

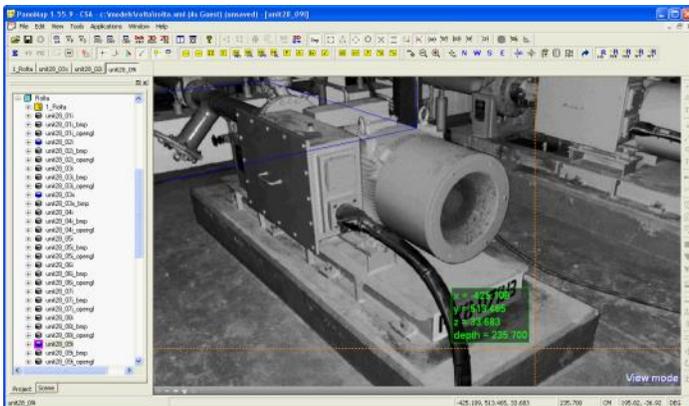
# CadmaticPanoMap<sup>®</sup> Laser Scanning

## Interface to eBrowser and Plant Modeller

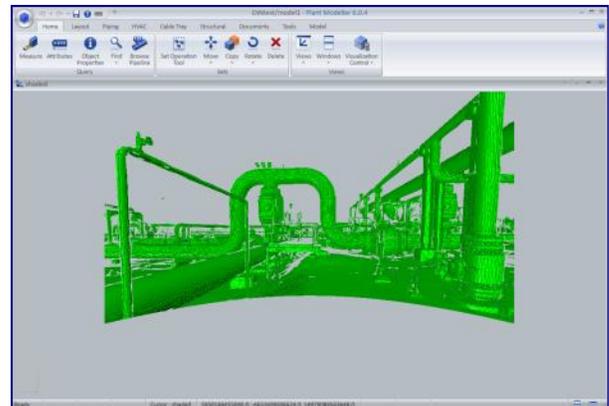
**PanoMap, CSA's powerful laser scan viewer**, displays scan data in a seamless, photo-realistic view. It provides effective access to the LSSM (Laser Scan Space Manager) database which can manage an unlimited number of laser scans. LSSM is fully integrated with 3D CAD environments.

Capabilities include **access to components, P&IDs, 3D modeling libraries**, interference/clash detection and component removal/replacement simulations.

Using this technology, CSA has developed a **bi-directional interface** between PanoMap/LSSM, and **Cadmatic Plant Modeller** and **eBrowser**.



*Plant Component as rendered in PanoMap laser scan*



*Laser Scan Mesh representation in Plant Modeller*

### Types of Access Formats

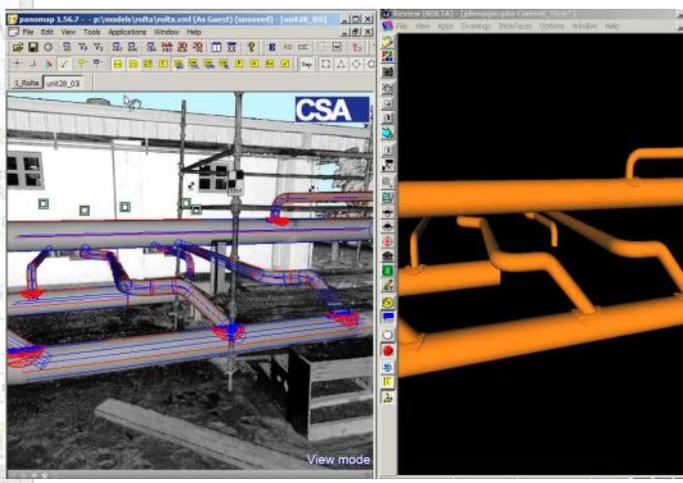
The interface to eBrowser and Plant Modeller is provided in these formats:

- **Point Cloud data** with applied intensities
- **Intelligent 3D models** created using PanoMap Laser Scan Intelligent Modeler
- **3D CAD surface** representation



