

A photograph of an offshore oil rig at sunset. The rig is a complex structure of steel and pipes, extending from the sea surface into the water. The sky is filled with soft, orange and yellow clouds, and the sun is low on the horizon, casting a warm glow over the scene. The water is dark blue with some ripples. The rig has several levels, with various pipes, valves, and structures visible. The overall atmosphere is serene and industrial.

## Marine and Offshore - Capabilities Overview

### Contact

**SRIHARI [Director - MENA]**

**M :** +971 56 115 6701

**T :** +971 4 554 2049

**E :** srihari@mechartes.com

**Chandramohan P [BD - Oil & Gas]**

**M :** +971 54 994 6633

**T :** +971 4 554 2049

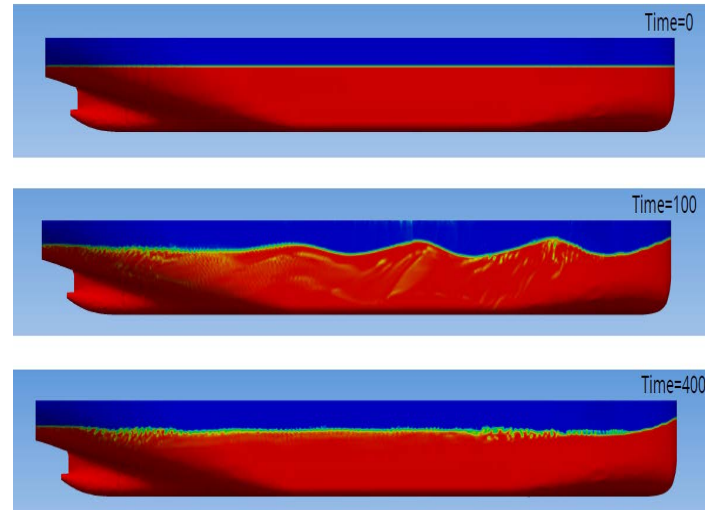
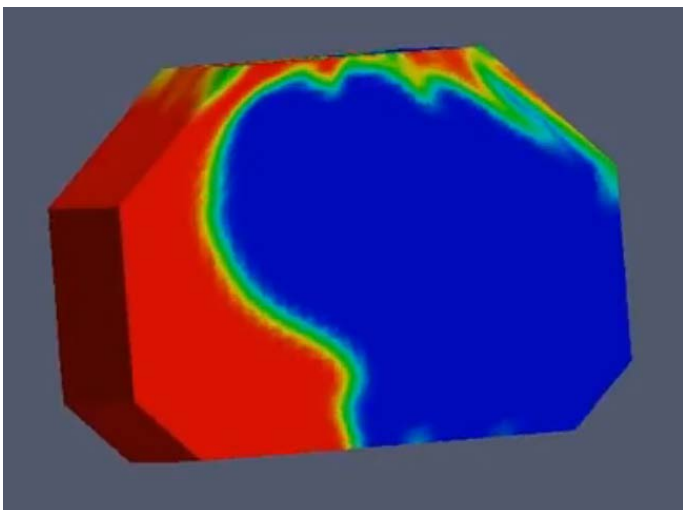
**E :** pcm@mechartes.com

## Engineering Services For Marine and Offshore Platforms

Mechartés specialize in providing advanced engineering services like computational fluid dynamics and Finite element analysis for Marine and Offshore platforms. CFD and FEA are the most extended computational tool for study stress, vibration, fracture, fatigue calculations, structural integrity studies, safety and life assessment studies of offshore structural components.

### Application of CFD Modelling

- Ship drag, trim & sinkage and dynamic motion in waves
- Wave Impact Simulation
- Hydrodynamic Simulation
- Wave loading on offshore structures
- Sloshing analysis for pressure vessels and tanks for offshore plants
- CFD Simulation studies for emergency boat landing from offshore and marine structures
- Thermal Comfort Analysis for staff quarters and office rooms at offshore structures
- Smoke Fire Modelling
- Wind Impact CFD Study
- HVAC Air Flow Study
- Ventilation CFD Study
- Evacuation Modelling
- Flare Stack Radiation & Dispersion Analysis (API-521)



### Application of Finite Element Analysis

- Life assessment studies for structures
- Root cause analysis
- Skid and structural stress, vibration, fracture and fatigue analysis
- Lifting analysis and support design
- Structural studies and mechanical optimisation
- FIV, FIAV, FIT Studies
- Hydrodynamic Analysis
- Seismic analysis, wind analysis
- Erosion analysis
- Noise Study / Acoustics Study for offshore platforms
- Thermal expansion study on pipeline and supports