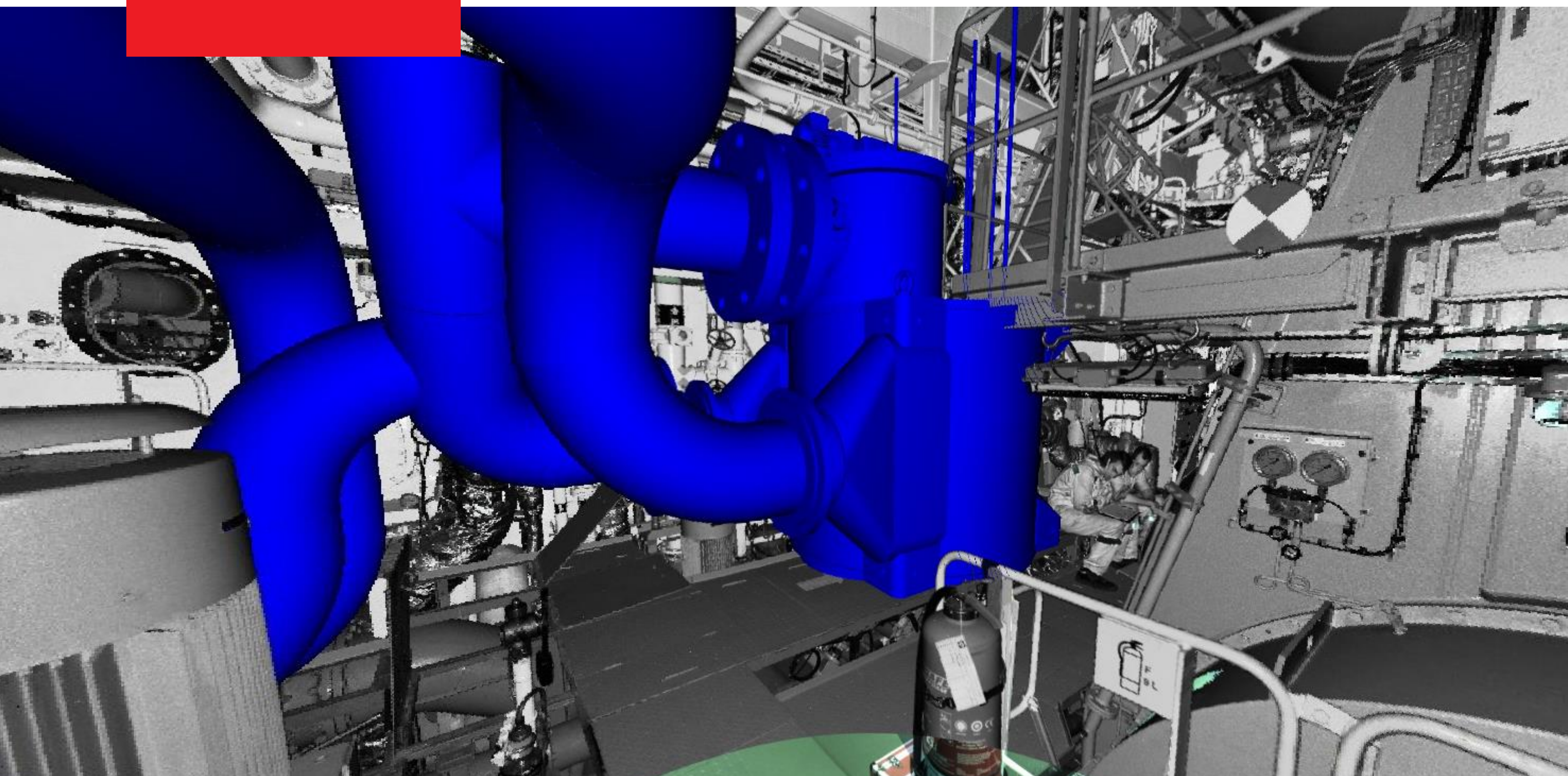
MARINE

METRICA
When it's a matter of trust



Ballast Water Management System Installation Measurements

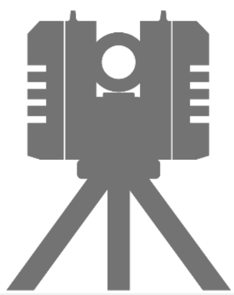
Overview

For the installation of a Ballast Water Treatment system available space is an undisputable factor for any further action. Measuring an engine room with traditional methods becomes a nightmare for a project engineer because of the complexity and the strict time schedules of the vessel's program that complicate the accurate and complete surveying. Additional many ships have not as-built drawings updated with any modifications. Terrestrial LIDAR technology is the state-of-the-art solution for such kind of cases. METRICA was contracted to scan a pump room to produce and deliver the accurate 3d model of the area. Our team used Leica ScanStation P20 to do the necessary fieldwork.

We completed our job via 20 laser scanner setups in one working day.

Challenges

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



Benefits

- High accuracy surveying (as-built)
- Time – saving
- Easy modelling
- Increased productivity
- On ship measurements / No need for dry docking
- No in-situ future rework
- Direct BWT installation system (CAD environment)

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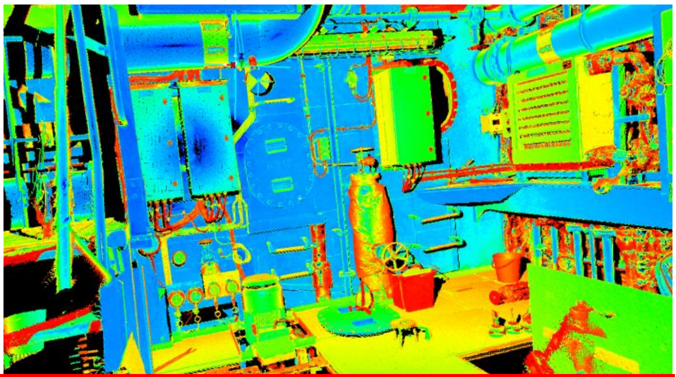
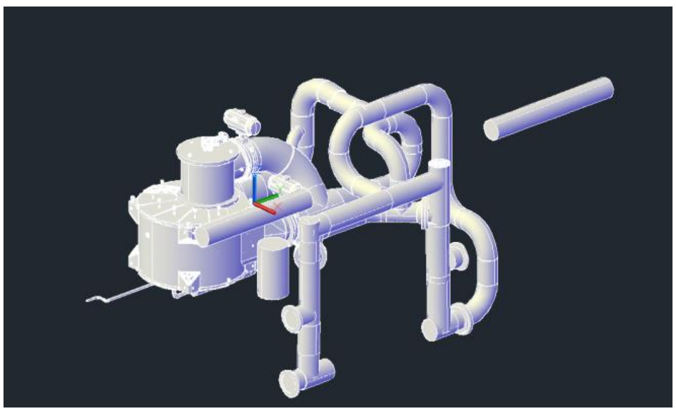


Registered point cloud of pump room (True Color and Intensity values)

Fieldwork / Office work

