



Measurement of Ship Deformations (afloat conditions)



Field work: 1 day, 3 staff members

Office work: 3 days, 1 staff member

Deliverables:

- Tables including all measured points coordinates
- Graphs showing longitudinal and vertical deformations

Advantages:

- Accurate and reliable measurement methodology in comparison with other techniques (e.g. accelerometers, etc)
- Fast measurement service
- Possibility for future deformation monitoring

Scope of Work

METRICA S.A. was contracted to examine ship's geometry under afloat conditions. Specifically, the ship was inspected for the presence of probable longitudinal and vertical deformations (e.g. sagging or hogging, bending, twisting etc). By utilizing high accuracy industrial Total Station **Leica TS30**, all essential measurements were taken in a working day.

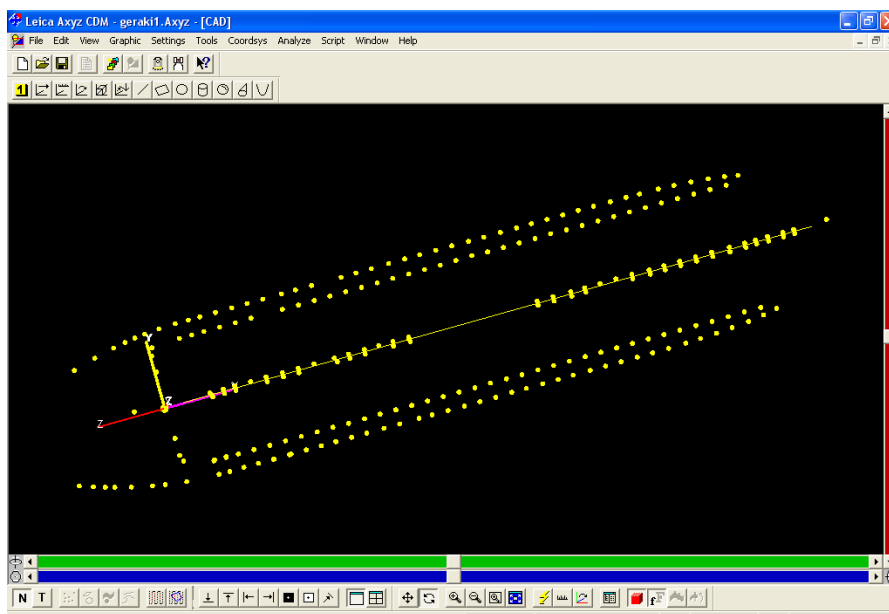


Leica TS30 Total Station



Measurement Service Description

It was agreed that 6 longitudinal lines should be measured. The points belonging to each line would be at least one for every frame of the ship. The lines were defined in a symmetrical way regarding the center line of the ship. With the **TS30 total station (Leica Geosystems)**, all points were measured from 6 station setups. **DCP05** (on TS30 total station) was used to establish the ship's coordinate system. In the office, with the help of **Leica XYZ** software, data analysis took place and conclusions about sagging, hogging, bend, twist and main deck deformations were extracted.



Measured points on Leica Axyz software



Figure of measurements lines

- when it has to be **right**

