



Methane and Fugitive Emissions Management – Innovative Strategies for Methane Detection, Mitigation, and Cost-Effective Solutions

29-30 SEPTEMBER 2025 | KUALA LUMPUR, MALAYSIA

New Technology for Automated Detection & Minimisation of Methane Flaring & Venting



Dave Anderson

Score



Your Source Emissions Challenge...



Ring, ring...

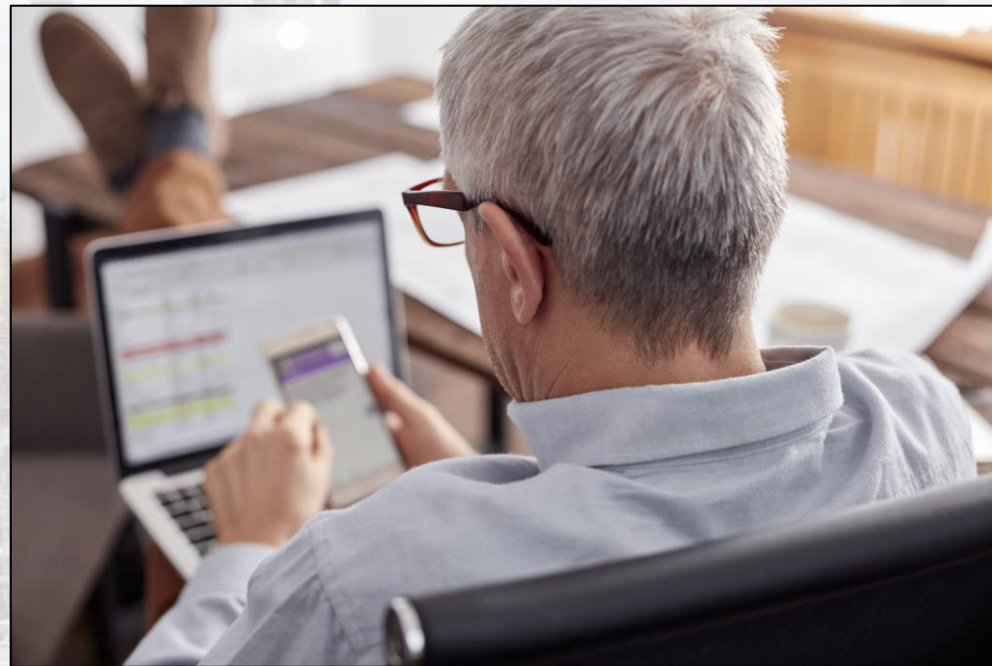


Your Source Emissions Challenge...

Are you looking for the proverbial needle in a haystack...?

Hand-held Tooling : Making the Invisible Visible, but...?

Automation and Continuous Monitoring Required



New Through-Valve Leak Sensor

Automated and remotely installed sensor device
for through-valve leak monitoring :-

Detection

Quantification

Trending

Reporting

Intelligent Valve Management™



Intelligent Valve & Emissions Management™

Capture performance data (Actionable Evidence / Indicators)

