



Saipem Energy International

Saipem Energy International (SEI) is an offshore engineering company. SEI combines its know-how and engineering design skills of the Saipem with its experience of construction, management and marine operations.

BUSINESS INITIATIVE

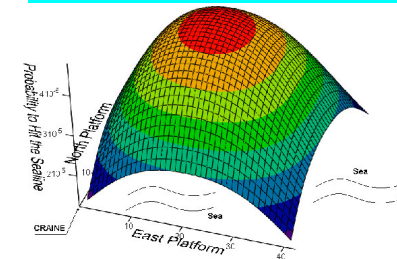
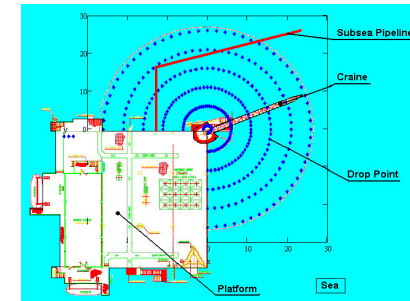
Perform a Risk Assessment of Pipeline Protection (Dropped Object Study) which is a risk-based approach for assessing pipeline protection against accidental external loads like dropped crane loads on offshore risers, pipelines and umbilicals

SOLUTION

Application of Mathcad to perform a probabilistic study and plot the results. Looking for an intuitive and light tool which could assist in performing the analysis without knowing any programming languages

RESULTS

Mathcad worksheet to support decision about the subsea valves location and installation, instead of adopting common rule-of-thumb techniques. Future work will improve the description of the impact scenario and the pipeline response to the load. In particular, a structural-reliability based analysis with Mathcad will be utilized for evaluating the failure probability given the impact



“We have chosen Mathcad due to ease of use, self-explaining, intuitive application and full capability of developing the integral/differential equations for the probabilistic assessment; moreover the Mathcad worksheet is easily managed by every HSED Engineer.”

What you see is what you get...this is what we needed and what we got...Mathcad!

Massimiliano Colombi – Saipem Energy International HSED Manager

Maersk Oil

Situation: Used spreadsheets, hand-calcs & ‘best-guess’ to analyse and communicate drilling performance calculations between on-shore and offshore teams

- Inconsistent results because of different methods of calculation
- Significant margins of error incorporated due to lack of confidence in accuracy of calculations

Solution: Selected Mathcad

- Deployed a highly accessible tool for calculations & documentation
- Standardised on Mathcad for all engineering calculations

Standard: Mathcad is now a best practice

- Drilling performance and production improvements resulted from more effective calculations and communication

MAERSK

Peter Aird
Maersk Oil

Management’s Key Objectives:

- Streamline communications
- Improve quality
- Improve performance

