

Sophisticated 3D models ranging from rendered blocks to fully textured, photorealistic models are produced by AAM using a variety of technologies. These models are readily incorporated into stunning visualisations for design and planning applications.

Detailed 3D city models are multi-purpose data sets which are in demand by a diverse group of industries. Our range of 3D models provide clients with unrivalled ability to visualise, measure and portray both existing and planned urban space at a range of price points.

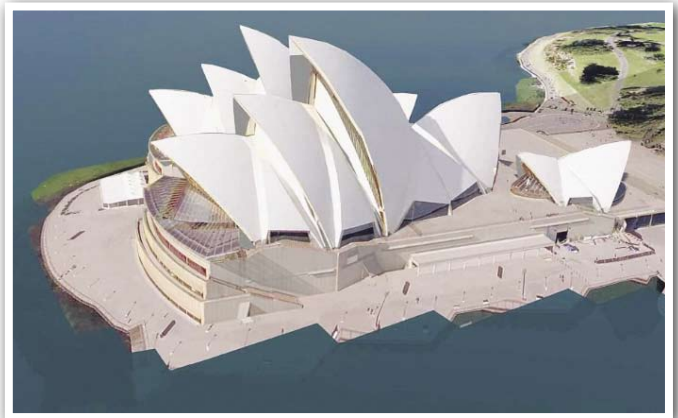
3D city models are provided in common formats for access using popular GIS and real-time 3D visualisation software available from AAM, making the 3D virtual world potentially available to many staff across organisations.

We also offer a 3D model maintenance service with aerial photography, photogrammetric measurement of new buildings and insertion of relevant details such as development application information. The accuracy and detail of models we supply can vary depending on your requirements.

Applications for 3D Models

3D city models can be used for a diverse range of applications, including:

- Visualise future buildings
- Visualise infrastructure developments
- Community consultation
- Building and strata management
- Logistics for major events
- Scenario development for public safety and homeland security
- Media and entertainment
- Navigation



Above: Three iconic Australian landmarks as photorealistic 3D models: MCG, Opera House and Sydney Convention Centre



Accuracy and Detail

One of the most realistic and highly sought after products is the Pictometry® derived 3D city models. These models are so realistic it is difficult to differentiate them from oblique aerial photographs. These Pictometry derived models are created in short time-frames and are ready in weeks, not months.

The accuracy and detail of models can be modified depending on your requirements. Horizontal accuracies are related to the accuracy of the source ground control and elevation models, while vertical accuracy is linked to elevation models and 3D ground control.

When creating these models each building is given a unique name or number. Buildings are usually numbered sequentially. It is also possible to request names based on a spatial encoding.

A variety of formats can be supplied depending on user application and software requirements, including 3DS, OpenFlight, KML, VRML2, ESRI 3D Shapefile, Microstation DGN, OBJ and X3D.

Building Geometry and Textures

Our extraction process produces clean 3D polygonal boundary representation models (called wire frames – refer Figures 1 and 2). Significant rooftop shapes (slopes, ridges, peaks, domes, etc) and features (parapets, elevators, large HV-AC units, etc) can be accurately generated.

Geo-specific, photo accurate texture maps are created from the source aerial photography and applied to the building geometry to add detail without increasing geometric complexity (refer Figure 3).

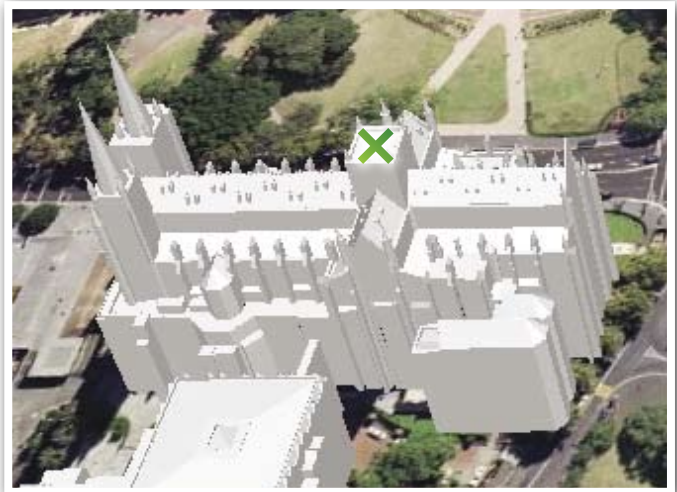


Figure 1: Enlargement of Sydney model below



Figure 2: Wire frame 3D model of Sydney



Figure 3: Photorealistic 3D model of Sydney

