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xcalibre
abrasive cutting solutions

The Evolution of Abrasive Cutting Solutions

From specialist cold cutting to engineered, data-driven project certainty

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Why has abrasive cutting had to evolve?

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In the 1990's the market shifted away from explosives

Offshore decommissioning progressively demanded greater access, scale, flexibility and certainty

1990s

PLATFORM WELLS

Known tubulars, accessible cut locations

SINGLE STRING / PILE CUTTING

2000–2005

HANDLE COMPLEX WELLS

Cemented, eccentric and triple-bore wells

MULTI-STRING WELL CUTTING

2006–2010

RIGLESS & DEEPWATER

Vessel-deployed cutting and recovery in deeper water.

CUTTING MOVED OFF THE RIG; CRITICAL-PATH SUBSEA ACTIVITY

2011–2023

STRUCTURES & COMPLEX ACCESS

Jacket legs, piles, braces, tanks and structures

BEYOND WELL SEVERANCE – BESPOKE SOLUTIONS

2024 →

LARGE-SCALE REMOVAL

Large monopiles and integrated cut-and-recovery operations.

FOCUS WIDENED TO COMPLETE REMOVAL PHILOSOPHY

Industry moved from solving the cut itself to engineering the complete cutting and recovery operation

xcalibre What it is…

abrasive cutting solutions

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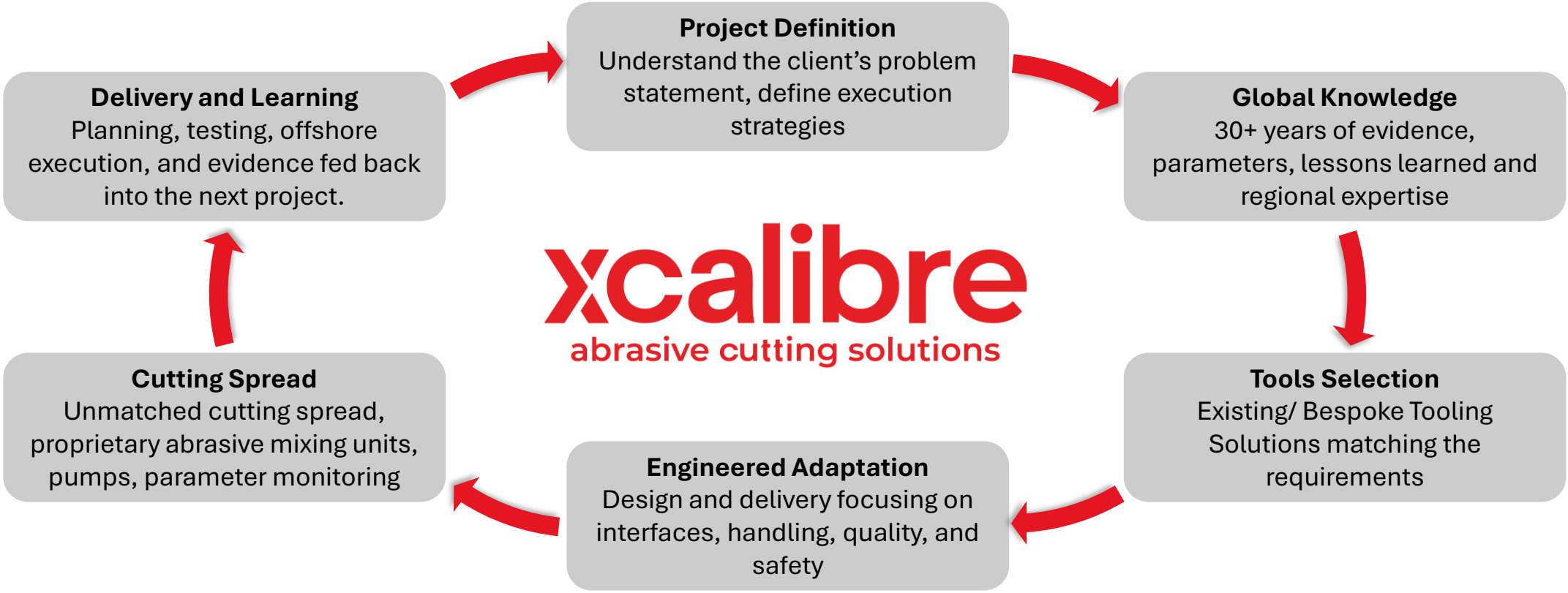
- **xcalibre** is not a single tool - it is a complete abrasive cutting ethos engineered for project certainty.



