Roxby Services

A Familiar Name A Whole New Company

ROXBY

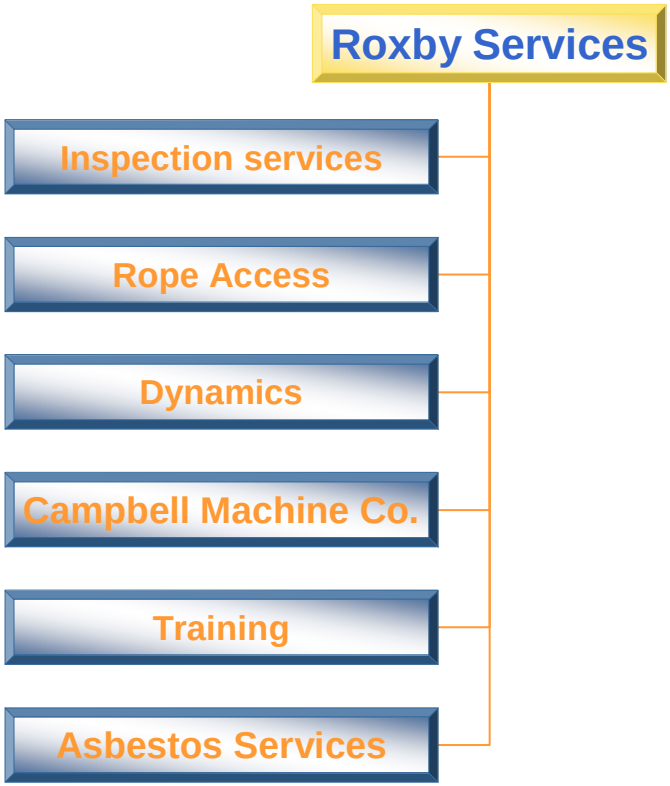
Roxby Services

A privately owned group providing services to industry for over 40 years

- Oil & Gas – Upstream and Downstream
- Petrochemical
- Utilities – Water and Electricity
- Defence

ROXBY

Divisions of Roxby Services



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Inspection and Rope Divisions

Inspection services → Plant Integrity and diagnostics

Rope Access → Rope Access Trade Services

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Inspection services

- Gamma Scans – For trayed columns and packed beds
- Pipe Scans – To locate blockages or deposits
- Neuscan Detector – For level detection and interface
- GUL – Long range Ultrasonics of pipework
- Digital Radiography – A total digital solution for CUI
- Thermography – View thermal profiles and temperature loss
- Pig Tracking – Locating pigs below and above ground
- IRIS PIG – 100% inspection of pipeline length
- Caliper PIG – Pipeline geometry measurement

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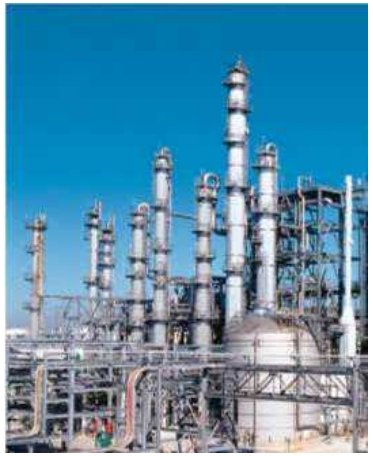
Gamma Scans



SERVICE

Gamma Scanning is used to determine

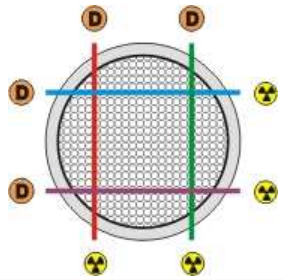
- Damaged or missing trays and internals
- Height of aerated liquid loading on trays
- Height of liquid in down comers
- Location of entrainment and liquid weeping
- Location and characteristics of foaming
- Location and extent of flooding
- Fouling of packing or catalysts
- Flow maldistributions in packing
- Base liquid levels

BENEFITS

- Quick reliable service
- Cost-effectiveness
- Operations carried out on-line ensuring no disturbance to production
- Non-intrusive (external to vessel)
- No special setup or preparation of vessel needed before scanning.
- Regular scanning program can be used to monitor a column's performance over time to allow the operator to take corrective action only when needed, reducing down-time and the need for entry during shutdowns.

TECHNOLOGY

A small gamma ray source and an electronic detector are positioned on opposite sides of a vessel. As the source and detector move along the exterior of the vessel a density profile of the interior contents is generated. Gamma rays emitted from the source travel through the vessel, are moderated by the contents, and are then counted by the detector.



