

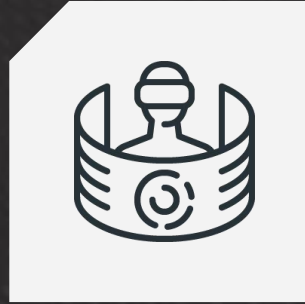
Our Value Streams

Off-the-shelf Solutions

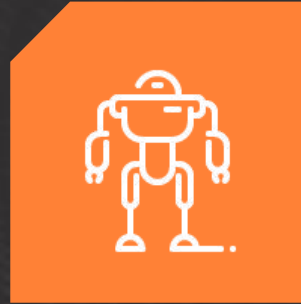


ASSET INTEGRITY RM, NDT & SENSOR
TECHNOLOGY

Custom Solutions Robotics



ENGINEERING & CONSULTING



ROBOTIC INSPECTION
SOLUTIONS

Advanced Manufacturing



CUSTOM SOLUTIONS DEVELOPMENT

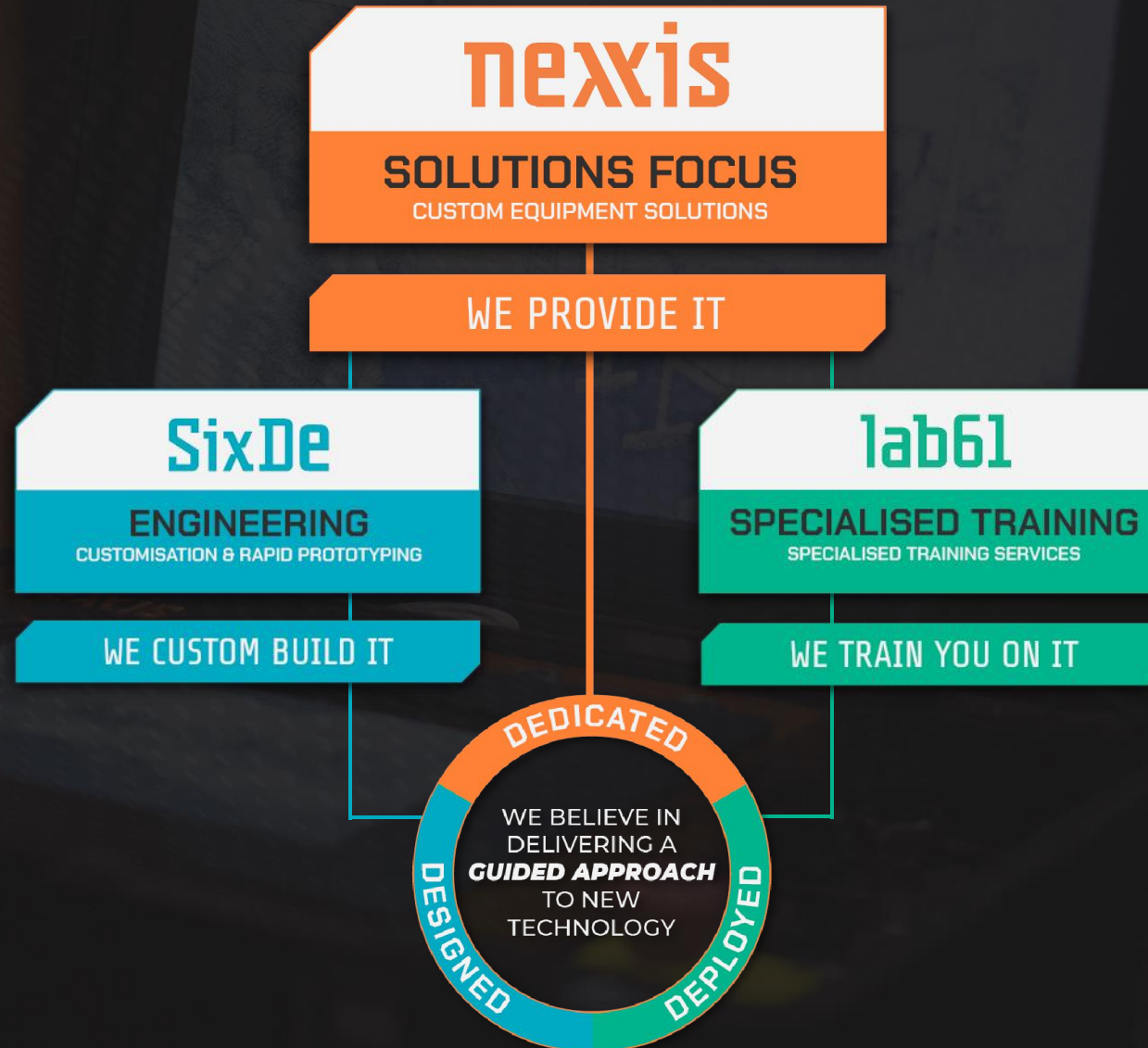
Training & Skills building



SUPPORT & TRAINING

HOW WE OPERATE

// NEXXIS' "GUIDED APPROACH" TO NEW TECHNOLOGY




A detailed view of a robotic assembly line. In the foreground, a robotic arm with a gripper is positioned over a workpiece. The background shows a factory setting with various industrial equipment and a large banner that reads 'NEXXIS'. The overall scene is dimly lit, with the primary light source coming from the background, creating a dramatic effect.

INTRODUCING NEXXIS OEM SOLUTIONS

nexxis

nexxis

 **BATEN RABEH**

NEXXIS // PRODUCT MODULARITY

NEXXIS OEM PLATFORMS

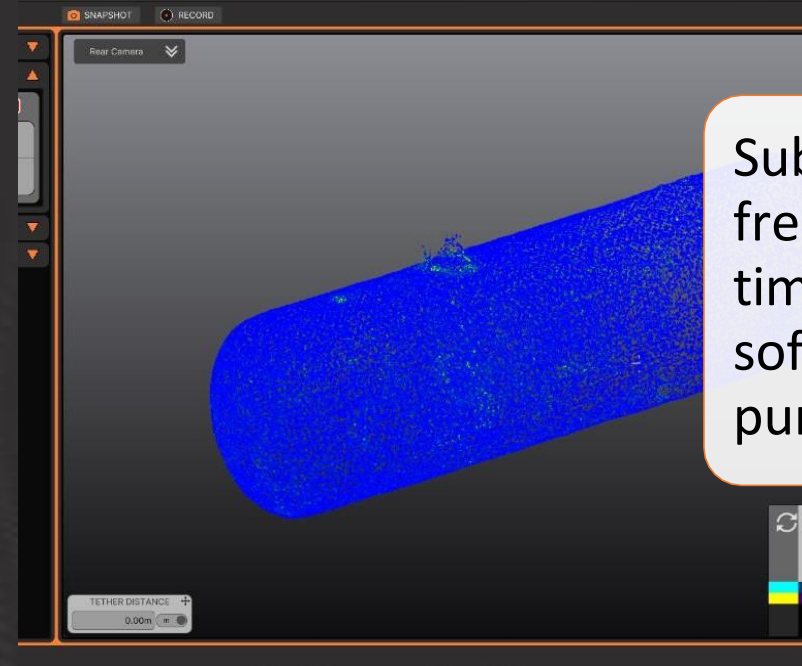
NEW FOR 2024

Common Platform



Nexxis
Juicebox for
all Nexxis
OEM Robotic
Solutions

Common Control



Subscription
free, one-
time
software
purchase

NEXXIS OEM PLATFORMS

NEW FOR 2024



Large Class Pipeline Crawler

- From 270mm to Flat >1KM Direct sensor Integration



Small Class Modular Pipe / Surface Crawler

- From 100mm 300m Standard



Vertical Pipeline Crawler

- From 180-400mm and >400mm in XL Format HD front and Rear Cameras



Magnetic Surface Crawler

- HD Cameras, Fibreoptic communication, High Bandwidth Modularity



Gen 3 Drop Camera Solution (R11)

