

# MCCEDD

## DEEPWATER DEVELOPMENT

28 - 30 March 2023 | Millennium Gloucester Hotel | London, UK

ORGANIZED BY



Quest Offshore

World Oil®

# Remote Digital Technologies Driving Innovation

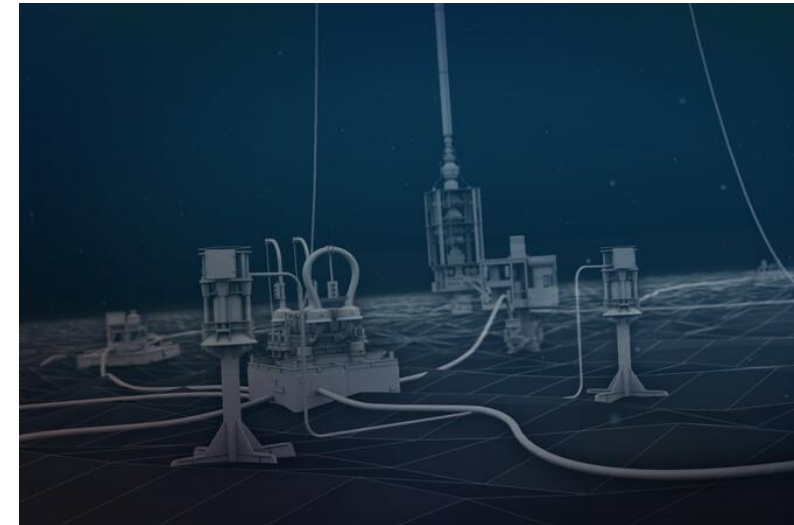
## A Case Study on Subsea Operations

Robert Cousins

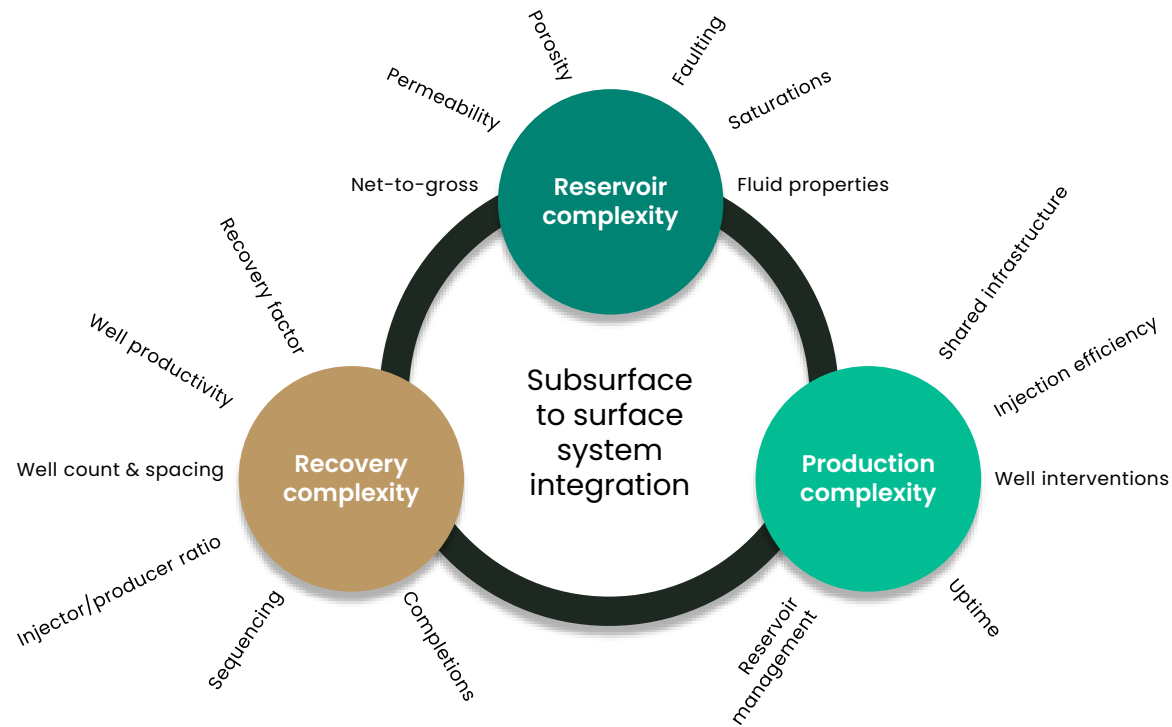
Project Manager – engageSubsea

# Agenda

- **Data utilisation in oil and gas**  
