



## Offshore Crane Operator Training Simulator



**Offshore  
Pedestal**



**Rope Luffer  
King Post**



**Knuckle Boom  
Box Boom  
Riser Gantry**



**Weather  
Conditions,  
Dynamic Ocean &  
Motion Bases**



# Overview

The KraneSIM® range of Crane Operator Training Simulators represents the most innovative & unique concept in crane training simulation today. It provides a highly effective and comprehensive tool to train your personnel in a safe and realistic environment, enabling the trainee to experience a wide range of conditions and situations that would otherwise take years to develop. Using state of the art technology, the KraneSIM simulators achieve unrivalled realism by placing the operator in a fully immersive simulation environment.

KraneSIM® has opened the way to develop engineering, operational and team building skills for Crane Operators and test individual competence in supporting crane operations on offshore installations. Consequently the opportunity to develop an internationally recognised certification system for Crane Operatives is now available to the industry along the lines of that developed for well control.

The full size simulator, **KraneSIM-6000** has been developed by the integration of equipment hardware with electrical, electronic, communications, visual and motion systems to provide a cohesive simulated overview of crane operations for the offshore industry, modelling both fixed and mobile installations. A large number of contingency scenarios, which include both equipment malfunctions and environmental problems are available ensuring the Crane Operator gains familiarity with potentially dangerous situations, before exposure to the real world.



In addition, to assessing performance in standard crane operations, the simulator can also be used to increase awareness of load handling from the boat operations perspective. With optional video monitoring and voice recording equipment, every trainee finds himself captured into a scenario where the Crane Operator becomes a key component during a simulated offloading or back-loading incident. In a series of stressing exercises, competent trainees sharpen their decision-making skills and learn to interact as a functioning crew member in the support of the rig operation.

Trainees in need of further training are readily identified and those capable of handling loading operations on mobile installations are recognised at an earlier stage. Operators can be sent out into the field to represent their company holding a passport of proven competency and certifiable operational skills. Likewise, actual case studies from crane related incidents that have been developed from major incidents during loading operations can be programmed into the simulator to ensure new crews benefit from the learn curve effect. The company can utilise its organisational capacity to the full and above all, retain corporate memory to prevent re-occurrence of tactical field errors.

## Hardware & Software Options

The KraneSIM® software can be run on a wide variety of hardware environments, ranging from a "simple classroom flat screen single projection system" to a "multiple screen solution with a wide field of view". By using **plug and play** interchangeable panniers, multiple crane types can be simulated, maximising training opportunities. Additional hardware panniers and software can be added as new cranes are introduced offshore.





By involving the personnel who supervise these lifting operations we can give them the opportunity to experience first hand the demands that are often placed on these personnel.



## Instructor set Malfunctions

One of the major benefits of simulators is training in contingencies.... i.e. **what if...**

Accessed through the easy to use Instructor Station, KraneSIM® includes a wide range of malfunctions that can be set, which would challenge even the most experienced crane operator.

**Do your crane operators know and follow your Company's Standard Operating Procedures when handling these emergency scenarios?**

### Operational Malfunctions

- Weather worsening
- Helicopter movements
- Inconsistent communications during blind lifts

### Equipment Failure

- Engine, hydraulics, slings, and PLCs
- Limit switches
- Safe Load Indicator (SLI) malfunctions

