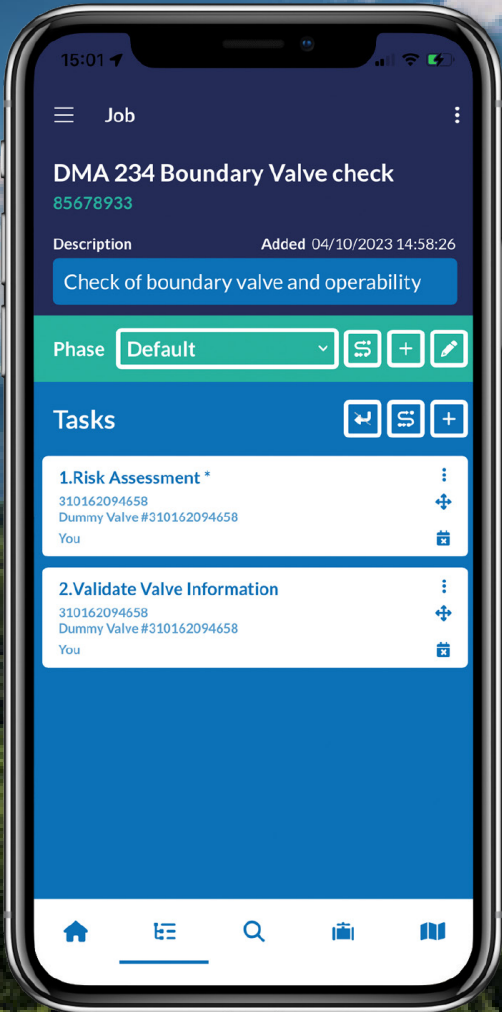




SmartValve™

SmartValve® – Revolutionising Water Network Operations



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SmartValve™

Introducing SmartValve® Version 3.0: Transforming Water Network Management

SmartValve® has been at the forefront of revolutionising manual valve operations on water networks globally. With the launch of SmartValve® Version 3.0 in November 2023, we bring you the latest advancements to enhance your operational efficiency, improve water quality, and minimise supply interruptions.

Why Choose SmartValve®?

- **Real-time Monitoring and Management:**
Our patented real-time recording and analysis process ensures every valve operation is executed effectively, reducing leakage and interruptions to supply.
- **User-Centric Design:**
Designed for field-based operatives, our intuitive app simplifies clean water operations, empowering technicians with efficient tools.
- **Integrated Data for Informed Decisions:**
SmartValve® provides water companies with real-time data to enhance performance against key targets and reduce operational costs.



Core Benefits of Implementing SmartValve®

1. Reducing Pressure Transients (Water Hammer)

Calm Network Turn Profiles

SmartValve® ensures that every valve operation is performed to a defined standard, creating calm network turn profiles that reduce the likelihood of pressure transients. This approach helps prevent the common issues associated with water hammer, such as pipe bursts and water discoloration.

Feedback and Refinement

By integrating feedback from pressure loggers and customer contacts, SmartValve® allows for continuous refinement of turn profiles on a DMA (District Metered Area) or valve-by-valve basis. This iterative process ensures optimal performance and minimal disruptions.

Improved Water Quality:

Consistent, controlled valve operations lead to a reduction in water discoloration and an overall improvement in water quality. This not only enhances customer satisfaction but also helps avoid penalties and secure rewards for maintaining high standards.

Asset Longevity:

By maintaining a calm network, SmartValve® contributes to the extended lifespan of critical infrastructure, including valves, pipes, and other network assets. This proactive approach reduces maintenance costs and ensures reliable service delivery.

Burst Reduction and Cost Savings:

SmartValve® is designed to keep the network calm during both planned and emergency work. This results in an average predicted saving of 0.5 bursts per DMA per year, translating to significant financial savings. For example, with an average cost of £2,500 per burst across 1,000 DMAs, the potential savings can reach £1.25 million annually.





Core Benefits of Implementing SmartValve®

2. Improvement of Asset Data

Accurate and Up-to-Date Data:

SmartValve® allows technicians to add, edit, and delete valve information directly within the app. This capability ensures that the network data remains accurate and up-to-date, saving time on every subsequent operation and enhancing overall data reliability.