A radioactive source and detector are used on opposite sides of the vessel to transmit data to computer software during scanning.

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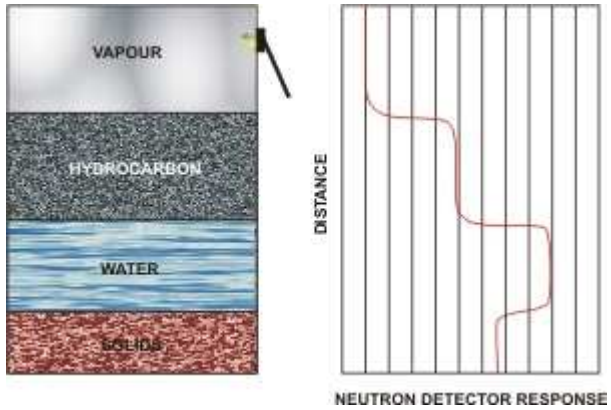
Neuscan Detector

SERVICE

- Calibration of measurement gauges in Tanks/Vessels
- Measuring levels of hydrogenous foams, liquids and solids in standard, curved, insulated and heavy walled vessels and pipelines
- Gives accurate level measurement of all common hydrogenous bearing substances, such as water, hydrocarbons, acids, bases and other organic liquids
- Can be used to detect product displacement during pigging operations

TECHNOLOGY

The source emits fast neutrons, which are capable of penetrating the vessel walls. Some of the neutrons are backscattered (reflected back) as slow neutrons. The count rate meter converts the impulses to an analog reading and an audio signal, which correspond to the level in the vessel.



BENEFITS

- Excellent maintenance or emergency response tool
- Portable
- Non-intrusive, non-contacting
- Suitable for almost any vessel size or type
- Highly responsive and accurate
- No need to shut down process for level controller calibration

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GUL

SERVICE

- The application of long range ultrasonic waves for the inspection of pipework
- Detects cracks and general metal loss (greater than 5% cross-sectional area)
- Difficult to inspect areas, such as buried or inaccessible pipes, can be screened

TECHNOLOGY (The GUL System)

A ring of transducers is placed at a designated area around the pipe to be inspected (2”-36” pipes can be screened). When the actual test is performed, waves are sent in both directions from the position of the ring and the reflections are sent to the software on a connected laptop and are analyzed.

BENEFITS

- Inspects 100% of the pipe
- Inspects 360° of pipe wall for corrosion/erosion/ defects interior and exterior
- Accurate where coating/insulation/location may cause problems for other techniques
- Utilizes either torsional or longitudinal waves
- Provides accurate readings
- Tests 2” up to 36” with same portable system
- Tests up to 80m in each direction from one inspection point (under ideal conditions)
- Cost-effective for difficult to access locations
- Can be performed without taking pipe out of service

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Digital Radiography

SERVICE

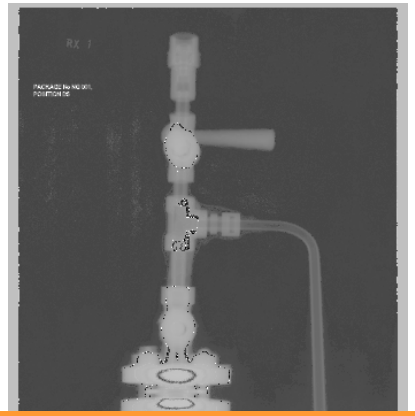
- Digital radiography is a new technology, initially developed for use in the medical world
- It offers a film-less alternative to conventional radiography
- Amongst other non-intrusive inspection applications it provides an excellent means of detecting corrosion under insulation.

TECHNOLOGY (Radview CR tower).

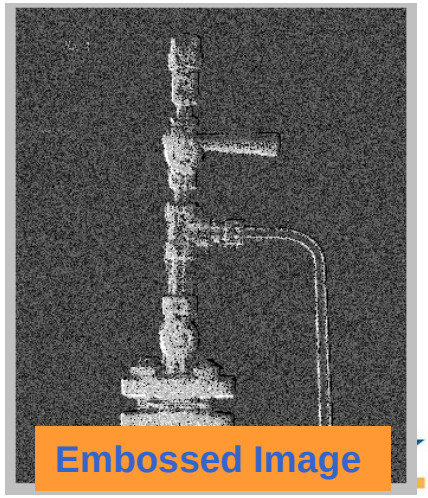
Computed radiography uses an imaging plate, which contains photostimulable storage phosphors that retain the latent image. When the imaging plate is scanned with a laser beam in the digitizer, the latent image information is released as visible light; this light is captured and converted into a digital stream to compute the image.

