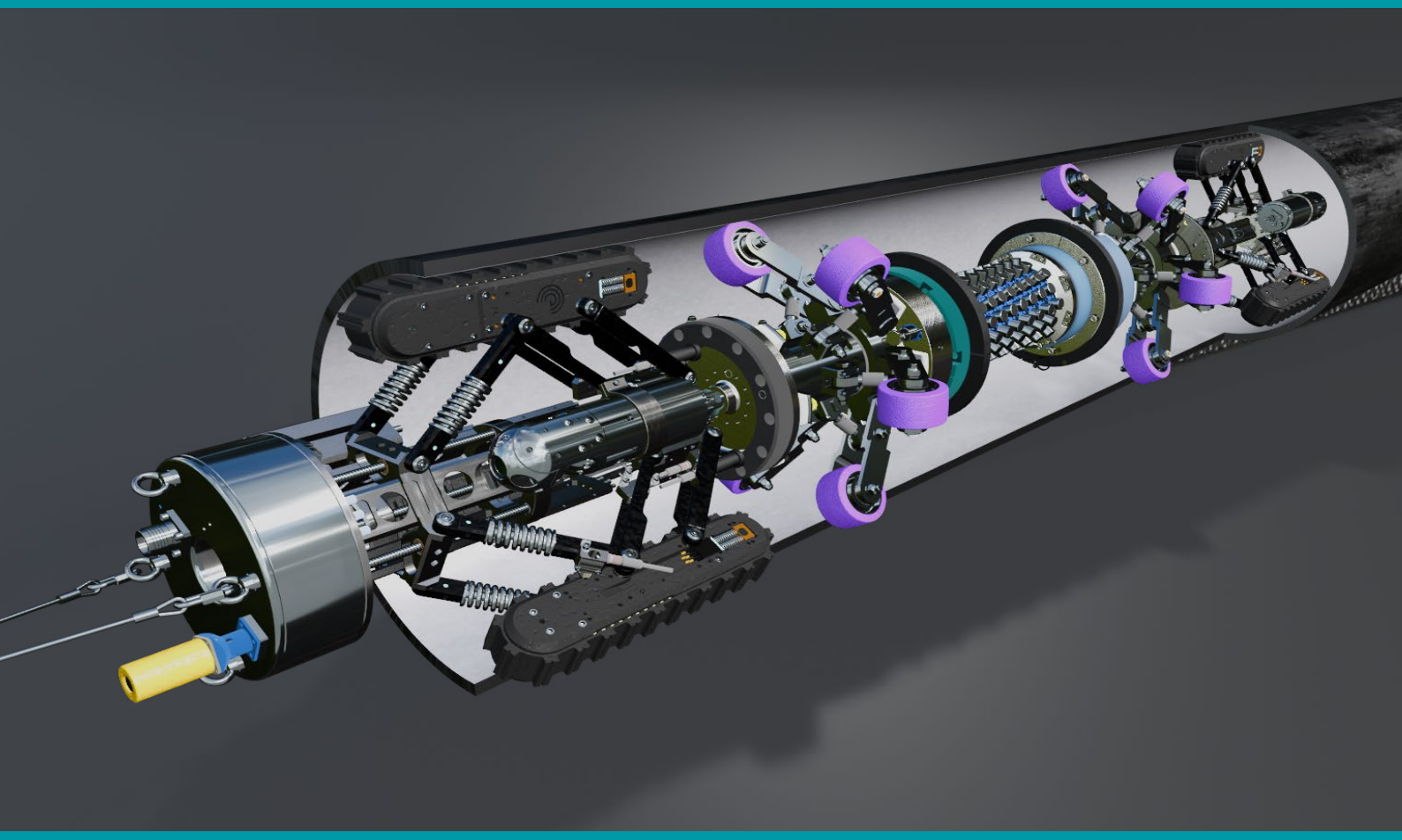
TSC SUBSEA

TRITON

Bi-directional Tethered Robotic Inspection Crawler Solutions for Challenging, Unpiggable Pipelines.



- Targeted or continuous internal inspection for liquid pipelines.
- Multiple advanced NDT technologies, including ART, enabling maximum efficiency in continuous inspections.
- Tethered motorised crawler with fail-safe propulsion system.

www.tscsubsea.com

TRITON

Advanced Technology for Unpiggable and Challenging Pipelines.

TSC Subsea's innovative bi-directional tethered motorised robotic crawler, TRITON, is setting a new benchmark for internal pipeline integrity assessments.

Designed specifically for non-piggable or challenging-to-inspect pipelines, TRITON combines advanced Non-Destructive Testing (NDT) technologies with versatile inspection capabilities to deliver unparalleled inspection results.

TRITON offers two flexible inspection modes:

- **Targeted Inspection:** The crawler navigates to an area of interest, stops, and conducts a detailed, localised inspection.
- **Continuous Inspection:** Similarly to traditional In-Line Inspection (ILI), the crawler continuously scans the pipeline as it drives.

