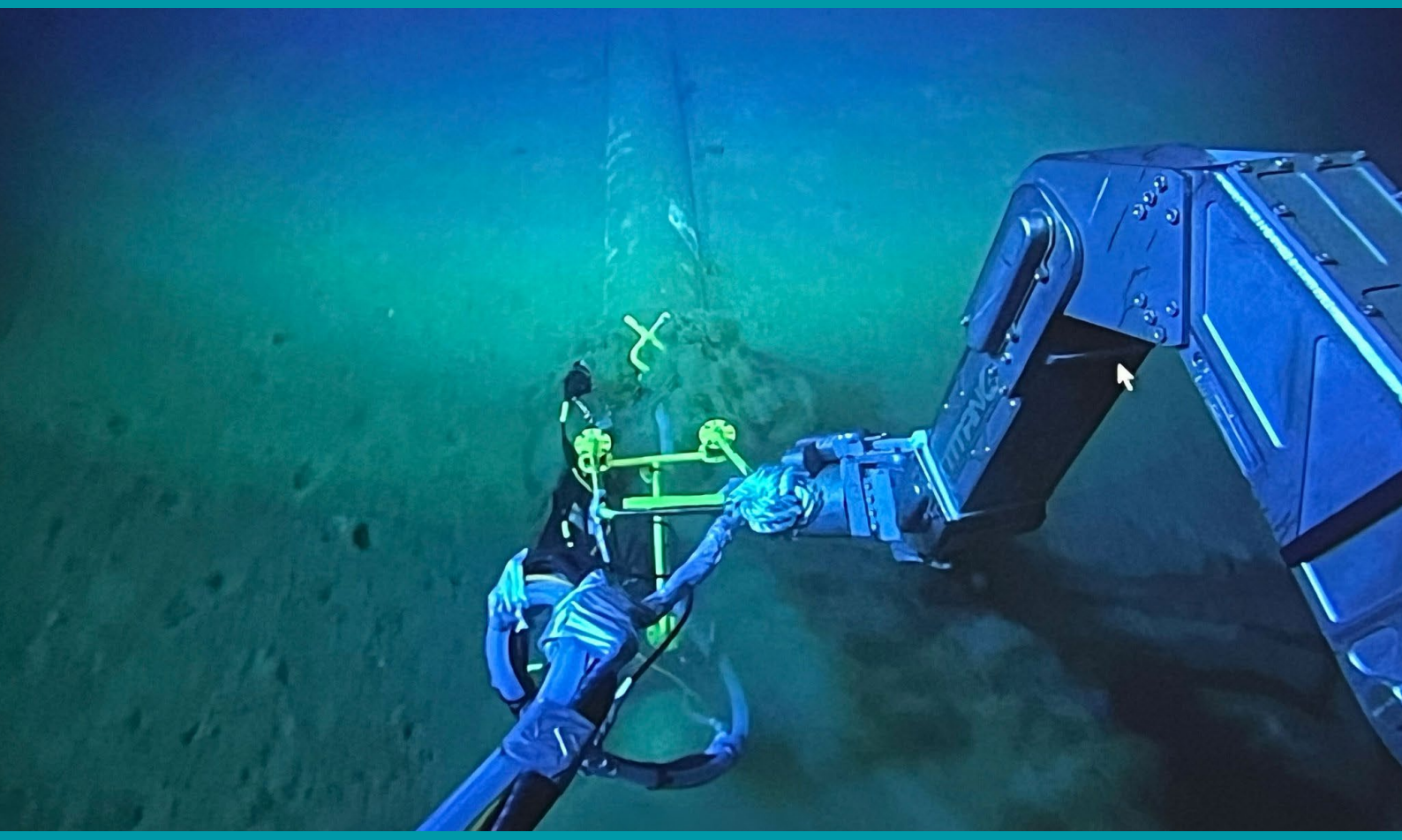
TSC SUBSEA

ART vPush™

Award Winning Solution for Hydrate Detection and Sizing.



- Minimal dredging requirements.
- High-speed data collection minimising ROV & vessel time.
- Through-coating inspection.

www.tscsubsea.com

ART vPush™

ART vPush provides a fast and efficient solution for hydrate detection and sizing.

