Tracerco
Insight through innovation

**Contact Tracerco now to discover how our technologies can provide invaluable insights into your operations.**

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# Tracerco Diagnostics™

Invaluable insights for gas processing industries

# World-leading online Process Diagnostics™

**With over 60 years' experience, Tracerco's range of diagnostic solutions provides gas processing industries with the insights they need to make informed decisions about their operations.**

### Process Diagnostics™

Tracerco's ability to diagnose process problems allows you to optimise productivity and minimise costs. Our innovative technology helps you 'see inside' your processes without needing to shut down operations, and provides the insights you need to troubleshoot problems, reduce costs, and maximise your profits. Over the years, our technology and services have saved our gas processing customers millions.

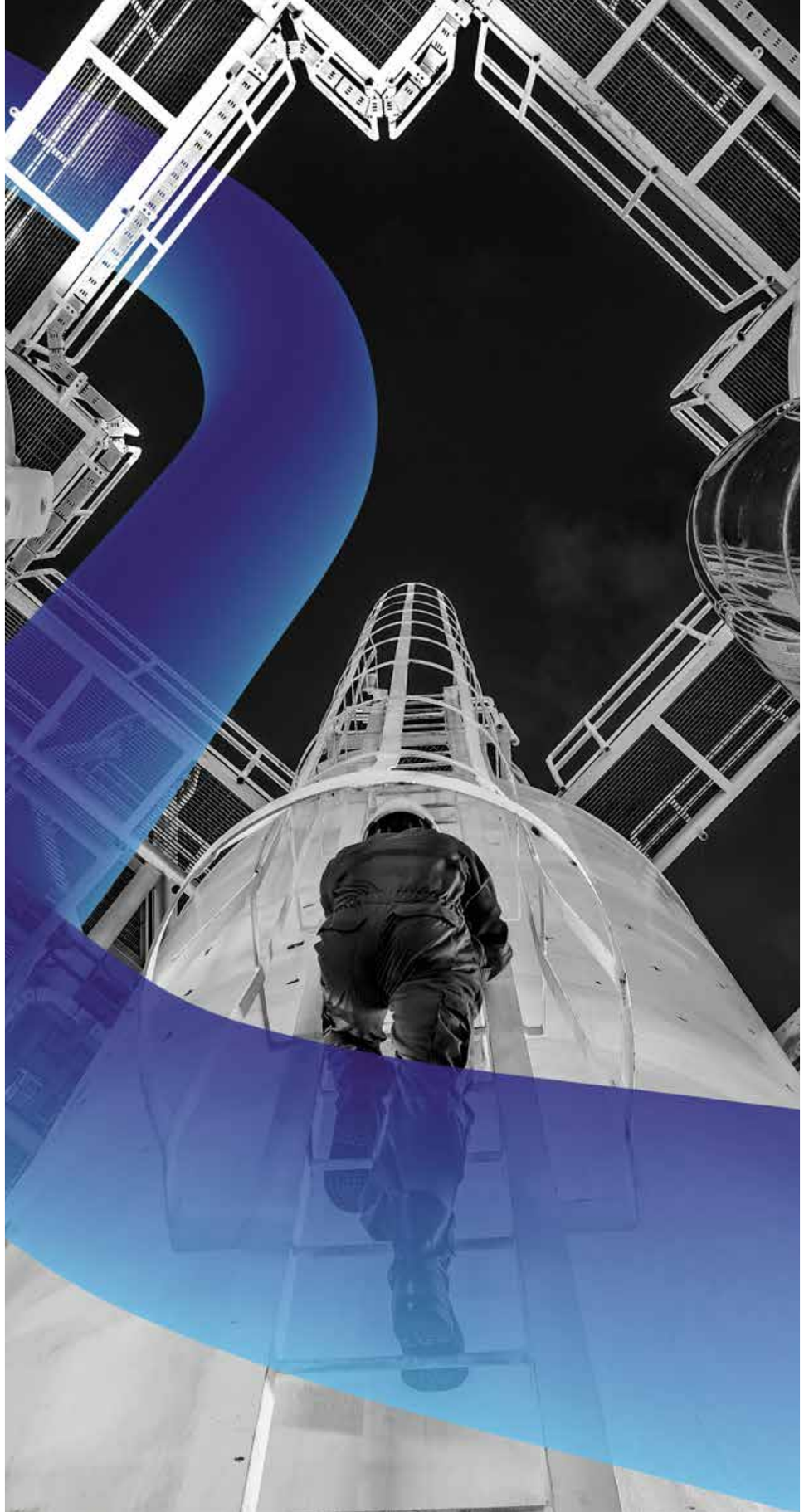
### Troubleshooting

Tracerco's troubleshooting technology can be rapidly deployed anywhere in the world from our global office network. Our insights can help you find the right solutions to your production problems quickly and with minimal disruption to your operations.

