



TRANSFORMING WELL INTERVENTION

Integrated delivery

Cross-company collaboration

Technology and expertise

November 16th, 2022

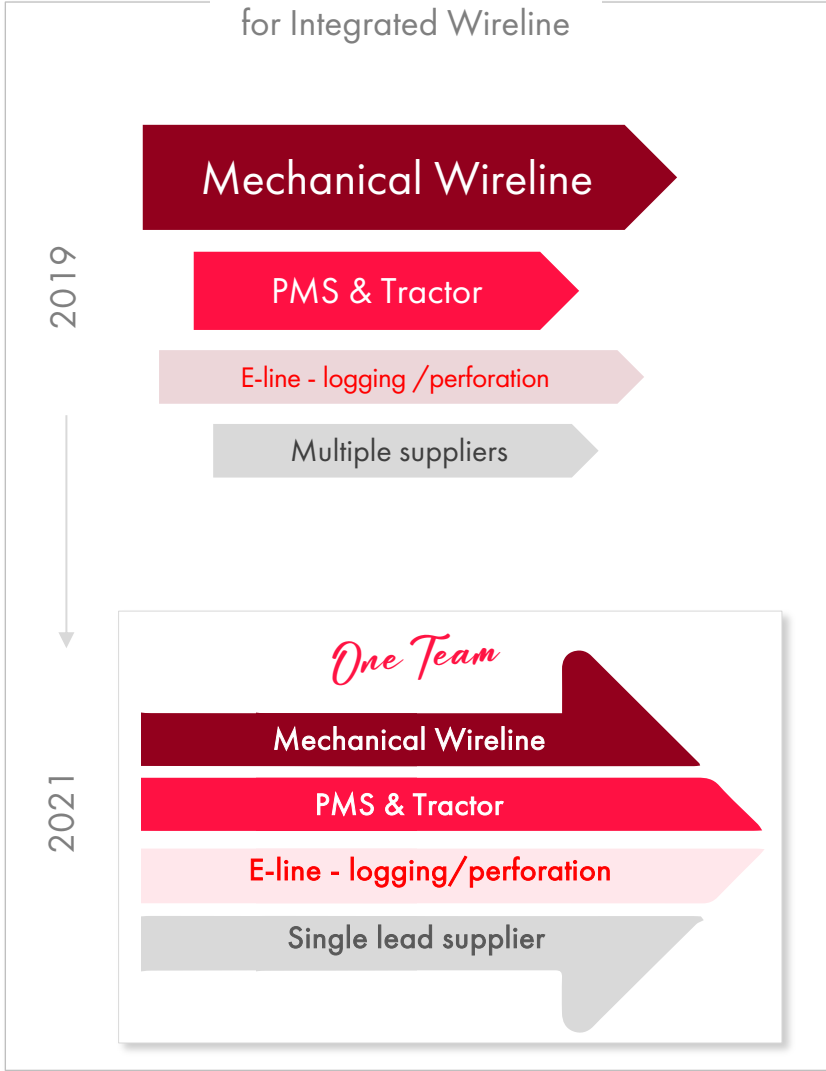


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Introduction

The Equinor Ambition for Integrated Wireline



Overall evaluation criteria

- Pricing/commercial
- **Technical**
- Case examples
- Safety & performance
- POB & digitalisation plan
- Low carbon plan for the future

Technical

- **Availability of Integrated Operations**
- Efficiency of services
- Capacity of services
- Quality of services
- Quality of integrated services



Equinor Objectives for IO

- Drive increased **ownership** to total well delivery as **one integrated team**, offshore and onshore
- **Improve cooperation** between Contractor and Company's other contractors
- Establish optimum utilization of offshore personnel and competence through training, x-disciplinary assistance, and use of **Onshore Operation Centre (OOC)**
- Improve utilization of **information and communication technology** as a prerequisite for the above objectives

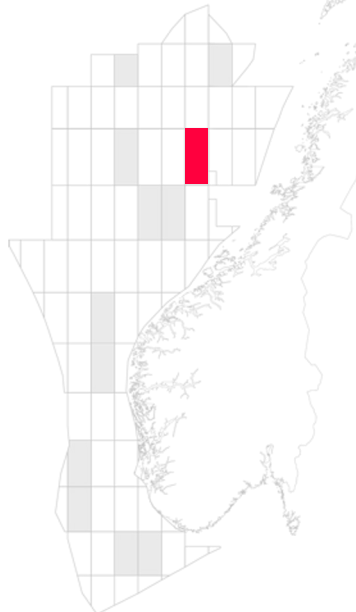
Addressing the challenge



22+ fixed installations

~7 modular

1 LWI vessels



THE WELL	THE CHALLENGE(S)	THE SERVICE(S)	THE SUPPLIER(S)
Glitne Grane G-1 Kvitebjørn A-1 Heidrun A-10 Njord A-15 Martin Linge A-3 Johan Sverdrup D-2	Sleeve shifting Collapsed tubing Limited rig up height Scale removal Valve replacement Production logging Tubing leak	Cased-Hole Logging Perf. & Ballistics PRIME Tractor Debris Cleanout Pulse Technology PRIME Stroker Tractor Conveyance	OPENFIELD Baker Hughes ALTUS Intervention BLUESPARK TGT SILIXA

