

INDUSTRY

SUBSEA FACILITIES

Maros - Deep understanding on deep-water facilities

Combining the most powerful RAM software tool for the upstream industry and your expertise, to support optimum development and operation of subsea facilities.

RAM software for subsea facilities

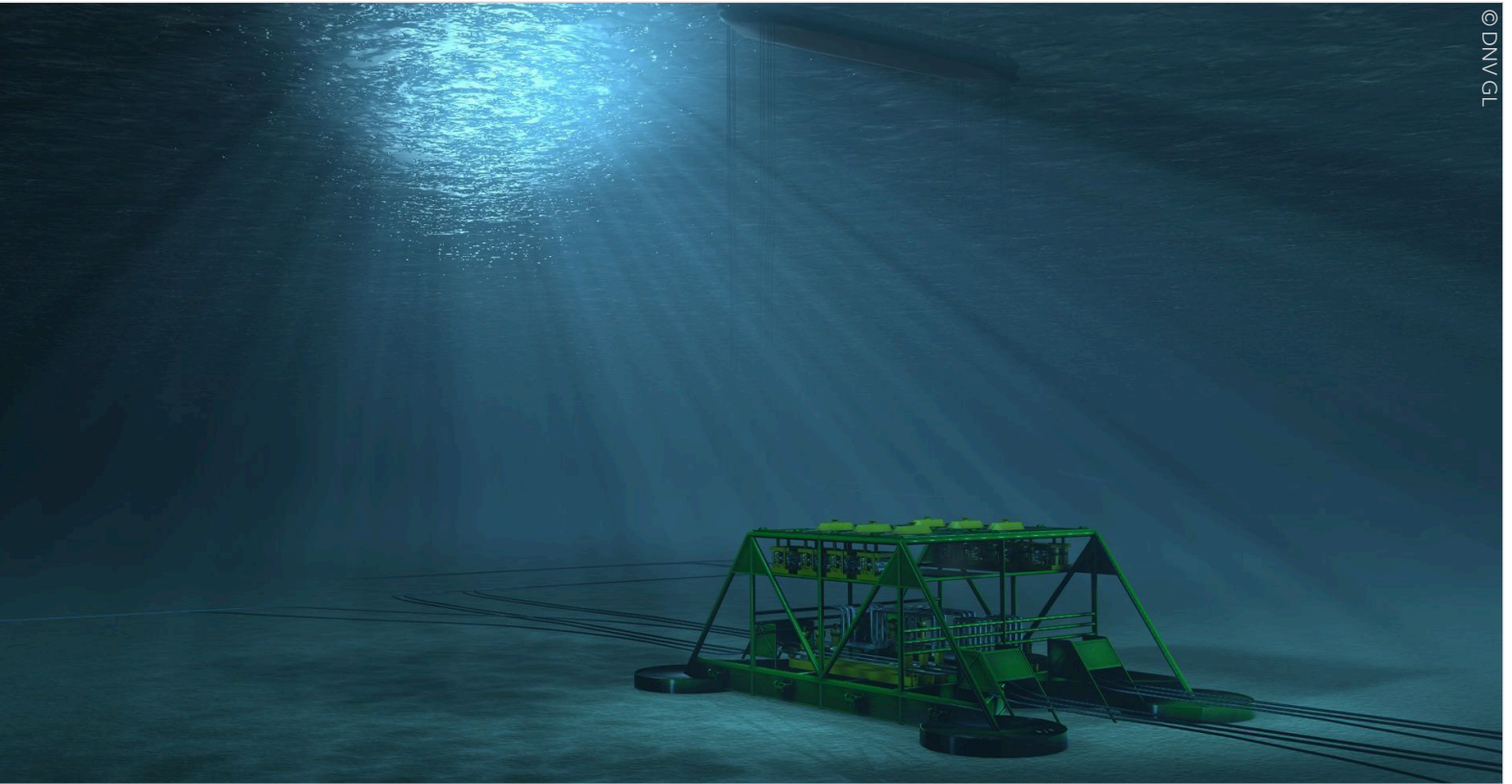
The progress within subsea technology opens the door for new developments and projects. Subsea processing can encompass a number of different initiatives to help reduce the cost and complexity of developing an offshore field. Additionally, the maintenance strategy of subsea facilities typically requires a special attention: Remote Operated Vehicles (ROVs), divers and specialized personnel are not always available in the market. Understanding the impact of maintenance resourcing delays is of fundamental importance. Maros allows a detailed simulation for subsea facilities and incorporates key system parameters.

Combining the most powerful RAM analysis for subsea developments

Combining your experience about your asset's operations to a performance forecasting model is essential to accurately understand the impact of failure of main components in a subsea module.

Maros empowers analysts to take into account:

- Failure and repair distributions for each subsea equipment item
- Ability to model logical events to represent the modular replacement strategy of subsea facilities



- Various planned intervention strategies
- Impact of weather on intervention durations
- ROVs and specialized personnel
- Vessel availability constraints (seasonal issues, number of vessels)
- Individual well production profiles, including a demand profile
- Wells phasing in and out over the duration of life
- Varying spare subsea well capacities
- Economic parameters (mobilization costs, day rates, oil price, etc. economic cut-off dates for interventions.)

The extensive modelling list allows an analyst to:

- Evaluate the achieved production efficiency and production losses
- Rank of critical systems, equipment and modes of failure
- Assess detailed results for the number of vessel's intervention taking into account mobilization time and hours of usage broken down by activity
- Assess operational costs, revenue losses and through-life NPV reduction because of subsea failures/activities

Some of the questions Maros can help you answer:

- What is the production efficiency for the base case design?
- How does production efficiency vary for the sensitivity cases related to different design configurations?
- What is the impact of different maintenance strategies?
- What is the impact of delays related to maintenance resources?
- What is the impact of maintenance and logistics issues?
- What is the impact of operational flexibility (e.g. recovery mechanism)?
- What is the incremental NPV for the alternate scenarios against the base case?