### Baseline planning

Baseline scans can be used as a valuable reference to identify and monitor operating performance changes in a column over time. A baseline scan establishes a reference point, a historical marker for column performance. A baseline scan should be performed when the column is clean, known to be in good mechanical condition, and operating with no known problems. The data from a baseline scan enhances future scan sensitivity and allows more subtle operational changes to be identified.





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### Tower scanning

Tru-Scan™ and Tru-Grid™ Scan applications provide a quick, reliable, and economical method to reveal conditions such as flooding, tray froth heights, foaming, weeping, tray and packing damage, and liquid maldistribution. Scans are performed online, generally without any preparation to the tower, and with no removal of insulation.

Tracerco's Tru-Scan™ and Tru-Grid™ Scan services are cost effective because they reduce off-spec production and equipment downtime. They are also routinely used to locate plant bottlenecks and optimise performance.

For trayed towers, FrothView™ uses gamma scan data to reliably measure total froth height on a tray. PackView™ uses gamma scan data to determine relative densities through packing that can be converted into liquid holdup fractions, as a quantitative measure of liquid maldistribution.

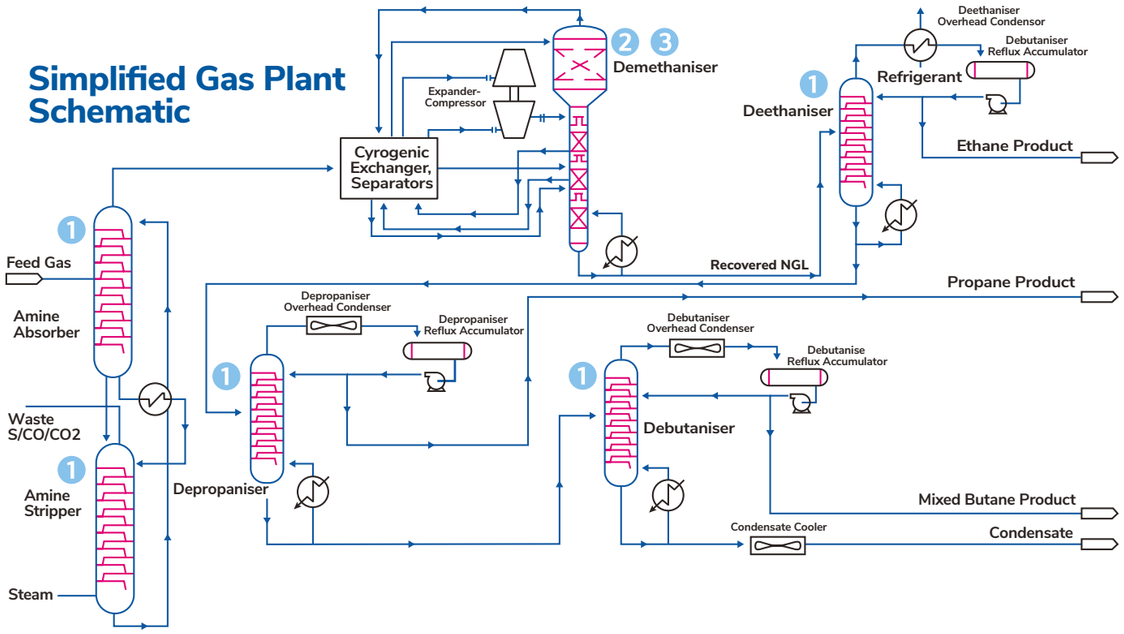
### Pre-turnaround planning

Tracerco can detect specific maintenance needs before shutdown, allowing production planners to focus on the problem, acquire materials, and prepare before the system is shut down. Scheduling scans before a turnaround provides valuable insights that minimise costs and time.