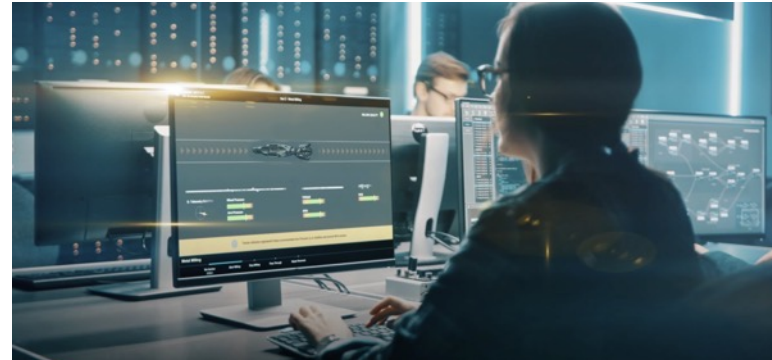


Our ambition



Well diagnostics

Proactively recommend new solutions with early engagement from One Team planners and shared data to make informed decisions.



Our ambition



Method selection

Access to best-in-class technology and services from Altus and service partners.

Bespoke solutions enabled by **Rapid Response Engineering** team.



Our ambition



Planning & preparation

Single and digital interface for integrated planning of all services. Informed decisions based on shared data between One Team stakeholders.



Our ambition



Mobilisation

Reduced carbon footprint, cost and risk from one multi-disciplined crew, one mobilisation and pre-tested tool strings.



Our ambition



Execution

Less time spent in well with combined technology solutions.

Real-time onshore support with multi-disciplined crew, **reducing POB footprint.**



Our ambition



Close-out & reporting

One invoice and **improved commercial control.**

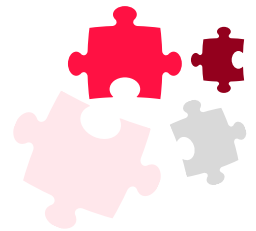
One source of truth throughout the process and a common result, with continuous feedback loop to well diagnostics.



Transforming the way we work




From




- x Manual and time-consuming effort with multiple parties
- x Multiple shipments of equipment
- x Several crews
- x Divided responsibility and multiple runs

To



- ✓ Enables access to a growing portfolio of solutions
- ✓ Digital transformation
- ✓ One mobilisation and one crew
- ✓ Driving innovation across multiple technologies

Target impacts 

Reductions ▼

- Planning time
- Risk
- Co-ordination time
- Logistics
- Rig time**
- Carbon footprint
- POB**
- Execution time
- Conveyance time
- Runs

Improvements ✓

- Delivery management
- Task certainty
- Enhanced recovery
- Safer and cleaner



15-20%
RIG-TIME

"Pre-mobilisation string test saves 12 hours"



20%
POB REDUCTION

"Multi-disciplined Altus crew"

In practice...

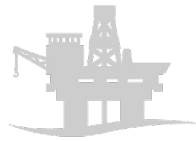
The Challenge



Scale in wells is a major problem leading to significant losses in production and therefore potential revenue.

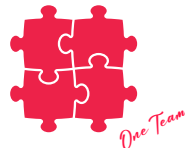


The Job



Remove Barium Sulfate (BaSO₄) scale
Remove and replace gas lift valve

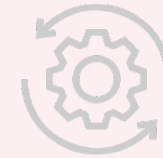
PRIME Tractor Conveyance
Debris Milling
Blue Spark WASP
Precision Stroker



- ✓ Delivered with a multi-disciplined Altus crew
- ✓ One shipment of equipment
- ✓ Single point of accountability and responsibility

Result

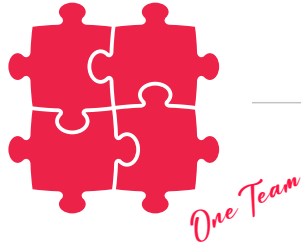
- Record breaking e-line scale milling operation
- Removed over 2000m of BaSO₄ scale
- Integrity of the well was restored



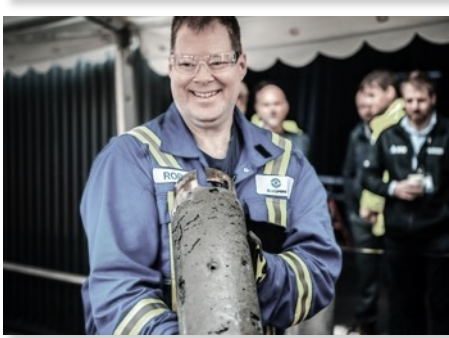
- ✓ Less equipment
- ✓ Reduced POB
- ✓ Reduced time
- ✓ Reduced cost
- ✓ Reduced carbon footprint



Together, we are making intervention smarter



- Equinor's courage and openness to work differently
- True collaboration is now evident
- Well intervention has a significant role to play in **our** future



MAKING INTERVENTION **SMARTER**