BENEFITS

- Reduction in exposure times (up to 90% at times)
- Reduction in errors (less re-takes)
- Precise image analysis and transmission
- Efficient data management
- Elimination of film waste
- No darkroom or chemical handling
- Reduction in health and safety issues



Raw image before manipulation



Embossed Image

Thermography

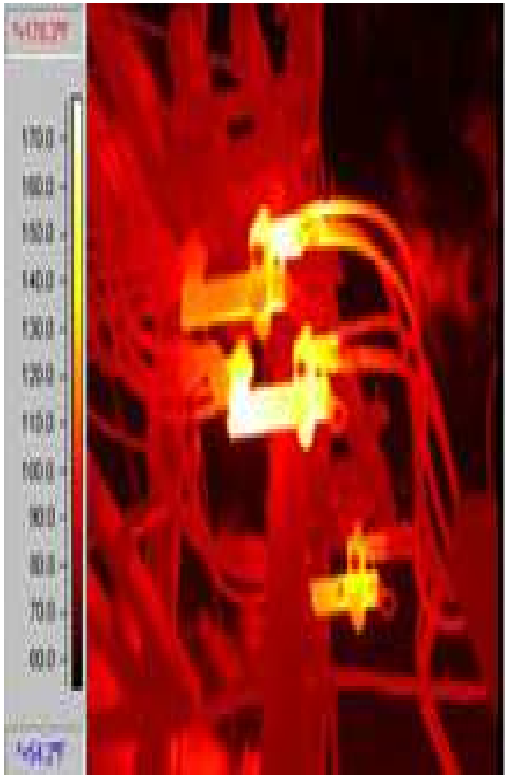
SERVICE

- Detect hot or cold spots that are invisible to the naked eye
- Determine absolute temperature
- View thermal temperature and profiles
- Detect temperature loss
- Detect faulty fuses, electrics, cables, connectors, transformers etc.
- Detect how machinery is running e.g. kilns, fans, motors
- Detect refractory/lagging breakdown etc

TECHNOLOGY

(FLIR Thermacam -40℃ to +500℃ (-40℉ to 932℉) and is accurate to 2℃/2%)

Thermography is the use of an infrared imaging and measurement camera to "see" and "measure" thermal energy emitted from an object. Thermal imaging has evolved into one of the most valuable diagnostic tools for Predictive Maintenance.



BENEFITS

- Perform inspections when systems are under load or live
- Temperature measurement easily obtained
- Problems easily located and identified
- Potential problems found before they occur
- Periodic monitoring builds up trends
- Rapid scanning
- Images produced are comprehensive and reliable
- Work carried out at a distance

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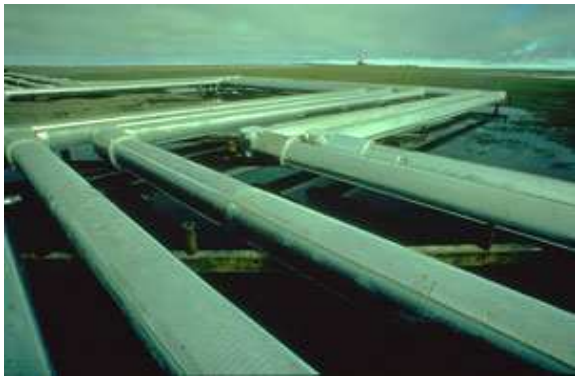
PIG Tracking



SERVICE

- Low frequency and radioactive pig tracking of pipelines
- Several pigs can be tracked simultaneously
- Tracking up to 5 metres underground

TECHNOLOGY

Radio transmitters are often used in pigging activities by attaching the transmitter behind the working pig on a caravan or placing it inside the pig itself. Using Roxby during pigging operations means that any stuck pigs can be located up to 5 meters underground, thus enabling our clients to make a quick recovery of the pig, saving time and money. Roxby coded receivers are capable of detecting and differentiating up to four pigs in the pipe at any one time by using coded signals. Each transmitter is marked using a letter and colour coded for easy identification.