- Drone Technology in Next Gen drop camera – 4K large Sensor Imaging

_CUS OM


R R TOOL

A detailed view of a robotic assembly line. In the foreground, a robotic arm with a gripper is positioned over a workpiece. The background shows a factory setting with various industrial equipment and a large 'NEXXIS' sign on a wall. The entire scene is framed by a dark orange border.

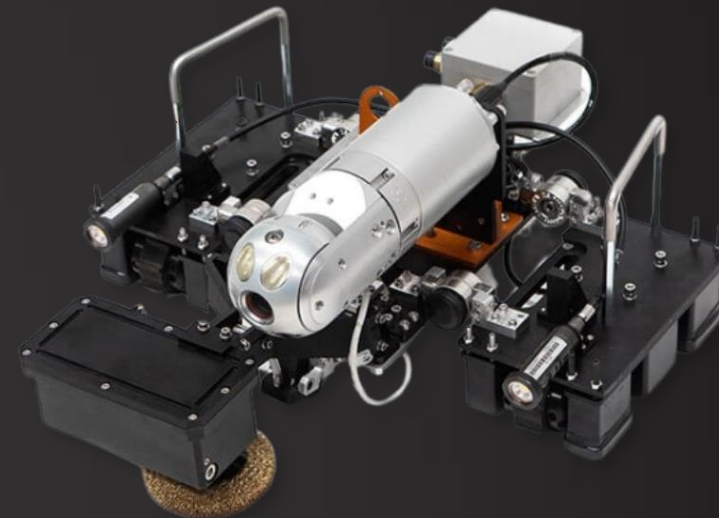
_NEXXIS OEM SOLUTIONS CASE STUDIES

nexxis

nexxis

 **BATEN RABEH**

- **Challenge:** In-service diesel tank inspection that
- **Solution:** A submersible custom with a PAUT and cleaning device.
- Engineered solutions for ATEX and EX rated applications.
- The estimated cost saving: USD1.5m
- Estimated time saving of 3-4 weeks



WASTE HEAT RECOVERY UNIT INSPECTION



- **Industry:** Utilities
- **Challenge:** Perpendicular header pipe inspection
- **Solution:** This inspection was performed with a pulley system that can navigate a secondary crawler in and out of right-angle transitions.



NEXXIS // CASE STUDY

CAISSON TOOL

CAISSON UT/RM INSPECTION

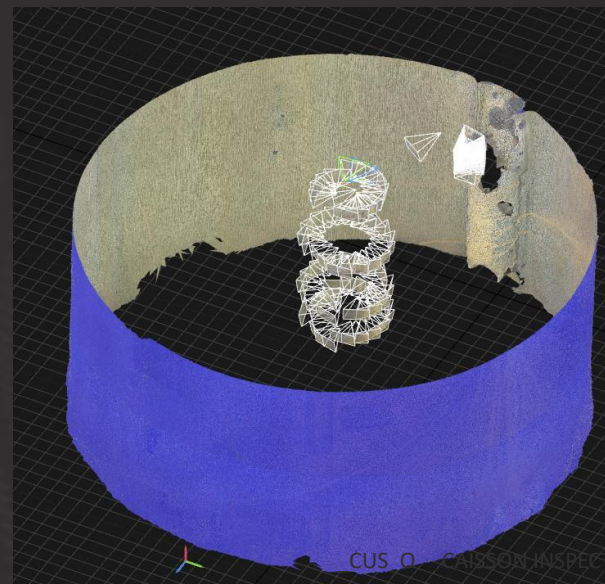
- **Industry:** Subsea
- **Challenge:** On-Site Caisson Inspection Capable of Automated Inspection and Analysis.
- Inspecting For Corrosion Proactively and Safely while Offshore.