Real-Time Valve Status Updates:

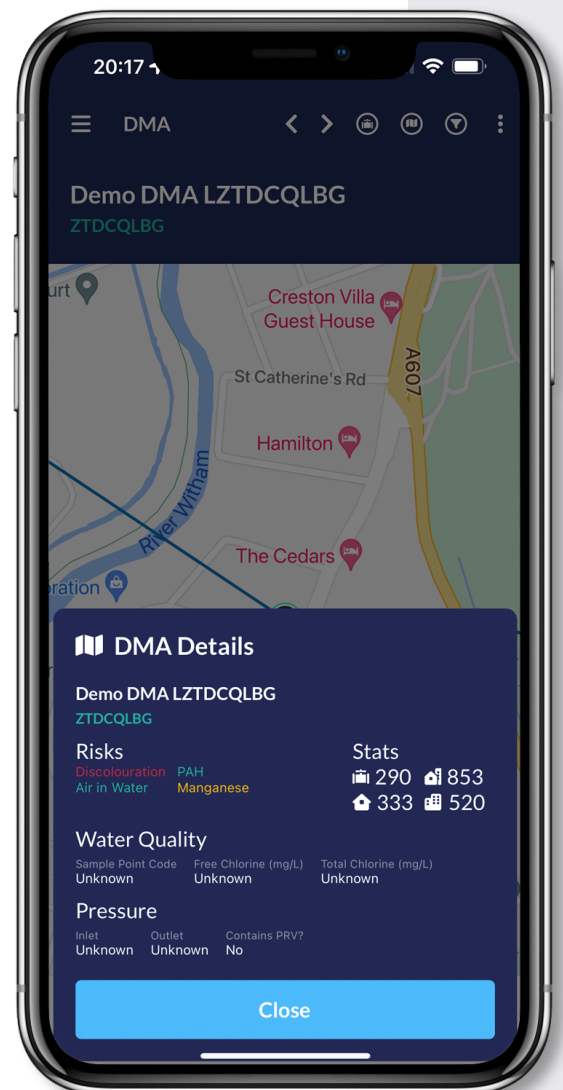
Technicians can update the status of valves in real-time, which is crucial for both planned and reactive work. This functionality helps in minimising supply interruptions and improving operational efficiency by ensuring all data is current and accessible.

Enhanced Visualization and Analysis:

SmartValve® provides a comprehensive visualisation of all network assets, not just mains, valves, and hydrants. This feature, combined with the ability to analyse valve performance through vibration data, supports better decision-making and operational planning.

Integration with GIS and GNSS:

The integration with GIS systems allows for advanced mapping and planning, while GNSS technology ensures accurate marking and management of new and existing valves. This integration facilitates more precise and efficient network management.





Core Benefits of Implementing SmartValve®

3. Efficient Planned and Reactive Work

Streamlined Workflows:

SmartValve® enables the creation or receipt (via integration) of detailed planned and reactive work orders directly within the app. This capability simplifies the process, ensures consistency, and reduces the time required for planning and execution.

Prevention of Operational Issues:

By ensuring that all valves are returned to their permanent positions after maintenance, SmartValve® prevents common operational issues such as valves being left closed, which can lead to further repairs or supply disruptions.

Multi-Valve, Multi-Person Operations:

The app supports complex operations involving multiple valves and personnel, providing step-by-step work plans that can be saved for future use. This feature saves planning time for repeat operations and ensures coordinated efforts among team members.

Customizable Workflows:

SmartValve®'s ability to create customised workflows ensures that best practices are embedded into every operation. This leads to more real-time data being fed back into the business, enhancing decision-making and operational efficiency.

Advanced Planning and Execution:

Using GIS data, SmartValve® supports advanced planning for main repairs and other network operations. Technicians can undertake multiple tasks within a single workflow, such as flushing and pressure readings, improving efficiency and reducing the need for redundant actions.



Core Benefits of Implementing SmartValve®

4. Comprehensive Business Benefits

Financial Savings:

The proactive management of valve operations results in significant financial savings by reducing the frequency of burst incidents and extending the lifespan of network assets.

