

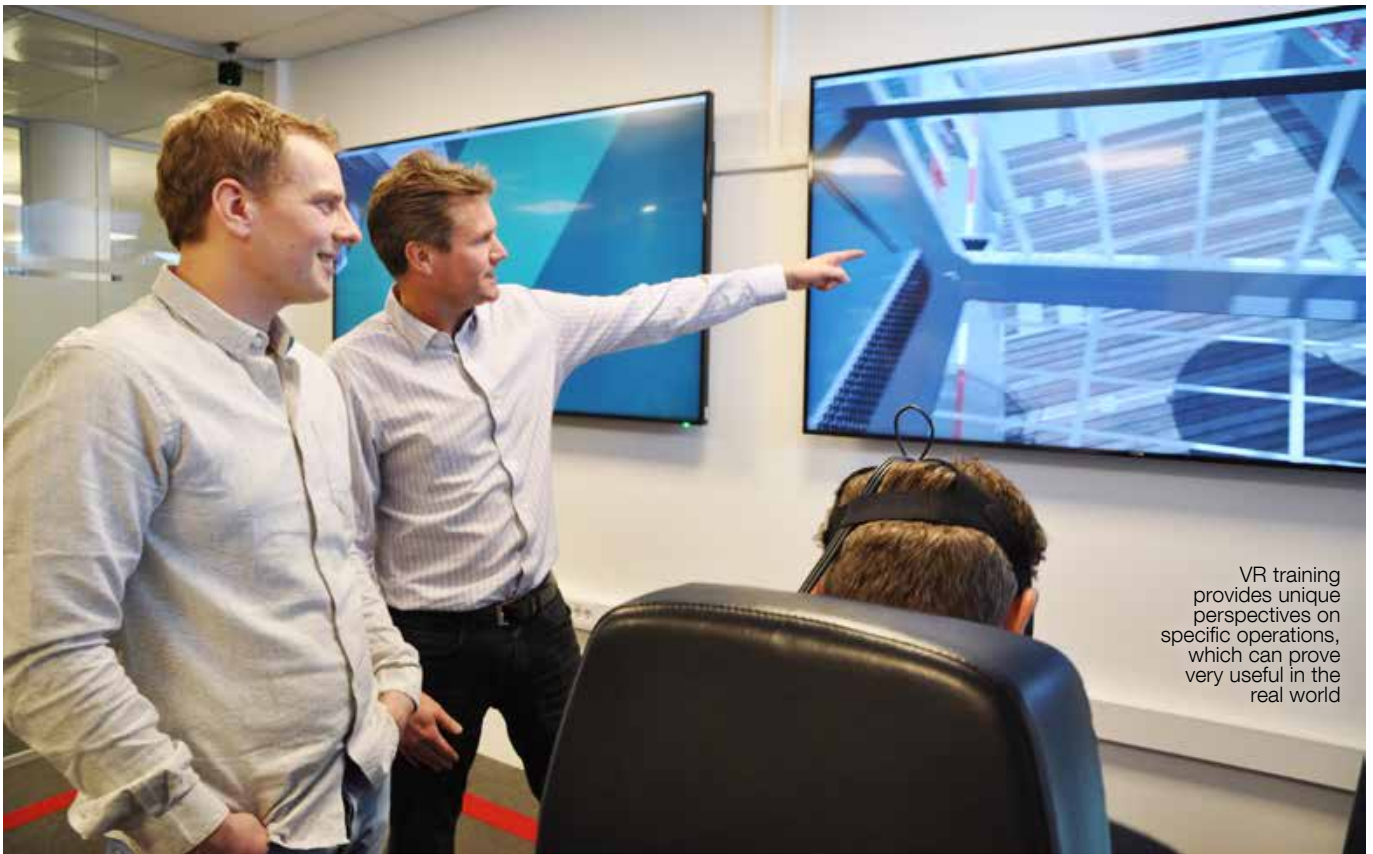
Continuous crew training **cuts risks and drives efficiency advances**

Sophisticated offshore technology is designed to improve safety and efficiency, good reasons why training crews to use it effectively is beneficial; recent uptake in MacGregor's tailor-made training programmes shows that operators agree

Following an extended period of readjustment, it seems that the oil and gas industry is turning a corner. Its protracted economic difficulties have put enormous pressure on operators, evidenced from the major moth-balling of projects to relatively minor belt-tightening strategies, amongst which training and maintenance are often two of the first targets. Their impact on safety is undeniable.

