

Product Sheet

# uniTank

## Near Real-time Software for Above Ground Storage Tank Analysis and Reporting

uniTank delivers comprehensive storage tank analysis reports, including assessing American Petroleum Institute (API) 650 and 653 standards compliance, based on high-resolution laser scan data. The software enables tank inspectors, engineers, and owners to receive same day results of decision making information. Use uniTank on site to reduce turnaround time and to coordinate additional inspections that may be required.

### Storage Tank Inspection

To ensure continual safe operation of storage tanks, regular and thorough inspections are required to identify potential safety issues. Laser scanning technology can be used to minimize downtime, reducing the overall cost of inspection. Laser scanning can capture the entire storage tank structure in great detail within a few hours, reducing delays and the need to return to site.

### Tank Laser Scan Analysis and Reporting Software

uniTank delivers same day analysis results by performing complete tank structural analysis as well as tank calibration in near real-time. Data analysis that once took weeks to complete can now be completed in less than an hour, even on site. uniTank offers a step-by-step workflow to process and analyze laser scan data of storage tanks. Its 1-Step Reporting creates inspection reports that contain all API 650/653 compliance results required by inspectors, engineers, and owners.

The uniTank workflow consists of the following main components:

#### Data Import and Registration

uniTank can import laser scan data from all the major point cloud formats. The data registration tool is robust and versatile, and offers many features to register both internal and external data in all types of scenarios. It does not rely on targets in field, reducing

in-field preparation and risk of project failure. Its uses advanced algorithms fine-tuned for the storage tank environment.

#### Precise Data Classification

Accurate analysis depends on precise data classification, but data classification is a step that is often overlooked. Analyzing nozzles and manway data as part of the shell would lead to erroneous out of roundness results. The boundary between shell and floor must be clearly identified in order to generate accurate shell settlement results. uniTank has complex algorithms that precisely differentiates between structural components in order to produce the most accurate analysis results possible.

#### Key Features

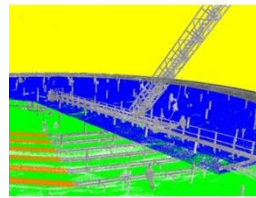
- Comprehensive tank analysis in a single software package
- Near real-time results with unrivalled quality
- API 650 and 653 code compliance reporting
- Highly automated step-by-step workflows
- Intuitive 3D data visualization and manipulation
- Customizable reporting

## Automated Tank Analysis and Reporting

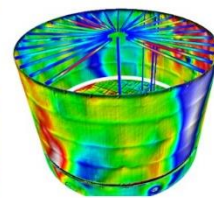
Data registration and classification are the most critical part of data analysis. This is why it is important to have a dedicated software solution engineered to work in the storage tank environment. Once these vital steps are done, **uniTank** can quickly and automatically perform comprehensive analysis of:

- **Floor Settlement** – Identifies local deformations, indicators of corrosion, subsidence, water beneath the surface, or improperly distributed column loads
- **Shell and Edge Settlement** – Identifies settlement caused by the shell that may lead to uneven stresses on the shell and floor
- **Shell Roundness** – Identifies deviations from a perfect cylinder, indicators of out-of-plane settlement, shell stresses, physical damage, or improper repairs
- **Shell Verticality** – Identifies deviations from vertical, indicators of planar settlement or column deformations
- **Shell Peaking and Banding** – Identifies deviations from smooth surfaces, indicators of compromised welds
- **Column Verticality** – Identifies deviation from vertical, indicators of column deformations, improperly distributed column loads, floor settlement, or tank twisting
- **Girders and Rafters Deflection** – Identifies deviation from design dimensions, indicators of column deformations
- **Roof Settlement** – Identifies local deformations, indicators of corrosion or girder/rafter/column deformation
- **Floating Roof Rim Space** – Identifies space between shell and floating roof outer rim, indicators of possible seal failures or unsmooth operation
- **Tank Calibration** – Calculates the capacity of the tank (API MPMS 2.2a) for overfill protection, custody transfer, and asset management
- **Berm Surveys** – Calculates the capacity of secondary containment structures and overflow location to ensure environmental safety in the event of a tank failure.

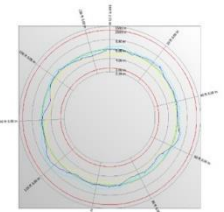
Automatically generated reports are editable and customizable. Digital data files, tables and graphs can be integrated into other documents.



Classification



Analysis



Report

## Benefits

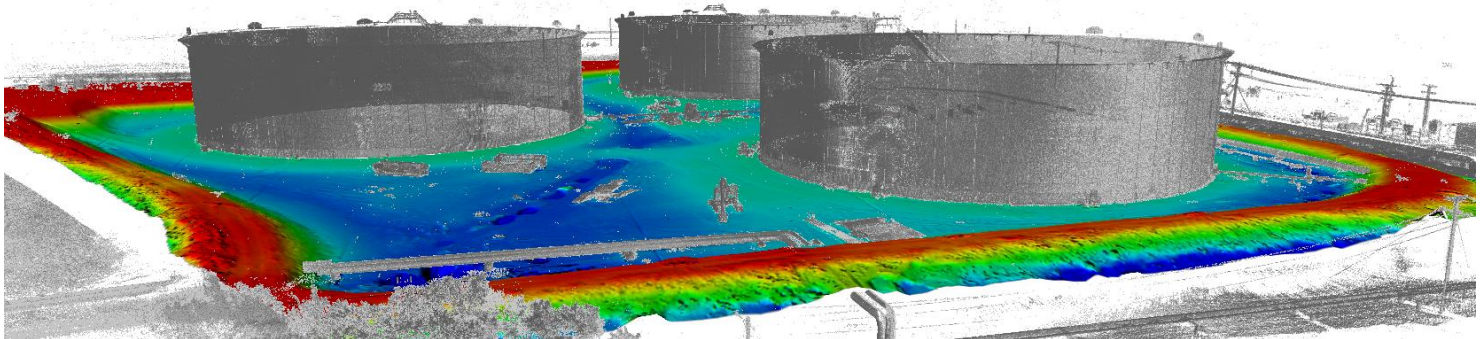
**uniTank** turns 3D storage tank data into answers in less than an hour, making onsite tank analysis possible. It is a comprehensive and cost-effective software solution that is dedicated to storage tanks, making 3D laser scanning a viable technology in the field today. **uniTank** assesses American Petroleum Institute (API) standards compliance of storage tanks (API 650, 653, MPMS 2.2a). It is the only software solution needed for 3D storage tank analysis and reporting. Register, visualize, analyze, and produce comprehensive reports, all in one software package.

**uniTank** has been used in many projects to assess tanks across North America, the Caribbean, and Europe over the last several years, and has proven to be robust, reliable, repeatable, and highly accurate.

## uniTank Service

If you don't have the time or resources to use **uniTank**, Novlum also provides tank analysis services with guaranteed report delivery within five business days. Next day rush service is also available on request. Send us your data, we deal with the rest.

Contact Novlum: [unitank@novlum.co](mailto:unitank@novlum.co)



## About Novlum

Novlum is a boutique software company that develops geospatial software products with a focus on real-time visualization and efficient analysis of 3D geographic data. Novlum's goal is to develop software products that are powerful yet easy to use, enabling non-GIS experts to leverage the power of GIS.