Overview, history, and the motivation for creating a digital platform for subsea
- **Approach for a subsea digital platform**  
Overview and how it works?
- **Rewards of higher data integration**  
Opportunities, extracting value from data
- **Case studies in subsea operations**  
Q&A, additional resources



# Subsea operations are very complex



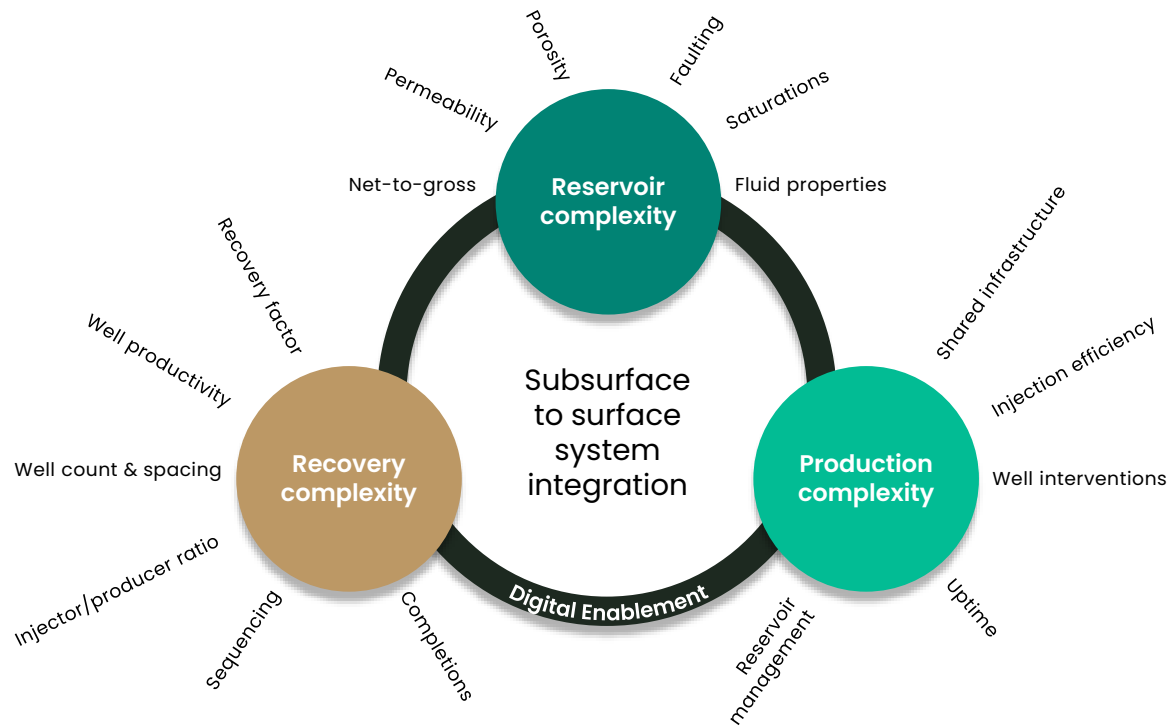
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**Complex and interlinked operations**

