Ocean going Ship tankers carrying oil, chemicals and natural gas are the principal carriers of world economy – everything is dependent on its cargo

(c) Tomojit Ghosh Calibration, 2010
As credibility and financial health is a concern for all ship owners and charterers, ship tankers need to have very accurate cargo tank calibration (ullage) tables to be able to transact correct volumes of liquid cargo.

It's not easy to make accurate calibration tables though, as it may seem simple from a ship GA drawing.
From ULCCs to smaller ships, why calibration of these cargo tanks is not an easy one can be understood from the shape these tanks can take as shown below. These are not regular cylindrical or rectangular constructions. As we see these tanks can have very complicated non-linear shapes, bulkheads, web frame partitions & stiffeners, curved & inclined floors, camber and deadwoods (coils, valves, pipes, ladders, etc.) at varying heights. They need to be measured with a great degree of accuracy, geometric conception. Volume calculations are done with help of complex formulations and CAD, which is an extremely difficult task to accomplish in general. Volume in these tanks do not increase in a linear manner or equal volume intervals throughout the ullage height. This accuracy factor involving non-linear volume interval in ship tanks can make or break your cargo transaction receipts and delivery.

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What does it take to do it accurately? Do we have the technical acumen to deliver?

- It's a digital age. We utilize the most **modern digital laser instruments and stations** to know the critical dimensions & coordinates of the cargo tanks. It's fast with no holdups, efficient without physical water filling, its accurate and reliable with all the engineering expertise, innovation & geometric conception.

- Volume analysis & calculations are carried out with mathematical & engineering precision for every dimensional detail and deadwood corrections at all levels. Not only machines, but incisive and experienced minds are behind making of ullage tables, list and trim corrections as per international rule API MPMS 2.8.A (on-site linear measurements).

- Our team is always ready to meet any challenging task at any international anchorage.
Calibration Tables

• Advanced mathematics and engineering dynamics are used by our experienced team on customized softwares and CAD to make the **Sounding and Ullage tables**. Quality checks at various stages of calculations are done. Our workflow is credibly certified with **ISO 9001 QMS**.

• At any stage of discharging or loading liquid cargo, **“list” and “trim”** corrections are essential to be applied on ullage / soundings as the ship may not be on an even keel or upright condition. We provide these corrections with high accuracy, included in Ullage/Sounding table book.

• Also, all data (ullage & sounding tables, list / trim correction) is provided by us in electronic format required for loading onto ship loadicator programs.
Cargo piping volumes

- Volume calculations for pipelines inside the cargo tanks are included in calibration tables.
- Separate volume calculations are provided for deck cargo lines, pump room lines, and bottom cargo lines where applicable.
## Recent Projects

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We make a difference
providing high accuracy at a reasonable cost

- In charge of affairs
  **Prosenjit Ghosh**, (pictured right) AMIE, with an experience of 22 years in calibration of tanks, he oversees worldwide business and is the technical head and chairman.

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Our website:
**www.tankcalibration.in/ship_tank_calibration.html**

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