- Forged through 30 years of evolving technology development and project delivery, **xcalibre** delivers the performance that matters and where certainty is critical.

How has the technology responded to the challenge?

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Changing decommissioning requirements drove corresponding developments in tooling, deployment and system integration

	DECOMMISSIONING REQUIREMENT	ABRASIVE-CUTTING RESPONSE
ACCESS	Restricted wellbores, subsea locations and obstructed structural members	**Internal cutters, compact manipulators, guided tracks and ROV-compatible deployment**
SCALE	Progression from individual tubulars to multi-string wells, piles and large monopiles	**Higher-capacity pumping, sustained abrasive delivery and scalable internal or external cutting paths**
FLEXIBILITY	Different diameters, casing arrangements, orientations, materials and water depths	**Modular tool frames, adjustable centralisers and project-specific nozzles, clamps and interfaces**
CERTAINTY	Longer offshore cuts with greater exposure to interruption, wear and incomplete severance	**Controlled traverse and stand-off, parameter monitoring, redundancy and improved cut verification**

The process remained abrasive waterjet cutting; the engineered system around the jet expanded the operating envelope.

Technology & Applications



Technology & applications

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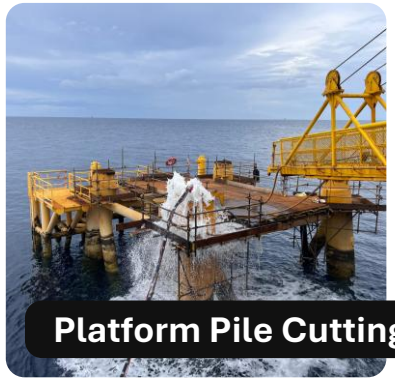
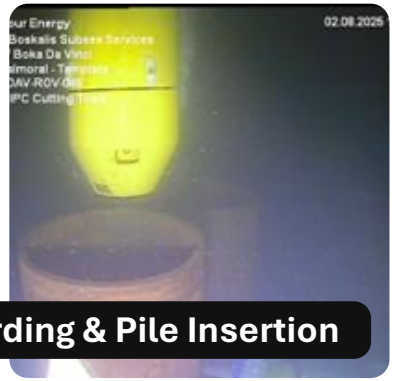
1990s Single String/ Pile Cutting





Platform Pile Cutting



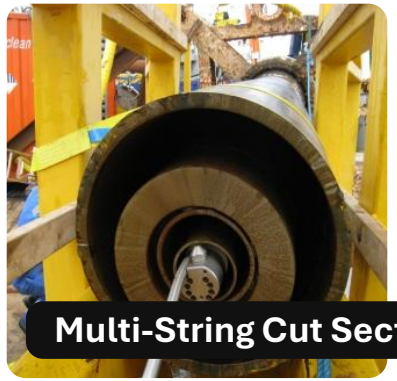


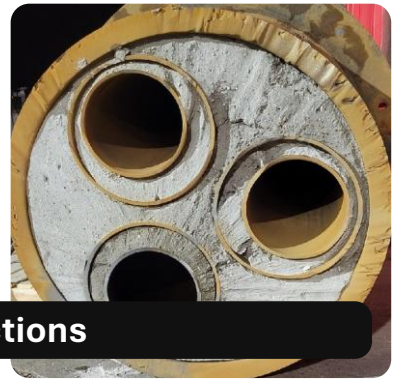
IPC Tool – Over-Boarding & Pile Insertion