**Lack of accessibility**

**Fragmented data and experience**

# Subsea operations are very complex



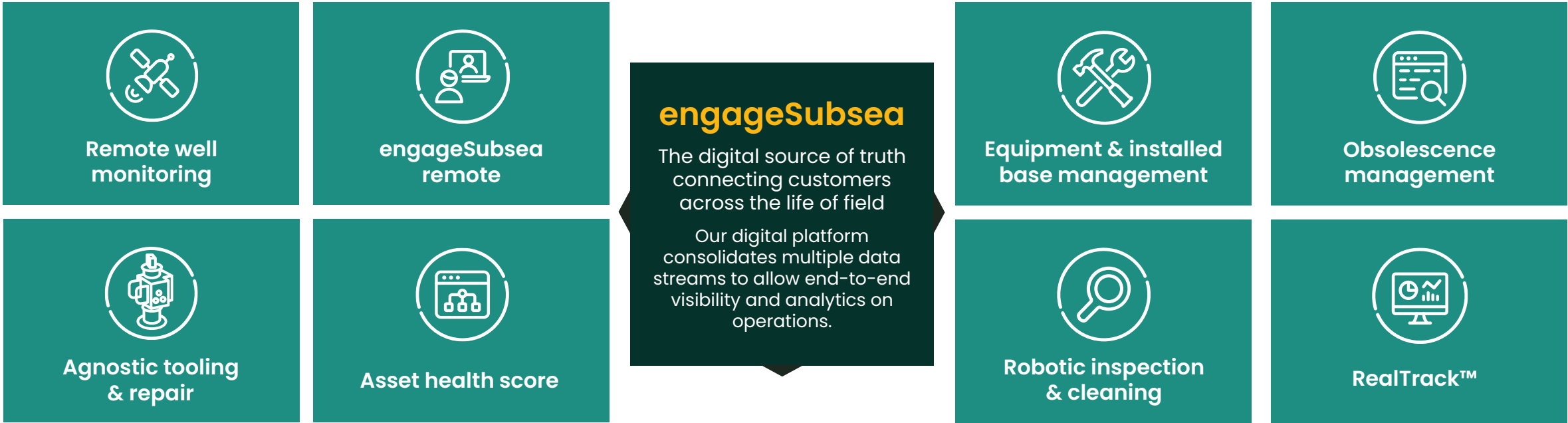
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**Digital connectivity**

**Visibility**

**Operational excellence**

# engageSubsea: The Digital System for subsea activities



**DIGITAL CONNECTIVITY**  
Proactive asset management and instant troubleshooting during any stage of a fields lifecycle.

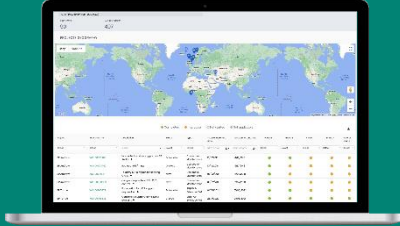
**VISIBILITY**  
Instantaneous data access for all activities from offshore work orders to a digital inventory of all managed equipment.

**OPERATIONAL EXCELLENCE**  
Lower operational risk and operational costs with our best-in-class augmented reality video-assistance tool and Obsolescence Management.

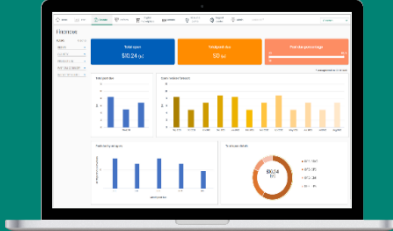
For more information contact [engagesubsea@bakerhughes.com](mailto:engagesubsea@bakerhughes.com)

