

**Reverse engineering through laser scanning technology for the production of three- dimensional intelligent model with aggregated techniques (specifications, classes of online, documentation management, etc).**

- Field Survey of the existing plant using laser scanner to obtain the "point cloud" model of the involved parts of the plant
- Implementation of layouts with panoramic views linked
- Implementation of the 3D CAD model from the "point cloud"
- Integration between 3D CAD model and line specifications to obtain the 3D model
- Field surveys to resolve discrepancies between model and documentation
- Extraction of the plant constructive drawings
- Extraction of the piping material lists (MTO)
- Check and update of the "as-built" status of existing key documents
- Import into the 3D CAD modelling system of the point clouds resulting from laser scanning to obtain the complete plant as-built model
- Reconstruction of the specifications and technical documentation of the plant
- Provision of technical information and documentation for changes and additions to plants

# Reverse Engineering Services

Ulysta creates accurate 3D models through Laser Scanning technology – rapidly and cost effectively. Our 3D scanning capabilities reduces the field time required to accurately As-Build facility.

Ulysta and its associates have experience in successfully implementing laser scanning projects.

## Technology

- TPS – For small sections (TPS to CADworx to SP3D)
- HSLs – For large sections (Point Cloud to SP3D)
- 360 degree data capture using high-speed Laser Scanners
- High accuracy surveys (+/-3mm)
- Scanning diameter up to 100m
- Rapid data capture minimizes time on site

## Applications

- 3D Laser scanning for new Platforms or Vendor Packages
- As-built Data Collection for brownfield projects to ensure a clash free design
- 3D Laser Scanning for production of As-built Intelligent 3D models

## Tools

- Cyclone
- Leica
- ALM
- Standard deliverables for a laser scanning project includes registered point cloud data in formats like .imp/.zfs/.zfc/.pts/.3dd/.rxp etc. Colored point cloud data can be delivered on demand basis

## Services

- 3D Laser Scanning
- Dimensional Control
- Data processing
- Clash Detection
- Conversion of Cloud data into fully intelligent 3D models on any platform.