2000–2005 Multi-String Well Cutting



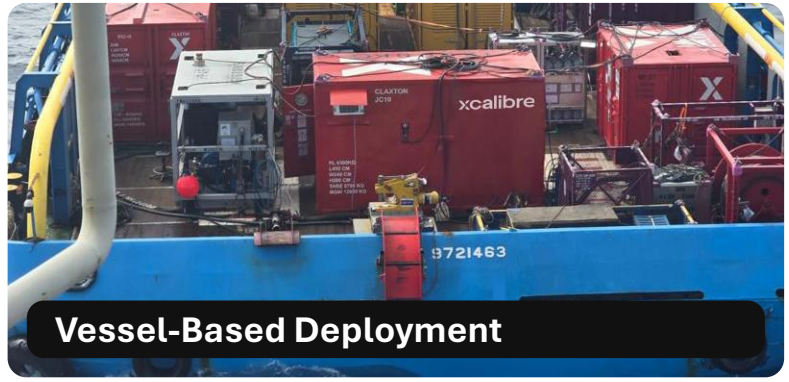
Platform Cutting Spread In Operation



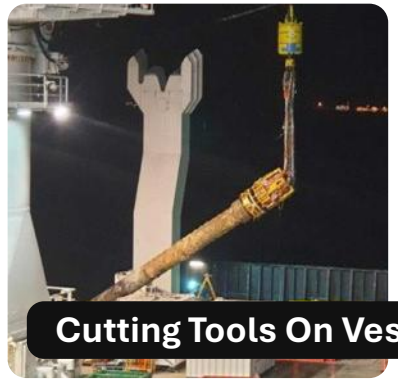


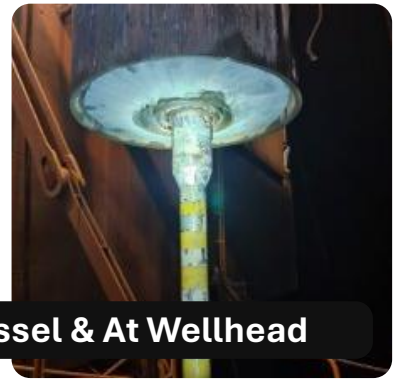
Multi-String Cut Sections

2006–2010 Rigless & Deeper Water



Vessel-Based Deployment





Cutting Tools On Vessel & At Wellhead

36 - 72 in
Jacket / Pile Size Range

Internal
IPC: Cut From Inside The Pile

3 Bores
In a Single 36" Conductor

6 + 1
Casing Strings & Conductor Severed

Up to 452 m
Subsea Water Depth

Multi-String
Cut Per Well, Single Trip

Technology & applications

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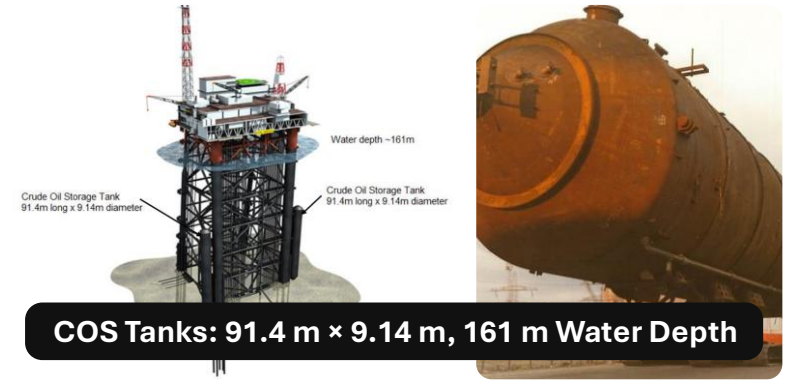
2011–2023 Structures & Complex Access