# Platform Overview

## Modules categories



Design, planning, and execution



Equipment management, Install base, and preventative maintenance



Remote monitoring, remote operations, and robotics



Asset health score and obsolescence management

Digital twin visualization and analytics

## Infrastructure

Asset services

Data services

Workflows

Operations

Data connectivity and ingestion

## Data sources

Service management systems



Unstructured documents



Realtime data



ERP systems



Work orders management



Time series



Historical data Equipment

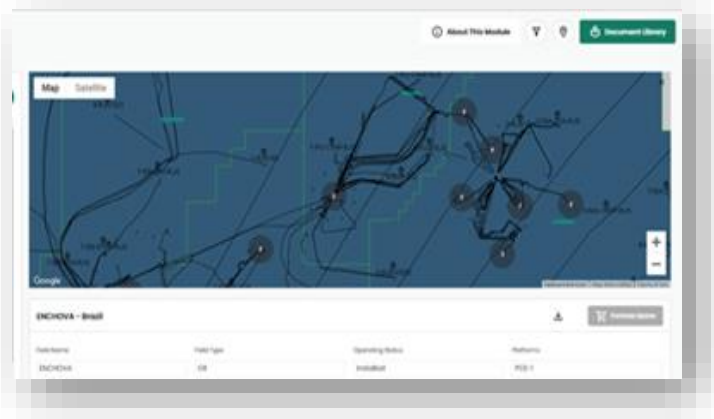


Partners/3rd party integration

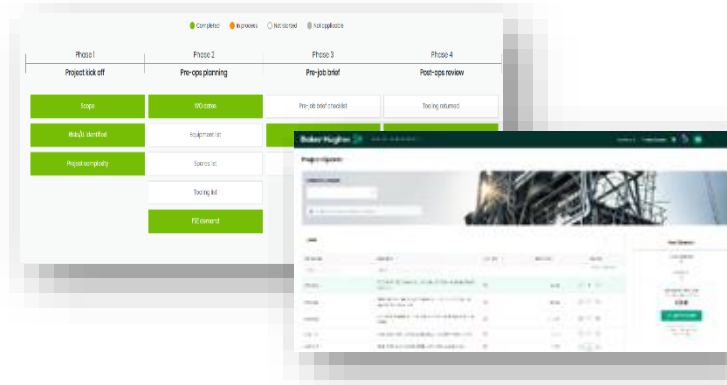


# What are its benefits

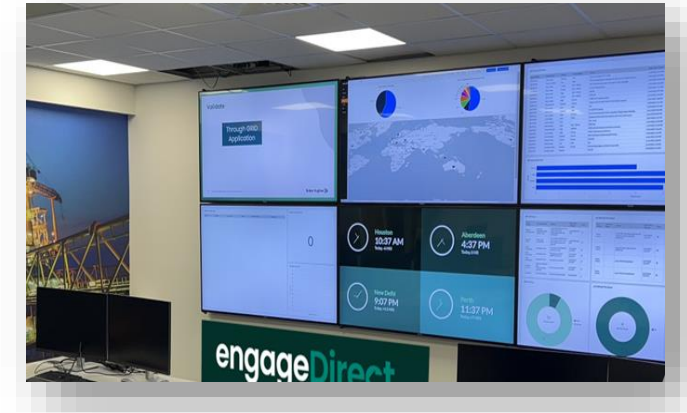
## Reality Capture



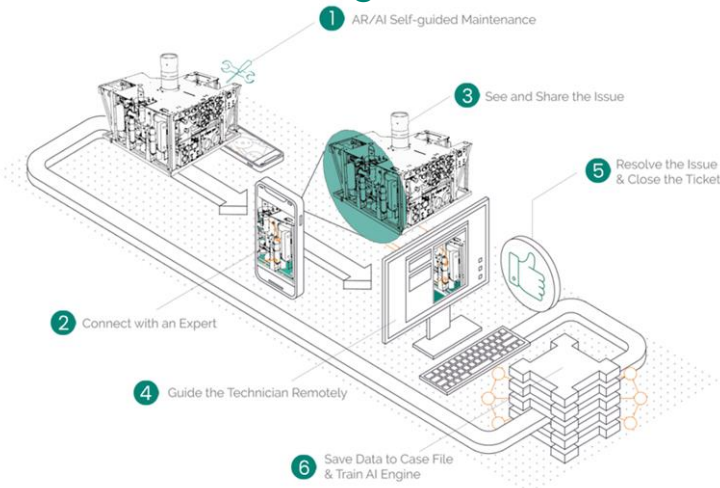
## Simplified, Digitized Live Processes



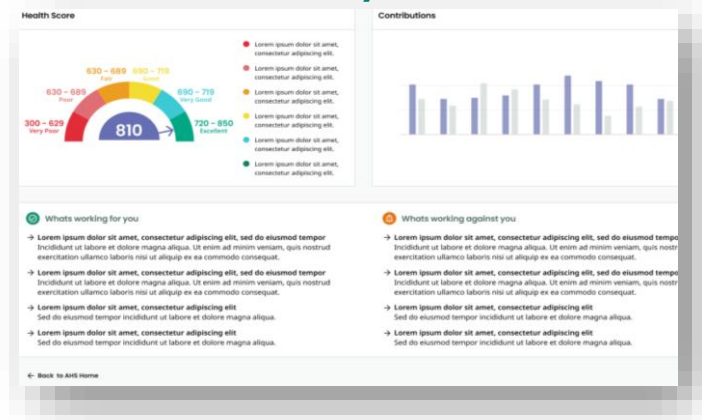
