

Market Sector Use

Other Buildings

Gold Coast Convention Centre – Broadbeach

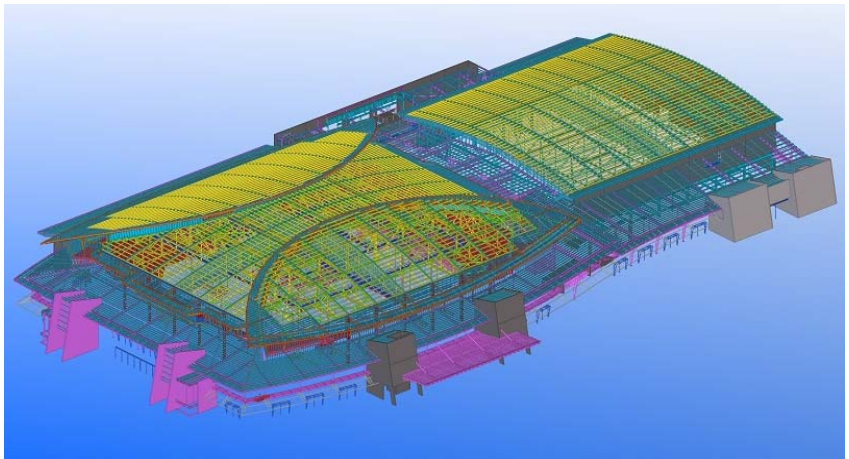
The multi award-winning Gold Coast Convention and Exhibition Centre is located in Broadbeach, on Australia's Gold Coast in Queensland. The centre, which cost approximately \$126 million to build, provides a large multi purpose facility for 2000 people, to cater for the increasing needs of the convention industry. It also includes seating for 6000 people in the sports and entertainment centre along with 3000 m² of exhibition hall space.



3D model showing the overall complexity of the project

The building is over 190 m long by 90 m wide, where more than 1300 tonnes of primary steel and approximately 150 tonnes of light gauge secondary steel was used in construction.

The roof of the arena is made up of 22 steel trusses of varying heights to form the roof, which curves in two directions. Above these trusses are numerous steel rakers, which form the "eyebrow" architectural feature. This feature uses a light gauge girt system at 600 mm centres to form the continuous conical curve.



Due to the complex geometry in the structure, especially at the eyebrow, BDS VirCon utilized 3D dwg & 3D dxf file transfers to assist them to work closely with the architect / engineer. These file transfers were instrumental in the creation of the final working 3D model.

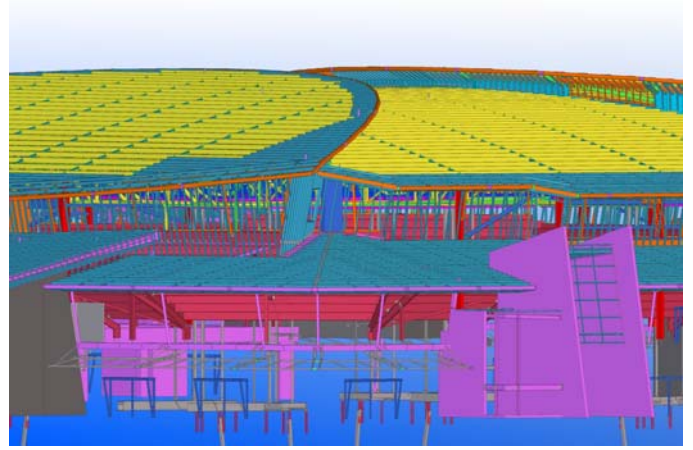


This 3D model was constructed using the Tekla Structures software program, enabling the following activities to be undertaken, which were crucial in the overall success of the project:

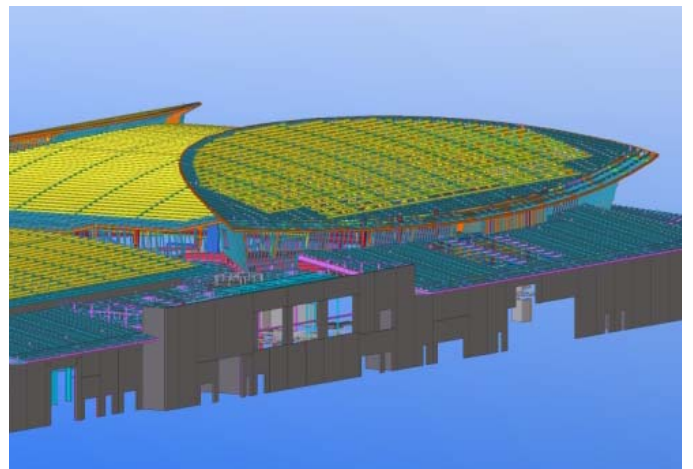
- the importing of the 3D dwg files, from the architect and engineer, by the detailer were essential in confirming the complex geometry of the curved roofs and walls
- the use of the 3D model by the engineer enhanced the traditional design review process
- provided deliverables that included not only the traditional marking plan and workshop drawings, but complete CNC data for all steelwork, various ordering and production control reports

- digital construction simulation to assist the design, fabrication and erection teams, for a better understanding of the overall project

Information supplied by: BDS VirCon - QLD



Complex connection issues were able to be resolved easily with the use of the 3D model



The use of the 3D model was invaluable as an aid in the erection of the steelwork