Tailor-made programmes from MacGregor ensure that operators receive exactly the training they require





VR training provides unique perspectives on specific operations, which can prove very useful in the real world

There is a widening call for a more global approach to offshore safety. According to European Commission (EC) figures, there are currently over 1,000 offshore oil and gas operations in European waters alone. It states that accidents, even historic ones such as the 2010 *Deepwater Horizon* disaster in the Gulf of Mexico, illustrate the need for comprehensive safety measures.

Liability is at an operator's door

Safety remains the primary responsibility of operators and individual countries, but an accident in one country can cause environmental and economic damage to neighbouring ones. The EC's Safety of Offshore Oil and Gas Operations Directive and similar globally adopted legislation place liability for offshore accidents firmly at an operator's door.

Efforts to reduce the likelihood of

these incidents have habitually focused on maintenance and environmental factors such as faulty equipment and adverse weather conditions. Today, prevention measures are increasingly recognising human factors as a key challenge to offshore safety and performance, which is where ongoing training plays a major role.

“A crew that knows how to operate equipment in all situations, especially an emergency one, is also a safer crew”

Mikko Lehtinen

“Behind every offshore service today is a crew operating some of the industry's most sophisticated technology in existence, and they do so remotely, often in extremely

harsh conditions,” says **Mikko Lehtinen**, Vice President, Global Technical Support, MacGregor.

“These innovations offer the potential to drastically reduce the impact of human error and machinery breakdown, and optimise efficiency,” he continues. “High-quality training secures the proficient use of this equipment, which incidentally prolongs its service life, reduces maintenance costs and dictates the safety of any operation; all good reasons why operators should train crews to use this technology well.

“Our priority is to transfer knowledge about safe operations and opportunities to maintain and operate equipment correctly,” Mr Lehtinen notes. “Crews who know how to operate equipment safely and systematically will prevent failures and help protect the environment.

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Ongoing crew training is beneficial

However, it is not simply the training that is received during hand-over and commissioning that is important, it is the ongoing commitment by an operator to train progressive crews that fundamentally affects safety.

“Bad habits can be passed on from crew to crew,” stresses Mr Lehtinen. “We believe that ongoing good-quality crew training is as essential as good maintenance regimes and we are not alone in this thinking. Offshore operators are stepping-up to their training responsibilities.

“Most recently our latest tailor-made course for offshore loading operations was completed by crew working on Statoil’s *Aasta Hansteen* spar platform in Norway. Also in Norway, tailored offshore mooring and loading courses

for crew on oil platforms have been completed. Additionally, we have recently conducted specific operational and maintenance courses on offshore mooring equipment used on spar platforms in the Gulf of Mexico. The uptake of these tailored training services is positive news for the sector as a whole.”

Reinforcing a safety culture

As offshore technology continues to develop, crews will be less able to depend on inherited knowledge and intuition to guide decision-making. Instead, a sound basis is necessary for assessing human performance; crew members need to understand the reasons why mistakes occur and apply lessons learned. “Going forward, a strengthened and sustained safety culture within the offshore industry will depend on effective crew training,” Mr Lehtinen concludes. ■

Simulation-based training increases crew competency

In 2017 MacGregor opened a specialist academy dedicated to providing advanced training for both customers and its own personnel. It is designed to meet a growing need to deliver training packages proportionate to the sophistication of technology used in the offshore industry. It also enables customers to explore and test a product’s capability before production begins.

Located in Arendal, Norway, the academy has a purpose-built virtual reality (VR) show-room.

“VR training means that you can explore restricted, dangerous areas that you wouldn’t normally be allowed to enter,” says **Jan Finckenhagen**, Training Manager, Offshore Mooring and Loading Equipment, MacGregor Training Academy. “This provides otherwise unobtainable perspectives on specific operations, which can prove very useful in the real world.

“Our aim is to help customers use their equipment safely and efficiently,” he continues. “Training using fully-immersive

techniques delivers extraordinary benefits. Crews can repeatedly practice specific operational procedures, significantly reducing the likelihood of causing injury to personnel or damage to equipment because they have already tried and tested them.”

VR headsets deliver realistic 3D visualisations, which enable users to view very small details of an operation, as well as the wider picture. The headsets are linked to large, wall-mounted screens, aiding the training process by allowing instructors to observe exactly what the user sees. “It is a very convincing experience,” adds Mr Finckenhagen.

The academy is now the simulation training hub for all MacGregor offshore cranes, offshore mooring and loading systems, as well as deck machinery and steering gear. It offers product-specific courses including theory, operation, maintenance, trouble-shooting and manual training across MacGregor’s entire product range and expects up to 100 users a year.

Delivering significant improvements over previous versions, the 5th generation Pusnes bow loading system offers wider operating parameters to ensure success where traditional systems struggle

Pusnes bow loading systems enable a shuttle tanker to safely and efficiently load oil from an offshore production or storage facility