CAISSON TOOL

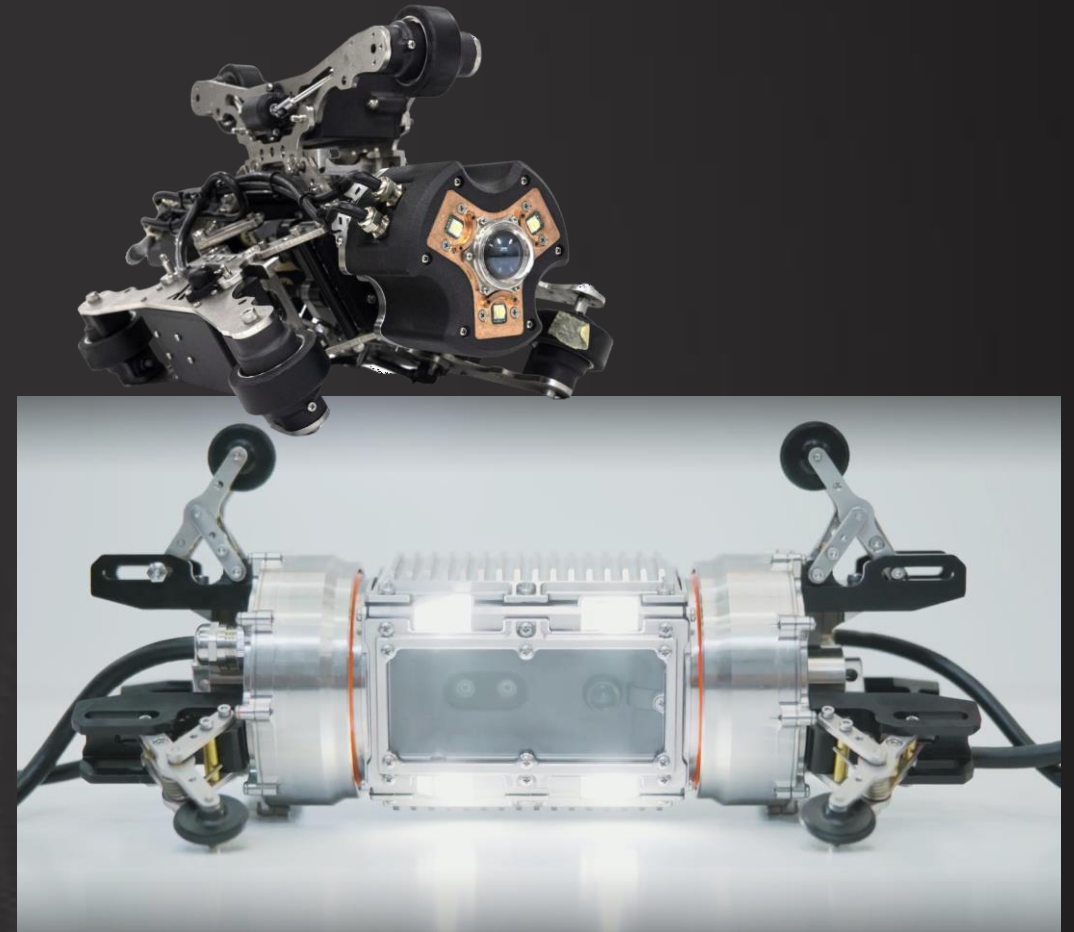
CAISSON UT/RVI INSPECTION

- **Solution:** Custom RVI and UT vertical crawler was successfully built and deployed.
- A modular design allowed this to be configured with an additional cleaning unit to remove marine growth for effective UT coupling.



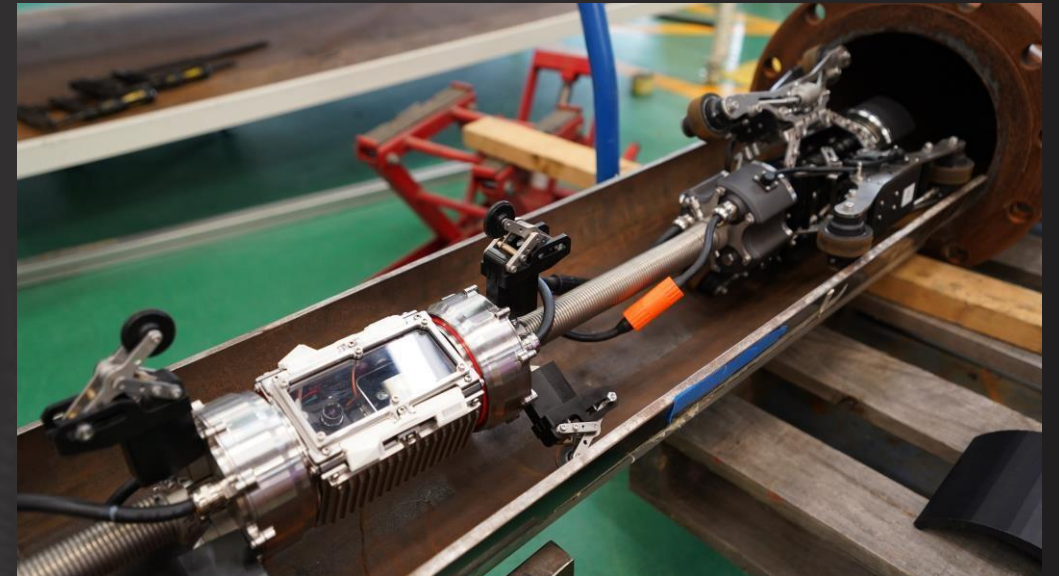
CUSTOM PAYLOAD DELIVERY CRAWLER

- **Industry:** Mining
- **Challenge:** Complex pipe inspection including; bends, vertical and horizontal planes all within a caustic environment



CUSTOM PAYLOAD DELIVERY CRAWLER

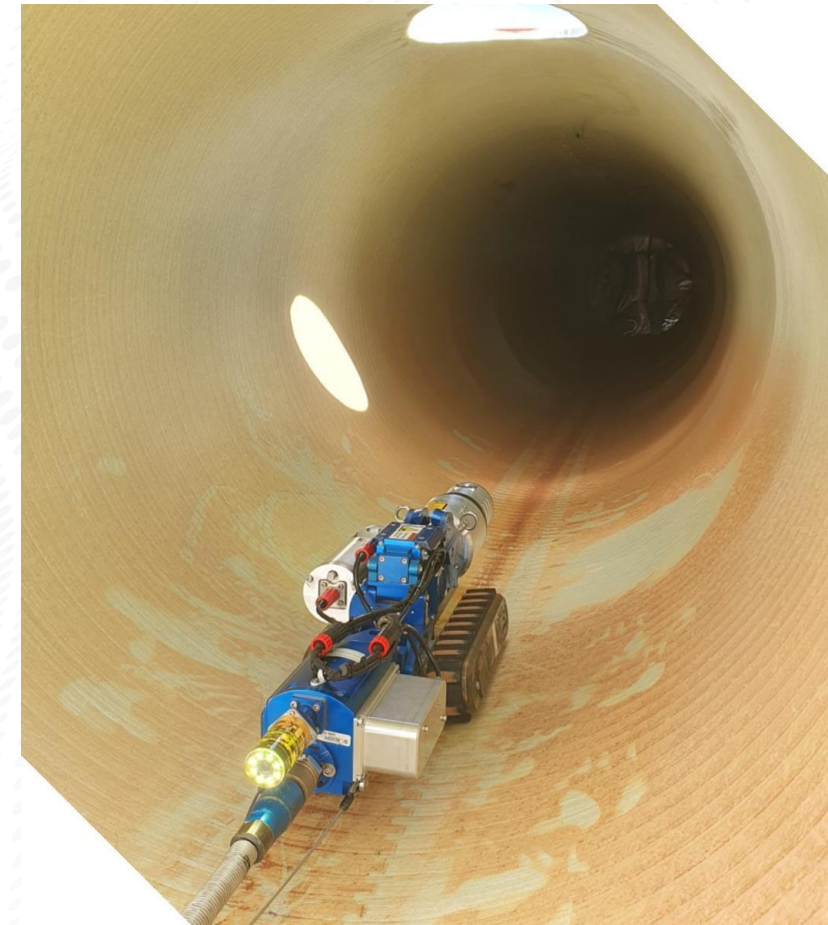
- **Solution:** A custom crawler consisting of multiple interconnected drive modules for various levels of inspection coverage, with optical-fibre communication to allow for high bandwidth payload devices.
- [Video](#): Case Study with Steve Botha - Alcoa



PIPELINE OVALITY INSPECTION

LASER SCANNING

- **Industry:** Mining
- **Challenge:** Restricted asset entry; Long Range
- **Evaluation:** Custom platform inspection system
- **Solution:** A Panther crawler system with a modified chassis machined with a completely new inhouse designed and developed laser scanning laser scanner module.



INTERNAL ULTRASONIC TESTING

PANTHER CRAWLER SYSTEM

- **Industry:** Oil & Gas and Petrochemical
- **Challenge:** Standard external UT reading could not be taken
- **Evaluation:** Custom platform inspection system
- **Solution:** Panther crawler system with 360-degree Indexing and Dual probes for internal pipe UT for both longitudinal and circumferential inspections.



