ZynQ360

Decommissioning in a Global Market

White Paper | 2024

Contents

Introduction

As a growing number of oil and gas facilities in the North Sea and other parts of the world approach the end of their production lives, it is crucial to ensure that the whole process, from late-life asset management through to decommissioning, is as effective and efficient as possible.

Offshore brownfield assets often face operational hurdles due to aging equipment, harsh environmental conditions, and evolving regulatory requirements. Traditional maintenance practices are often reactive and costly, leading to downtime, safety risks, and reduced profitability.

By adopting asset visualisation to manage your brownfield offshore assets you will enable your teams to engineer, plan, prepare, remove and dispose of the assets more effectively, delivering cost savings and improving safety.

Successful implementation requires a strategic approach, collaboration across stakeholders, and investment in technology, talent, and training.

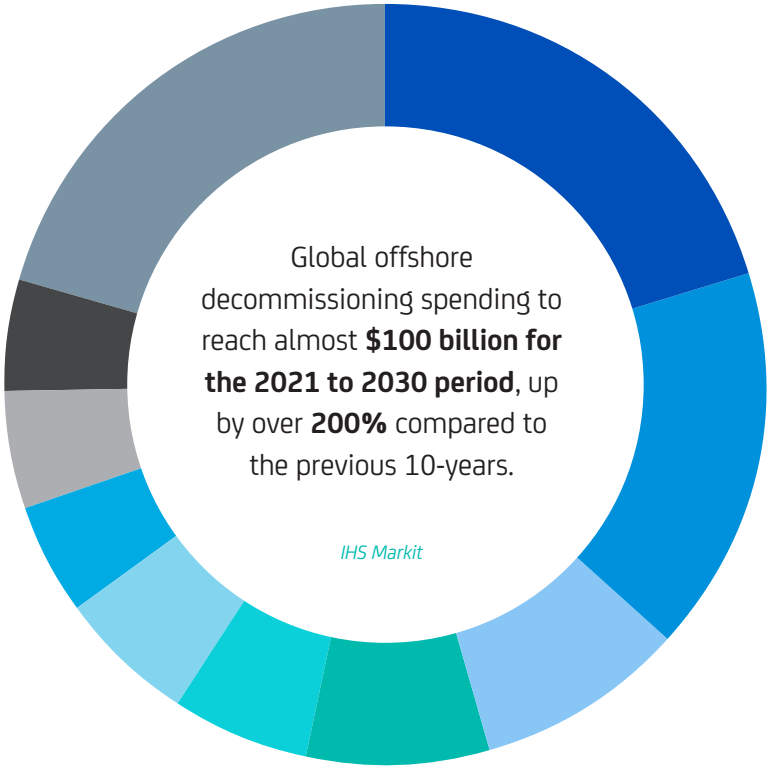
Offshore operators must embrace visualisation technology as part of their asset management strategy to unlock the full potential of their brownfield assets in the digital age.

Decom in a Global Market

It is estimated that a third of all operational platforms on the UKCS are over 30 years old, with many already beyond their designed lives.

Global offshore decommissioning forecast expenditure 2021 - 2030:

Market	%
UK	21
US	17
Brazil	9
Norway	8
Australia	6
Malaysia	6
Angola	5
Mexico	5
Indonesia	5
Other	21



Between 2023 and 2032, the UK is forecast to dismantle 2,164 oil and gas wells in the North Sea and parts of the Irish Sea.

Statista.com

This translates into roughly

74%

of all decommissioning activity in the North Sea.

There are currently 283 active oil and gas fields in the North Sea. By 2030, 180 will have ceased production.

OEUK's Decommissioning Insight 2023 report

North Sea oil and gas production is declining by

7% **per year**

The UK's offshore oil and gas industry spent £1.6 billion on decommissioning in 2022 – its highest annual total to-date. There is significant opportunity ahead for the sector, with £21 billion of spending on decommissioning forecast for the next decade alone.