Store Performance Data

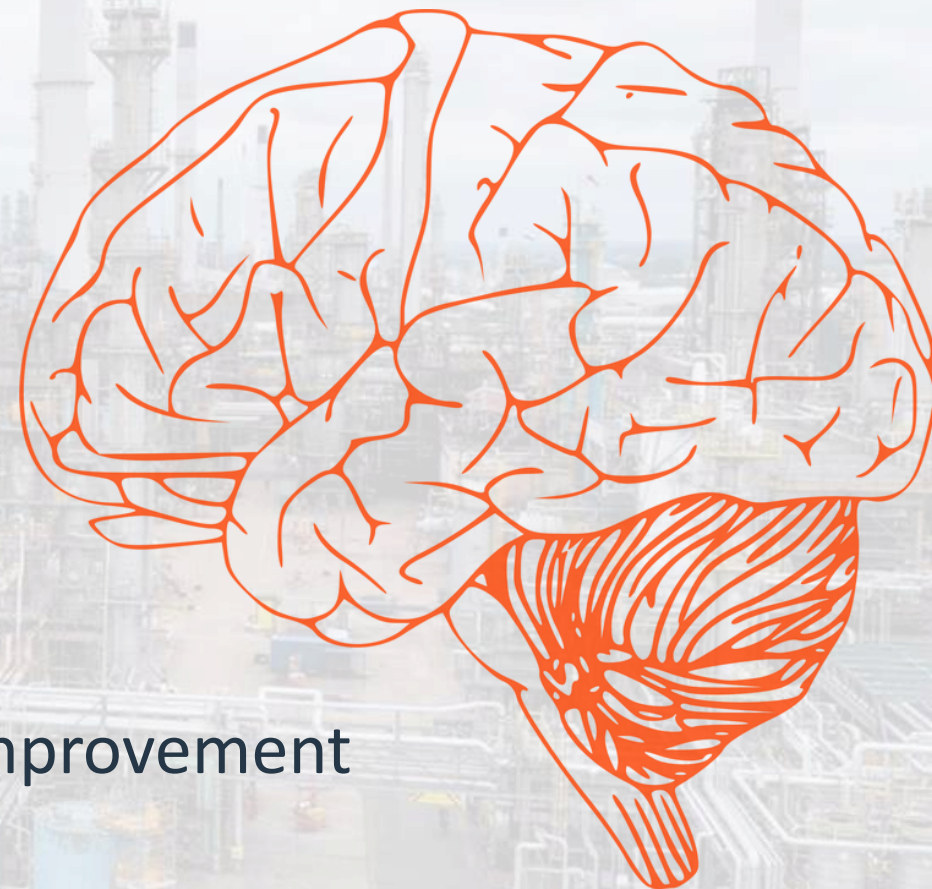
Analyse performance data

Report on actionable Valve Insights

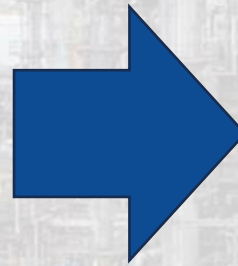
Alert on unsafe / intolerable performance

Identify Recurring Trends / Failure patterns

Identify & Report Opportunities for Continuous Improvement



New Through-Valve Leak Sensor



New Through-Valve Leak Sensor

Unique in the marketplace

Second Generation

Builds on successful track record

Compact Single-Housing Design

Intrinsically Safe Certified

Wired / Wireless (Power & Comms)

Easier to Install

Remote installation

Lower Cost installation



New Through-Valve Leak Sensor

Let's take a closer look at the "Metrics that matter"...