BENEFITS

- Can be pinpointed on above ground pipelines
- Can be located to within a few feet at depths of up to 5 metres below ground
- Several pigs tracked in one run
- Reliable kit with up to 150 hours of battery life

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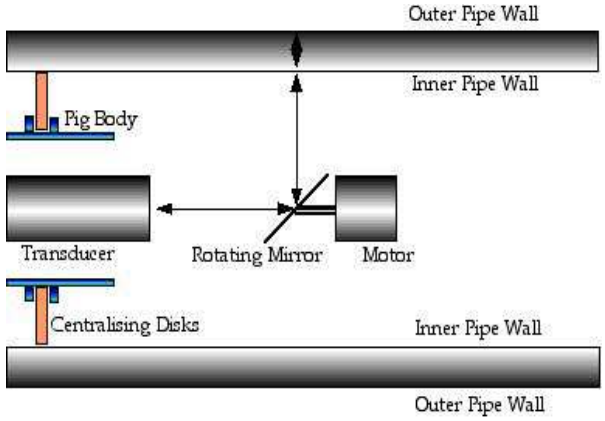
IRIS PIG

SERVICE

The intelligent PIG, (Pipe Inspection Gauge), is used for 100% inspection of very long pipelines with the greatest possible accuracy.

TECHNOLOGY

The PIG works on the principles of the IRIS ultrasonic internal tube inspection system and gives information about depth, geometry and location of defects in the pipeline.



BENEFITS

- Circumferential inspection of 100% pipeline length
- On line data logging
- Able to navigate 180° bends
- All results shown in B & C scan mode
- Data analysis does not require special training and is done on any Windows based computer enabling easy understanding by non-inspection personnel
- Not affected by number of bends and is designed to pass 1.5d bends

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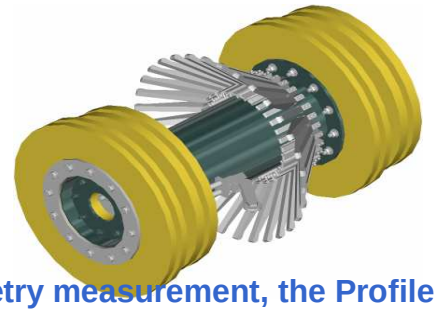
Caliper PIG

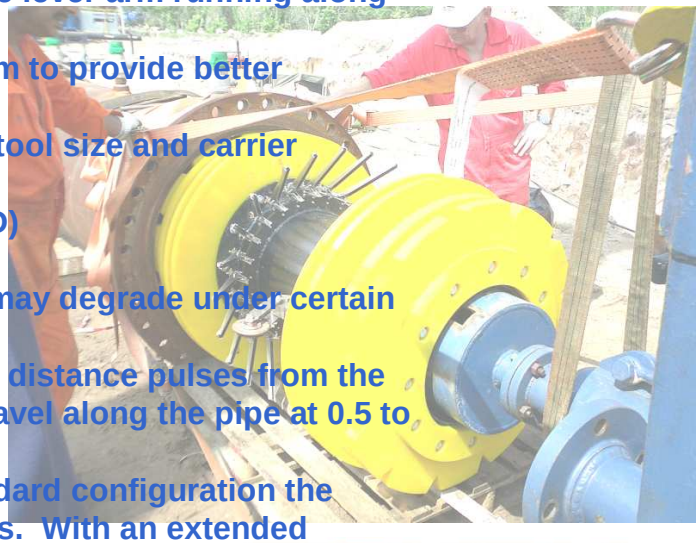


SERVICE

Used during pre-commissioning and commissioning operations for base-line geometry measurement, the Profile Multi-Channel Caliper Tool is a new generation of Caliper Tool, using multiple sensors to measure pipeline internal dimensions to high accuracy. Dents, ovality and changes in wall thickness can be easily detected and positioned. The tool can also be used during production phase, to assess on-line performance of the pipeline, also detecting scale or wax build-up.

TECHNOLOGY

Size Range	Tools range from 8” to 60”
Onboard Sensors	8 x Independent High-Resolution Caliper Sensors Velocity/Distance
Sensor Arms	8” to 16” - each sensor is activated by a single lever arm running along the inside wall of the pipe.
18” and above -	each sensor is activated by more than one arm to provide better circumferential coverage.
Bore Passing vehicle)	20 to 25% bore restrictions (depending upon tool size and carrier
Minimum Bend Radius	3D across the range (can be made to suit 1.5D)
Sensitivity for features	– 1% of nominal bore (+/- 2.5mm)
Odometer Accuracy pipeline conditions	+/- 0.1% of total distance. This performance may degrade under certain
Scan Pitch/Speed odometer system.	Data capture from the sensors is triggered by distance pulses from the One complete scan is collected every 6mm travel along the pipe at 0.5 to 2 meters per second Optimum
Range	Maximum range can be up to 500Km. In standard configuration the maximum run time available is 80 to 240 hours. With an extended pressure vessel this can be increased to over 400 hours.
Operating Temperature	Minimum 0℃, Maximum 60℃