## 24/7 Technical Support



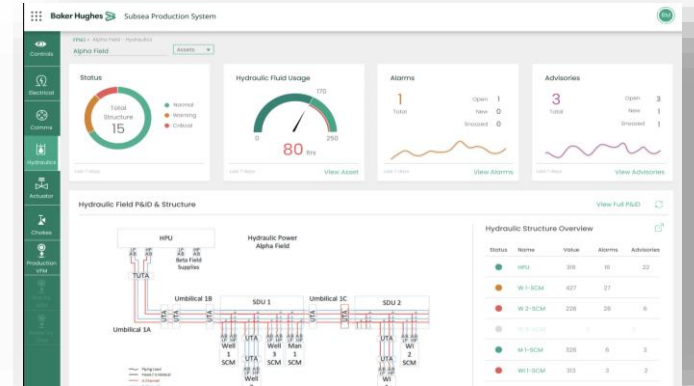
## Remote Monitoring Workflows



## Asset Health Analysis & Advise



## Integrity Monitoring System





# Tailored solutions to optimize subsea operations

## CHALLENGES

- Multiple divested fields from a super major, 40 yrs of data, 163 wells, 1,000's of equipment on the installed base
- Little to no information on several OEM equipment asset health and tooling infrastructure
- Need for effective and non-invasive solutions for well integrity monitoring and inspection to minimize the heavy planning timelines and operating costs

## SOLUTION

- Fields digitization and Integration of all data with connected assets of the installed base, historical and planned.
- Deployed digitized processes for intervention operations, integrity monitoring, and remote support
- Implemented engageSubsea remote monitoring and engageSubsea Robotics through the same platform

