

## Ballast Water Management System Installation Measurements

### Overview

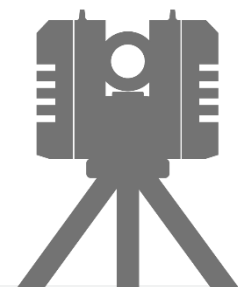
METRICA S.A. accomplished 3D Scanning measurements and delivered the 3D model of several ship areas for the custom design, feasibility study and installation of a ballast water management system.

In total, 5 ship zones (pump room, steering room, deck areas, ballast tank, funnel area) were detailed scanned with an ultra-high-speed time-of-flight laser scanner, Leica ScanStation P40 and appropriate equipment on a period less than two working days (only during allowable time intervals defined from the ship crew for safety reasons).

Fieldwork took place in Antwerp, Belgium by one engineer. Office Processing was finalized within four working days.

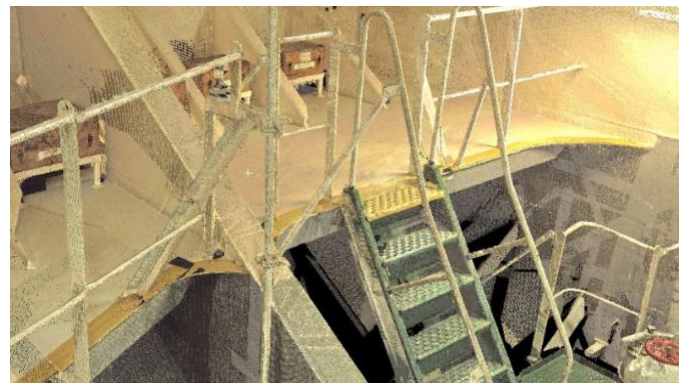
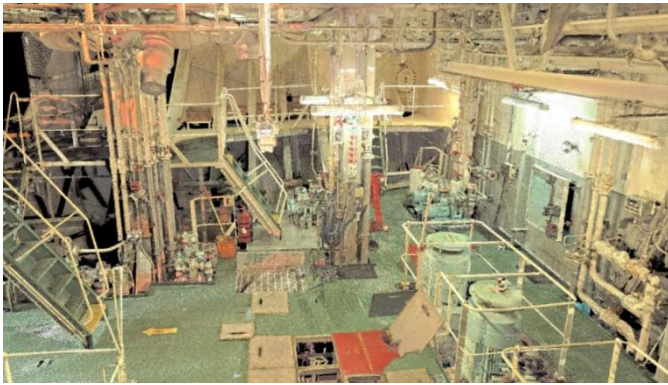
### Challenges

- Tight schedule
- Large number of surfaces & areas
- Complex geometries



### Benefits

- elimination of field interferences
- increased productivity
- cost reduction
- less rework
- fewer requests for information
- time-saving

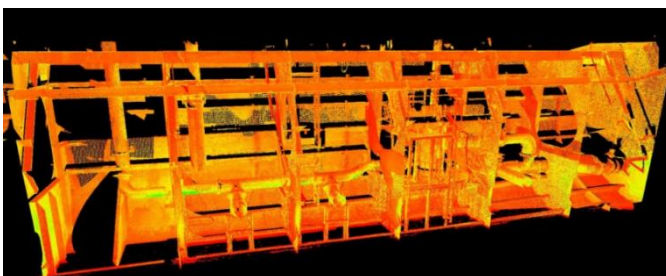
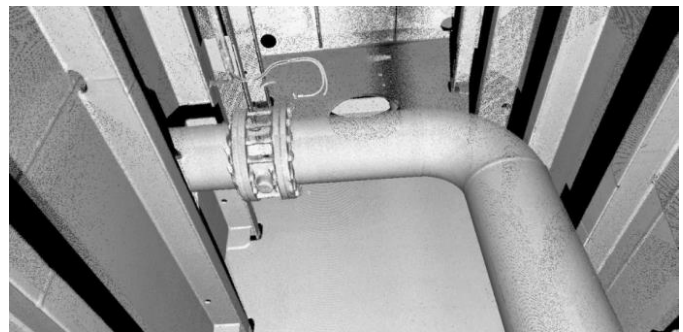


## Fieldwork / Office work

The dataset was collected through 61 laser scanner setups. On every position, an integrated internal HDR camera was used to create a photographic panorama and to attribute colors to point clouds (273 digital images per station setup).

After measurements, all data were loaded to the Leica Cyclone software for further processing. Then, point clouds were registered to a final unified and aligned point cloud which was ready to be filtered - cleaned from all irrelevant objects captured during 3D Scanning.

The final registered and unified clouds from the areas we scanned were transformed into the ship's coordinate system. Furthermore, we created a web-enabled panoramic point cloud viewer using Leica True View. In this platform, any user can view pan, zoom, measure and mark up point cloud and the possible superimposed 3D model.



### Instrumentation / Software

- Laser Scanner Leica ScanStation P40



### Deliverables

- 3D point cloud data (true color and intensity)
- Leica True View

Do you have a similar project?

Contact our team: [info@metrica.gr](mailto:info@metrica.gr)