Case Study

Marine Engineering

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Bringing Real-Time Visibility to Deep-Water Offshore Operations

How MODEC connected offshore and onshore teams using Telepresenz® Smart Ops™ to perform live inspections, reduce downtime, and improve safety across FPSO and TLP platforms 80 km offshore.

90%
Reduced expert travel, saving thousands in logistics costs

90%
Reduction in travel — experts support vessels without leaving shore

100%
Digital repair traceability with automated documentation

Client: MODEC

Industry: Offshore Oil & Gas / Marine Engineering Region: Taranaki Basin, New Zealand Worker Environment: Deep-water FPSO and TLP platforms operating under hazardous and weather-dependent conditions IT Environment: Secure offshore Microwave communications link between FPSO/TLP and onshore control center Devices: RealWear HMT-1Z1 (intrinsically safe) and iPads for offshore crews; laptops for onshore experts

Scale:

Worker Environment: Deep-water FPSO and TLP platforms operating under hazardous and weather-dependent conditions

IT Environment: Secure offshore Microwave communications link between FPSO/TLP and onshore control center

Devices: RealWear HMT-1Z1 (intrinsically safe) and iPads for offshore crews; laptops for onshore experts

MODEC, a global leader in floating production solutions for the offshore oil & gas sector, manages both a Floating Production Storage and Offloading (FPSO) unit and a Tension Leg Platform (TLP) located 80 kilometers off the coast of New Zealand. Coordination between offshore and onshore teams is vital to ensure safety, uptime, and compliance — yet physical access to these platforms is limited and heavily impacted by weather, travel logistics, and high operational costs.

Inspections and fault investigations required multiple teams working sequentially across the FPSO, TLP, and onshore facilities. Without real-time oversight, reporting delays extended downtime, while mobilizing technical experts offshore was both expensive and risky.

Deep-water environments also require strict safety protocols, particularly during confined-space and rope-access work, where even minor miscommunication could create significant hazards. MODEC needed a way to bring onshore expertise directly to the field — virtually, securely, and in real time.

"When you're 80 km offshore, every delay counts. We needed eyes on the problem — instantly."

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Solution: Telepresenz® Smart Ops™ for Digital Inventory Management and Remote Inspections

To overcome these challenges, MODEC deployed Telepresenz® Smart Ops™, creating a live collaboration channel between offshore crews and onshore experts.

Maintenance technicians equipped with RealWear HMT-1Z1 wearables and iPads streamed live video from the FPSO and TLP directly to onshore inspectors and engineers. Experts could view operations in real time, annotate visuals, and guide offshore teams step-by-step during inspections, diagnostics, and repairs.

During tank inspections, for example, technicians suspended by ropes streamed footage to supervisors above deck, who in turn collaborated with shore-based experts through multi-party sessions. The integrated communications link — powered by a high- bandwidth Microwave connection — ensured smooth, low-latency video and audio.

All sessions were automatically recorded within Smart Ops™, creating a verifiable audit trail for quality control, compliance, and future training. The system's intrinsically safe wearables allowed hands-free communication in hazardous environments while maintaining compliance with offshore safety regulations.

"With Smart Ops, our offshore and onshore teams now operate as one — it's like being on the platform without ever leaving shore."

The deployment of Smart Ops™ completely transformed how MODEC managed offshore inspections and maintenance. Inspections that once took days were completed within hours, with experts verifying data and reports in real time. Travel requirements for engineering staff dropped by 90%, saving thousands in logistics costs and eliminating exposure to offshore risk.

Collaboration efficiency skyrocketed as multiple experts could now join a live session simultaneously, reviewing and resolving issues together instead of waiting for sequential reports. Safety also improved dramatically — high-risk inspections were completed with live visual verification, reducing the need for physical presence.

Key Outcomes:

- 75–80% faster inspection and reporting cycle
- 90% reduction in expert site visits and travel cost
- Enhanced safety during confined-space and rope-access operations
- Real-time collaboration between offshore and onshore specialists
- Comprehensive visual audit trail for QA, training, and compliance

"We cut our inspection cycle times by half and reduced our offshore travel budget by thousands per month."

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About Telepresenz®

Telepresenz® — AI-Powered. Frontline-Focused. Future-Ready. Telepresenz connects inspectors, engineers, and administrators through real-time collaboration and AI-powered operational workflows. With Smart Ops™, aerospace teams gain digital control over inspections, inventory, and compliance — turning complex maintenance programs into seamless, transparent, and efficient operations.