SixDe | nexis | lab61

HOUSTON | AUSTRALIA | SINGAPORE

“ Together, let’s reach the ”
unreachable.

NEXXIS SOLUTIONS

INTERNAL ROBOTIC
DEPLOYMENT OF LASER
SCANNING SOLUTION FOR
INTERNAL PIPELINE
INSPECTION

JANUARY 2024

NEXXIS // SOLUTION

CRAWLER MOUNTED LASER SCANNER

ROBOTIC PLATFORM

LARGE CLASS PARALLEL CRAWLER WITH HD CAMERA & LASER SCANNER INTEGRATION

- Modular, versatile, low maintenance internal pipe inspection system
- Underwater and terrestrial applications for a variety of pipe sizes
- Suitable for 360 views and close-ups of pipes from 150mm in diameter upwards
- Long range inspection capability up to 300M HD / 1000m SD
- Waterproof to 60m
- Crawler unit can travel up to 9m per minute
- Camera zoom capability of 40:1 (10x optical, 4x digital)



NEXXIS // SOLUTION

CRAWLER MOUNTED LASER SCANNER

SCANNING HEAD

Insight Nano	
Scan Range	0.13m - 1m or 0.36m - 2.5m
Profile Rate	35Hz
Points Per Line	2064
Laser	WARNING - LASER RADIATION AVOID DIRECT EYE EXPOSURE Class 3R Laser Product 450nm or 520nm, <15mW, 1mSec to CW
Data Format	.XYZ (CSV), LAS Publishing
Depth Rating	1000m
Data Acquisition	Real-time processing ViewLS Software C++ API Factory Calibrated

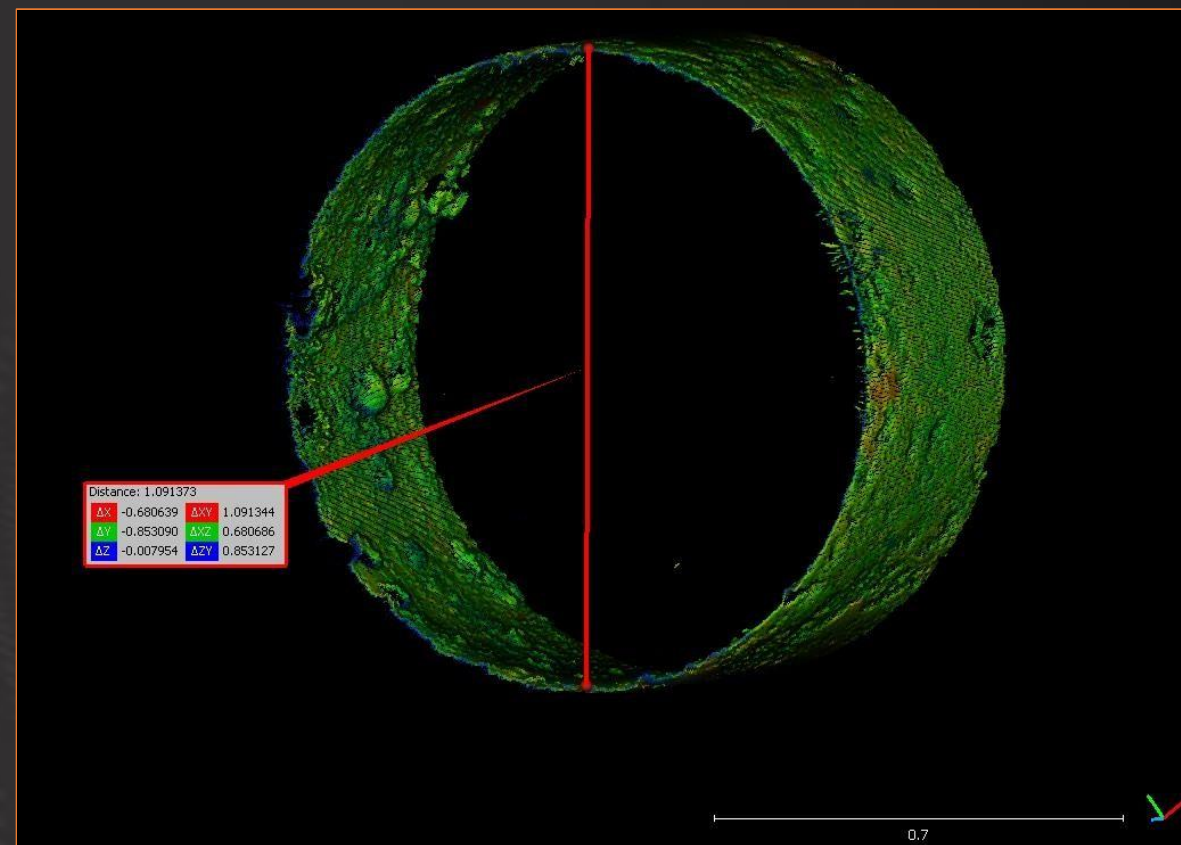


NEXXIS // 16" PIPELINE

CRAWLER MOUNTED LASER SCANNER

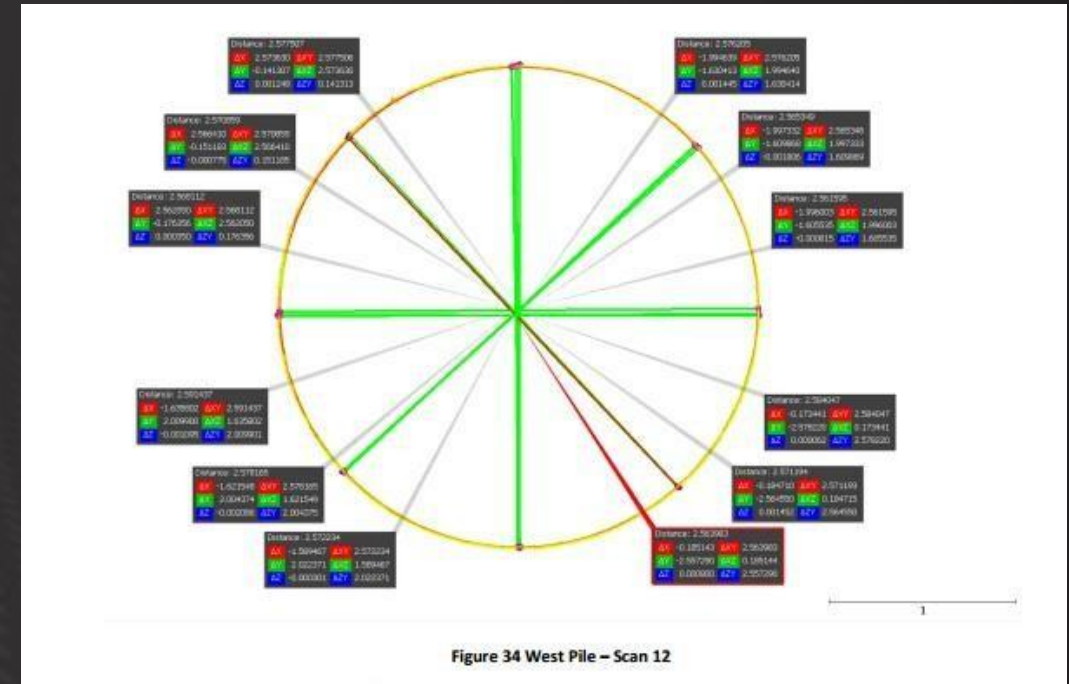
EXAMPLE OUTPUT

Accurate internal measurement and Ovality check:



CRAWLER MOUNTED LASER SCANNER

Accurate internal measurement and Ovality check:

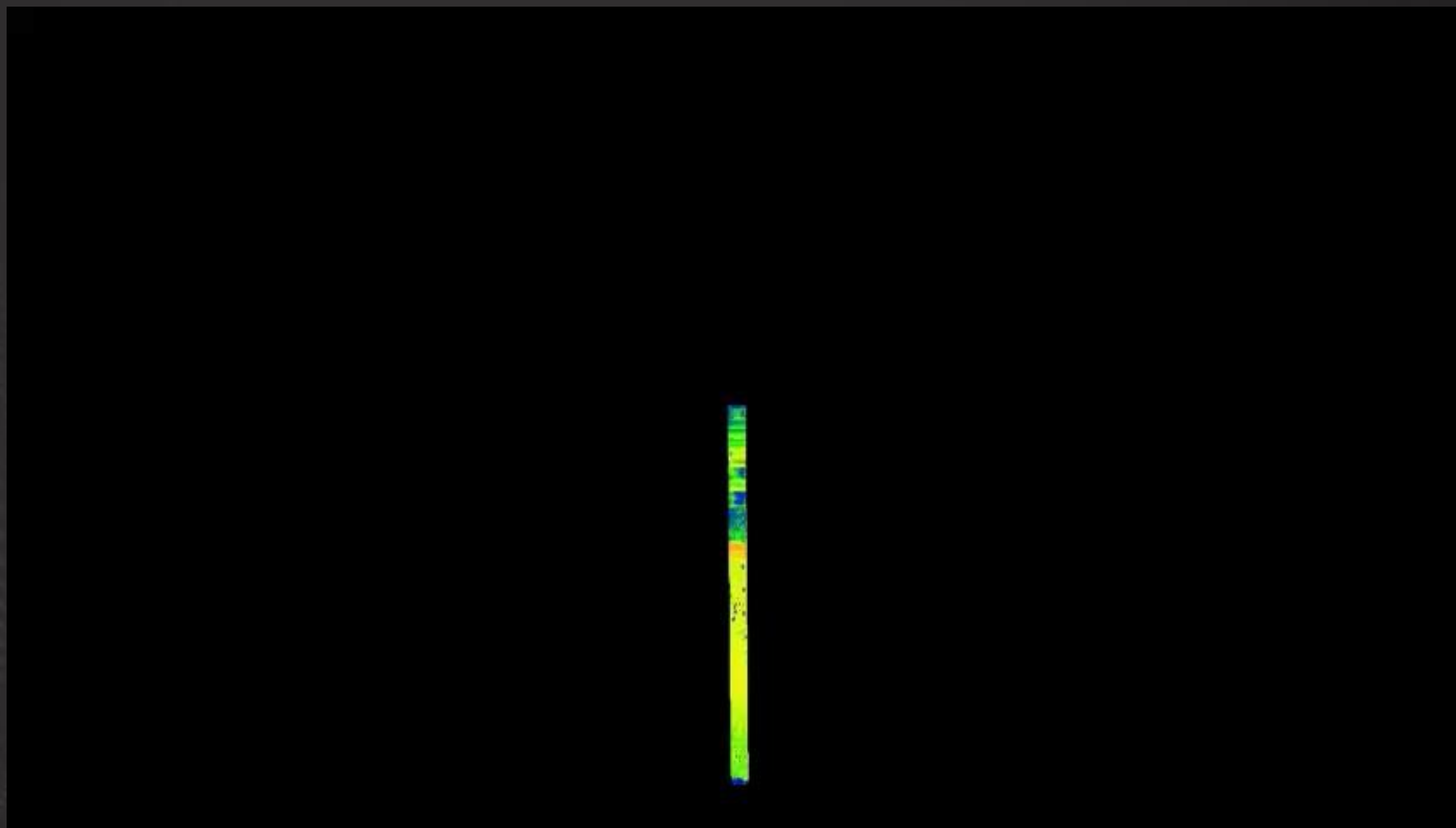


NEXXIS // SOLUTION

CRAWLER MOUNTED LASER SCANNER

EXAMPLE OUTPUT

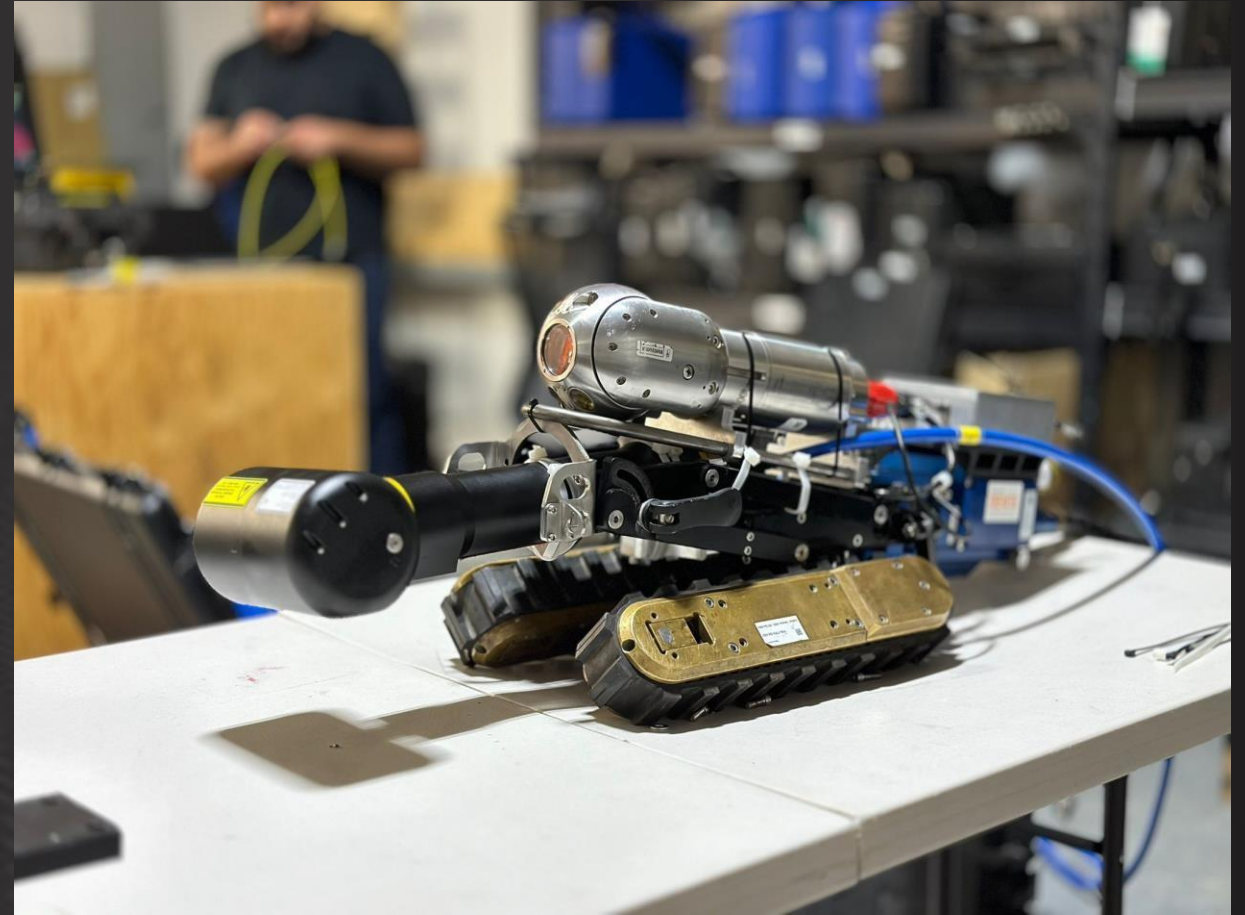
Example Video - ITUBE



LASER SCANNING

Case Study

- Deployed in 16" Pipe – Nominal 14.5" ID upto 2m Diameter
- Laser scanner rotates 360 degrees and captures profile of pipeline (including surface condition / features)
- Live view of ongoing scan shown on monitor / laptop screen



