



Protecting your world, one tank at a time®

## 3D LASER SCANNING TECHNOLOGY

For over 40 years HMT has been passionate about ensuring our aboveground storage tanks and related products provide our customers with the best possible performance and service life.

HMT utilizes 3D Laser Scanning Technology to collect accurate data and utilize it for best design or product selection, tank geometry evaluation, and maintenance and repairs solutions.

As the shape of the tanks changes, we are proactively collecting accurate data to ensure the correct information is used to design our emission reduction products. Results of the 3D Laser Scanning Technology can be downloaded into a point-cloud visual representation of the inspected area for analysis or to provide a virtual model of the scanned object.

### Key benefits:

3D laser scanning is commonly used for evaluating the condition of above ground storage tanks. The data gathered has proven to be extremely helpful for the following activities:

#### **Verticality and Roundness studies** —

This survey is critical to ensure proper design selection and safe installation and operation of floating roofs, seals or domes.

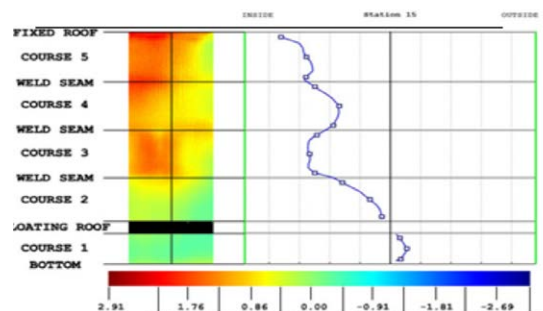
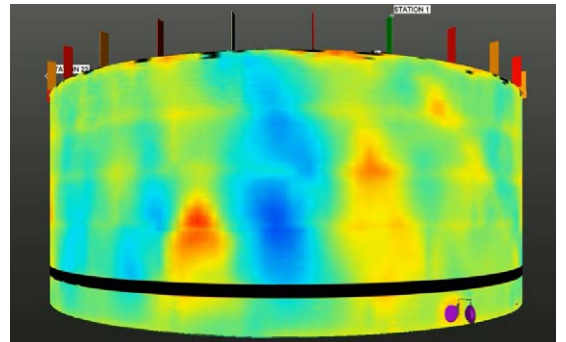
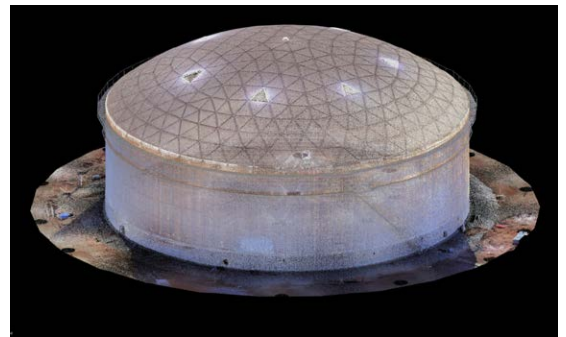
**Tank design/modification projects** — rim seals replacement, Internal Floating Roofs replacement.

**Accurate geometry analysis during tank inspections** — Can be performed on both external and interior tank structures prior to, and post repair, to accurately ascertain the true shape and existing condition of the tank structure. Scanning is done in conjunction with API 653 Inspection regulations.

**Tank deformation monitoring** — data points obtained from 3D laser scanners can be used to compliment linear measurements by tracking the deformation or settlement of a tank over time.

**Critical level determination** — 3D laser scanning can quickly collect elevation measurements to determine deck damage or overflow heights.