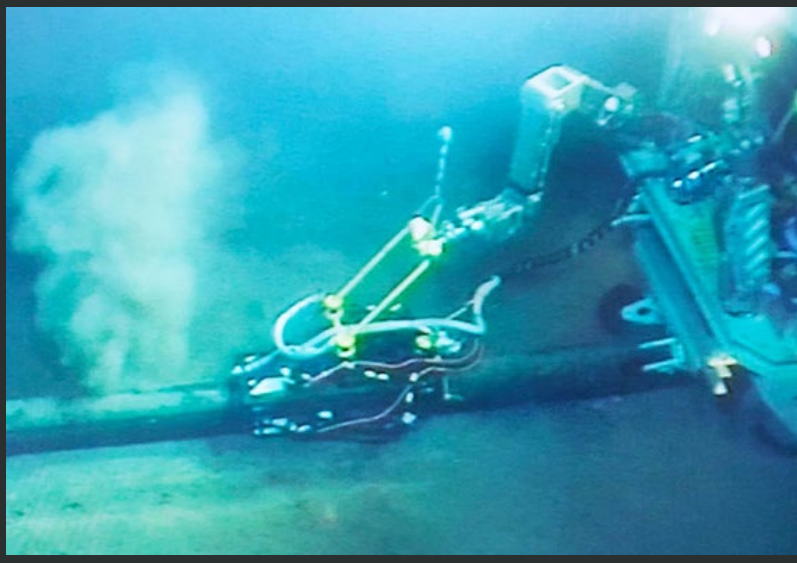
The ART vPush scanner uses TSC Subsea's Acoustic Resonance Technology (ART) on a robust ROV-pushed scanner for seamless assessment across entire pipe runs. The tool captures data in real-time, which is processed with advanced algorithms to analyse signals from the pipeline's far wall. These signals enable trained technicians to accurately identify contents, such as liquid, gas, or hydrates.

Equipped with four ART transducers, the ART vPush ensures comprehensive coverage of the internal pipeline volume without extensive dredging. The transducers, positioned between 10 and 2 o'clock, examine signals from the far wall to achieve nearly full 360-degree coverage without needing to access the pipe's underside. An on-board odometer encodes positional data, linking scan results precisely to their location on the pipe.

The tool's rugged stainless-steel frame is engineered to shield the transducers from impact while maintaining precise alignment with the pipe surface. Pushed by the ROV using a compliant handle that allows vertical movement while ensuring circumferential alignment, the tool's handle and compliance level can be customised to fit the ROV manipulator. Optional brushes can be added to clear debris, and additional mounting points support extra handles, cameras, or water jetters for enhanced sediment removal.

"The tool scanned 12km of 8 inch 3LPP coated water injection line in just 33 hours at -1,300m water depth."

