and smart applications.

5. Monitoring

We collect, analyse and manage digital geoinformation over time to detect changes on land that support administration, risk management and environmental monitoring.

IV. Lead WOG in the domain of Survey and Geomatics

10. Advisory

We advise Government and its agencies on matters related to policy and technical practices of geodesy, land surveying and mapping.

9. External

We represent the State and collaborate with partners at international level on technical and policy matters related to geodesy, land surveying, mapping and boundaries.

III. Drive industry innovation, standards and capacity

8. Education

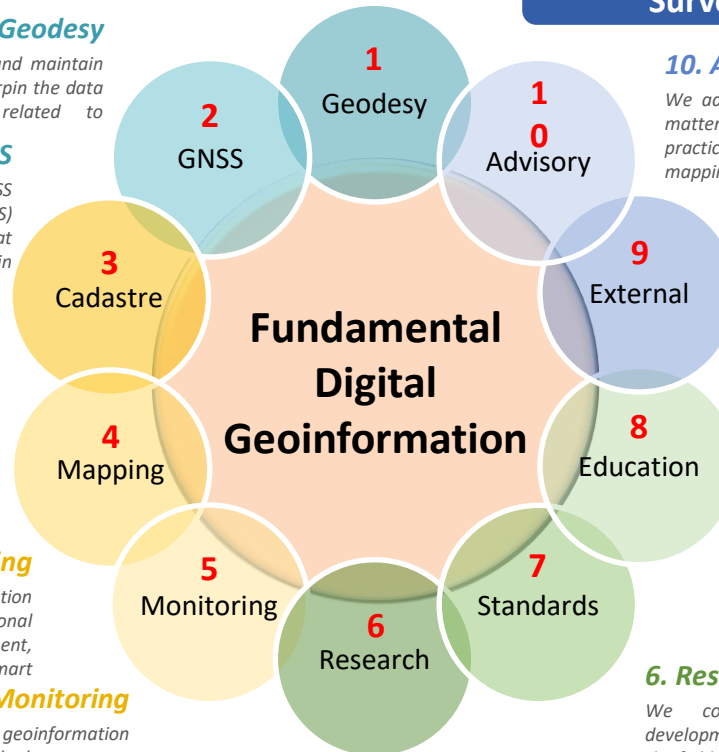
We raise awareness and build capacity of Geomatics Engineering.

7. Standards

We develop and maintain technical standards and guidelines for the capturing, creation and exchange of digital geoinformation.

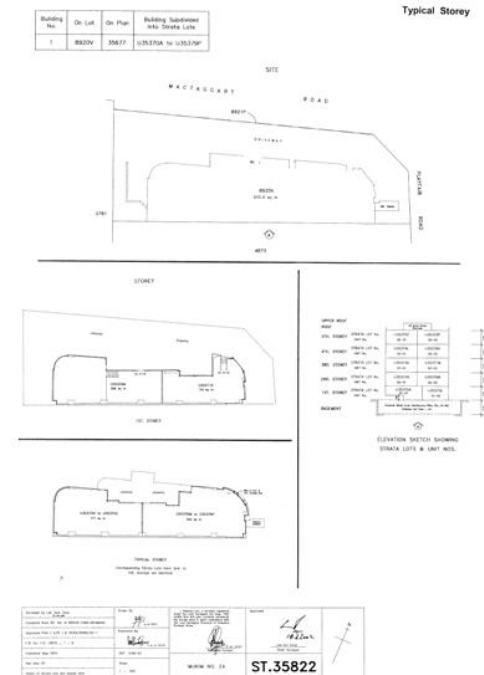
6. Research

We conduct innovative research and development on processes and technologies in the field of Geomatics Engineering to ensure we can continue to meet national needs and to lead the industry.

