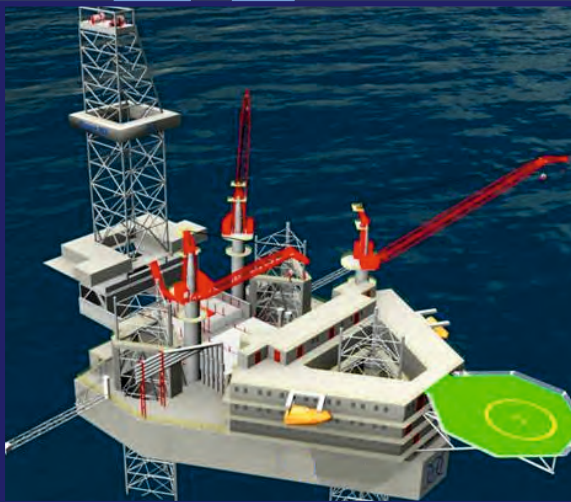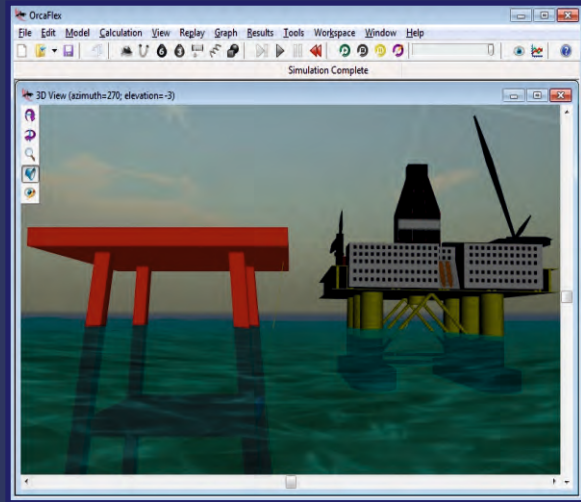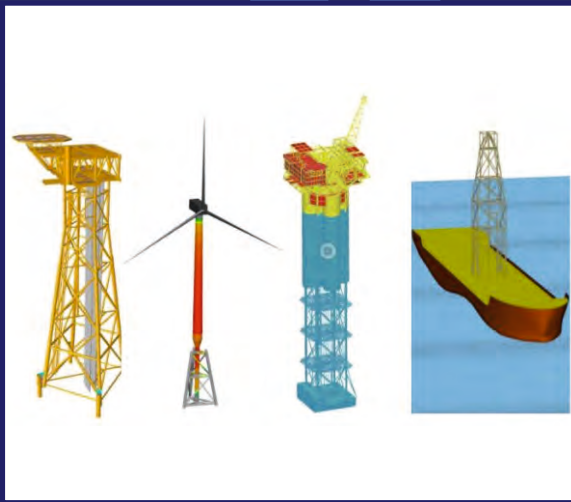# *Aryatech Marine & Offshore Services Pvt. Ltd.*

Aryatech Engineering Consultants FZE

Aryatech Marine Egypt

Aryatech

Introduction

Aryatech Marine & Offshore Services Pvt. Ltd, India & Aryatech Engineering Consultants FZE, UAE are a design & engineering company with specialization in the field of marine & offshore technology. Our business is based on efficient management of technical information, state-of-the-art engineering processes, and utilization of modern information technology. The company has Naval Architects, Structural Engineers and Designers, Programmers, Process & Instrument Engineers, CAD Draftsmen with Marine/Offshore experience.

Aryatech is authorized channel partner of the Bentley software SACS, STAAD.Pro, Microstation, MOSES & Maxsurf in India & Middle East (UAE, Qatar, Egypt, North Africa &Turkey). Aryatech provides training on OrcaFlex Software.

Aryatech is the authorized SACS training center for India & Middle East by Bentley. Aryatech also specializes in providing training to companies & individuals for Marine & Offshore applications

Aryatech's extensive experience with ships, jack-up, drilling units, drillships, risers & pipelines enable us to provide the clients with professional & cost effective solutions.

Aryatech is associated with Stewart Technology Associates USA (www.stewart-usa.com), a major Marine & Offshore Engineering Consultancy company.

Our Verticals & Design Services

Offshore Engineering

Drill Ships/Semisubmersibles

- General Arrangement & Tank Capacity Plan
- Pontoon, Column & Deck Box Structural Design
- Bracing, Sponsons & Blister Design
- Piping Layout Design

Jack-Up Rigs

- General Arrangement & Tank Capacity Plan
- Hull Structural Design
- Leg & Spudcan Design
- Drillfloor & Pipe Rack Design
- Raw Water Tower Design
- Helideck, Accommodation & Crane Pedestal Design
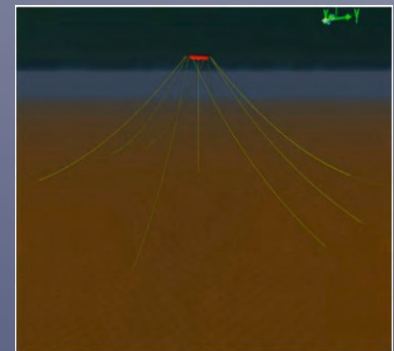- Piping System Design