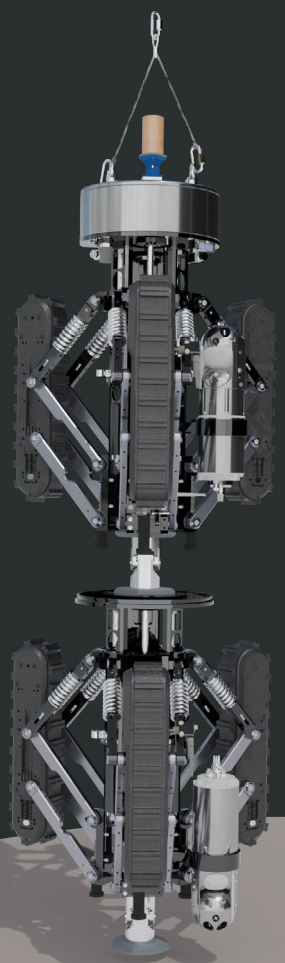
TRITON can perform a wide range of critical integrity assessments, including corrosion mapping, wall thickness measurements, crack detection and sizing, and 360-degree volumetric weld inspection.

TRITON ROBOTIC CRAWLER

TRITON integrates triple independently powered expandable tracks with an adaptable tripod chassis, enabling inspections across a wide range of pipe sizes and orientations.

Power and data are delivered through an umbilical system, providing real-time inspection data directly to the operator.

Engineered for versatility, TRITON navigates horizontal and vertical sections, multiple 90-degree bends, and operates in dry or wet environments. Its rugged anodized aluminium and stainless-steel construction ensures durability, while powerful LED lighting and high-resolution cameras provide clear visual assessments in harsh conditions.

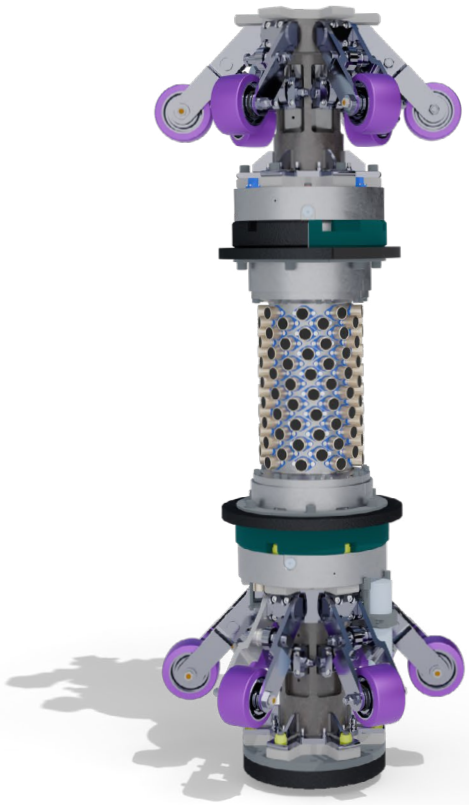


CONTINUOUS INSPECTION

360-degree, 100% scan coverage

The field-proven Acoustic Resonance Technology (ART) ultrasonic module offers the same advantages as traditional in-line inspection (ILI), providing continuous, sub-millimetre wall thickness measurements in liquid pipelines, including challenging areas like bends and heat-affected zones. Unlike other NDT technologies, ART probes are non-contact, requiring minimal cleaning and demonstrating greater tolerance to varying surface conditions, internal debris, and sludge.

- 100% Wall thickness measurements.
- Laminations.
- Ovality.
- Coating degradation.
- Internal surface mapping.



TARGETED INSPECTION

Drive, stop, and scan.

The compact robotic scanner, equipped with interchangeable probe mounting modules, supports a variety of NDT technologies, including ACFM, PAUT, ToFD, PEC and laser scanning. Designed for versatility, the TRITON crawler pushes or pulls the module to the area of interest. Once in position, it can perform a full 360-degree rotation independently, making it an ideal solution for weld integrity assessments and targeted high resolution corrosion mapping.

- 360-degree volumetric weld inspection.
- Crack detection and sizing.
- Targeted localised corrosion mapping.
- Targeted localised laser scanning.
- Geometry and ovality.

TRITON SPECIFICATIONS

Pipe diameters range		200 mm - 1066 mm (8 in - 42 in)
Maximum tether length		Up to 1600 m (5249 ft) as standard
Maximum speed		3.6 m (12 ft) - 9.2 m (30 ft) per minute - technology specific
Minimum bend radius		3D - application specific
Power requirements		100-240VAC 50/60Hz 5A or 3P 415VAC 50Hz @ 63A
Vehicle weights		8.5 kg (19 lb)
Winch system		Fail-safe high-power winch offers a backup retrieval option
Camera		Full HD Pan, Tilt and Zoom (PTZ)
Lighting		3 - 6 auxiliary LED lights
NDT technology options	Continuous Inspection	> Acoustic Resonance Technology (ART) > Remote Visual Inspection (RVI)
	Targeted inspection	> Alternating Current Field Measurement (ACFM®) > Acoustic Resonance Technology (ART) > Phased Array Ultrasonics (PAUT) > Pulsed Eddy Current (PEC) > Remote Visual Inspection (RVI) > Laser Scanning

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