ROXBY

irata International
Industrial Rope Access Trade Association

Rope Access

The provision of all trades services on the end of a rope

ROXBY

Innovative Engineering Solutions

Rope Access

Engineering

- Coded Welding / Burning
- Pipefitting
- Rigging / Lifting
- Antenna Installation
- Riser repairs / replacements

Building Maintenance

- Window Cleaning
- Glass replacement
- Inspection repairs
- Guttering replacement
- Earth cable installation / replacement

Dam Maintenance

- Inspection of concrete / steel fixtures
- Removal of plant growth
- Confined space entry
- Protective Coating
- High pressure water jetting

Inspection services

- MPI/ DPI
- Eddy Current
- Ultrasonics
- Visual

ROXBY

Rope Access

Specialist Coating Services

- Grit Blasting / Quill Blasting
- UHP Water blasting
- Spray paint applications
- Paint inspections

Geotechnical services

- Rockscaling
- Install rock netting
- Percussion drilling
- Grouting

Other services

- Asbestos Surveys / Removals
- Insulation installation /Removal
- Electrical services

ROXBY

WE RISE……To any challenge.

COST EFFECTIVE

Roxby Technical Services offers an alternative to the traditional costs of conventional access systems (i.e. scaffolding & cherry pickers) by utilising industrial rope techniques to access difficult locations. Our skills provide a reduction in man-hours, increased efficiency and less interference with existing operations. Rope Access is fast becoming the solution of choice for construction, petro-chemical and environmentally sensitive areas such as sites of special scientific interest.

SAFETY

Endorsed by an impeccable safety record, our methods are fully recognised by the Health & Safety Executive and exceed statuary requirements laid down by the Industrial Rope Access Trade Association) IRATA

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Asbestos Services

ASBESTOS SURVEYS

Asbestos Solutions Management team does appropriate surveys asbestos-containing materials suspected to be present in a building. Asbestos Solutions initially advise on the type of survey required and discuss the method in which it is to be carried out. Survey types are

- Location and assessment survey
- Standard sampling, id and assessment (or sampling) survey.
- Full access sampling and identification survey

ASBESTOS REGISTERS

Asbestos registers or reports are produced by Asbestos solutions. The information and assessments of asbestos-containing materials are entered in the Asbestos Management Register database.
The information, based on the criteria, includes the following:

- Location
- Material Type and Building Components
- Extent
- Asbestos Content
- Condition
- Surface Treatment
- Material Assessment

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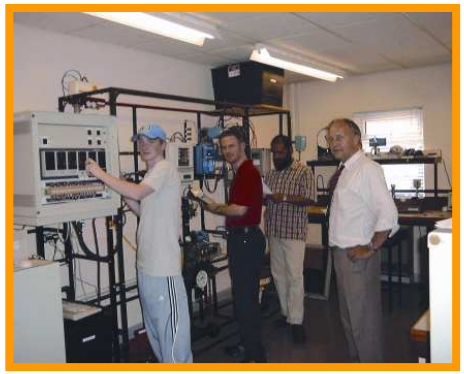
Training



SERVICE

Our training courses are based on a structured competence framework that ensures the skill level of all delegates can be measured before and after training. We offer ongoing evaluation and competence assessment in the months and years after the training to measure its impact on your company's performance.

OUR TRAININIG

Investment in our facilities ensures that your trainees spend the maximum time on practical tasks designed to provide them with complete confidence in undertaking their work.

We employ fully-qualified instruction staff, who hold the current A1, A2 and V1 vocational assessor and internal verifier certificates

Our Qualifications & Accreditation

Our extensive range of courses covers the following areas:

Instrumentation	***Electrical***	***Health & Safety***
Management & Technical	***Mechanical***	***Rope Access***
Gas Turbine Operations	***Lifting Operations***	***Plant***

We have obtained accreditation from the following awarding bodies:

BTEC (EdExcel)	***City & Guilds***	***EAL (Emta Awards Ltd)***
JTL	***IRATA (Industrial Rope Access Trade Association)***	

ROXBY

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