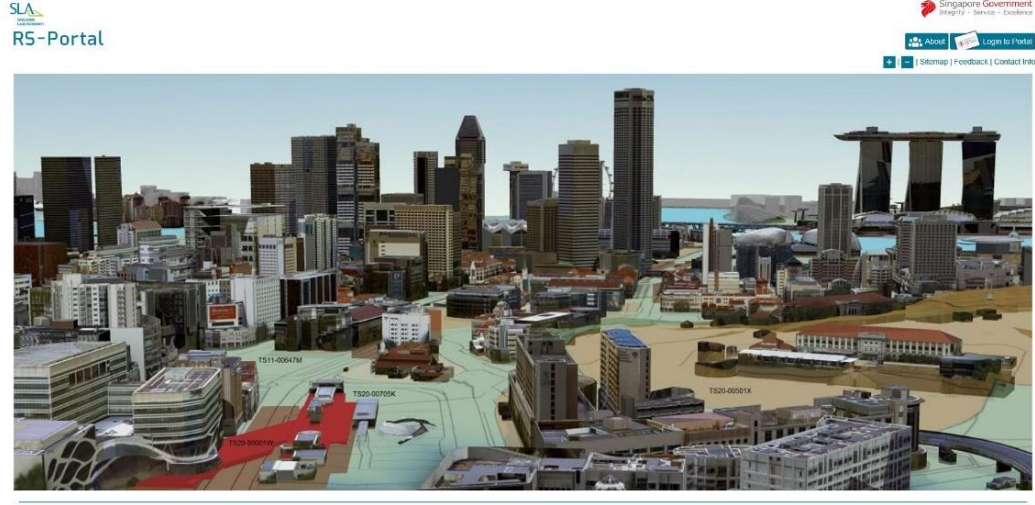


Survey and Geomatics Division

- Core Functions
 - Regulate Cadastral Surveys (Property Boundaries Survey)
 - Manage National Cadastral Database
 - Establishment and Maintenance of Geodetic Infrastructure
 - Operate Differential GNSS infrastructure
 - 3D National Mapping



What we have done recently...

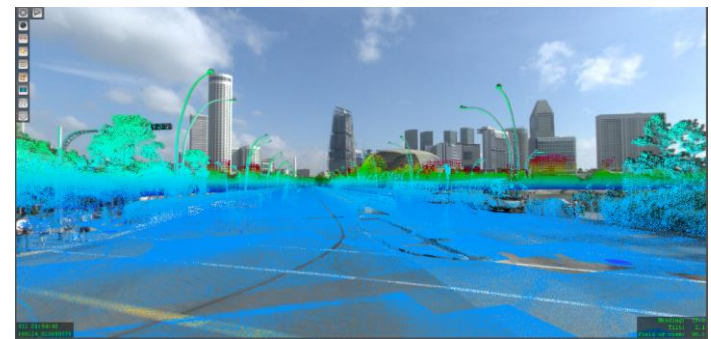
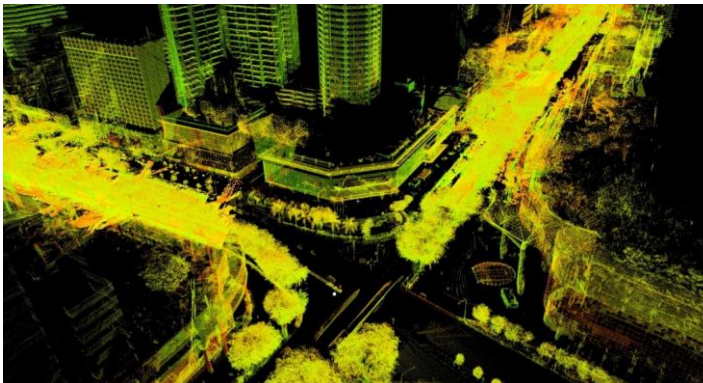
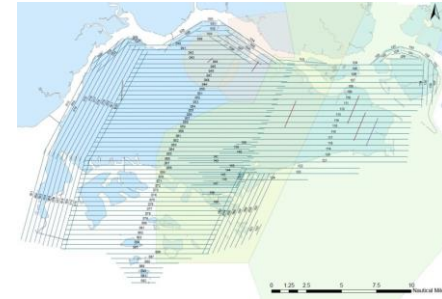