COS Tanks: 91.4 m × 9.14 m, 161 m Water Depth



Bespoke Fly-To-Place Tank Cutting Tool

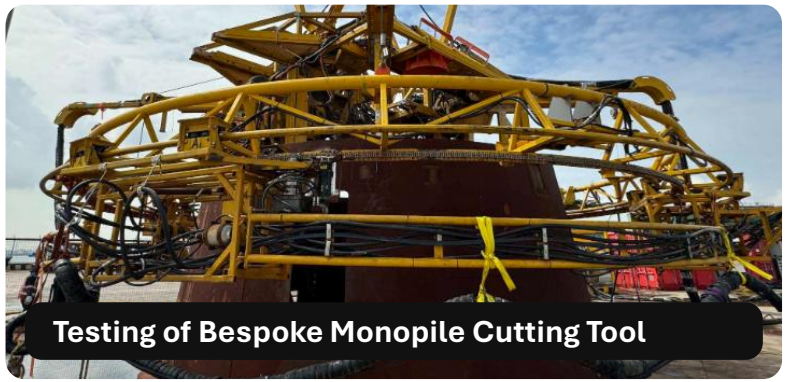
4x Ø800 mm
Lifting Holes

4 m LG
Fly-To-Place Linear Cutters

2024 → Renewables & Large Scale



Monopile Cut & Recovery Offshore



Testing of Bespoke Monopile Cutting Tool

Ø6.5 - 8.5 m
Tapered Monopile Cut

120 Te
Lifting Capacity, Load Transfer

Mind the gap … current challenges

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1

UNKNOWN CONDITIONS

What are we actually cutting?

Wall thickness, corrosion, cement, eccentricity and obstructions may differ from drawings.

2

PERFORMANCE PREDICTION

How long will the cut take?

Cut time and abrasive demand depend on geometry, materials, stand-off and traverse parameters.

3

PROCESS RELIABILITY

Can performance be sustained?

Long cuts increase exposure to abrasive interruption, nozzle wear and equipment intervention.

4

CUT VERIFICATION

Is severance complete?

Pressure, flow and completed travel indicate process status, not necessarily full penetration.

Claxton’s focus: to turn cutting data into reliable prediction, process control and verified severance.

Our technology development priorities

From proven cutting solutions to standardised, data-driven and verified operations

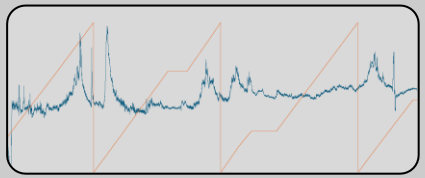
Electrification → **Operation** → **Capture** → **Verify** → **Automate**



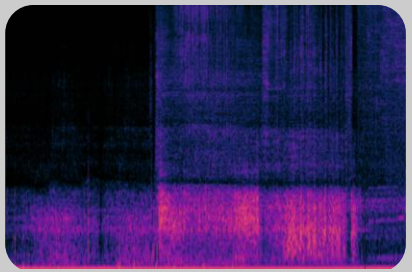
Electric actuation
Reduced hydraulic-fluid exposure, cleaner, more efficient offshore systems



Control & Monitoring
Real-time insight, less variation



Data Logging
Structured data for learning & optimisation



Cut Verification
Real-time cut insight, AI-based verification



Automation
Consistent abrasive delivery, less operator dependency, remote operations

In conclusion

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1

EVOLVED

From solving the cut to engineering the operation

Since the 1990s, abrasive cutting has grown from single-string cuts to multi-string wells, deepwater and large monopiles.

2

xcalibre

Engineered for project certainty

30+ years of experience joined up as one ethos: tooling, engineering and offshore execution, with lessons fed into every project.

3

NEXT

Data-driven, verified operations

Monitoring, data logging, AI-based verification, automation and electrification target the remaining gaps in prediction, reliability and verification.

The cut is rarely the difficult part – making the whole operation work first time offshore is.

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CUTTING THROUGH COMPLEXITY®

Thank you

Questions?