UKCS Decommissioning - Cost and Performance Report 2023

Decom Challenges

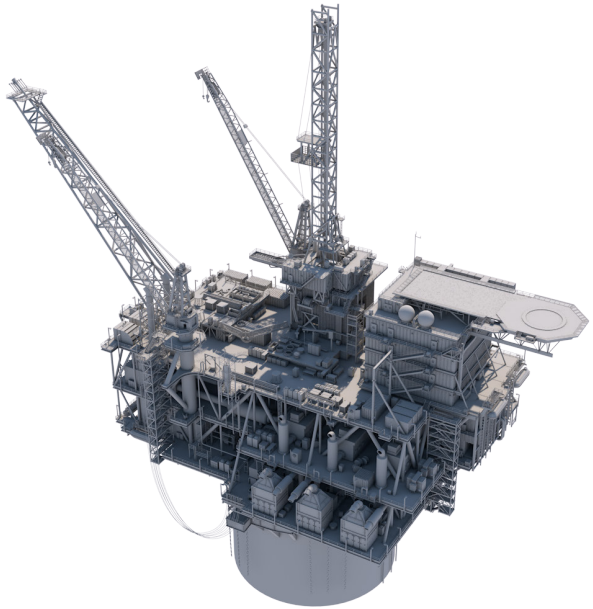
The main difficulties faced by decommissioning planning teams in the current environment are:

- Regulatory compliance
- Safety risks
- Engineering challenges
- Environmental challenges
- Cost constraints
- Logistics
- Stakeholder engagement
- Asset integrity

ZynQ 360's early engagement process offers clients the opportunity to optimise the planning and execution of decommissioning projects and the transition and handover process between operators and contractors.

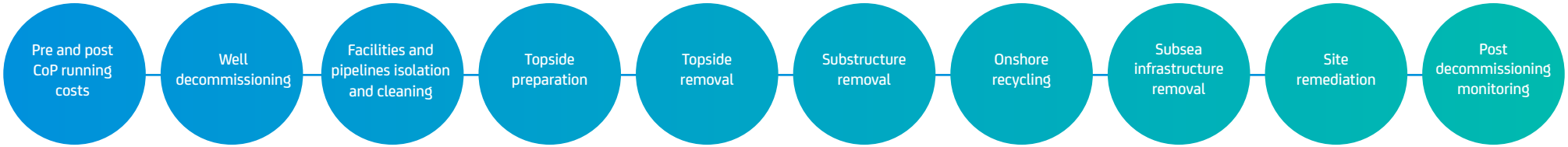
It is critical to have a robust baseline data source, as platform records are very outdated and often difficult to find, so providing a more reliable and visual 'baseline' of data is invaluable.

Asset Visualisation through the Decommissioning Lifecycle



The decommissioning stage is a natural part of an oil and gas asset's lifecycle and streamlined decom plans offer opportunities to capture value which can often be missed.

If oil and gas operators implement an asset visualisation software like ZynQ and either ingest existing visual data or acquire new data, they can leverage advantages across the entire lifecycle, from late-stage asset management to final decommissioning.



Pre-cessation of production:

- Construction
- Constructibility assessments
- Design reviews
- Supplier collaboration
- Visualisations to aid EPRD *(engineering, preparing, removal, disposal)* contract and execution
- Deck management planning during execution phases

Post-cessation of production:

- Topsides plant rationalisation
- DFPV philosophy / strategies / planning / execution
- Topsides cleaning: vessels / chemicals / solids
- Inventory management: documented state critical to onshore recycling
- Platform de-energising planning
- Planning the removal of hazardous and non-hazardous substances
- Onshore recycling contractor handover
- Topsides plan re-use for new facilities
- Equipment re-use assessments

Streamline your Decommissioning Planning with Asset Visualisation

Optimising processes and managing work scope

Work scope management can be challenging in decommissioning projects, often due to multiple asset modifications over time. This leads to discrepancies between asset owners and contractors in scope details, especially during pre-event scheduling.