Familiar Reliability Terms

MTTD = Mean Time To Detection

MTTR = Mean Time To Repair

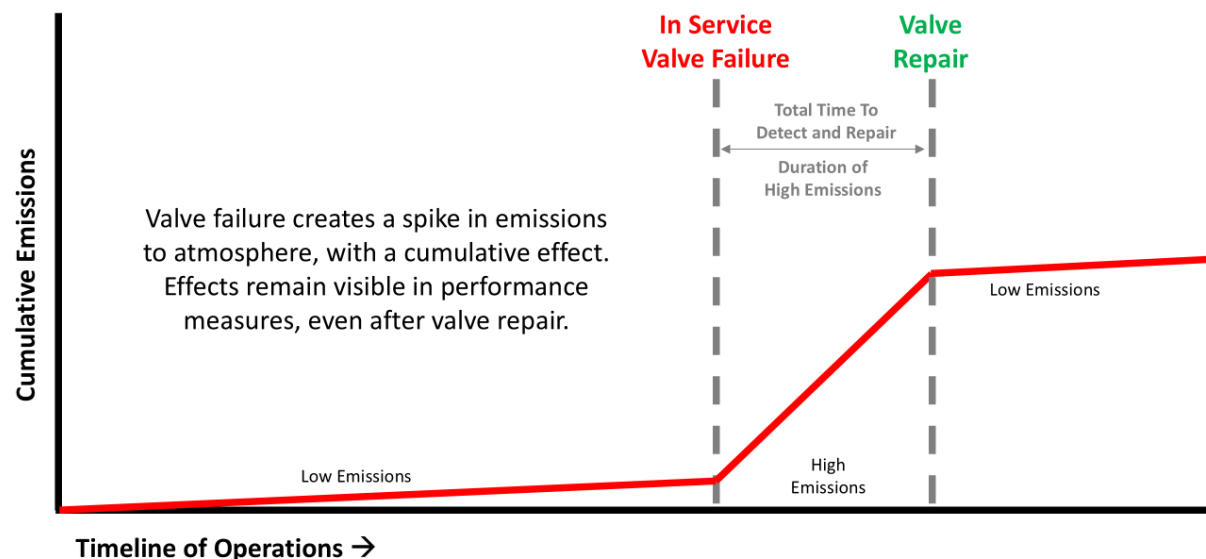
Related Response Terms

MART = Mean Active Repair Time

MORT = Mean Overall Repair Time

Environmental Performance Management (Expected Emissions, Without Condition Monitoring)

