BIM on the world stage at World Cup 2010

South Africa's Nelson Mandela Bay Stadium and Mbombela Stadium were both built using advanced modeling techniques

Nelson Mandela Bay Stadium

To some in the **construction industry**, the jury remains out on the value of **BIM (building information modeling).** Though it makes sense in theory, they remain unswayed that the cutting edge design tool has many practical applications or that it represents the wave of the future.

The doubters should pay close watch and cast a trained eye for the next month as coverage of FIFA World Cup 2010 in **South Africa** dominates the airwaves. Two of the five new venues built for the quadrennial event were modeled using BIM techniques and **software.**

To design the unique roof structure of **Nelson Mandela Bay Stadium** in Port Elizabeth, steel detailers CadMax of Boisbriand, Que., used Tekla Structures software of Espoo, Finland, to model the project. Made of Teflon-coated fiberglass, the roof is held up with 36 steel girders and a total weight of 2,500 tons of futuristic curved beams.

"One of the most interesting parts of the project was the compression ring. To make the 3D model, we had to duplicate the model and simulate the deflection so the compression ring could be fitted properly after the girders erection," says **Daniel Barbeau** at CadMax, who was responsible for information modeling.

Additionally, Tekla software was used on the renovation of **Royal Bafokeng stadium** and the creation of the **Mbombela Stadium** in the city of Nelspruit in Mpumalanga Province. —in both cases to model the **steel structure** of other stadiums for the FIFA World Cup.

"The Cup stadiums are large and structurally challenging buildings in which attention has been paid to appearance. Building them without the help of 3D BIM software would have been very difficult," says **Risto Räty,** Executive Vice President of Tekla Corporation.

Courtesy of http://www.constructiondigital.com