

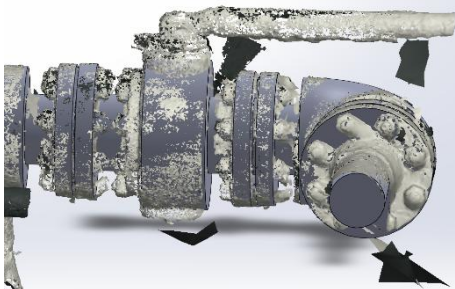


## Key Takeaways

*This project demonstrates how 3D scanning and digital engineering can transform offshore repair operations. By replacing traditional site surveys with digital capture, enabled a faster, safer, and more cost-effective repair, ensuring long-term asset reliability for the client.*

## Results & Benefits

- Cost Saving
- Speed
- Accuracy
- Safety
- Reliability



# CASE STUDY

## PROTECTING OFFSHORE INFRASTRUCTURE WITH REVERSE ENGINEERED CAD SOLUTIONS

### The Challenge

MOSS was engaged by an offshore maintenance company requiring a solution for a severely corroded valve, with a request for a mechanical clamp to be manufactured and installed. Traditional site surveys would have involved costly and logistically complex offshore mobilisations.

### Our Approach

To overcome these challenges, MOSS suggested a digital 3D scan to capture precise component geometry. The results would allow our engineering team to rapidly design a bespoke repair solution, significantly reducing costs, improving safety, and accelerating delivery.

### Implementation

A high-resolution scan of the failed valve was performed, removing the need for offshore technicians. The scan data was securely transferred to our engineering team, where advanced CAD tools were used to reverse engineer the component.

From the scan, a fully functional 3D model was created, providing the accuracy needed for precise design and integration. A bespoke mechanical enclosure ("pot") was designed to encapsulate the corroded valve body.

Sealing integrity was achieved with an elastomeric seal, offering flexibility and resistance to leakage under operating conditions. Structural stability was ensured through a tie bar system distributing compressive loads, supported by two circumferential rings to prevent displacement under service loads.