NEXXIS // SOLUTION

LASER SCANNING

Case Study

- Example deployment images



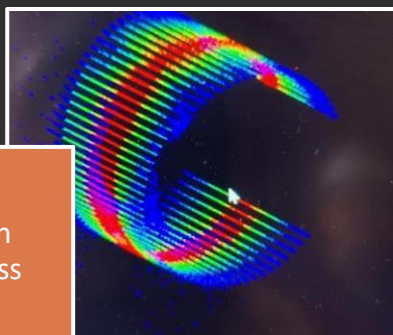
LASER SCANNING

Case Study

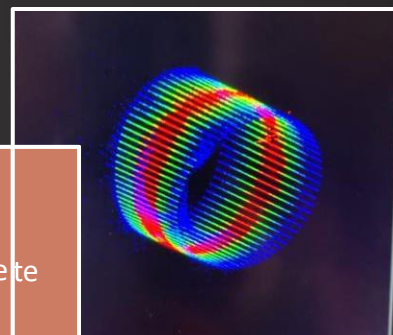
Live view scan
started



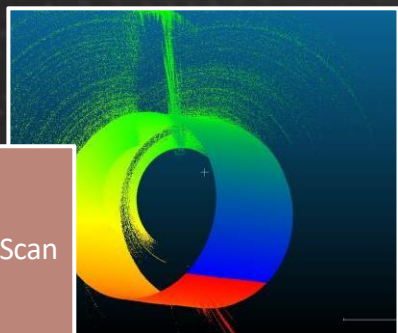
Scan in
progress



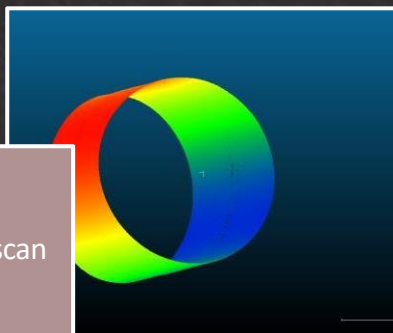
Scan
Complete



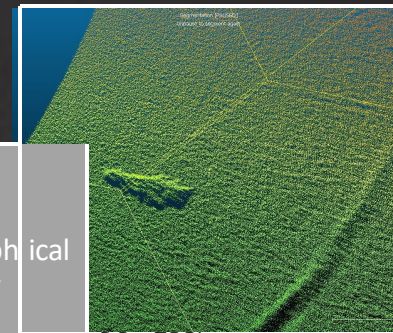
Exported Scan



Filtered scan

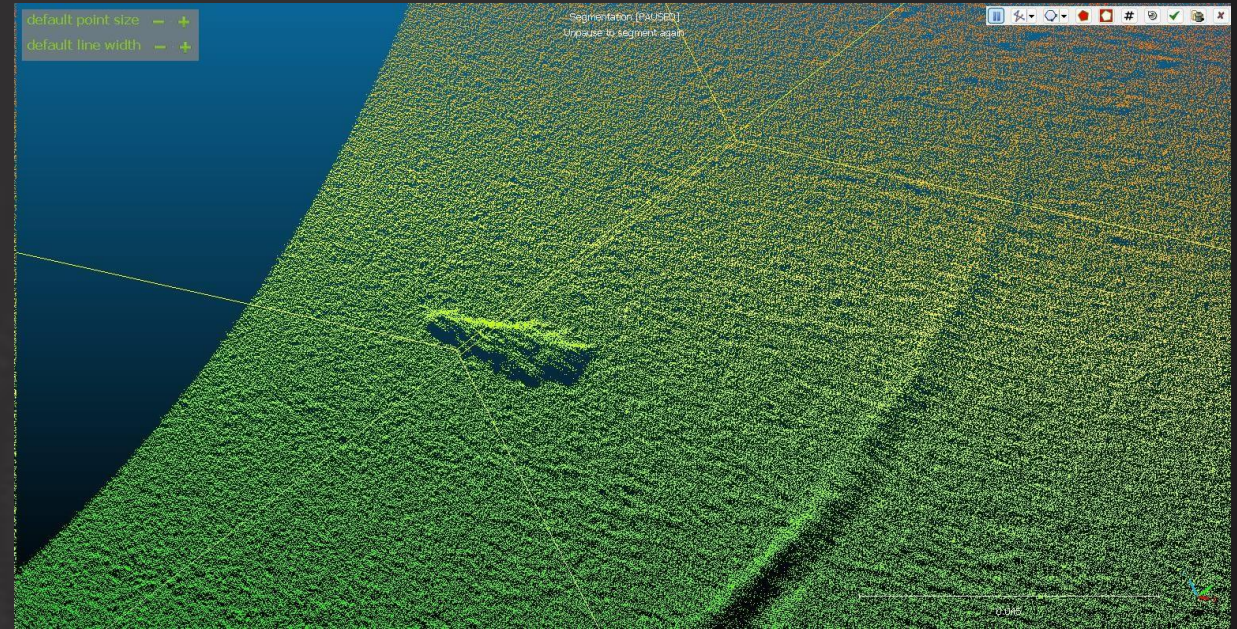


Final
Topographical