Fixed Offshore Structures

- Hull Structure Design
- Fatigue Analysis
- Accomodation Layout & Helideck Design

Sub Sea Systems

- Single Point Mooring
- Sub Sea Pipelines
- Mooring/Riser Analysis

General

- HVAC Design & Analysis
- Fatigue Analysis
- Piping System Design & Analysis

Hydrodynamic & Mooring

- Stability Analysis
- Mooring Analysis

Simulators

- Jack-Up Operation
- Sem-Submersibile Operation
- Major Emergency Management
- Stability Training
- Drilling Operation

Naval Architecture

➢ Stability Analysis (Intact & Damage)
➢ Mooring Analysis (static, quasi-static, dynamic & fatigue)
➢ Motion Analysis (diffraction)
➢ Loadout, Launching & Lifting Analysis
➢ Longitudinal Strength
➢ Deadweight Surveys & Inclining Experiments
➢ Tonnage & Freeboard Calculations

➢ Stability books - production of new & updating of existing books

➢ Fabrication drawings for ships hull structure, bulkheads sections, including construction details and welding symbols
➢ Design of up to medium sized marine vessels like tugboats, barges, mini bulk carrier, landing craft, launches, diving support barge etc.
➢ Propulsion & auxiliary machinery selection and/or replacement studies

We use the following software for our Design & Analysis

➢ AutoCAD (Drafting)
➢ STAAD.Pro
➢ MOSES
➢ SACS (Structural Analysis)
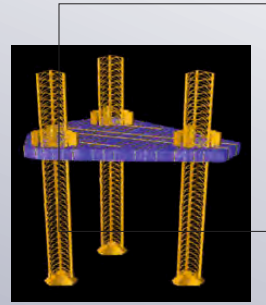➢ OrcaFlex (Mooring Analysis)
➢ Maxsurf
➢ ANSYS

Training We Offer:

1. SACS **-** Offshore Structures

2. STAAD.Pro **-** Structures

3. OrcaFlex - Subsea Systems, Mooring/Riser Analysis & Pipelay analysis

4. Sub Sea pipelines design and analysis

5. Operation and maintenance of Offshore Structures

6. Structural assessment for fixed /floating structures

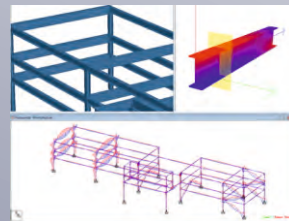# Specialist Software-Authorized Representative in India & MENA

SACS

SACS is an integrated suite of software that supports the analysis, design, fabrication, and installation of offshore structures, including oil, gas, and wind farm platforms and topsides. Its ability to dynamically iterate designs allows users to perform advanced analysis, comply with offshore design criteria and visualize complex results.

STAAD.Pro

STAAD.Pro V8i is the structural engineer's software choice for steel, concrete, timber, aluminum and cold-formed steel structure design of low and high-rise buildings, culverts, petrochemical plants, tunnels, bridges, piles, aquatic structures and much more!
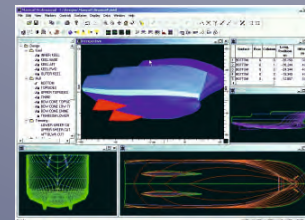
MICROSTATION

With MicroStation, you can easily view, model, document, and visualize projects of any size or complexity. Use MicroStation to deliver projects smarter. With proven MicroStation technology, you can confidently take on any design, construction, or operations project.
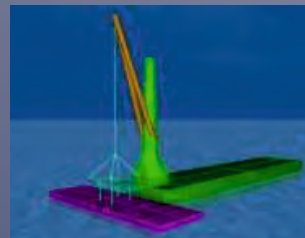
MAXSURF

Naval architects use the Maxsurf suite of software to model vessels and floating structures, assess stability and strength and predict motions. Engineers use Multiframe for general structural analysis, lifting analysis, calculation of motion induced loads, wind loads, hydrostatic loads, stiffened plate analysis and steel code checking.
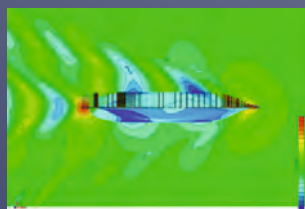
MOSES

Hydrostatic and Hydrodynamic Analysis Software for Offshore Installation and Platform Design.