## PanoMap Provides the Following Functionality

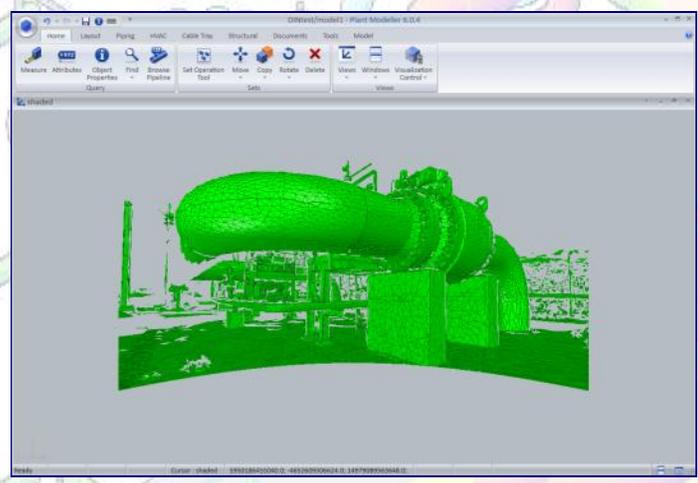
- Specification-driven modeling functionality using laser scans
- Automatic fitting of piping components
- Specialized component libraries oriented for automatic fitting of the components into laser scan space
- Automatic pipe routing capability to complete the pipe runs
- Powerful support for small bore piping, instrumentation, flexible pipes, tubing, etc.



## 3D Surface CAD Interface

The LSSM database also contains a surface 3D CAD representation of the laser scan space.

This representation provides another, easily-visualized format of the laser scan data.



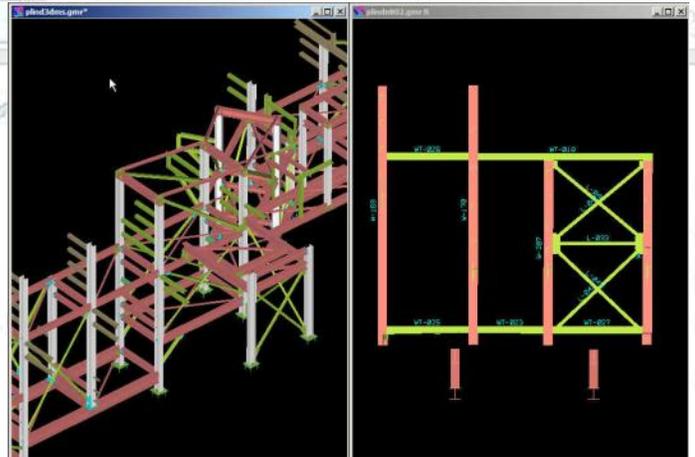
## Intelligent Tags with Access to Documents, Photographs, and Data Attributes

PanoMap® has the powerful capability to attach labels and associated data to laser scan components. This includes access to documents, component attributes, inspection records, and others.

Materials

## Intelligent 3D Models from Laser Scans

PanoMap provides powerful functionality to create 3D intelligent models for piping, steel, equipment, etc. which can be transferred to eBrowser and Plant Modeller. The models are built using extensive Plant/CMS\* component libraries and specifications.