Process systems with a history of fouling or tray damage benefit from pre-turnaround scans, verifying the need to order tower internals and avoid tray manufacturer's emergency charges. They can also be used to plan and monitor the wash chemicals used to purge solids from a system.

# Solve your gas process problems online and in real time

## Simplified Gas Plant Schematic



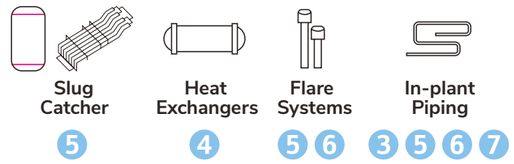

**1. Trayed tower diagnostics**

Tru-Scan™ technology, using FrothView™, evaluates the mechanical integrity and hydraulic performance of trayed columns by measuring the total or true froth height on tray decks and liquid back-up in downcomers. FrothView™ quantitative analysis provides detailed information that measures a tray's useful capacity. Damaged or missing trays, plugged downcomers, feed issues and tray fouling are examples of column problems that can be diagnosed with a Tru-Scan™.

**Tru-Scan™ technology is applied to trayed towers to:**

- Determine presence and extent of foaming and fouling.
- Evaluate tray froth heights to compare to design criteria using FrothView™ analysis.
- Detect tray damage and flooding.
- Detect mechanical, rate, or process-related problems.
- Optimise the use of additives such as anti-foaming chemicals.






**2. Packed tower diagnostics**

A Tru-Grid™ Scan provides a cost-effective method to identify liquid maldistribution and other problems that can affect packed column performance. PackView™ analysis is a unique method that uses enhanced detection and analysis software, and displays a secondary density scale, or packing retention scale, through beds of packing.

The retention scale shows the reference density for the dry packing, with additional measured density from liquid flow retention through the packing. Any significant liquid maldistribution can be rapidly determined.

**Tru-Grid™ Scan technology is applied to packed columns to:**

- Verify placement of packed beds, distributors and collectors.
- Evaluate the quality of liquid phase distribution using PackView™ analysis.
- Detect problems such as fouled or crushed packing, overflowing distributors and collector trays, flooding or foaming.

**Additional Process Diagnostics™ services:**

**3. ThruVision™ Scan applications**

A ThruVision™ scan generates a high-resolution cross-sectional density profile of the inside of a process system. This can be a packed distillation column or piping where flow distribution of the process fluids or solids is vital to performance. The technique is most easily explained by visualising a 360° scan at a fixed elevation. ThruVision™ scans identify liquid maldistribution, fouling and identify integrity problems.

**4. Tracerco Diagnostics™ Leak Study**

Leaks in a heat exchanger usually result in off-specification material being produced. Leak testing a process-to-process exchanger is a quick online method to determine where product contamination is originating from.

**5. Tracerco Diagnostics™ Pipe Scan**

Tracerco Diagnostics™ Pipe Scan technology provides a non-invasive method to examine the contents of a pipe and determine solids build-up, slugging of process materials, and confirm liquid carry-over, or gas carry-under. A Tracerco Diagnostics™ Pipe Scan can be used to quickly identify the amount and location of solids build-up, or fouling that restricts process fluid or vapor flow in process piping, or vessels such as a slug catcher.

**6. Tracerco Diagnostics™ Flow Study**

Unique tracers provide flow rate measurements through sections of piping, existing flow meters and where no meter exists, and the flow distribution through piping networks such as utility headers.