Operational Efficiency:

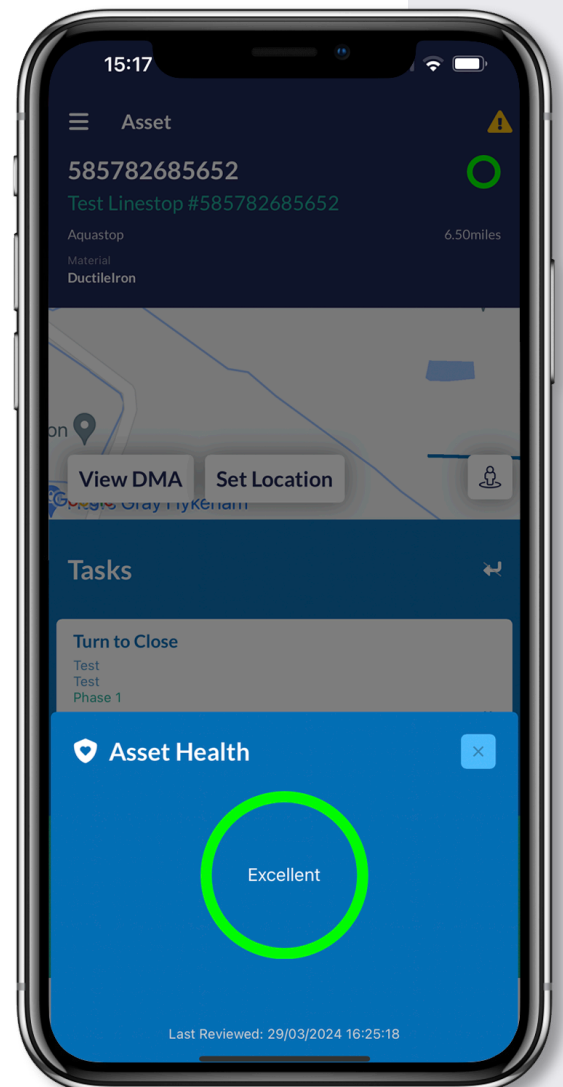
SmartValve® streamlines both planned and reactive maintenance activities, ensuring that technicians can work more efficiently and with greater accuracy. This leads to improved service delivery and reduced downtime.

Enhanced Compliance and Reporting:

With its real-time data capture and reporting capabilities, SmartValve® helps water companies comply with regulatory requirements and improve their performance metrics. This contributes to better customer service and operational transparency.

Support for Technicians:

SmartValve® provides field technicians with the tools they need to perform their tasks efficiently and accurately. The app's user-friendly interface and comprehensive data access support technicians in making informed decisions and executing operations smoothly.



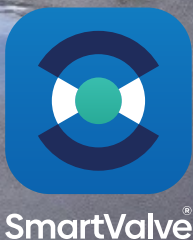
Business Case

1. Significant Financial Savings

Implementing SmartValve® can lead to substantial cost savings across various aspects of water network operations.

Key areas of financial impact include:

- **Reduction in Burst Incidents:** By maintaining calm network conditions and minimising pressure transients, SmartValve® reduces the frequency of pipe bursts. With an average cost of £2,500 per burst, the potential savings across a network can be considerable.
- **Extended Asset Lifespan:** The calmer network environment facilitated by SmartValve® decreases wear and tear on pipes, valves, and other infrastructure components, thereby extending their lifespan. This reduces the need for frequent repairs and replacements, contributing to long-term cost efficiency.
- **Optimized Operational Efficiency:** By streamlining planned and reactive maintenance activities, SmartValve® reduces the time and resources required for network operations. This efficiency translates into direct cost savings and allows for better allocation of resources to other critical projects.



