



OptiLay.

OptiLay is an advanced on-board software system used to plan and monitor pipeline installation operations from the bridge of a lay vessel.

OptiLay eliminates the conservatism associated with office based installation analysis by using realistic real-time measurements during its offshore simulations. It is based on the state-of-art desktop application, **PipeLay**, which is itself regarded as the superior tool of choice for pipeline installation analysis within the industry today.

OptiLay automatically interfaces with existing vessel systems, for example DP, MRU, WAVEX, to acquire real-time accurate estimates of offshore conditions, which are then applied to suitable **PipeLay** models during periodic automated analyses. This real-time approach to assessing actual lay conditions provides unique clarity in terms of aiding the offshore decision process.

OptiLay also offers a powerful prediction capability where the user can apply forecast conditions to their own set of “what if” analyses. Such an advanced feature helps maximise offshore productivity by accurately establishing an optimum timeframe for performing key operations, such as initial start-up or abandonment and recovery.

Key Features

- Operates with a minimal level of user intervention while offshore with automatic vessel data acquisition, simulations and results storage
- Automated static and dynamic analyses providing various outputs including pipe stresses/strains, DNV local buckling checks and fatigue damage
- Solutions provided at regular configurable intervals
- Accurate estimation and recording of touchdown point locations without the need for ROVs
- Uses **PipeLay** as its model builder which allows for the inclusion of intricate scenarios, for example in-line structure installation
- Optimal vessel positioning guidance
- Clashing advice if existing structures are present
- 3D animation for illustrating seabed bathymetry
- Determination and cataloging of fatigue damage for all welds installed during a lay campaign
- Calibration of key parameters, such as pipe weight, drag coefficients, support friction, to reflect inherent uncertainty
- User controlled “what if” analyses to assess forecast conditions and so optimize decision processes

Applications

- Complete generality
- S-lay, J-lay, Reel-lay
- Deep and shallow water pipeline installation
- Start-up procedures
- Abandonment and recovery
- In-line structure installation
- Lift and transfer processes
- And more...

Benefits

- Reduced conservatism, with all simulations and predictions based on realistic offshore measurements rather than restrictive office based assumptions
- Optimizes offshore planning by providing clarity on pipe integrity for present and future conditions
- Limits the need for continuous ROV touchdown monitoring thus resulting in cost savings
- Support for all feasible installation scenarios
- Sophisticated and accurate finite element solver based on **Flexcom**

Learn More

Contact the MCS Kenny Software Business Development team for more information on **OptiLay** and other industry leading solutions in the MCS Kenny advanced software range.

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MCS Kenny advanced software is designed to the highest development standards backed up by renowned global customer support services. MCS Kenny software delivers tangible efficiency benefits to hundreds of leading oil and gas industry customers around the world.

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