

**Zebec Marine Consultants & Services Pvt. Ltd.** with its vast experience in Shipbuilding project management and Design & Engg. Services is equipped to offer the complete engineering solution for Ballast Water Treatment Retrofit.

➤ **On Board Site Survey, Scanning and Data Registration**

- Convert existing ships drawings into AutoCAD format
- Using 3D laser scanning equipment scan the proposed location and convert the cloud points into AutoCAD
- Superimposing the BWTS into prepared 3D Modeling of the proposed location
- Check the feasibility, detection of clashes, propose routing of piping to meet the OEM, Class and Operational requirements

➤ **Detailed Engineering**

- Update the existing P&ID diagram of Ballast system with the new BWTS and corresponding piping
- Prepare detailed 3D Model and generate Spool Drawings and arrangement drawing
- Prepare information required for the fabrication and installation of piping and Bill of material
- Submission of drawings to class for approval and technical liaison with class to obtain the approval

➤ **Site Supervision**

- Supervision of installation of the system to meet the class and operational requirements.

