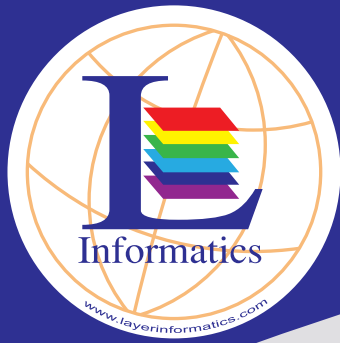




3D CITY MODELING

A Case Study



CHALLENGES:

- ▶ As the inputs were Gray scale satellite images with a low resolution of 0.5m. Analyzing & classifying the Building based on the roof type was a very challenging.
- ▶ The Buildings were clustered together which made building roof extraction a tough task.
- ▶ The areas were of Central Business Districts and had more complex Building structures.

INTRODUCTION:

To construct a Built Environment Model dataset containing attribution that can be utilized in a range of applications.

KEY ASPECTS:

The key objective of this project was to capture the Building eaves and Ridges as per the standards and attribute them to allow a holistic approach to structure description which will provide a complete environment model relating to structures.

▶ Services Rendered

- Aerial Triangulation
- Compilation of Building Eaves & Ridges.
- Classification of Building Eaves.
- Attribution of Building Eaves & Ridges
- DTM

METHODOLOGY:

▶ Aerial Triangulation

Tie points were manually measured on the satellite images. Nearly 36 ground control points were which were well distributed over the project area. The images were triangulated & adjusted within the required accuracy level.

▶ Data Capture

Building Eaves, Ridges & Creases were captured at right angles and were classified according to the type of building.

▶ Attribution

Building Id, Block Id, Roof type, window type, Architecture type & Eave height information was attributed to the data.

▶ Topology

Data Cleanup & Topology checks were on done on the entire data.

▶ QC/QA

A QC checklist was prepared to assess the Mapping quality. A random QA was performed to make sure the data was within the acceptance criteria.

TECHNOLOGY:

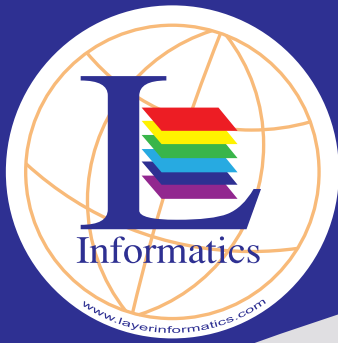
- ▶ Leica Photogrammetry Suite
- ▶ Microstation V8
- ▶ AutoCAD Map 2004
- ▶ Esri ArcGis

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3D CITY MODELING

Page 2

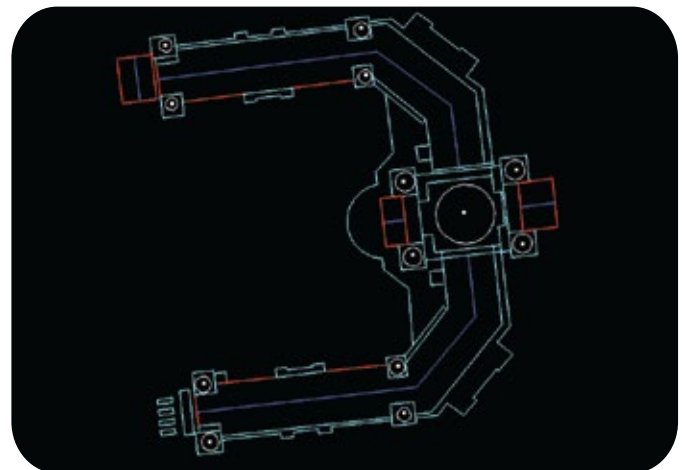
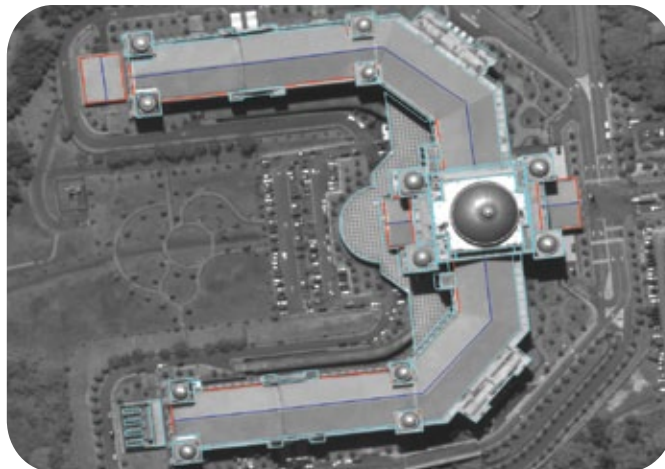
TESTIMONIALS:

We're very pleased with the results. Please extend our thanks to the rest of the team at Layer for a job well done.

APPLICATION:

- Urban planning and management
- Navigation systems
- 3D fly-through
- Simulated environments
- For security applications such as landslide prevention or flood simulation

SCREEN SHOTS:



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Scotland, UK.

US Office:

Scranton, PA 18505

Middle East Office:

Doha, Qatar.



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