Smart Cadastre

- Automation
- Reduce turnaround time
- Self-service

3D Mapping

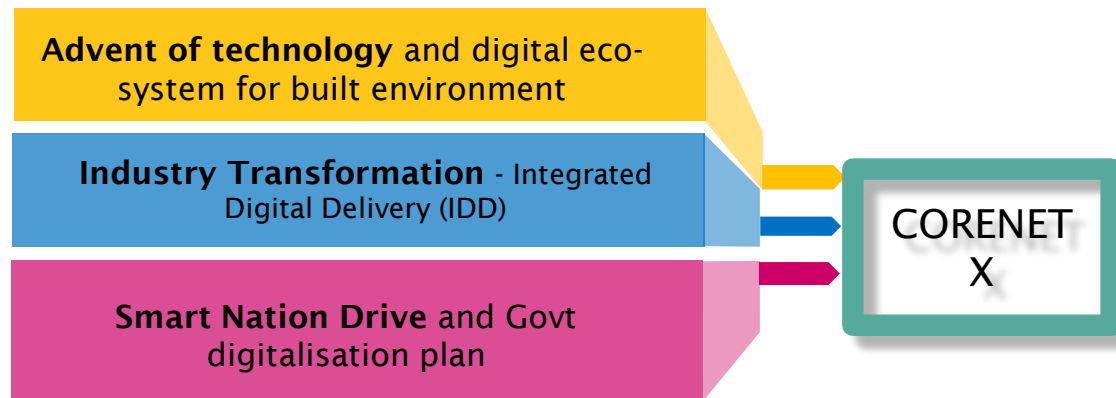
- Applications
- Digital Twin



What's next?

CORENET X

- Next generation of CORENET, which is the main digital submission system for Whole-of-Government (WOG) agencies (URA, BCA, SLA, Nparks, etc.) in the Built Environment (BE) sector
- Planned to be launched in 2023



CORENET X

Engagement & Collaboration with Industry

- Agencies are adopting the Service Journey approach in redesigning the Regulatory Building Works approval process
- Engagement with industry is needed to better understand the role of each industry player, the gaps and challenges of the current process, as well as opportunities for redesign and change
- Land surveyors play critical role in the Build Environment value chain



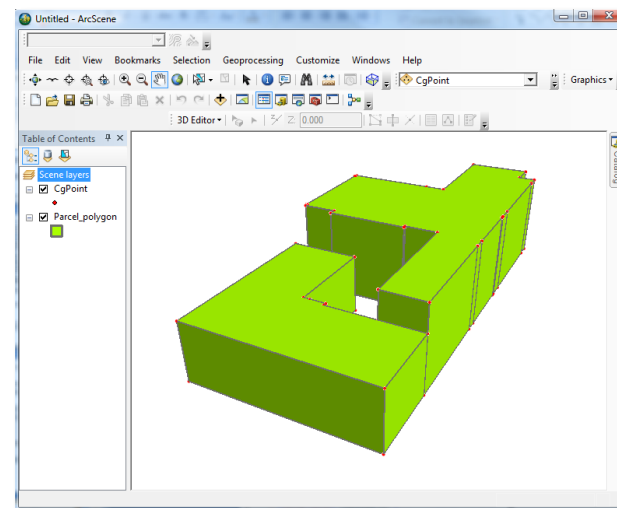
Engagements with architects, developers, engineers, etc.

(courtesy of URA)

Moving to 3D Cadastre

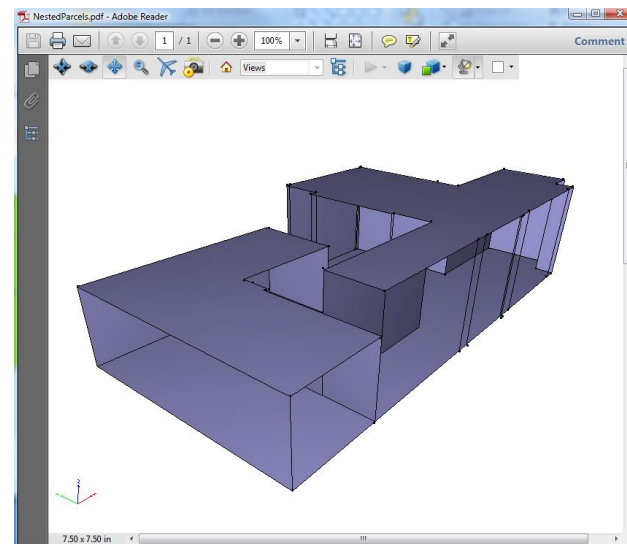
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3D GIS