SmartValve®

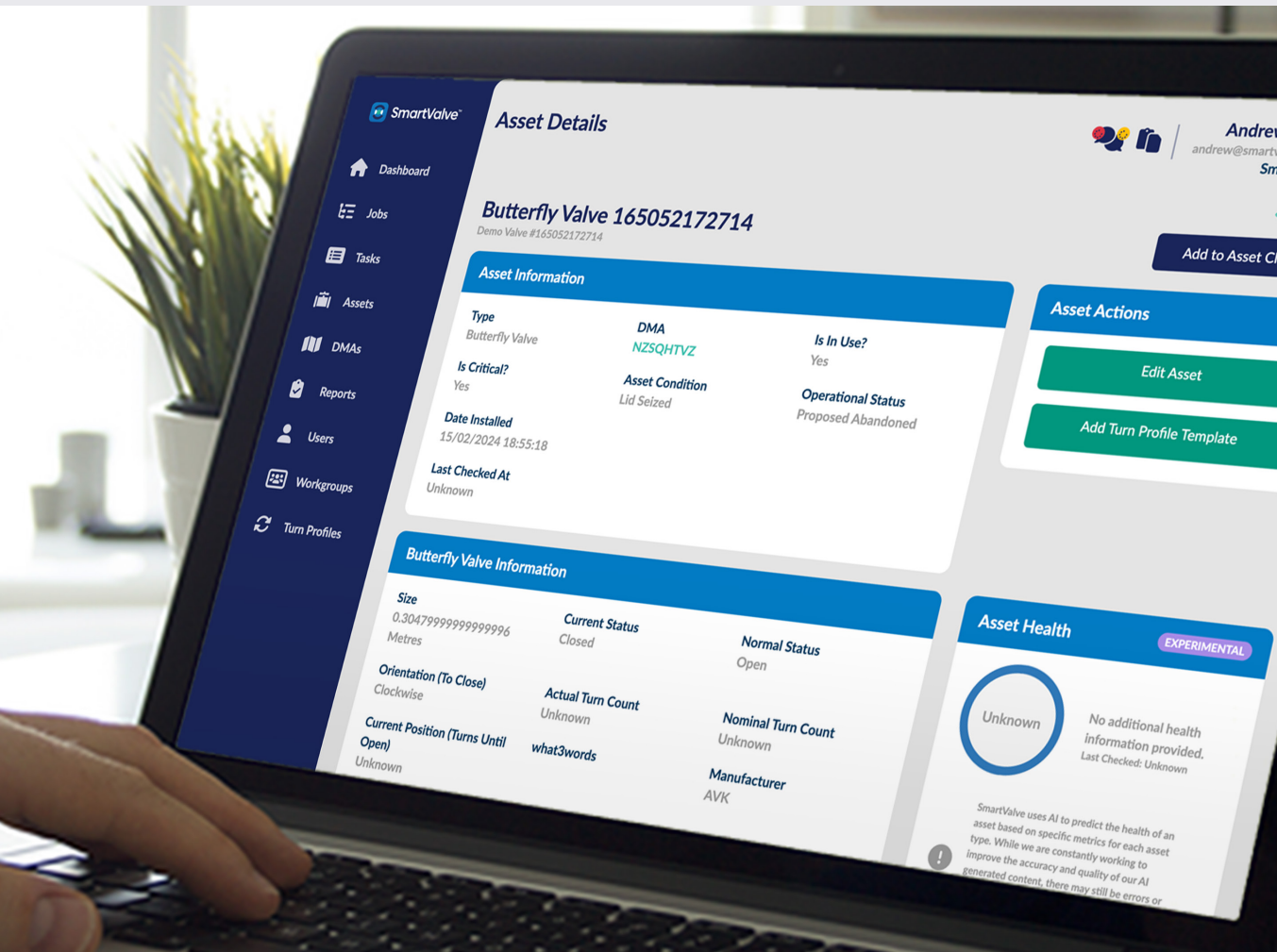
Business Case

2. Enhanced Operational Efficiency

SmartValve®'s advanced features and user-friendly design significantly enhance the efficiency of water network operations:

- **Real-Time Data Access:** The ability to access up-to-date network data in real-time enables quicker and more informed decision-making. Technicians can perform their tasks with greater accuracy and less time spent searching for information, leading to faster resolution of issues and more efficient operations.
- **Integrated Workflows:** SmartValve®'s capability to create and manage detailed workflows for both planned and reactive maintenance ensures that all operations are carried out systematically and efficiently. This integration reduces the likelihood of errors and ensures consistency in operational practices.
- **Minimized Downtime:** By preventing common operational issues, such as valves being left in incorrect positions after maintenance, SmartValve® minimises downtime and ensures continuous service delivery. This reliability is crucial for maintaining customer satisfaction and operational performance.