Read the case study



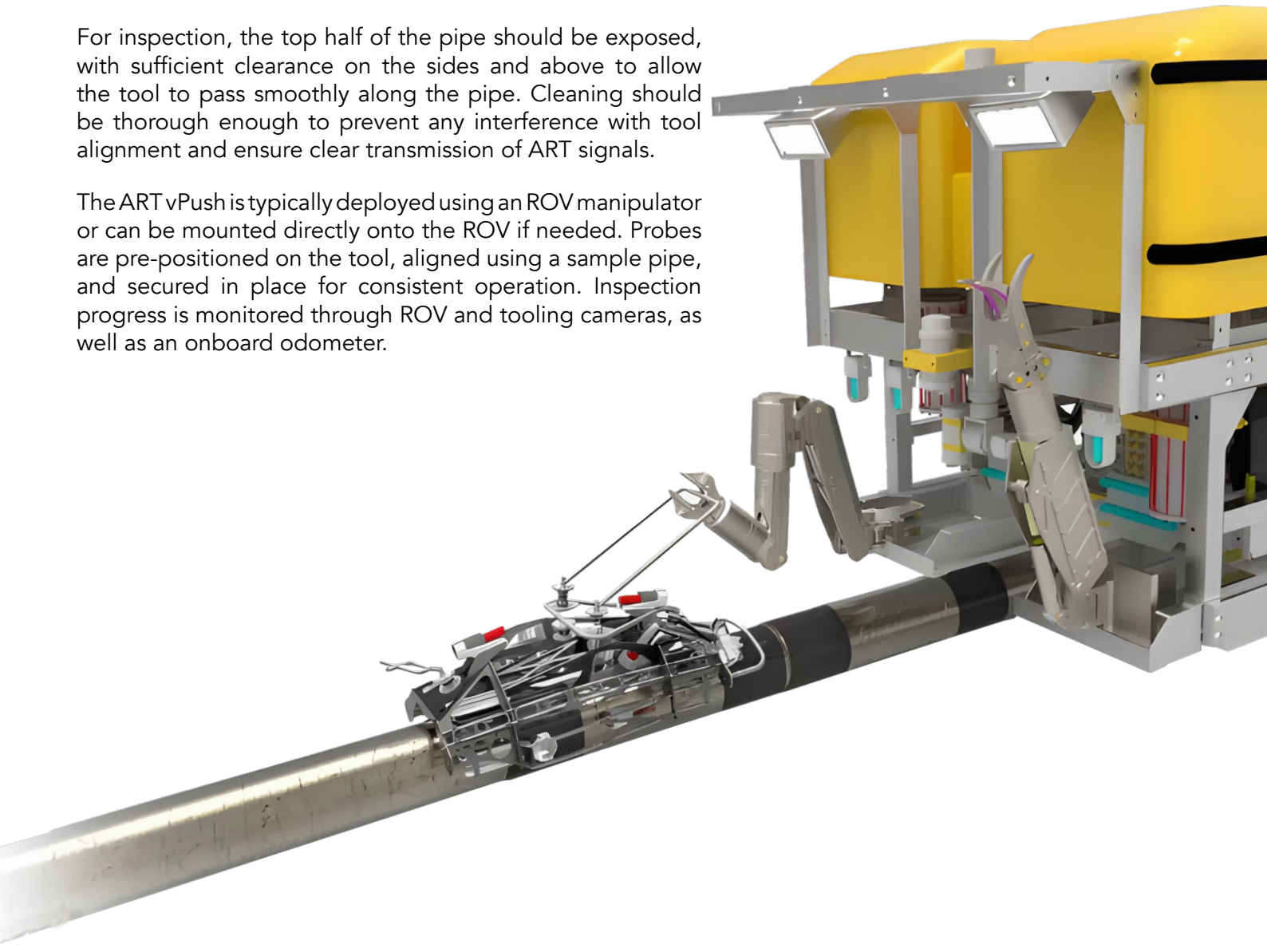
APPLICATIONS

- Hydrate detection and screening in subsea pipelines.
- Gas detection in subsea pipelines.
- Subsea pipeline wall thickness measurements (line scan).

DEPLOYMENT/PROBE CONTROL

For inspection, the top half of the pipe should be exposed, with sufficient clearance on the sides and above to allow the tool to pass smoothly along the pipe. Cleaning should be thorough enough to prevent any interference with tool alignment and ensure clear transmission of ART signals.

The ART vPush is typically deployed using an ROV manipulator or can be mounted directly onto the ROV if needed. Probes are pre-positioned on the tool, aligned using a sample pipe, and secured in place for consistent operation. Inspection progress is monitored through ROV and tooling cameras, as well as an onboard odometer.



FEATURES

- ✓ Circumferentially and axial staggered transducers for maximum coverage and minimal signal-interference/interaction
- ✓ Odometer for location-encoding of data
- ✓ Stiff frame to maintain transducer alignment
- ✓ Wheeled free-running tool is simple and robust
- ✓ TSC Subsea algorithms for monitoring the back-wall signal and determining pipe contents.
- ✓ Compliant handle to eliminate 'wobble' from ROV
- ✓ Camera views of each transducer's path
- ✓ Additional mount points for handles/jetters, etc

ART vPUSH SPECIFICATIONS

Depth rating	3000 meters
Mass	48Kg
Weight in water	39Kg
Diameter	Application specific – made it measure
Nominal wall thickness ranges	6-50mm
Remote operated vehicle options	Inspection / work class
Electrical interface	90VAC to 264VAC / 47-63Hz /127-370VDC - 5-meter-long pig tail
Communications interface	Dedicated 100/1000Mbit cat5 ethernet or Single mode fibre optic.
Temperature operating	-20°C to + 45°C (-4°F to +113°F) - Deck and subsea
Data collection	50Hz
Inspection speed	~0.5knts, tuned to ROV
Maximum ACFM Scan Speed	50 mm/s

UK
Unit 31
Cwmdu Industrial Estate
Swansea SA5 8JF
UNITED KINGDOM

T: +44 (0)1908 317444

NORWAY
Glasskaret 1
5106 Øvre Ervik
Hordaland,
NORWAY

BRAZIL
Campo de São Cristóvão, 58
Rio de Janeiro
RJ - 20921-440
BRAZIL

US
c/o NDT Global LLC
15500 International Plaza Dr,
Houston, TX 77032,
USA

AUSTRALIA
Unit 7, 1 President St
Welshpool WA
Australia 6106,
AUSTRALIA

sales@tscsubsea.com | www.tscsubsea.com

/TSCSubsea /tsc-subsea