### Overload Problems

- Incorrectly manifested loads
- Load shifts
- Maximum wave considerations

### Major Contingencies

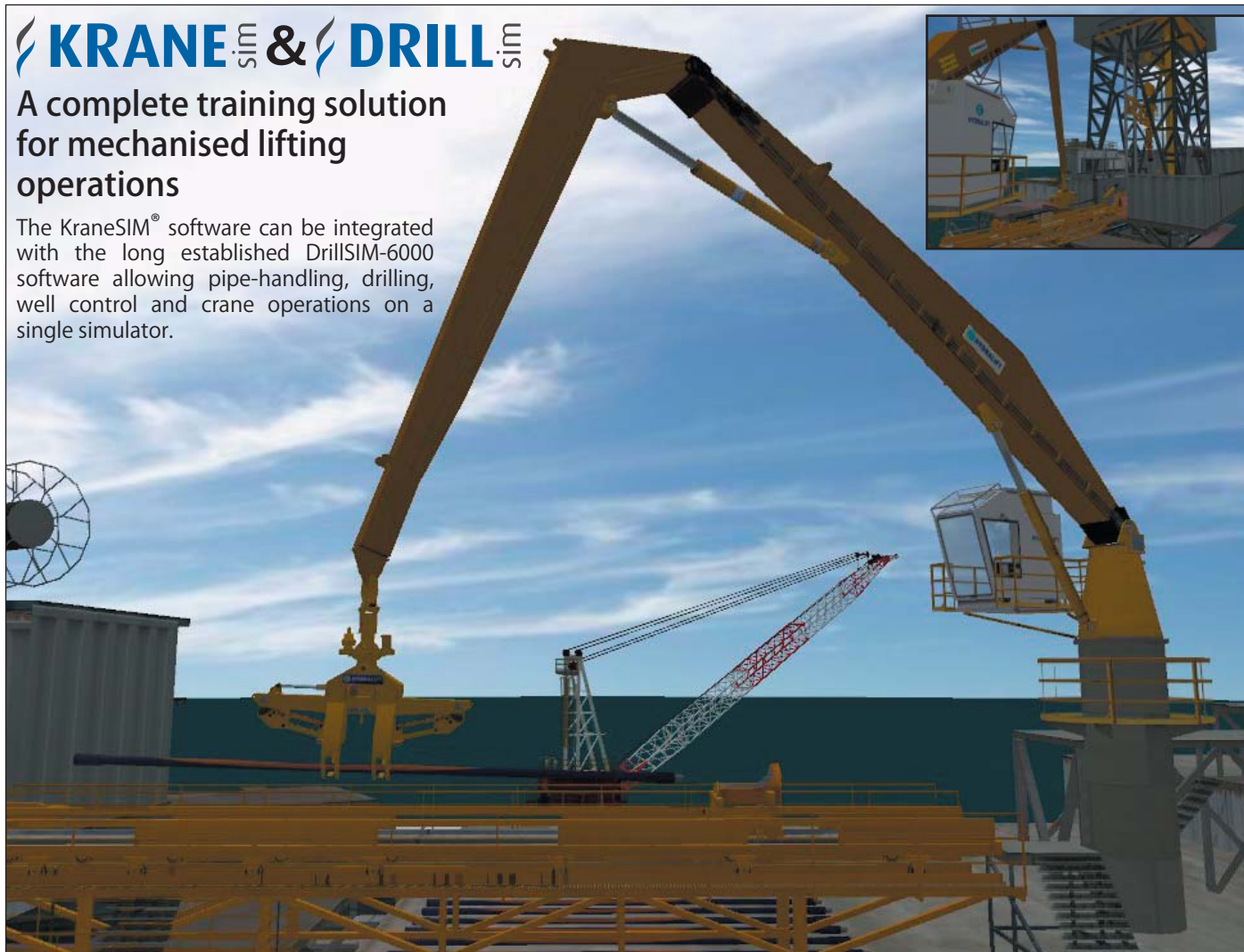
- Fouling lines on a drifting vessel
- Loads still secured to vessel
- ESD & quick release
- Emergency braking systems

Helifuel tank with two of it's slings snapped by the Instructor...

# KRANE<sup>sim</sup> & DRILL<sup>sim</sup>

## A complete training solution for mechanised lifting operations

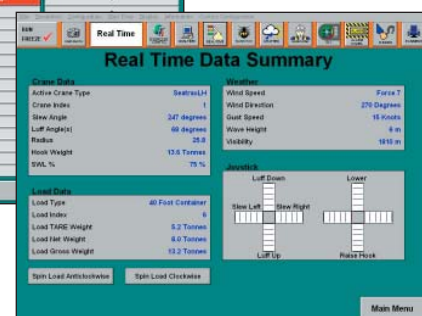
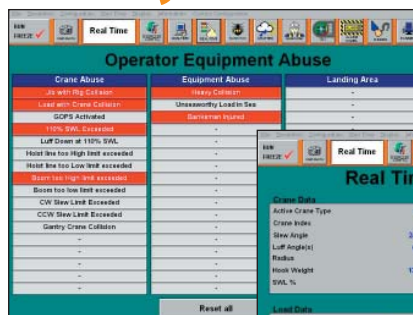
The KraneSIM<sup>®</sup> software can be integrated with the long established DrillSIM-6000 software allowing pipe-handling, drilling, well control and crane operations on a single simulator.



## Performance Monitoring & Playback

KraneSIM<sup>®</sup> incorporates a selection of features and tools to monitor the performance of the student including equipment abuse and heavy collisions.

A recent addition is the *Déjà vu Playback System* (DPS) that records real-time data from the simulator, which can be played back or recorded to DVD for archiving. During playback on the simulator, the Instructor, with the use of a joystick, can fly-around/move anywhere in the 3D visual world to show the Student exactly what they were doing. For example, the view from the supply vessel could be shown, demonstrating a heavy landing of a container or personnel basket.



## About Drilling Systems

Drilling Systems was initially founded in 1988 to design, develop and manufacture innovative simulation technology for the Oil & Gas Industry. Since incorporation, the Company has grown as a manufacturing and mission critical simulator development facility with 95% of the Company's business being export led. Drilling Systems serves a strong blue-chip client base including oil companies, leading drilling contractors, training institutions, Universities and more recently dockside clients. The company offers a wide range of simulators across a broad range of disciplines.



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