Optima® is a range of on-board riser management tools for planning and monitoring operations with drilling, completion/workover and light well intervention risers.

Optima® provides both the operator and drilling contractor with significant benefits that translate into substantial cost savings as well as enhancing safety and integrity.

**KEY FEATURES**

- Operational tool for on-board use
- Applicable to drilling, C/WO and LWI risers
- Real-time results generation and display
- Intuitive operator interface provides clear and easy-to-understand display of key results
- State-of-the-art finite element models of the riser used to predict riser and well behaviour
- Modular, cost-effective system that is simple to install and operate
- Off-the-shelf package or customisable to reflect the requirements of a particular project
- Suitable for mobile offshore drilling units and production facilities with drilling capabilities

**BENEFITS**

- Increased operating window leading to reduced downtime and substantial cost savings
- Increased confidence in carrying out riser operations in prevailing or forecast metocean conditions, resulting in a reduction in unplanned incidents
- Ability to properly plan dual activity operations on-board resulting in greater efficiency
- Enhanced long-term riser integrity from recording riser usage and fatigue exposure
- Reduced annual riser inspection costs through optimisation of inspection programs
- Reduced risk of failure through improved system monitoring and operation – staying within operational capacity of riser
- Reduced fatigue and wear on critical riser components
- Helps to protect the well
**Optima®-RMS**

**Optima®-RMS** takes outputs from existing vessel systems (or manual inputs) and predicts the behaviour of the riser in the prevailing metocean conditions. The system provides real-time guidance to operational personnel allowing optimisation of drilling and workover operations. Key results are presented graphically in an intuitive display.

**Optima®-RMS Key Displays**

**Optima®-RMS Inputs**

Optima®-RMS can be configured to acquire data from a range of vessel systems, including:

- Vessel position and heading
- Tensioner tension and stroke
- Current profile
- Seastate data (significant wave height)
- Internal BOP pressure
- Drilling mud weight
- Hook load

**Real-Time Data**

Key data are displayed in real-time and alarm limits can be set by the operator to draw attention to exceptional conditions. Typical choices are:

- Tensioner tension and stroke
- Upper and lower flex joint angles
- Top current speed
- Vessel position (proximity to edge of operating envelope)

**Optima®-Range**

The core Optima®-RMS can be augmented with options including: on and offline riser simulators, fatigue measurement and tracking, VIV and riser angle measurement. The client can select from the Optima® range to achieve the optimum combination of information, guidance and price for a particular vessel or project.

**Optima®-ERA**

- Precise electric riser angle measurement sensors for drilling risers
- Bulls-eye display of measured angles
- Improved riser response prediction

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**Optima®-Online**

- Additional online drift-off simulator option
- Predicts behaviour of vessel and riser on loss of DP capability
- Uses fully-coupled riser/vessel model to compute drift-off path, yellow & red watch circles and Point of Disconnect (POD)
- Displays alert offsets and "time to go"

**Optima®-Offline**

A range of offline simulation tools for examining "what if" scenarios and planning riser operations:

- Operating (drilling/standby)
- Drift-off (for DP power loss)
- Riser hang-off
- Riser deployment/retrieval
- Riser Disconnect
- Dual activity/simultaneous operations (SIMOPS), including subsea equipment installation and retrieval
- Drift running
- Riser transiting

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**Optima®-RFID**

- Radio Frequency ID tags fitted to each riser joint
- Joint IDs scanned by hand-held logger during deployment creating of record of actual riser stack-up

**Optima®-Remote**

- Access Optima® displays from existing rig PCs (for example, on the bridge) using a standard web browser
- Laptop and Driller’s House display options also available

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**Optima®-VIVOL**

- Real-time operational advice on Vortex Induced Vibration levels
- Warning and alarm limits highlighting potential concerns
- Motion measurement pods fitted to riser
Advanced Features

As well as providing on-board guidance for operational personnel, Optima® provides more detailed information useful to the riser engineer. For example, detailed reports with plots and listings of data are available.

Optima® also logs raw and derived data for subsequent post-processing and saves standard detailed reports.

Optima® Technology

At the heart of Optima® is the finite element analysis engine from MCS Kenny’s Flexcom software, the industry standard in advanced 3D offshore riser analysis.

Hardware

Optima®-RMS consists of a small wall-mountable junction box connected to a display laptop PC via standard ethernet cable.

Some options, such as Optima®-ERA, include riser-mounted instrumentation.

All Optima® hardware uses field-proven technology and is backed-up by Fugro’s renowned experience in offshore instrumentation.

Optima® Customisation

Optima® is easily customisable to reflect the requirements of a particular project, client or rig. Customisable options include:

- Customised displays
- Customised analysis
- Specific instrumentation

Support

Optima® is fully supported by MCS Kenny and Fugro. The system is supplied with a comprehensive operator’s manual and remote telephone/e-mail support can be provided. On-site training and support is also available.

Learn More

For more information visit the Optima® website: www.optima-rm.com

Or email the Optima® team:

software@mcskenny.com

Optima® is offered through the combined experience of MCS Kenny in 3D riser analysis and Fugro Structural Monitoring in offshore instrumentation.

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.

Fugro Structural Monitoring is a division of Fugro GEOS Ltd, a member of the Fugro group of companies with offices throughout the world.