Access to a visual asset management software helps manage crucial information like historical asset data and work packs, ensuring precise work scopes.

Unified supply chain management

Asset owner-contractor partnerships often face challenges due to different information access and work approval systems. Visual asset management software with integrated data and systems, ensures a clear asset picture for effective collaboration.

Readiness assessment

Assessing event readiness is crucial for success. A comprehensive visualisation tool like ZynQ helps evaluate all key elements, providing flexibility to view specific data areas and overall readiness status. This facilitates informed decisions by decommissioning managers and enables tagging or red-flagging of incomplete aspects before commencement.

With ZynQ you can enable your teams to engineer, plan, prepare, remove and dispose of the assets more effectively, delivering cost savings and improving safety.

zynq

ZynQ can be deployed across an entire organisation and beyond. With strict access controls, information can be securely shared between all stakeholders.

Visually seeing the platform in its current state versus old P&ID drawings is extremely value-adding and offers operators and the wider supply chain access to the data for pre-planning preparedness prior to execution.

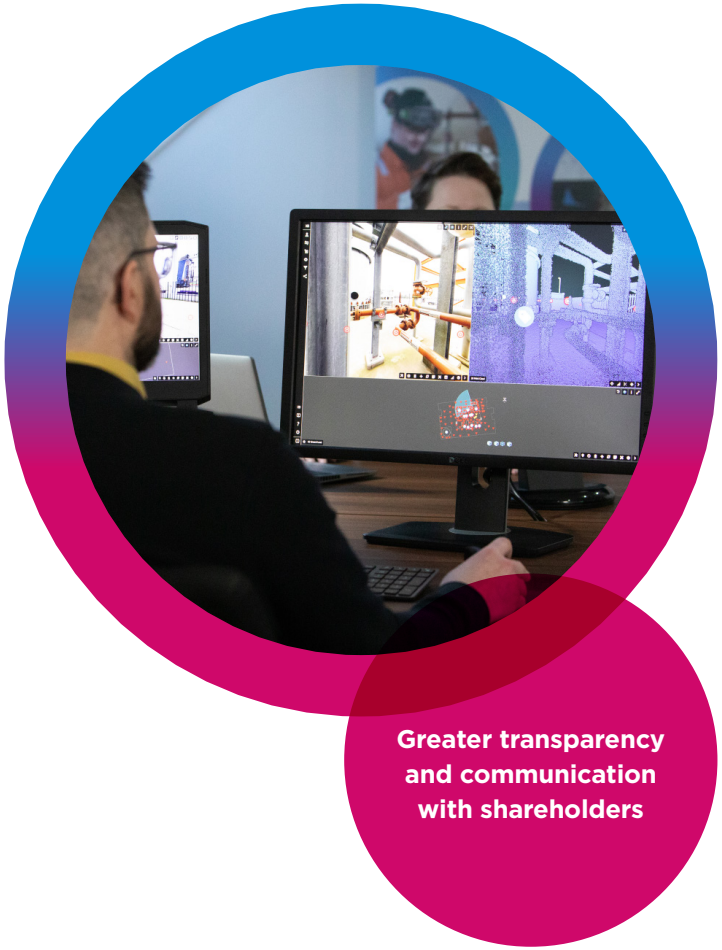
Impacts of Asset Visualisation for Decommissioning

The adoption of asset visualisation in the decommissioning of offshore assets offers a transformative approach to address the many costly and complex issues faced by operators.

By reducing project timelines, minimising unplanned downtime, and optimising resource allocation, companies can achieve substantial financial benefits. Furthermore, enhanced risk assessment, better training, and improved regulatory compliance contribute to a safer working environment.