Business Case

3. Improved Compliance and Reporting

SmartValve® supports water companies in meeting regulatory requirements and enhancing their performance metrics through comprehensive data management and reporting features:

- **Accurate Data Capture:** SmartValve®'s ability to capture and manage detailed data on valve operations and network conditions helps ensure compliance with industry standards and regulations. This accuracy is essential for maintaining high service quality and avoiding regulatory penalties.
- **Real-Time Reporting:** The platform provides real-time updates and reporting capabilities, allowing water companies to monitor their performance against key operational targets. This transparency aids in identifying areas for improvement and demonstrating compliance to regulatory bodies.
- **Enhanced Performance Metrics:** By reducing incidents of pressure transients, improving water quality, and ensuring efficient maintenance practices, SmartValve® helps water companies achieve better performance metrics. These improvements can lead to increased customer satisfaction and potential financial rewards from regulatory bodies.

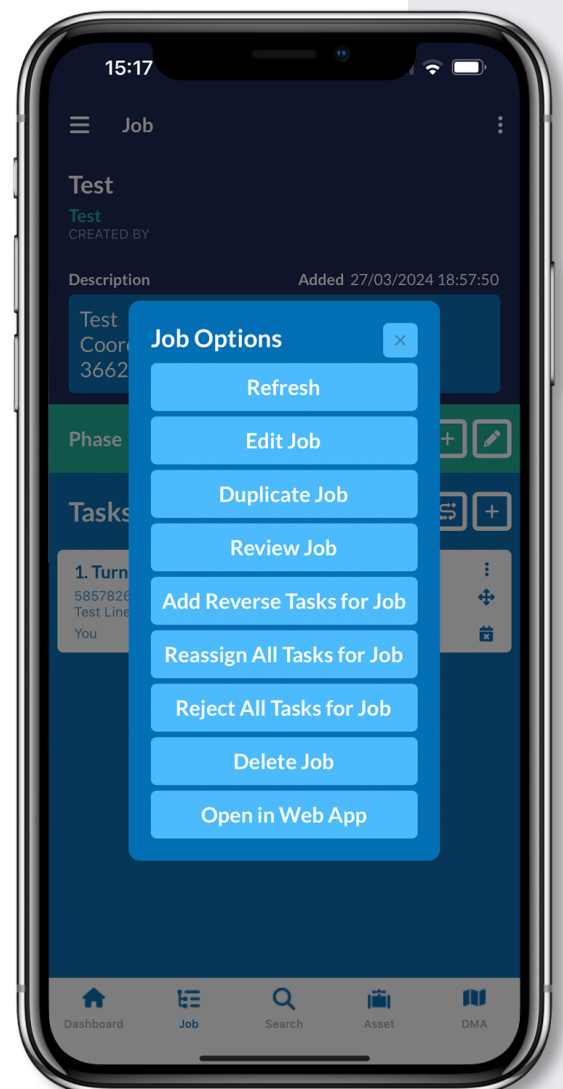


Comprehensive Business Benefits

4. Support for Field Technicians

SmartValve® is designed with the needs of field technicians in mind, providing tools and features that support their daily operations:

- **User-Friendly Interface:** The app's intuitive design ensures that technicians can quickly and easily navigate the platform, reducing the learning curve and enhancing productivity.
- **Comprehensive Data Access:** Technicians have access to a full history of valve operations and network conditions, enabling them to make informed decisions and perform their tasks more effectively. This access helps in both planned maintenance and emergency responses.
- **Guided Workflows:** Customisable workflows guide technicians through complex operations, ensuring that best practices are followed and that all necessary steps are completed. This guidance reduces the risk of errors and improves the overall quality of work.
- **Real-Time Feedback:** The platform provides real-time feedback on valve operations and network conditions, allowing technicians to adjust their actions as needed and ensure optimal performance. This feedback loop enhances the efficiency and effectiveness of maintenance activities.



Key Features of SmartValve® Version 3.0

SmartValve® Version 3.0 introduces a comprehensive set of features designed to enhance water network operations through advanced mobile and web applications.

Mobile App Functions (summary)

1. Login

- **SmartValve® Account Login:** Users can log in using their SmartValve® account.
- **Azure Active Directory Login:** Integration with Azure Active Directory for secure access.
- **Version Access:** Ability to enter a CSVE to access different versions of SmartValve®.
- **Account Recovery:** Options for recovering account information.

