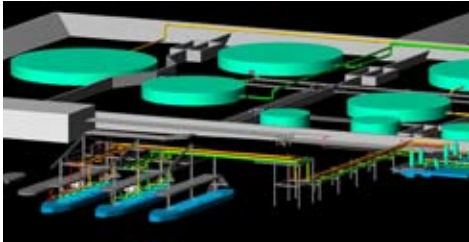


CASE STUDY



CADWorx & Analysis Solutions



"The fabrication deliverables were produced with 100% accuracy therefore drastically reducing rework."

Martin Pothas, Lead/Senior Piping Designer at Kantey & Templer

PRODUCT INDEX

Intergraph® CADWorx® Plant
Intergraph® CADWorx® Design Review

INDUSTRIES SERVED

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- Electrical
- Petrochemical
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Intergraph CAS

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Kantey & Templer succeeds on a road and rail upgrade project with CADWorx

About Kantey & Templer Consulting Engineers

Established in 1953, Kantey & Templer Consulting Engineers (Kantey & Templer) offered various geotechnical and structural services. Today, Kantey & Templer specializes in civil, structural, mechanical, electrical, petrochemical, geotechnical, and transportation engineering. The company formed strategic alliances with several other professional groups and is able to offer quantity surveying, town planning, architectural and other associated discipline services. Kantey & Templer has seven offices in South Africa and employs 190 people.

Waltloo Depot Upgrade project

Kantey & Templer was awarded a 20M USD road and rail gantry upgrade project from a Waltloo Depot Upgrade BP South Africa in Waltloo, Pretoria. This project involved design and engineering of a receiving and distribution fuel depot. The depot handles 37 million liters of both gasoline and diesel fuel per month. The duration of this project was two years. Kantey & Templer's task was to upgrade the entire rail receiving unit, extend the road receiving unit and all feeder lines to the storage tanks. The rail siding 3x 12 rail cars (36) had a floor area of 2650 square meters covered by an automated fire fighting deluge system. The scope of work included the design of a new 36 rail car gantry and road gantry extension, new road and rail metering bays, and new road and rail inlet receiving manifold, allowing for total flexibility to route any product to any storage tank.

Developing drawings from scratch

One project challenge for Kantey & Templer was to perform their tasks around the existing piping and equipment of a fully operational facility. Minimal disruption to the currently operational depot was essential. Another challenge was that the company started their project with no existing drawings present. "We had to start from scratch with a survey then progressed to a full 3D model showing all piping, equipment, civil steel structures," said Mr. Martin Pothas, Lead/Senior Piping Designer at Kantey & Templer. Detailed client reviews using CADWorx Design Review helped in communications with client and project management.

At each phase of the project the client had a clear understanding of the entire scope of work by viewing the 3D model and was pleasantly surprised to see the preview of what they would receive at the end of the day. Using CADWorx, one can design the entire project in 3D by means of the user friendly piping and steel packages. Using CADWorx Plant design software the company generated 3D layouts, 2D representations, and isometrics. The detailed isometrics generated simplified the construction and erection of all piping. The bill of materials generated from the database guaranteed 100% accuracy of material used in the model for project procurement. The team managed fabrication and erection on site.

Cost effective and error-free design with CADWorx

There was a minimum rework on site. "The fabrication deliverables were produced with 100% accuracy therefore drastically reducing rework. As a result of this project the loading and unloading is now performed at a much faster rate", says Mr. Pothas. "With CADWorx, we were able to eliminate many man-hours compared to if we had to produce 2D general arrangement drawings. There would have been a high possibility for error if a non senior designer had done the take offs from a 2D drawing. Without isometrics one can imagine the difficulty for the piping contractor to understand the complexity of the work," concluded Mr. Pothas. Kantey & Templer is now has a bigger project in Mozambique and plans to use CADWorx to solve new project challenges.