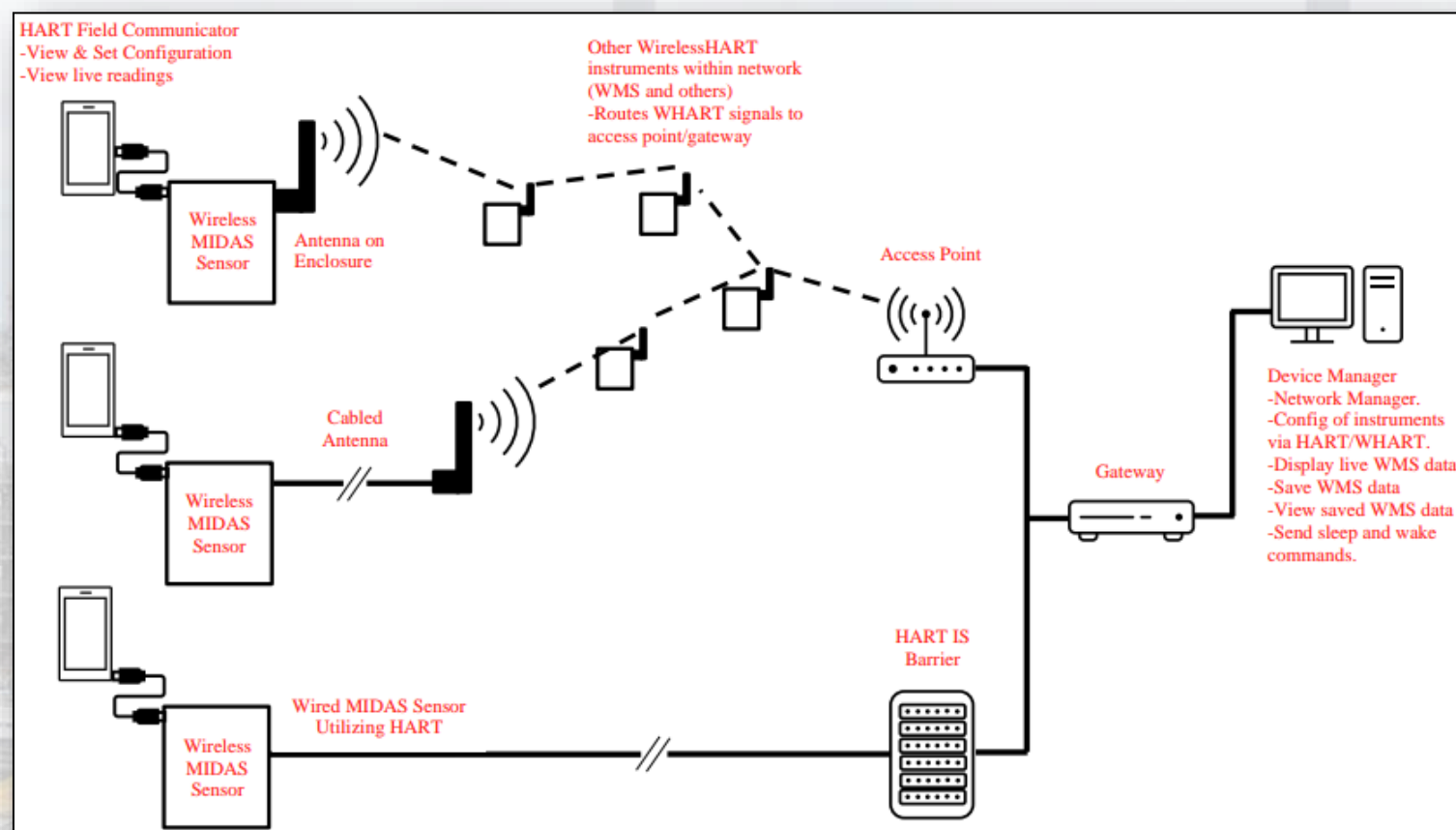
score



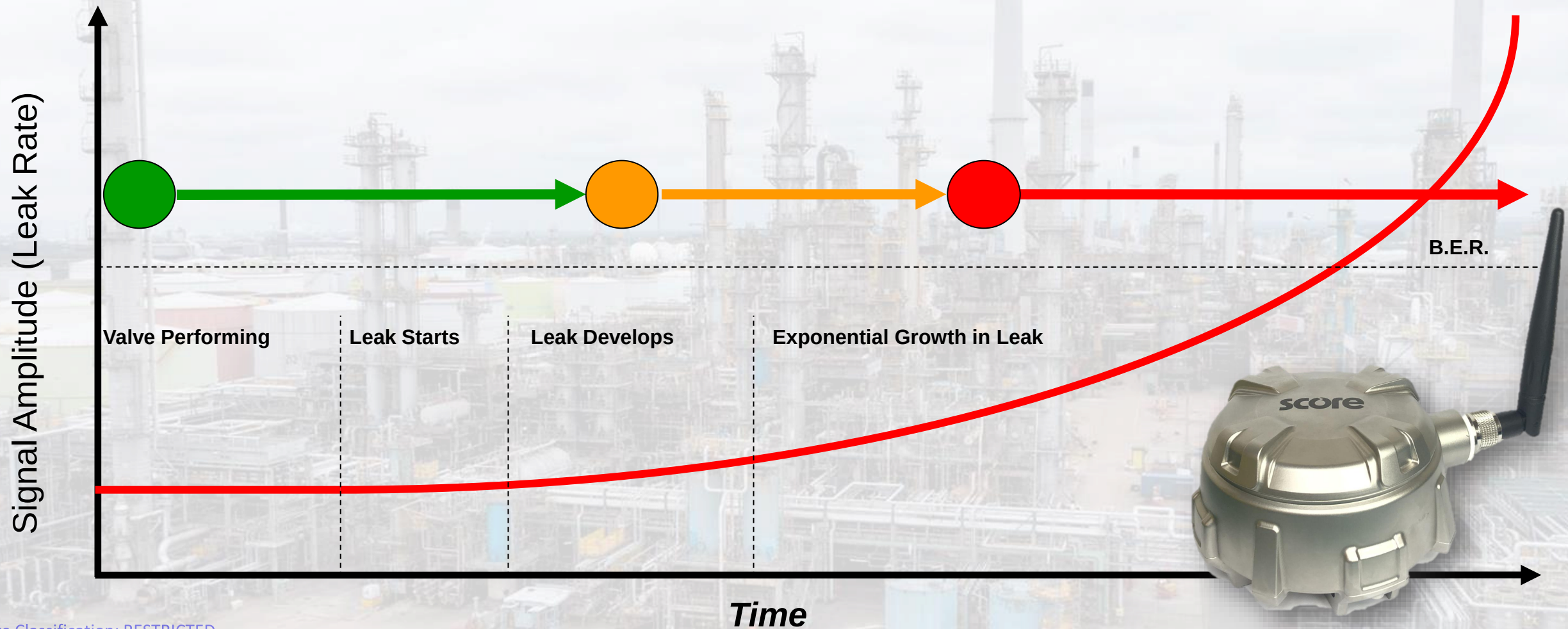
New Through-Valve Leak Sensor

Underpinning Technologies

- Acoustic Emissions (AE)
- HART Communications
 - ✓ Easy Set-Up
 - ✓ Mesh Networks
 - ✓ Repeaters & Gateways