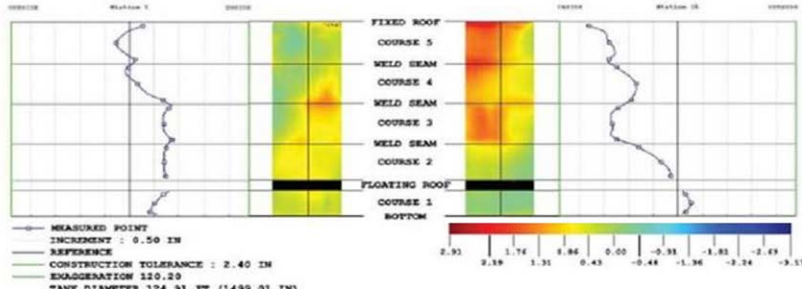
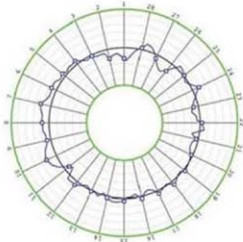
**Suitable for a variety of tank products and shapes** — scanning can be performed on floating roof, seals, piping, and other structures.



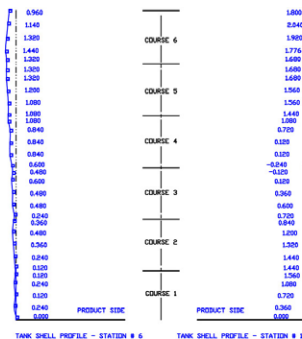
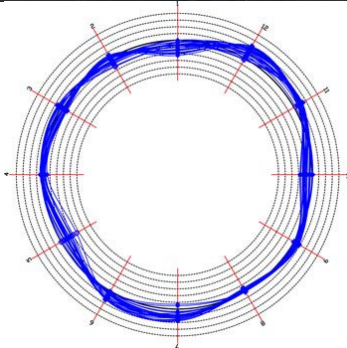
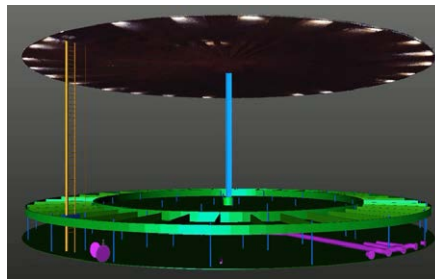
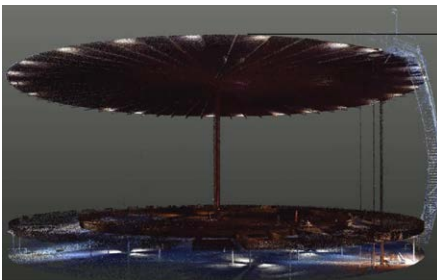
## KEY FEATURES AND ADVANTAGES OF THE 3D LASER SCANNING



- Increased data collection for greater detail and accuracy, eliminating the measurement errors associated with traditional techniques.
- Laser scanners can collect vast amounts of data in a fraction of the time it takes using traditional methods.
- Multiple evaluations can be accomplished from a single survey to effectively assess the condition and/or dimensions of a storage tank, as well as to create extremely accurate 3D CADs.



Custom built tank analysis software allows HMT to produce reports in an easy-to-understand format, providing tank owners with Tank Floor Analysis, Tank Calibration, Bottom Settlement, Verticality (plumbness), Planar Tilt, Radial Deflection, Shell Deviations and Internal Structure Data, in accordance with API 653 and EEMUA.



## ABOUT HMT

HMT is the global leader in aboveground storage tank solutions. HMT's global team of engineers, project managers and field personnel can assist with common challenges including ways to reduce emissions, optimize tank capacity, reduce stranded inventory and engineer a tank system that exceeds safety standards and extends maintenance intervals.

**HMT's full suite of tank products includes:** Internal/External Seal Systems - Internal/External Floating Roofs - Drain and Floating Suction Systems - Aluminum Domes - Emissions Reduction Devices.

**HMT's quality services include:** Tank Repair & Maintenance - Floating Roof & Seal Repair/Replacement - Installation Services - Fabrication Services - Project Management/Turnkey - Inspection - Calibration - Verticality & Roundness Studies - New Tank Construction - Painting, Coating & Lining - Engineering Services.

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