The Power of We™

Turnaround via Drone Technology

Apps Intellect takes aerial data analysis to a new level, through accurate and current spatial data.

Apps Intellect

Challenges

- Facilitating community development with accurate spatial data
- Inaccuracies in their spatial data that restricted planning
- Corporation's level of detail (LoD) building models were outdated
- District plans, based on 2D static map outputs, were not interactive and lacked 3D or height enablement of data

Corporation's GIS team needed:

- The ability to approximate 3D buildings using existing models
- Accurate, up-to-date, textured 3D (LoD2) building models-a building shell with roof form and building textures
- To provide colleagues and the community with online access to city models via a web GIS viewer

Results

- Planning a smart city with accurate and up-to-date 3D modeling

Aerial imagery and LiDAR processing with 3D web scenes

Apps Intellect captured city model data, extracted building models, and provided visualization tools for corporation following agreement of corporation's key area of interest to ensure delivery would meet cost objectives.

The fully integrated solution was delivered to expand corporation's 3D capability, and comprised:

Data acquisition-aerial data captured and delivered via obliqueimagery and high density Light Detection and Ranging (LiDAR)

Development of LoD2 models-Apps Intellect processed LiDAR data to extract buildings, ground surface and vegetation. Oblique imagery and LiDAR were further processed, using complex algorithms and photogrammetry methods, to texture the LoD2 models

Online visualization tools-Apps Intellect used Esri CityEngine 3D technology and web scene templates to enable staff to visualize, interact with and analyze 3D models.

Smart city planning through advanced GIS capability.
A community of around 52,000 people and corporation's plan for 2025 will see corporation make a significant investment in new infrastructure and city centre development.

Reinventing the Solution

The Corporation's GIS team fully supports new infrastructure and city centre development with precise and detailed LoD2 models. Improves interaction with city information by incorporating 2Dand 3D visuals. Enhances GIS and modelling functionality for better decision-making and planning Mitigates impacts by allowing planners to understand the interaction between the community and proposed developments. Facilitates easy access to maps and tools through a fully responsive, online platform.