**7. Tracerco Diagnostics™ Neutron Backscatter Scan**

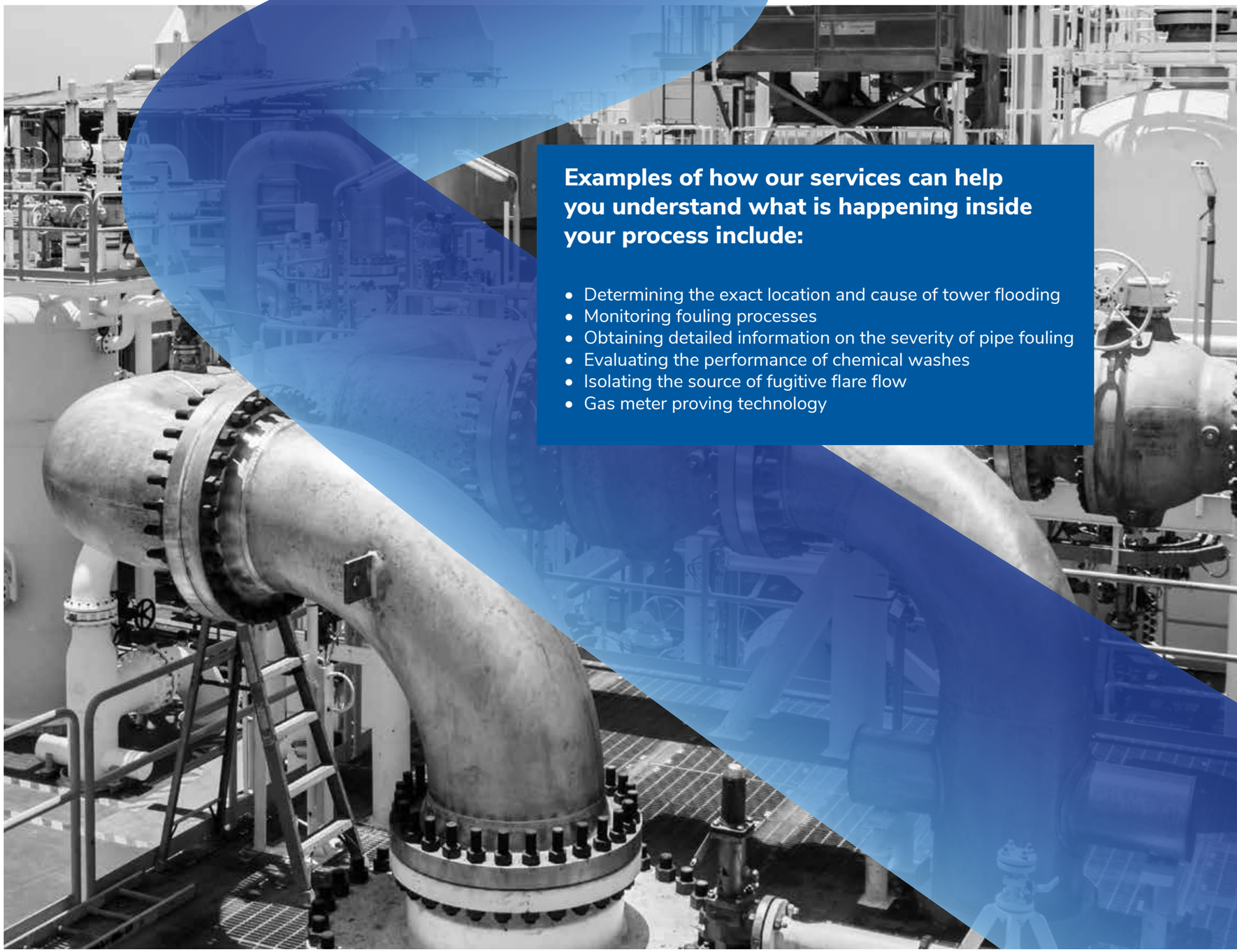
Tracerco Diagnostics™ Neutron Backscatter Scan technology detects the location of liquid/liquid and liquid/vapor interfaces, and quickly screens a large amount of piping for plugs and the presence of any build-up before relief devices.

# Unbeatable gas processing solutions

Tracerco's technology helps you to understand and identify process problems before they reach a critical point. Our insights allow you to make more informed decisions, increasing productivity and minimising costs.

When critical process equipment is experiencing problems and producing off-spec product, Tracerco's services provide invaluable insights. Based on the results provided, you will be able to quickly identify the best course of action to correct the problem and reduce downtime.

We'd love to tell you more about our services. In a one-hour technical Lunch and Learn presentation at your site, we can tell you all you need to know about Tracerco's technologies and how they can help you maximise productivity and profit, and minimise your costs and downtime. Interested? Please contact a representative in your area, or visit tracerco.com



## Examples of how our services can help you understand what is happening inside your process include:

- Determining the exact location and cause of tower flooding
- Monitoring fouling processes
- Obtaining detailed information on the severity of pipe fouling
- Evaluating the performance of chemical washes
- Isolating the source of fugitive flare flow
- Gas meter proving technology