View



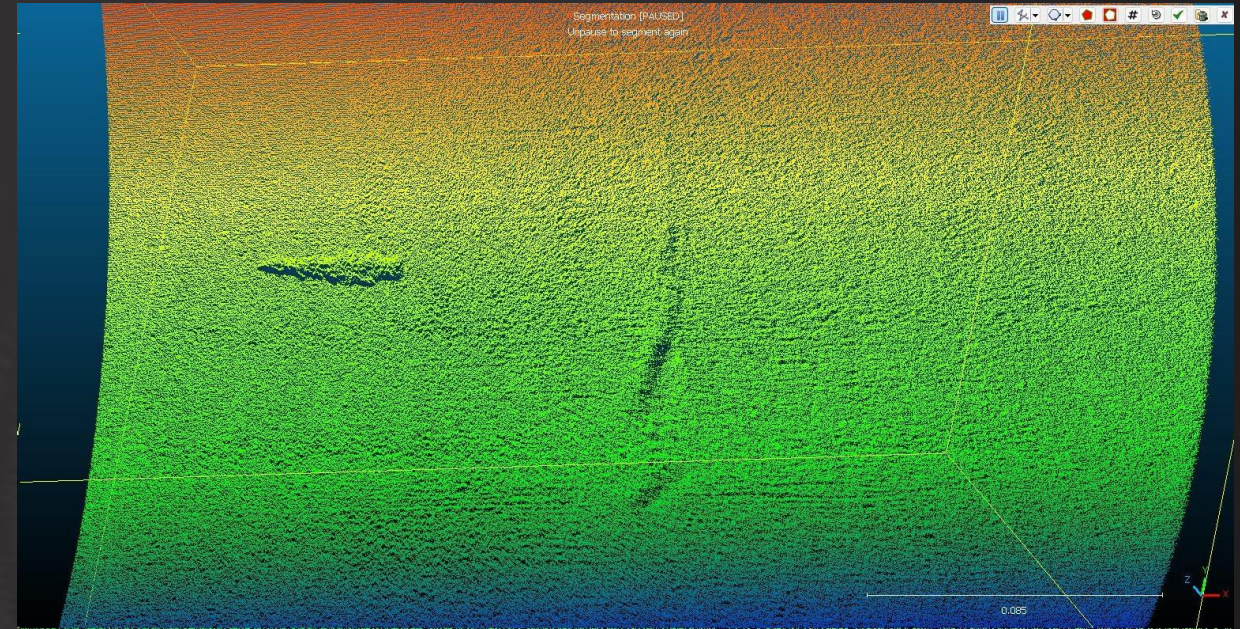
Case Study

- Deployed in 16" Pipe – Nominal 14.5" ID upto 2m Diameter
- Laser scanner rotates 360 degrees and captures profile of pipeline (including surface condition / features)
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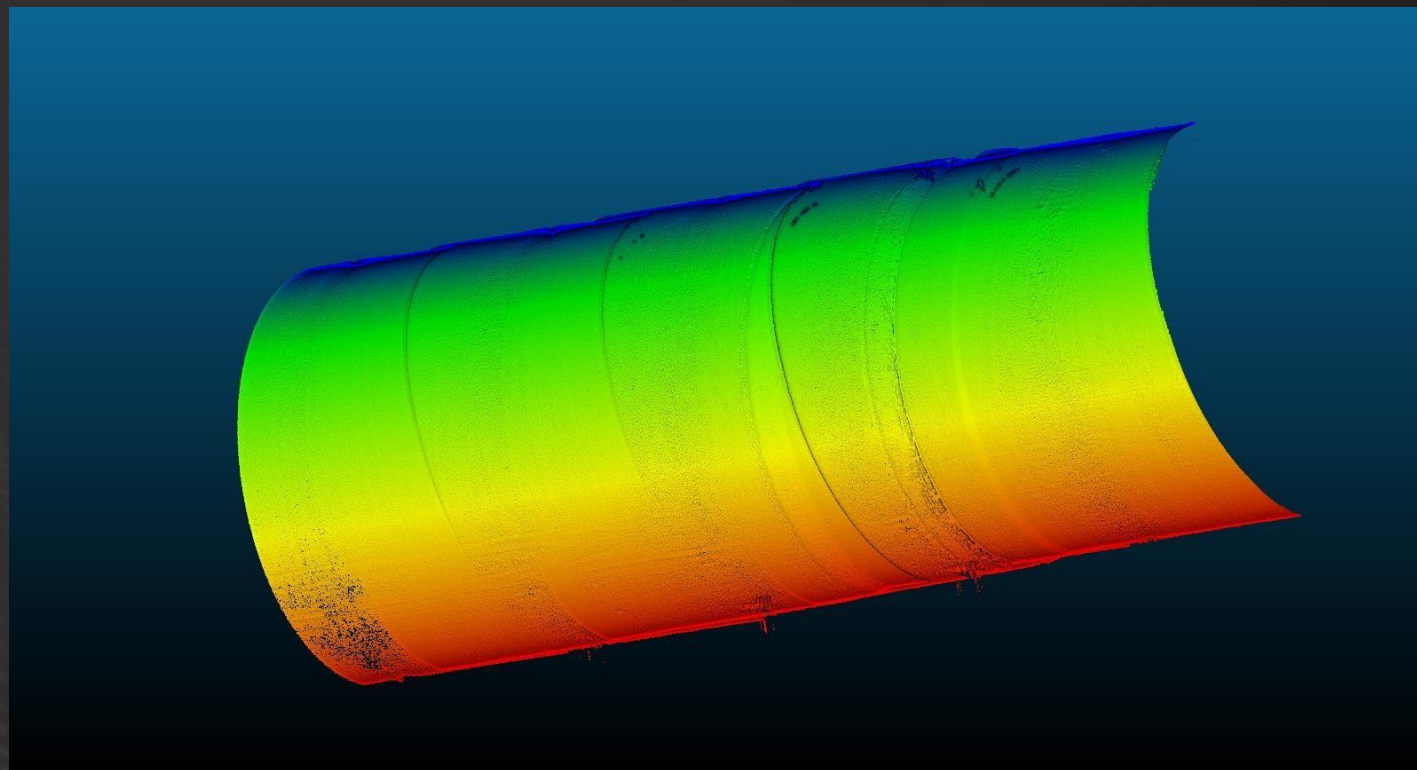
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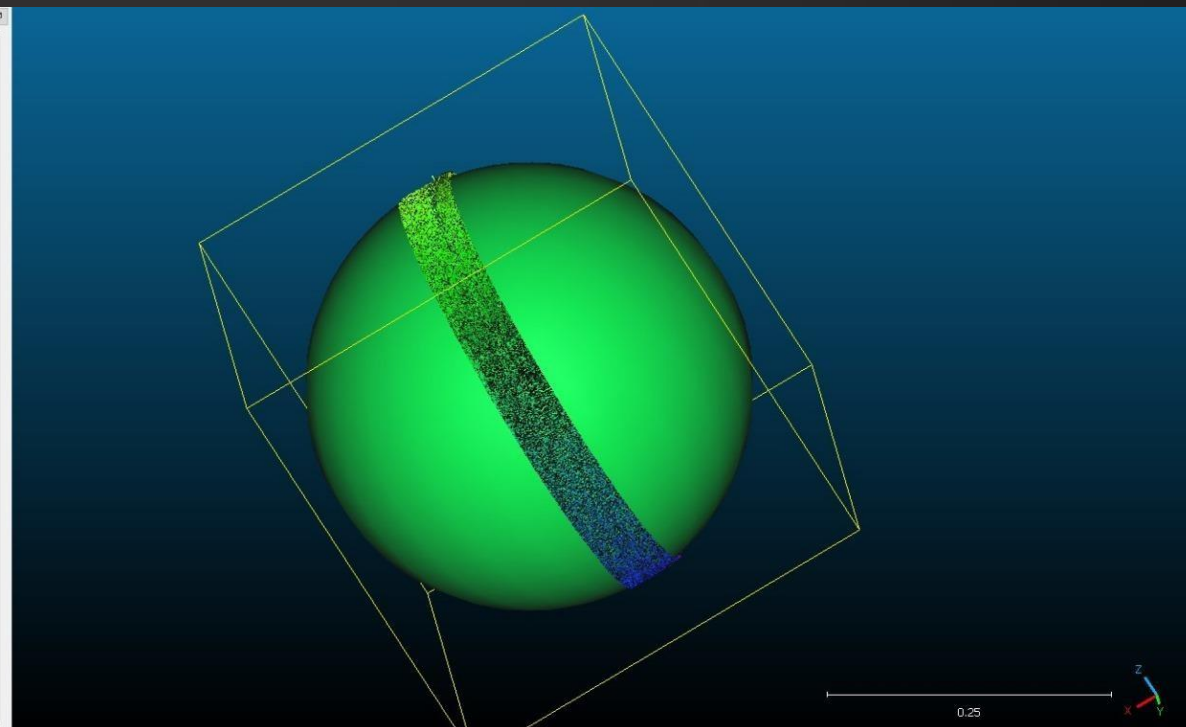
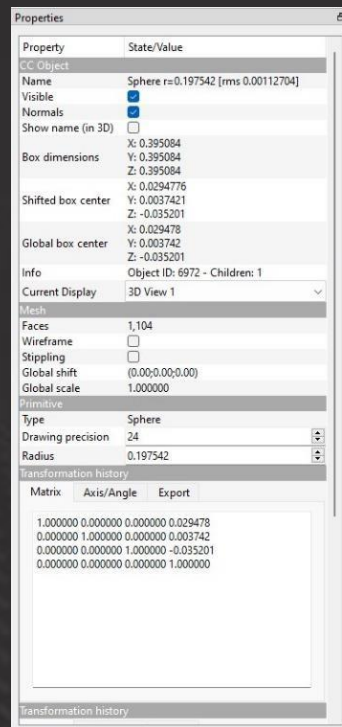
Case Study