MOSES is an advanced suite of Hydrostatic and Hydrodynamic Software that provides the accurate calculation and simulation of Offshore floating systems. Intact & Damage stability analysis, Transportation, sea keeping, Upending Lowering, Deck Installation, Load Out, Float Over, Jacket Launching etc.
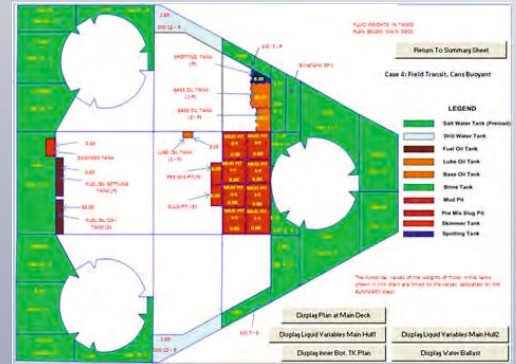
SHIPFLOW

Developed by naval architects, physicists and numerical analyst the software is optimised for ship hydrodynamics design. Specialisation means SHIPFLOW is effective and user friendly. No general purpose code can compete with SHIPFLOW in Hull design: grids are automatically generated, resistance and propulsion data are presented in the naval architects way and the solvers are adapted for hull geometries.
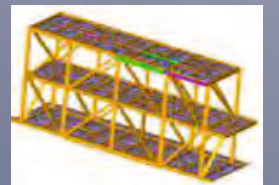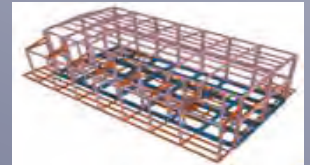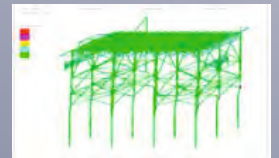
Stability Software

STA JACKLOAD

➢ This is the onboard stability software developed especially for jack- up rigs.

➢ Various load cases of the jack-up have been simulated for the crew using the software.

➢ Using this software the crew will get an idea of how the ballasting must be done, so as to bring the vessel into even keel.

➢ The plan view, front view, and side view of the vessel has been incorporated in the software to show the trim & heel of the vessel, position of legs with respect to the hull & sea bed and to show the position of each tank.
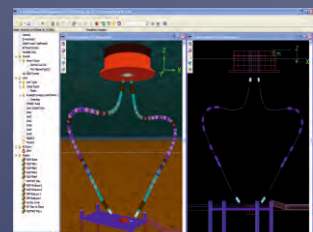

Projects undertaken

We have carried out a number of structural analysis & SPM design verification for Indian & international clients.

➢ **Structural Verification and Certification of Offshore Platforms using SACS Software.**

➢ **Transportation, Lifting & Resting Analysis of Power Skids**

➢ **Global In-place Analysis of Compressor Module.**
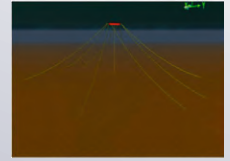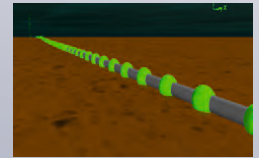

Projects Undertaken for Subsea Systems

➢ **Single point mooring system using OrcaFlex Software**

➢ **Mooring system for SESA GOA using OrcaFlex Software**

➢ **Single point mooring verification for Essar at Vadinar using OrcaFlex Software**

➢ **Riser & Mooring Analysis of Drillship (Sagar Vijay & Sagar Bhushan) for ONGC using OrcaFlex Software.**

➢ **Pipeline installation for Union Dredgers using OrcaFlex Software**

➢ **Perform static and dynamic pipe lay analysis & shore pull analysis and Stability.**

➢ **Carrying out Engineering Services for 50 MW Floating Solar PV Project at Rihand Dam in Uttar Pradesh, India**

Projects Executed for - Jack-up Rigs

Structure

Lifeboat & FRC Installation
- Concept Design
- Detailed Engineering
(Detailed & Fabrication Drawings)
- Structural Analysis Report

Helideck Global Analysis
- Detailed Engineering
(Engineering, Services Including Design Drawings)
- Structural Analysis and Design Drawing

Emergency Generator Module
- Concept Design
- Detailed Engineering
- Structural Analysis Report

Accommodation Upgrade/Extension
- Concept Design
- Detailed Engineering
(Detailed & Fabrication Drawings)
- Structural Analysis Report

Towing Arrangement
- Concept Design
- Detailed Engineering
(Detailed & Fabrication Drawings)
- Structural Analysis Report

BOP Trolley Beam & Lifting Frame Analysis
- Detailed Engineering
(Structural Analysis with Detailed Drawings)
- Structural Analysis with fabrication Drawings

Wireline UNIT
- Detailed Engineering
(Structural Analysis with Detailed Drawings)

PIPING

Mud Return Piping System
- Detailed Engineering
(Engineering Calculation with P & ID)

HP Piping & Chock Line Modification
- Detailed Engineering
(Engineering Calculation with P & ID)

Engine Cooling Line Modification and by-Pass System
- Detailed Engineering
(Engineering Calculation with P & ID)

Raw Water Piping
- Detailed Engineering
(Engineering Calculation with P & ID)

General Arrangement

General Arrangement, Fire Fighting & Life Saving Appliances and Hazardous
- Preparation of GA, FF & LSA and HAZ Area Plan

Hull Gauging Engineering Support
- Detailed Engineering (Engineering Support)
- Engineering Check report including fabrication drawings

Adjustable Height Stair Ladder
- Detailed Engineering

Contact Information

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