

**T**raining crane personnel is a time consuming and expensive business. But that is now about to change in Norway with the launch of a crane simulator.

Norwegian Offshore Oil company Statoil provided the financial backing for the development of the crane simulator and Norwegian software company Hitec Visions the technical expertise.

The simulator is now and up running at SMS (Ship Maneuvring Simulator Centre) in Trondheim, Norway. "Crane operations are very difficult and demanding and we saw the need for a crane simulator to be used in training schools worldwide to meet this demand," explains SMS's managing director Morten Ringard, at the official launch of the simulator.



### Improved safety

He adds that the simulator aims to provide improved communication between the deck crew on the ship's platform and the crane and to improve safety and operation in crane operations.

Basically the crane simulator, known as HiCrane, has been developed for training crane personnel for both offshore and onshore operations.

It comprises a crane cabin with standard control systems mounted on a moving platform. Virtual images are projected on large screens in front of the cabin windows to provide a realistic scenario. Using 3D computer graphics, issued commands are captured and fed into simulation modules and visualised in real time. Operators can thereby see the consequences of their activities while performing the simulation i.e. where the cargo is at any moment in time.

Morten Molster, managing director of Hitec Visions says: "By using an operator system similar to or identical to the real system, and by projecting the work environment using 3D computer graphics, the operators will better acquaint themselves with the system."

# Crane Simulator

Reduce time and money spent training crane operators by using the latest in crane simulators. **Keren Sall** went to Trondheim to see it in action.

The advantages of this type of crane simulator is that personnel will no longer miss out on the heavy and rough conditions provided by traditional training centres. "It can help educate personnel to undertake demanding offshore operations," says Molster. "And it does this by allowing severe weather operations to be simulated in safe environments thereby reducing the risk of accidents."

Typical problems occurring such as the

cargo being hidden behind obstacles and/or when operating at great heights can be eliminated with the help of a boom tip camera system called VisiCrane. Molster says that the VisiCrane system supplies the crane operator with virtual cameras that can be freely moved around. "It is like having an unlimited number of cameras mounted on the crane, the cargo and in the air. The crane operator can choose which virtual camera to use at any instance, or can monitor several cameras at the same time."

The VisiCrane also reduces the need for vocal communication between the banksman and the crane operator resulting in less stress as the crane operator can view the cargo from the banksman's line of vision or any other position.

And if you are looking for a banksman with hi-tec real-time two-way wireless audio, video and data then Hitec Visions has the VisiWear computer enclosed in watertight housings to ensure proper protection in hazardous areas. It includes a video camera which can be hand or shoulder mounted by the banksman to provide

the crane operator with a real time image. Non-crane experts can also use the VisiWear to provide high quality live video to the experts located elsewhere and have them decide the proper action. This reduces the chances of wrong action being caused by lack of experience. The computer comes in a VisiWear vest made of watertight flame-retardant textiles.

### Classroom

In Norway, SMS and Statoil are lobbying their Government to give crane operation trainees credits for doing classroom training on a simulator instead of on a real crane which they say would be otherwise would be temporarily out of action. The UK crane industry could do well to look at the advances made in simulation training by the Norwegians. They could save time, money and most importantly lives. ■