## RESULTS

**4 MTHS**  
implementation

**\$100,000**  
savings per well

**15%**  
operation efficiency

**15 TCO<sub>2</sub>**  
Reduction per well per year

# eS Remote & Robotics

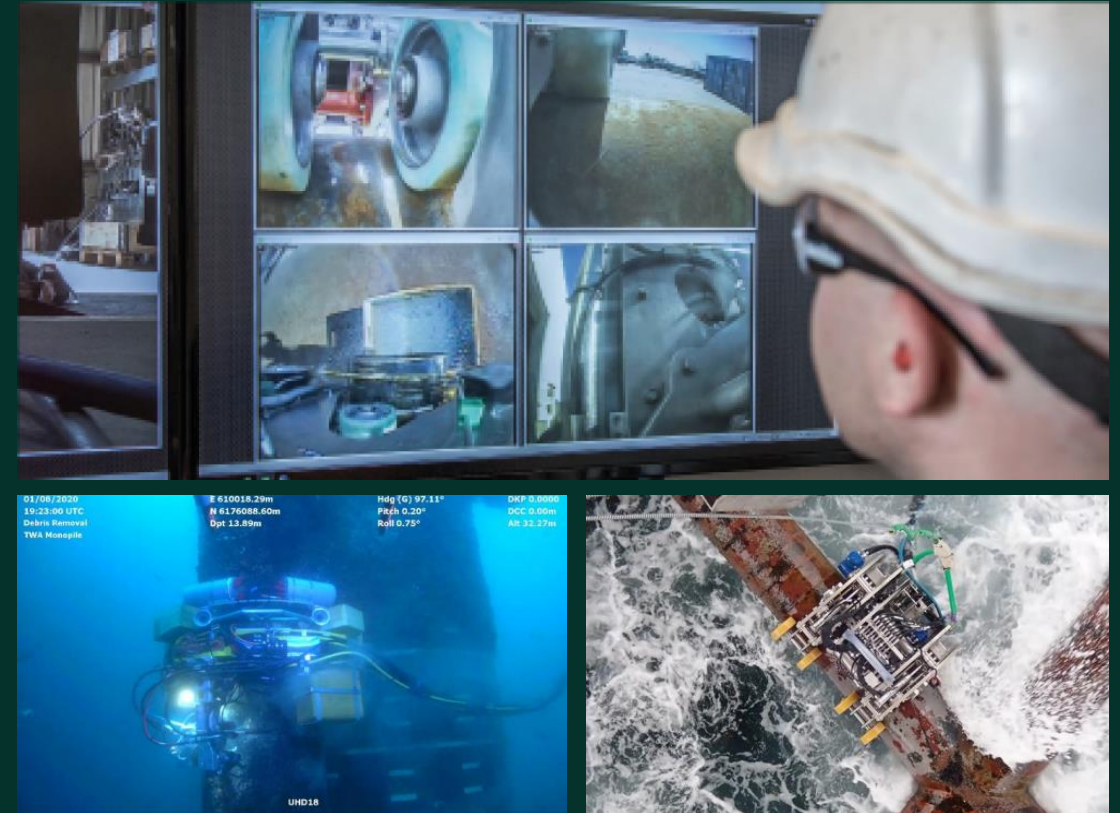
Leveraging remote operations and robots' data in autonomous subsea operations to reduce downtime, solve marine growths problems, environmental and regulations requirement

**Collect, ingest and catalog data generated by remote support AR and robots, and make it available for inspection requirements, performance analysis, event triaging, and data mining.**

**Users are enabled to witness remote and robots' operations, monitor its deployment, intervene remotely when necessary, and access the inspection reports.**

## Benefits:

- Remotely witness operations and inspect equipment
- Increased data accessibility
- Remote assisted repair and guided maintenance
- Data collection and play back: close visual, ultra sonic thickness measurements, 3D imaging/multibeam scanning, and 3D laser scanning



# Conclusion



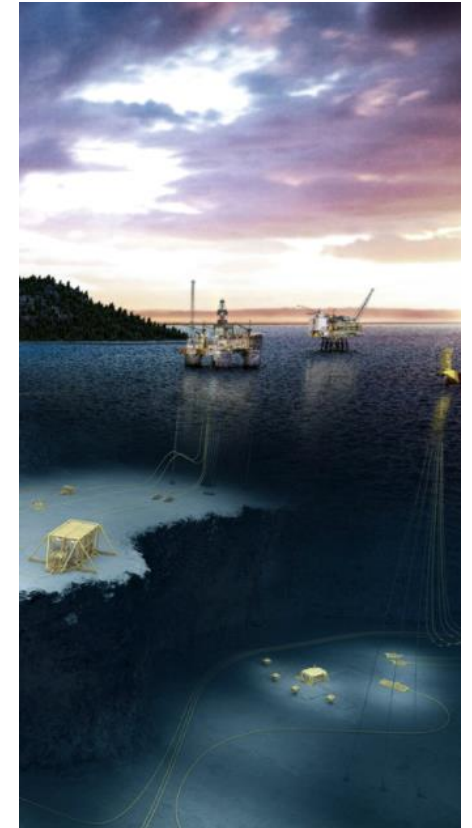
Implementing engageSubsea was imperative to ensure full assurance of the assets and operations. It has proven to be cost-efficient in improving productivity, maintaining uptime, and breaking data silos.



Coupled with remote operations, this approach is a key contributing factor in reducing failures and their associated cost, and a solid approach to supporting the decision-making process and path forward.



The drive for remote digital technologies implementation has been beneficial not only from a time and monetary perspective but also from a decarbonization and emissions reduction perspective.



**Thank You**

# MICEDD

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