- Scans are able to be stitched together to build models of the scanned application



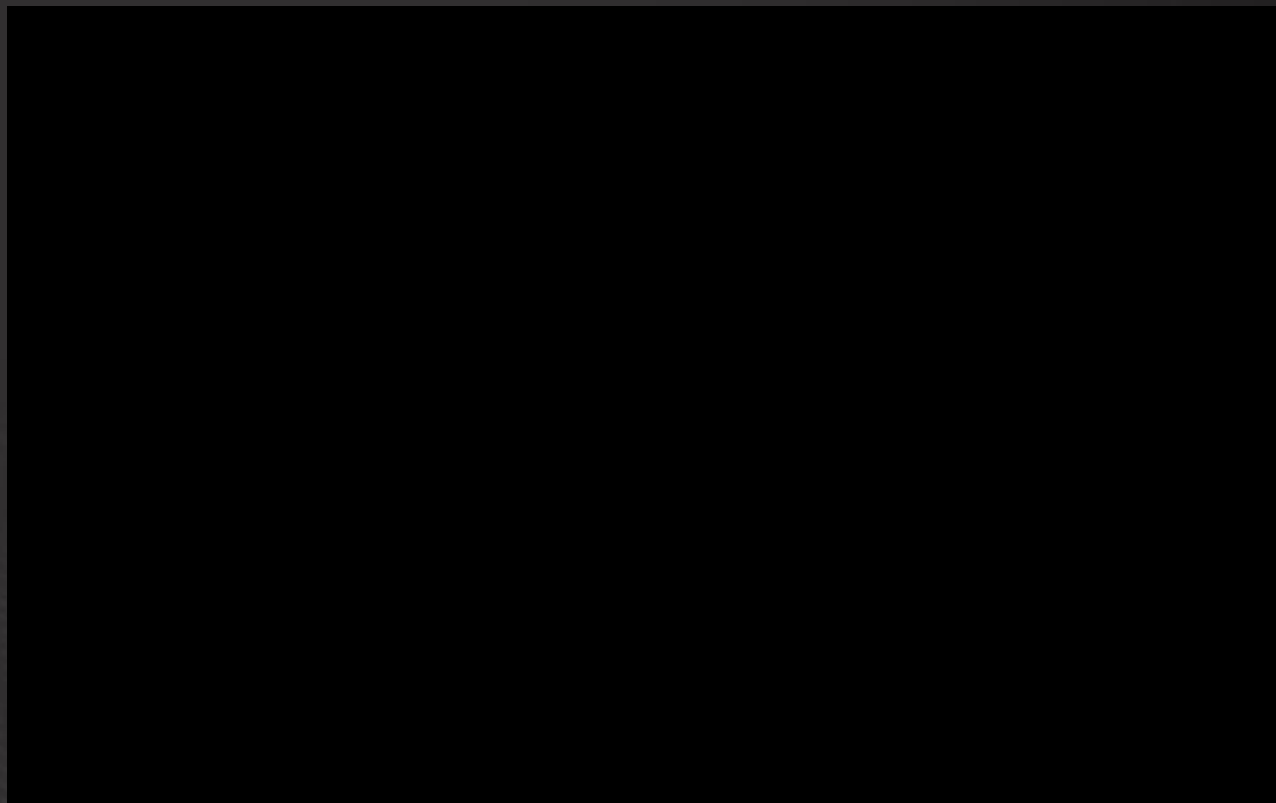
Case Study

- Ovality assessments – and diameter confirmation can also be carried out simply inside software.



Case Study

- Example of the Insight Nano
System integrated into a riser
inspection tool for another client
(not deployed by Nexxis).



Case Study

- Deployed in 16" Pipe – Nominal 14.5" ID upto



Case Study

- Deployed in 16" Pipe – Nominal 14.5" ID upto