**Direct Conversion
using FME**

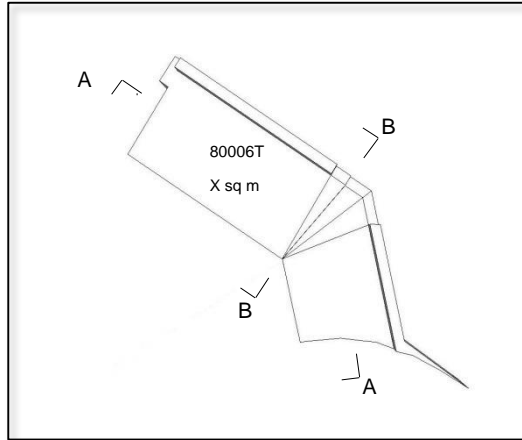
3D PDF



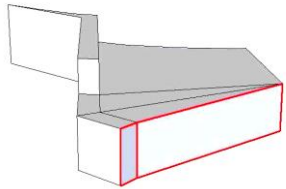
3D LandXML

Digital Underground

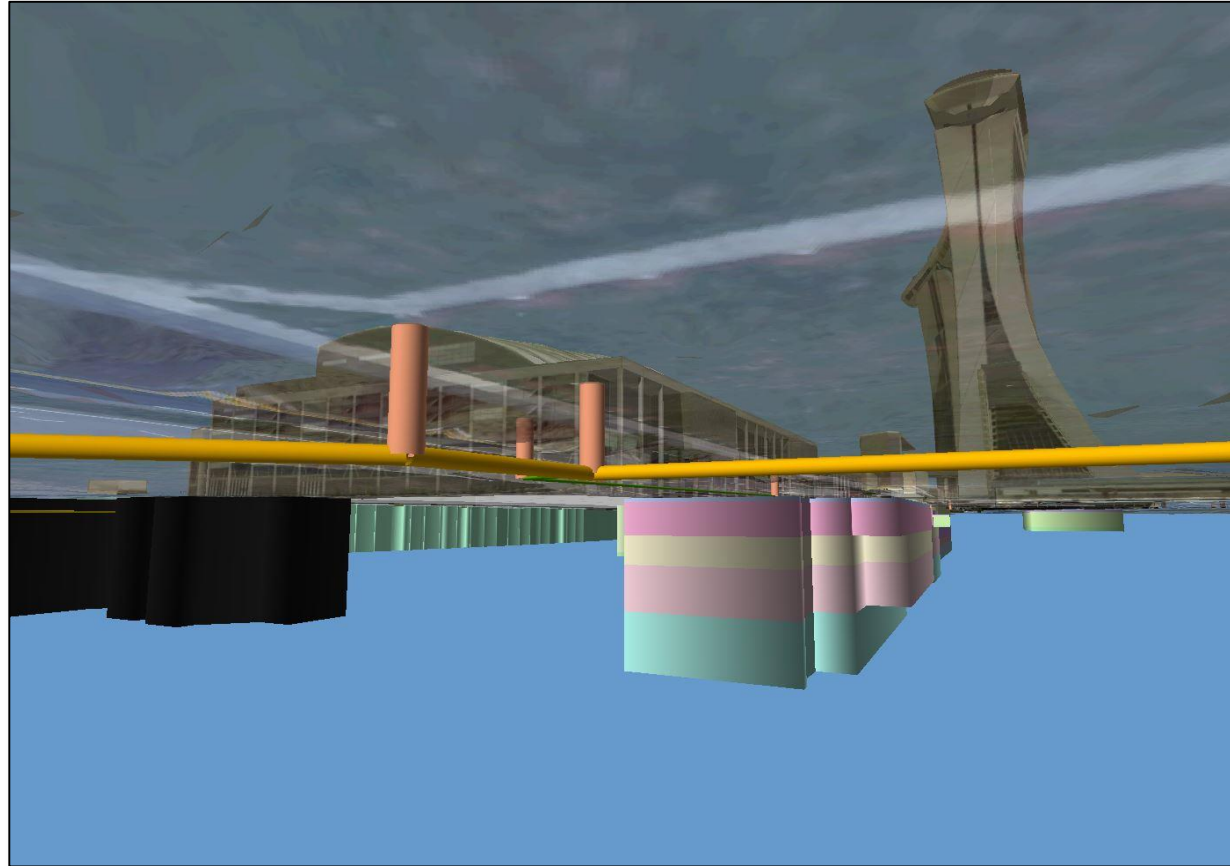