These advantages, coupled with additional benefits such as environmental protection and increased stakeholder confidence, **make asset visualisation an indispensable tool in modern decommissioning operations.**

- Enhance project planning and execution
- Optimise allocation of personnel equipment and materials
- Improve regulatory compliance supporting audits and inspections
- Improve safety and enhance risk assessment
- Deliver immersive training and asset familiarisation
- Improve cost control and reduce downtime



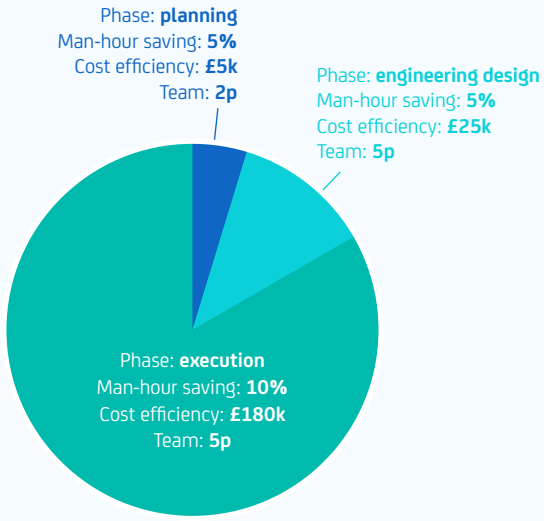
Greater transparency and communication with shareholders

Cost Benefit Analysis:

Topsides Removal

In collaboration with industry experts, our clients' feedback and industry knowledge we were able to make the following estimate:

Operator

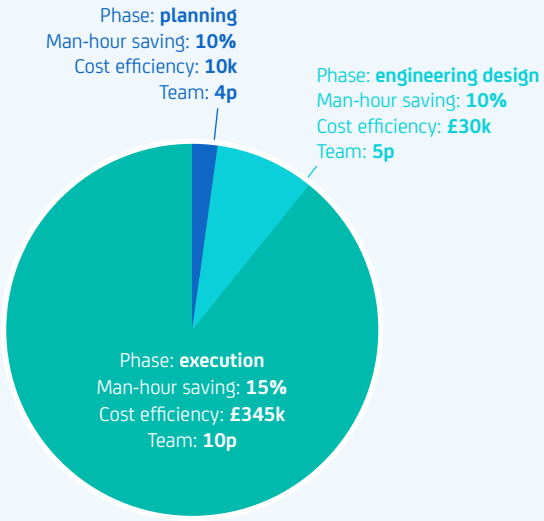


Estimations based on **12 personnel** benefiting from the use of technology utilising, 19,000 man hours over the planning, design and execution project phases.

Estimated time savings: 1,600 man-hours

Estimated cost savings £200K*

Contractor

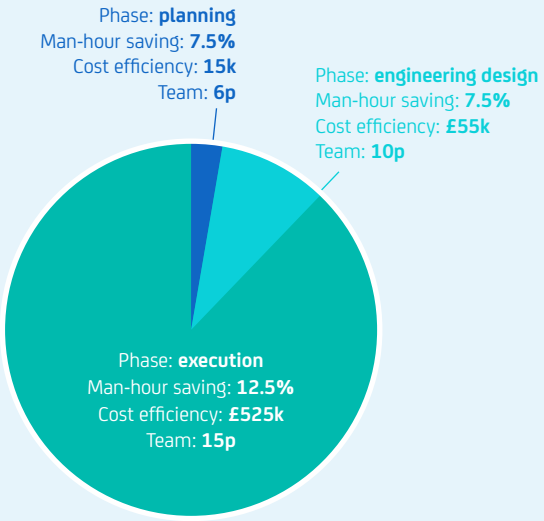


Estimations based on **17 personnel** benefiting from the use of technology utilising, 34,000 man hours over the planning, design and execution project phases.

Estimated time savings: 4,800 man-hours

Estimated cost savings £385K*

Cumulative



Estimations based on personnel benefiting from the use of technology utilising, 53,000 man hours over the planning, design and execution project phases.