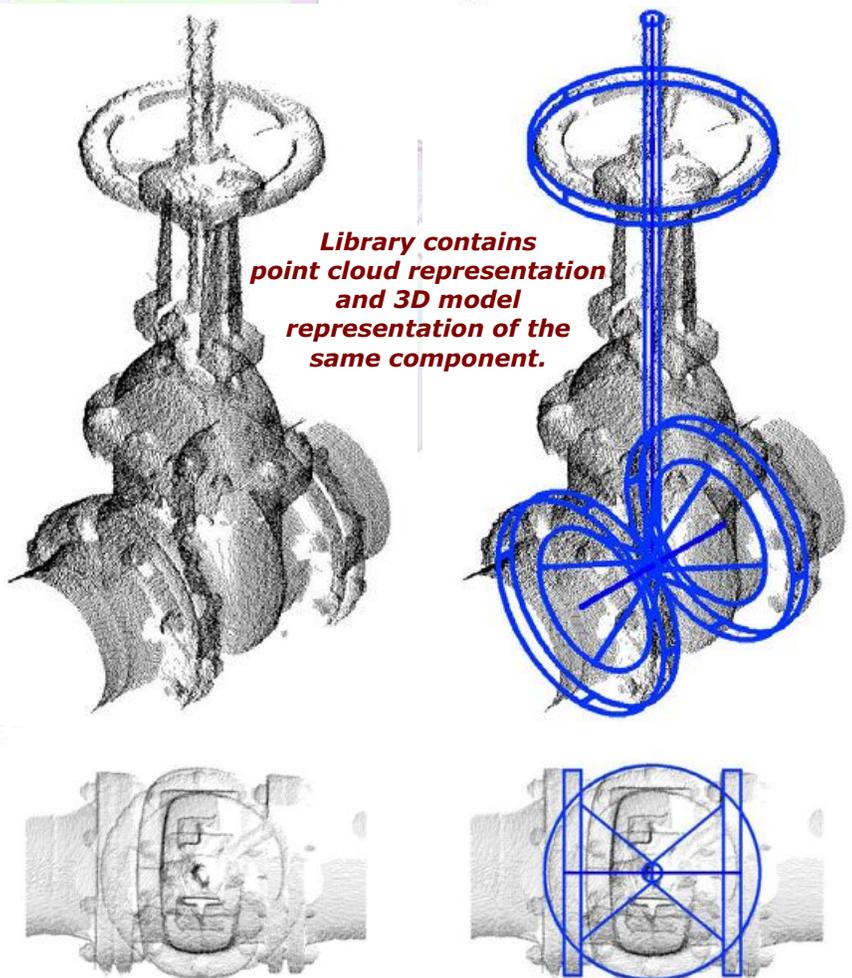


## Comprehensive Libraries Suitable for Automatic Fitting to Laser Scans



PanoMap® intelligent modeling libraries have a dual representation for each library component: Laser scan fit representation, and the resulting 3D model library representation.

The laser scan fit representation closely matches the real component. It also includes a point cloud representation of the component, which aids the accurate fitting of the component into laser scans.



*The point cloud version is used to fit against the scans.*

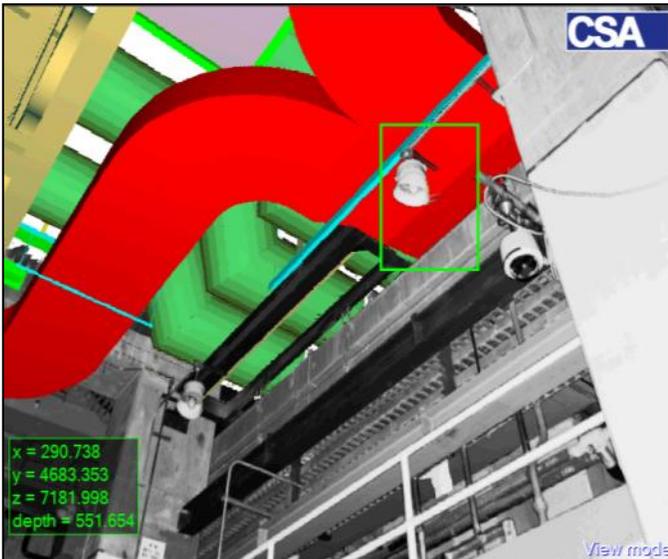
\* Plant/CMS is CSA's 3D Intelligent Modeling Technology

## Plant Modeller to PanoMap Interface

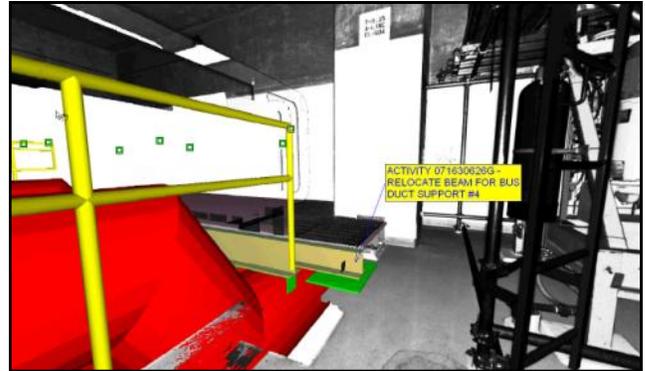
PanoMap provides extensive laser scan database functionality and is designed to handle projects of any size.

PanoMap's interface to Cadmatic Plant Modeller supports direct integration with laser scan data.

This provides a variety of PanoMap functions to these programs, which include:



*3D model imported into PanoMap laser scan*



- User-friendly visualization of the design against scan space using a realistic, photographic-quality viewing format
- Powerful laser scan measurement and dimensioning capability
- Easily viewed interference checking with obstructing elements clearly color-coded
- Intelligent labels and tag numbers
- Access to and integration with other electronic documents and databases
- Equipment rigging and removal simulation
- Construction reviews using laser scans with new design

## iPanoMap™

**on a tablet/smartphone—for plant management & more**

iPanoMap is now available for Android-based devices, providing 360° laser scan views of your plant. It is an indispensable tool for a variety of applications including plant walk-downs, inspections, and pre-job briefings.

Now your mobile device can include original scans, as well as 3D CAD models merged into the scans. **Measurements** and **smart labels**, which can represent survey data, audio, photos, drawings, and other files, with critical, conveniently placed information, can be added.



*iPanoMap 3D laser scan library on tablet*