With the Leica ScanStation P20 and the support of the Leica Cyclone and CloudWorx software, the scans of the pump room were measured, registered and processed to the same coordinate system. It took 20 setups and only 5 hours of measurements to cover the essential surfaces. By the time each scanning is completed, a real-time checking is accomplished via the instrument's (P20) screen to verify that critical data are acquired. That guarantees that no additional visits to the ship will be required. For the registration of the scans, our team used smart targets for accurate results.

In the office, our team used Leica Cyclone software for the registration of the scans. Then, the points of interest are separated from irrelevant objects. With the proper guidance of the project engineers, essential elements of the pump room for BWT pipes and details were modelled/drawn. The final 3D BWT model, best positioned to the pump room space, with registered point clouds were imported and presented to a web-enabled panoramic point cloud viewer (Leica TrueView). In this platform, any user can view pan, zoom, measure and mark up point cloud and the superimposed 3D model.



Instrumentation / Software

- Laser Scanner Leica ScanStation P20
- Leica Cyclone
- Leica Cloudworx
- Leica TruView

Deviverables

- Intensity or/and true color point cloud
- Crucial pipes & engine room details drawing/modelling
- Web-enabled panoramic point cloud viewer with the final Ballast Water Treatment Installation 3D model

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Do you have a similar project?

Contact our team: info@metrica.gr