Estimated time savings: 6,000 man-hours

Estimated cost savings £590K

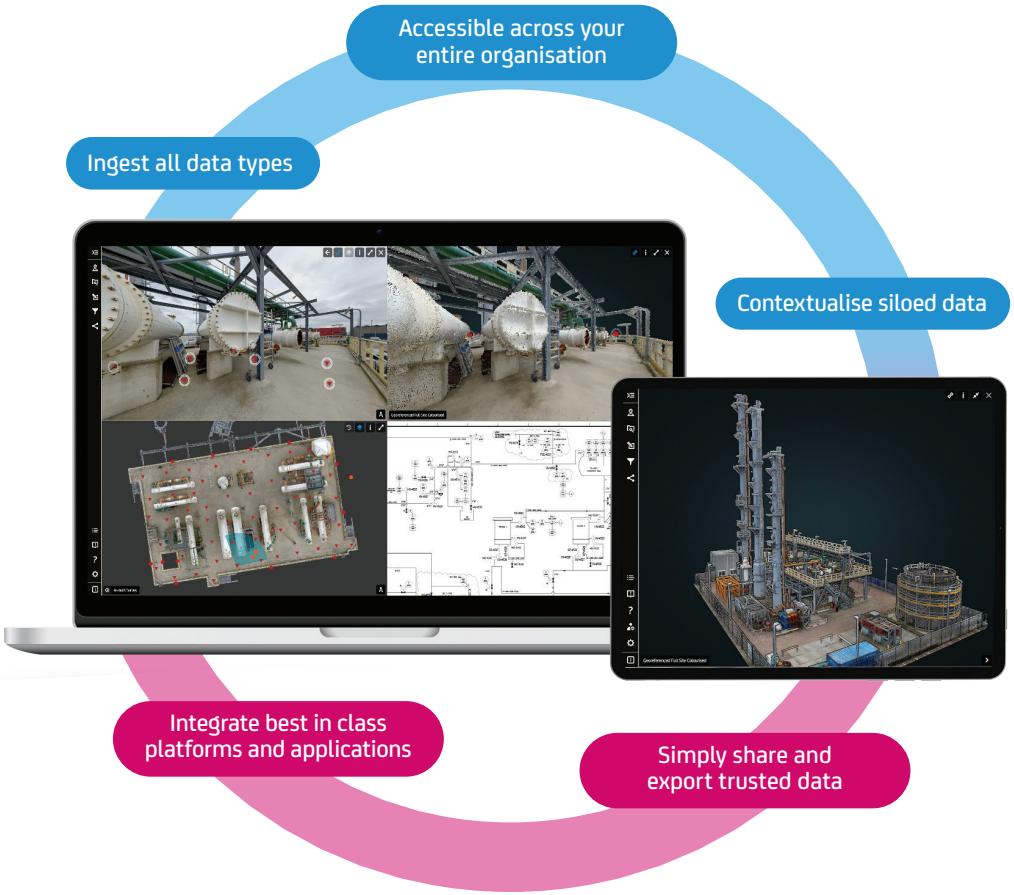
** Estimations based on £50 rate per hour for Operator and £70 per hour per contractor man-hour.*

Conclusion

In conclusion, the utilisation of asset visualisation presents a compelling solution for the decommissioning of offshore assets, offering numerous benefits and addressing key challenges faced by decom teams.

Effective planning is essential for the success of a decommissioning project, encompassing the specification of scope, identification of materials, definition of actions, and allocation of resources. When coupled with industry best practices, this comprehensive approach facilitates streamlined project management, engineering, compliance with regulations, preparation of platforms, well plugging and abandonment, platform removal, disposal of materials, and site clearance.

To accomplish these objectives, management and planners can leverage solutions like ZynQ. Fostering a culture of operational excellence by prioritising workforce safety through risk reduction, enhancing efficiency via improved planning and familiarisation, and aiding companies in achieving their objectives more swiftly. Crucially, these technologies also play a pivotal role in curtailing operational costs, facilitating faster innovation, and promoting a culture of continuous improvement.



For offshore operators, asset visualisation helps streamline operations, reduce risks, and achieve success during the decommissioning process.

ZynQ360

Innovative Digital Solutions to Visualise your Asset

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