Exponential Deterioration in Valve Performance



New Through-Valve Leak Sensor

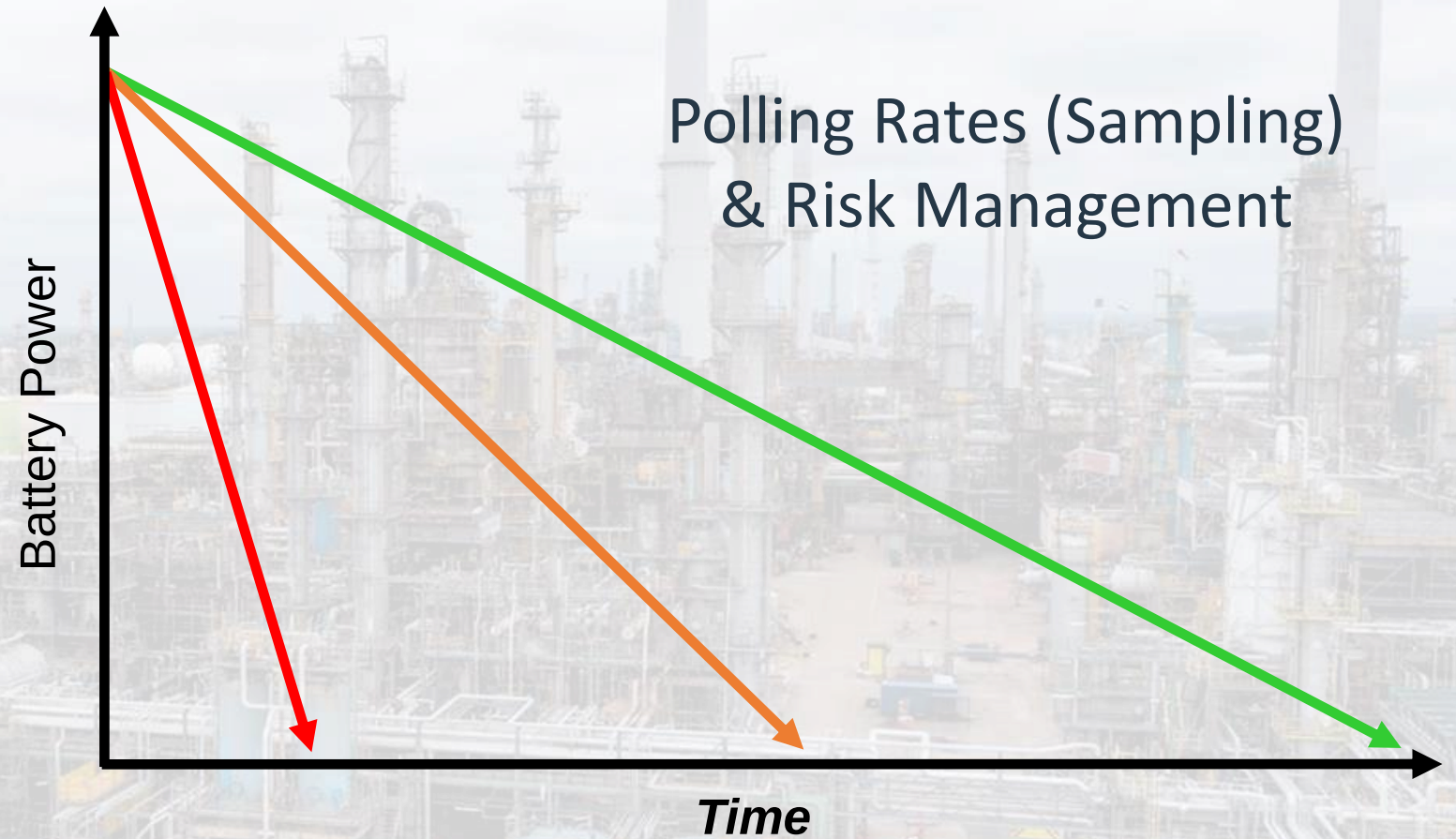
Power Management

Wire v Battery

Compromise

Wake-Up Function

Advantages



New Through-Valve Leak Sensor

Automated Leak Monitoring & Management

Outputs

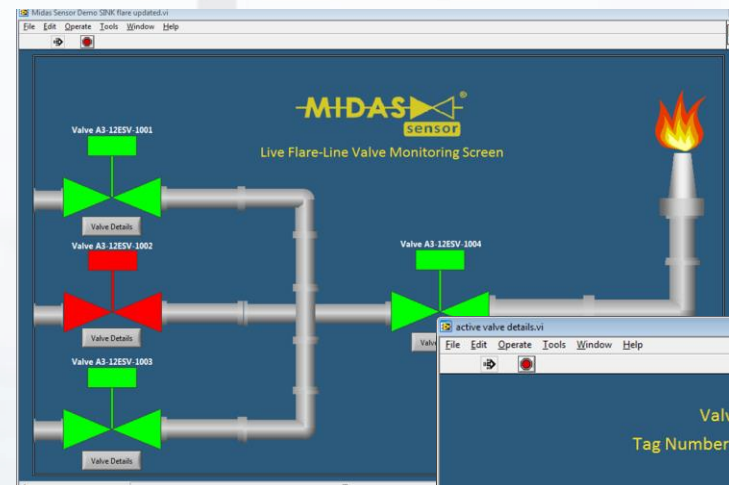
4-20 mA

Visual Alarms / Automated Alerts

Traffic Lights (Leak / No Leak Detected)