Plan



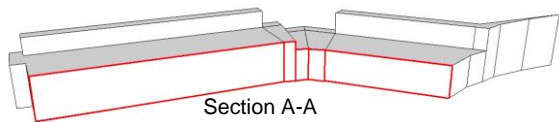
Sketching



Section B-B

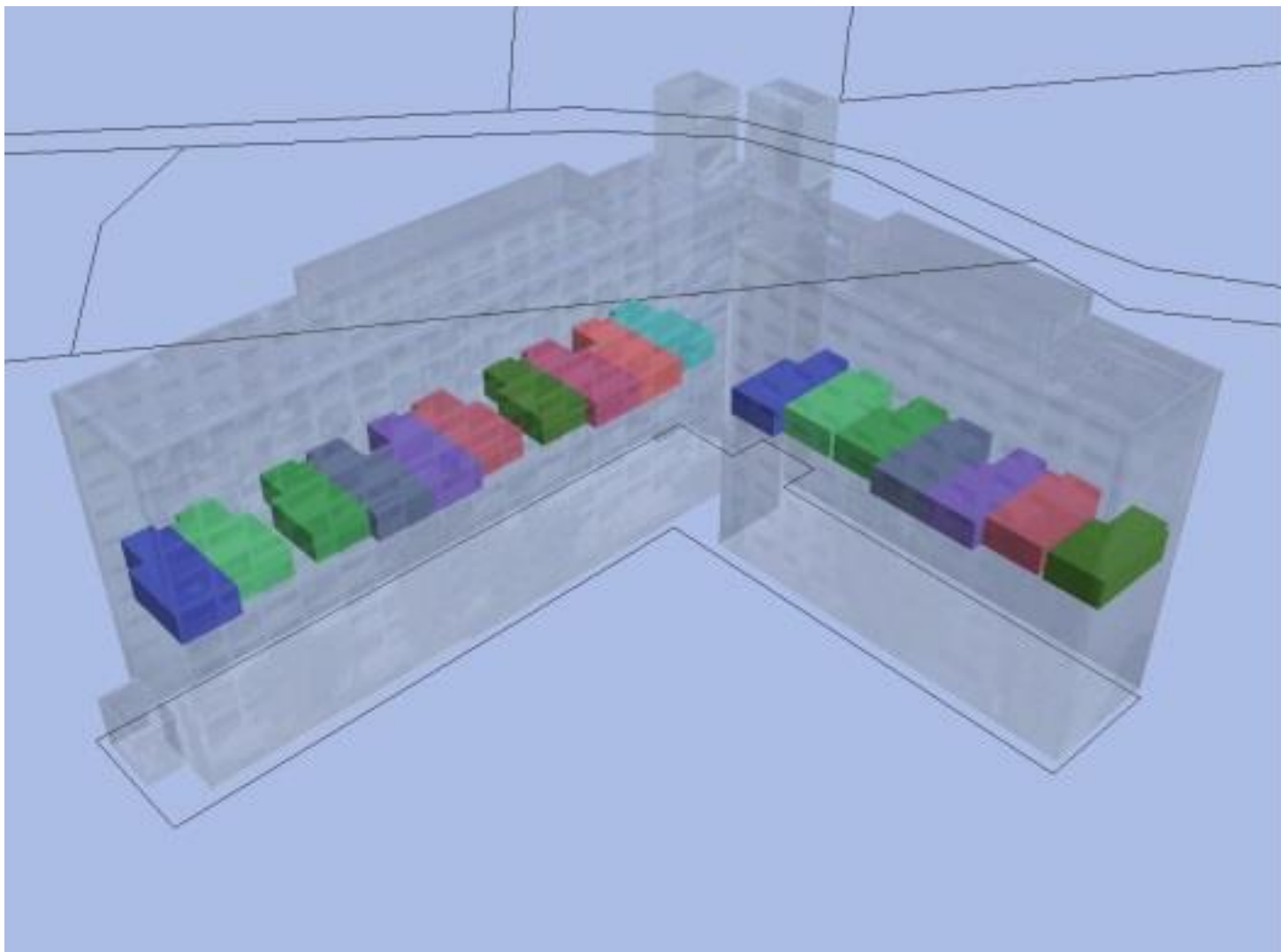


3D GIS



Section A-A

3D Strata Units (Proof-of-Concept)



Thank you