



Stantec Reduces Modeling Time by 50% in Complex Coal Plant Upgrade

Stantec was involved in a large upgrade to an existing coal burning power plant in Saskatchewan, Canada in which laser scanning was used to generate an accurate 3D as-built of the existing conditions. A 3D CAD model primarily of piping, tanks and structural steel was required as an end deliverable, so Stantec chose to use Edgewise Plant™ in several heavily congested areas to automatically extract 3D piping and other cylindrical features from the point cloud.

Streamlined Workflow

Two FARO Photon 120 laser scanners were utilized on the project over the course of 2 weeks to scan the fourteen floor coal power facility. In order to bring survey control throughout the facility, a Trimble S6 robotic total station was utilized along with a Leica

Lino laser plumb instrument. It was a challenging task due to the heavily congested areas, heavy equipment and multiple floors on the facility.

“EdgeWise Plant has reduced Stantec’s 3D modeling time by over 50%.”

- Kevin Grover, Stantec Geomatics Ltd.

The scan data was registered using the Faro Scene software then imported into Leica Cyclone software for further processing. Edgewise Plant was used in many of the heavily congested areas in the power facility to take advantage of its automated pipe modeling capabilities. The registered Faro FLS files were read and processed

directly into Edgewise Plant, one of the great benefits of the software.

The area shown in the graphics on the next page was comprised of 22 individual overlapping scans with many individual pipe-runs and metal railings.

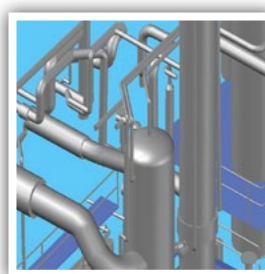
Stantec Workflow



FARO Photon 120



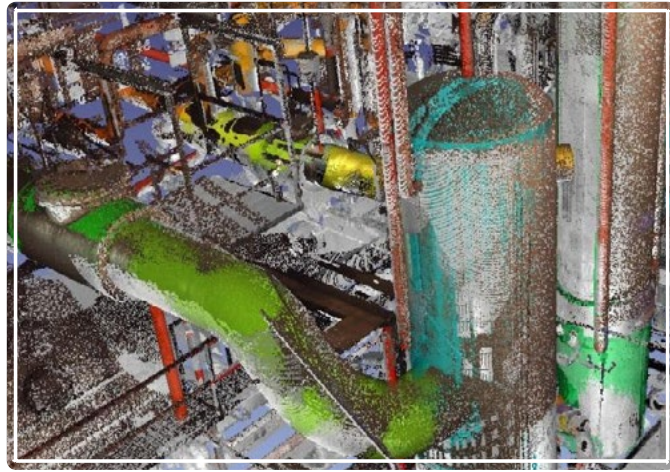
FARO Scene



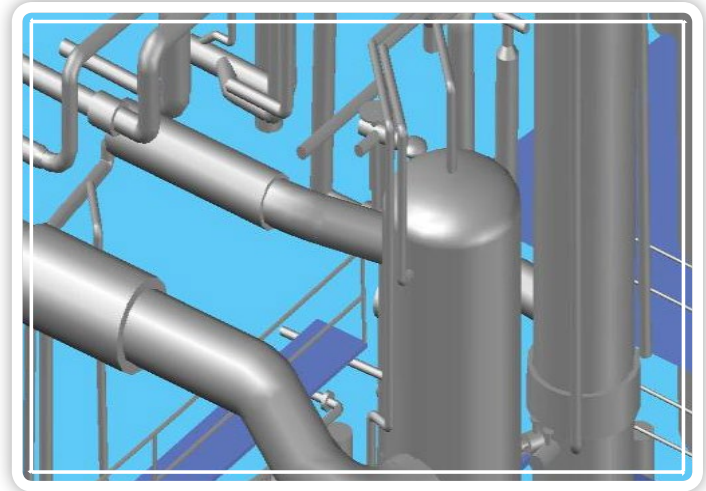
EdgeWise Plant



Leica Cyclone



EdgeWise Plant was used in the heavily congested areas to take advantage of its automated pipe modeling capabilities.



EdgeWise Plant automated cylinder extraction.

With the new mega batch processing capabilities, EdgeWise Plant was able to automatically process and extract cylinders from the 22 scan files in just over one hour with minimal user interaction. EdgeWise Plant automatically detected over 2000 individual cylinders from the scan data, which was then merged in EdgeWise using the built-in cylinder cleaning tools.

Reduced Modeling Time by Over 50%

In addition to the cylinder extraction, EdgeWise Plant was used to extend and connect pipe runs as well as add elbow connections using its finishing tools. The cylinders and elbows were then exported to Leica Cyclone for further modeling using the COE (Cyclone Object Exchange) export functionality inside

EdgeWise Plant for a seamless exchange between the software products.

EdgeWise Plant allowed Stantec to reduce modeling time by over 50% in these congested areas due to the automated cylinder extraction and batch processing. Much of the redundant pipe modeling was eliminated with EdgeWise, allowing for a quicker turnaround of the final deliverable to the client.

At the end of the project it was determined that EdgeWise Plant is not only beneficial in congested areas, but within an entire project. Because the batch processing capabilities speed up automated cylinder modeling in both congested and wide-open areas, future projects will use EdgeWise Plant throughout.

To learn more or request a software demonstration, visit clearedge3d.com or contact us at sales@clearedge3d.com or +1 866.944.8210.



Founded in 1954, Stantec provides professional consulting services in planning, engineering, geomatics, architecture, environmental and project management for infrastructure and facilities projects. Stantec utilizes phase-based and time of flight laser scanning instruments on industrial, transportation and architectural projects, providing clients with a diverse offering of 3D laser scanning and modeling services.