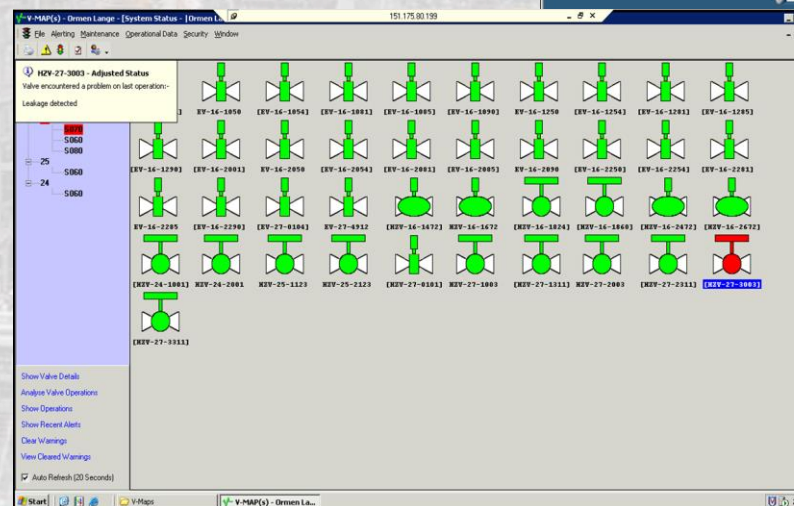
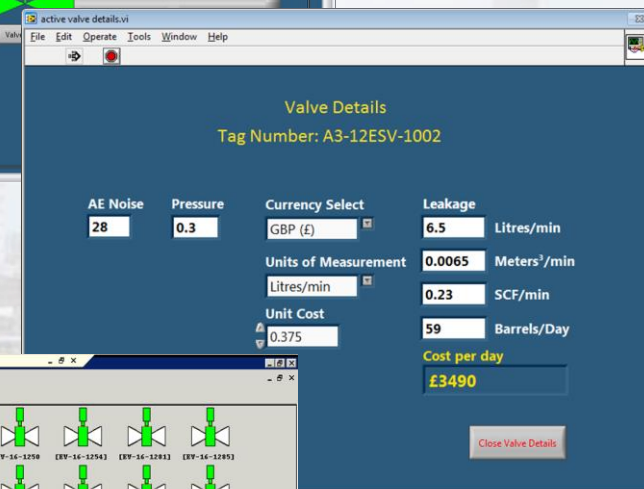
Volume / Mass Flow Leak Rates

Loss Value Calculation



Detect

Quantify



Trend

New Through-Valve Leak Sensor

Continuous Improvement Metrics...

MTBT = Mean Time Between Testing

MTBF = Mean Time Between Failures

MTBM = Mean Time Between Maintenance

MTBI = Mean Time Between Interventions

VALVE INSIGHTS™



Potential Impacts / Annum

Local

- 1 North Sea Platform Environment
- 12m m³ Flared Gas Financial
- \$1.38m Equivalent Sales Value

Global

- 1,000's Sites Environment
- 138,549m m³ Flared Gas Financial
- \$16Bn Equivalent Sales Value



First Projects (WIP)

North Sea (NCS)

- 6 New Platforms
- Normally Unmanned
- 474 Sensors
- 147 Valves
- V-MAP® G3 Integration
- Automated Alarms, Alerts



Benefits of Intelligent Valve Monitoring™ : A Business-Wide Perspective

	Detect Poorly Performing Valves	Quantify Performance Degradation in Valves	Trend Degradation in Performance Over Time
Maintenance Engineers	Easy Inspection / Failure Modes Detection	Prioritised / Targeted Resources Deployment	No Unplanned Shutdowns or In-Service Failures
Reliability Engineers	Early Identification of Degradation / Failures	Optimized Shutdown Planning	Minimized Downtime / Maximized Uptime
Asset Integrity Management Engineers	Risk Based Inspections / Visibility of Degradation	Proactive and Preventive Maintenance	Predictive Modelling of Failure Modes
Control Room Operators	Enhanced Monitoring and Troubleshooting	Loss Prevention and Reduction	Operating Profit Maximization
HSEQ Team	Risk Management and Compliance	Emissions and In-Service Failures Reduction	Optimized Operational Performance
Site Management Team	Risk Management and Compliance	Loss Reduction	Optimized Operating Performance / Profits

Moving from a **“reactive maintenance response”** approach to **“optimised asset management”**, through quantitative evidence

Process performance driven by monitoring analytics

MIDAS[®] Valve Insights[™] Delivering :-



OPTIMISED INTELLIGENT
VALVE & EMISSIONS
MANAGEMENT[™]



MINIMISATION OF
OPERATIONAL RISKS



MINIMISATION OF
OPERATIONAL COSTS



MAXIMISATION OF
RELIABILITY / UPTIME



MAXIMISATION OF
PROCESS PROFITABILITY

*So you can sleep like this
happy baby every night...*



New Through-Valve Leak Sensor

Accelerating your journey to net zero emissions

**For more information, please contact us at :-
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www.score-group.com

Any Questions?

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Global expertise. In operation.

