



3D Laser Scanning Services

High-Accuracy Survey • Digital Twin • Retrofit & Engineering Support



AL-QAQNOOS Engineering provides professional 3D Laser Scanning Services for marine vessels, offshore structures, shipyards, and industrial facilities. Using high-precision scanning technology, we capture detailed as-built geometry and generate accurate point cloud data for engineering, retrofit, modification, and fabrication projects.

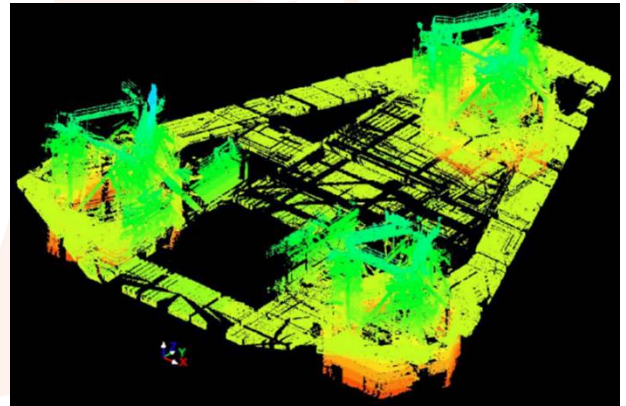
3D laser scanning reduces site measurement errors, minimizes rework, and supports fast engineering decisions by delivering reliable digital documentation of complex spaces.

3D Laser Scanning & As-Built Survey

High-accuracy scanning of vessel spaces and offshore/industrial areas to produce as-built surveys for engineering and documentation. Suitable for engine rooms, pump rooms, deck machinery areas, piping corridors, and accommodation spaces. Supports retrofit planning, clash detection, and safe installation design.

Point Cloud Processing & 3D Modeling

Processing and registration of point cloud data into clean, structured outputs for engineering use. Services include filtering, coordinate alignment, segmentation, and conversion into 3D CAD models, enabling accurate design work and modification planning.

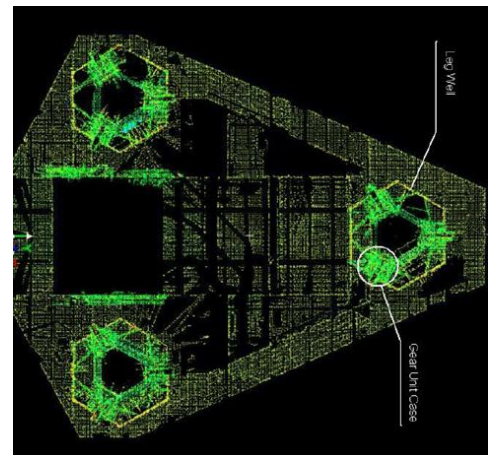


Reverse Engineering & Retrofit Support

Reverse engineering of existing systems and structures to support retrofit, upgrade, and conversion projects. This includes extracting critical dimensions, equipment locations, and interface details to ensure new installations fit correctly with minimal modification onboard.

Dimensional Control & Alignment Verification

Dimensional inspection services for verifying alignment, clearances, and installation accuracy of mechanical structures and equipment foundations. Useful for machinery installation, pipe spool fit-up verification, structural modifications, and pre-fabrication checks.



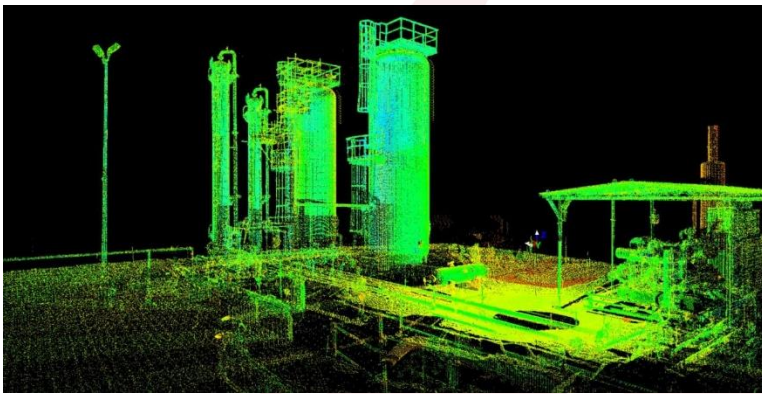


CAD Deliverables & Technical Documentation

Delivery of engineering outputs in required formats, including:

- Point cloud files
- 2D drawings (GA, sections, layouts)
- 3D models
- Measurement reports
- Reference coordinate systems

Deliverables support shipyards, owners, class, and engineering teams for project execution.



Applications

- ✓ Ship retrofits & conversions
- ✓ Pipe routing and spool prefabrication
- ✓ Equipment replacement and installation planning
- ✓ Structural modification and fabrication support
- ✓ Naval architecture and design verification
- ✓ Dry dock and repair projects

Service Positioning

AL-QAQNOOS acts as a 3D Laser Scanning and Engineering Support Provider, delivering scanning execution, data processing, reporting, and documentation. Where required, scanning instruments and software tools are supported by approved technology partners, ensuring accurate and reliable outputs.

Your Partner for Accurate As-Built Digital Documentation

With **AL-QAQNOOS** 3D Laser Scanning Services, clients achieve high-accuracy measurement, reduced rework, faster engineering turnaround, and reliable retrofit planning for complex marine and offshore environments.