2. Dashboard

- **Task Overview:** View incomplete jobs and tasks assigned to the user.
- **Quick Navigation:** Jump to specific assets, jobs, or DMAs using their IDs or by scanning NFC tags or barcodes.
- **Communication:** Open communication popups for better coordination.

3. Job Management

- **Create and Manage Jobs:** Create, update, delete jobs, and manage job phases.
- **Task Management:** Create, update, delete, reorder tasks, and assign tasks from preconfigured workflows.
- **Task Reassignment:** Reassign tasks and perform tasks out of order if necessary.

4. Search

- **Job Search:** Search for jobs by identifier or name.
- **Asset Search:** Search for nearby assets, view assets on a map, and scan NFC tags or barcodes for asset details.
- **DMA Search:** Search for DMAs by name and navigate to their details.

5. Asset Management

- **Comprehensive Asset Handling:** Create, update, delete assets, assign locations, capture images, and annotate images.
- **Task and DMA Integration:** View task history, create unplanned jobs, and manage assets within DMAs.
- **External GPS Support:** Capture locations using external tools like Trimble and store results against assets.

6. DMA Management

- **Detailed DMA Insights:** View DMA details, risks, residential and commercial statistics, and related assets.
- **DMA Navigation:** Navigate between assets within the same DMA through the DMA map layer.

7. Tasks and Turns

- **Task Reception and Notifications:** Receive planned tasks and notifications for assigned tasks.
- **Turn Operations:** Perform turn operations using device sensors with coaching features to ensure adherence to turn profiles.
- **Task Management:** Abort tasks, reassign tasks, and tag assets with NFC tags or barcodes.

8. Offline Network Access

- **Data Sync:** Access synced data offline and store completed tasks locally to be synchronised later.

Key Features of SmartValve® Version 3.0

Web App Functions (summary)

1. Login

- **SmartValve® Account Login:** Secure login using SmartValve® accounts.
- **Azure Active Directory Login:** Integration for streamlined access.
- **Account Recovery:** Options for recovering account information.

2. Dashboard

- **Customisable Dashboard:** View key stats, recently performed tasks, task details, and task locations on a map.
- **Task Graphs:** View graphs of performed tasks over the last month.

3. Job and Task Management

- **Comprehensive Job Handling:** Create, edit, delete jobs, add and reorder phases, and manage tasks within phases.
- **Task Deployment:** Create, assign, release, and manage tasks with detailed status views and location mapping.

4. Turn Management

- **Turn Profile Assignment:** Assign, visualise, and compare turn tasks with animated graphics and data graphs.
- **Turn Analysis:** Identify potential issues with turns, such as speed limits being exceeded.

5. Asset Management

- **Asset Creation and Updates:** Create, update, delete assets, and view asset history and locations.
- **DMA Assignment:** Assign assets to DMAs and navigate through DMA map layers.

6. User and Role Management

- **User Administration:** Create, update, remove users, assign roles, and manage user permissions.
- **Role Customization:** Create custom roles and specify permissions, dashboards, and landing pages for each role.

7. Reports and Webhooks

- **Standard Reports:** View reports on completed operations, active users, and valve status.
- **Webhook Management:** Create, edit, delete webhooks for system events, and view invocation history.

8. Task Templates and Workflows

- **Predefined Templates:** Utilise task templates for various operations, including isolation permits, risk assessments, and pressure monitoring.
- **Workflow Automation:** Implement workflows for cleaning flushes, isolations, line stops, burst repairs, and rezoning operations.

Licensing Additions

Additional Features: Options include communications, data management, external GPS integration, operation group planning, task pausing, webhooks, and active directory integration.

These features ensure that SmartValve® Version 3.0 provides a robust, efficient, and user-friendly solution for managing and monitoring manual valve operations across water networks, enhancing overall operational performance and data accuracy.

By leveraging the comprehensive benefits of SmartValve[®], water companies can achieve substantial improvements in financial performance, operational efficiency, regulatory compliance, and customer satisfaction, positioning themselves as leaders in the industry.

To enquire about our SmartValve[®] solution or to book a demo please contact:

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