SmartValve™
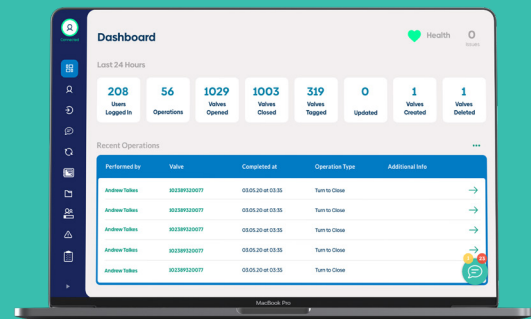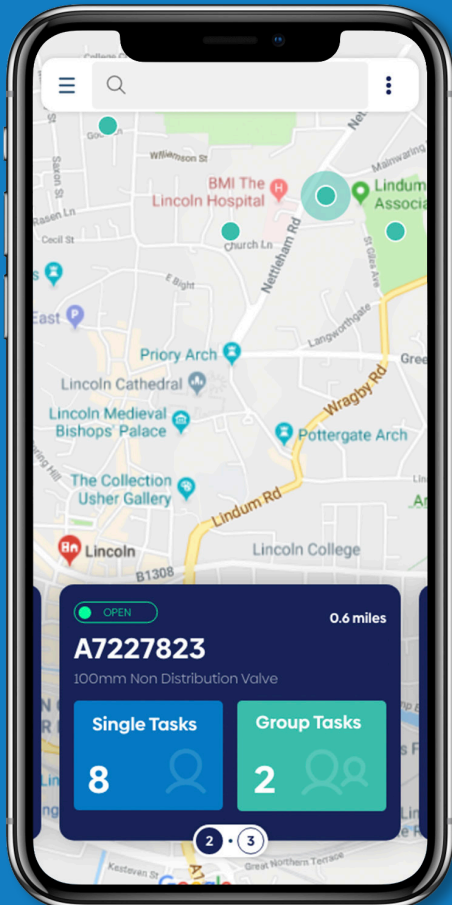
Reducing pressure transients (water hammer) **through the implementation of SmartValve.**

An outline of the core benefits of implementing SmartValve.

SmartValve™

Two of the major causes of pressure transients in a water network are pumps starting and stopping and valves being opened and closed. There are a whole range of solutions in the market to detect and monitor pressure fluctuations but very little to reduce the root causes.

With greater demands placed on water networks, with the Summer of 2022 being a great example, network failure rates are likely to increase. Most water networks were not designed to cope with the changing patterns of supply and usage we see today and with more complex operational procedures required to service customer demands the situation is likely to deteriorate further.

Now in our third full year of commercial implementation, SmartValve is designed specifically to manage and monitor one of the major sources of pressure transients, manual valve operations. SmartValve is unique with a patent pending for the improvement in a manual valve operation on a fluid or gas network. SmartValve monitors and manages manual valve operations via a mobile application used by Field Technicians on all types of network operations. This unique approach is delivering a host of tangible benefits for water companies as they roll out and integrate SmartValve with other core business systems.

The paragraphs below outline the core benefits of SmartValve.

Removal of Transient Pressure from the Water Network

- Calm network turn profiles ensure every valve operation is done to a defined standard
- Feedback from pressure loggers and customer contacts to refine turn profiles on a DMA by DMA or valve by valve basis
- Removal of water discoloration caused by day-to-day network management. Stop going in penalty, keep rewards
- Improvement in water quality
- Predicted savings of 1 burst per DMA per year by keeping network calm for all planned and emergency work (Average cost per burst £4,500 across 1,000 DMAs = £4.5 million saving)
- Increase lifetime of assets, valves, and pipes
- Supports technicians and evidence best practices, speeds up reactive and planned work once embedded into Business as Usual (BAU)

Improvement of Asset Data

- Add, edit, and delete valves in SmartValve
- Create a better picture of the network, with up to date and accurate data, saving time on every subsequent operation
- Black and red lining process (subject to GIS integration) but correct in SmartValve
- Real time update of valve status, helps in all planned and reactive work, especially interruptions to supply, bringing done minutes (ODI) (subject to GIS integration)
- Visualisation of every asset on the network*. All assets are shown not just mains, valves, and hydrants
- Add new valves and mark accurately using GNSS (Trimble or similar)
- Analysis of valves passing water under the gate using collated vibration data files
- Full history available to technicians in App on every valve and hydrant on the network

Planned and Reactive Work

- Create planned and reactive work in App using the mapping tools, saves time
- Ensure all valves are put back to permanent positions. Stops valves being left closed following repair and recharge. Alerts technicians and Control that valves haven't been returned to their original position. Prevents further issues following repair and/or supply issues to customers being avoided
- Create multi valve multi person operations in Web App. Step by step work plans with the ability to save plans for future operations. Saves planning time for repeat work.
- In App customised workflows* deliver best practice and more real time data back to the business.
- Removal of duplication and easy access to jobs (subject to integration with Works Management / SAP/ Oracle). Search for jobs on SmartValve by job number, follow operations workflow. Saves time for technicians, embeds best practice, provides real time data*
- Advanced planning using GIS data to plan and repair mains* (subject to GIS integration)
- Undertake multiple tasks within one workflow* such as flushing. Start and pause operations multiple times, take pressure readings, turbidity readings etc all in a single planned workflow.

Items marked with an * are only available in the latest version of SmartValve due for release Q4 2022.
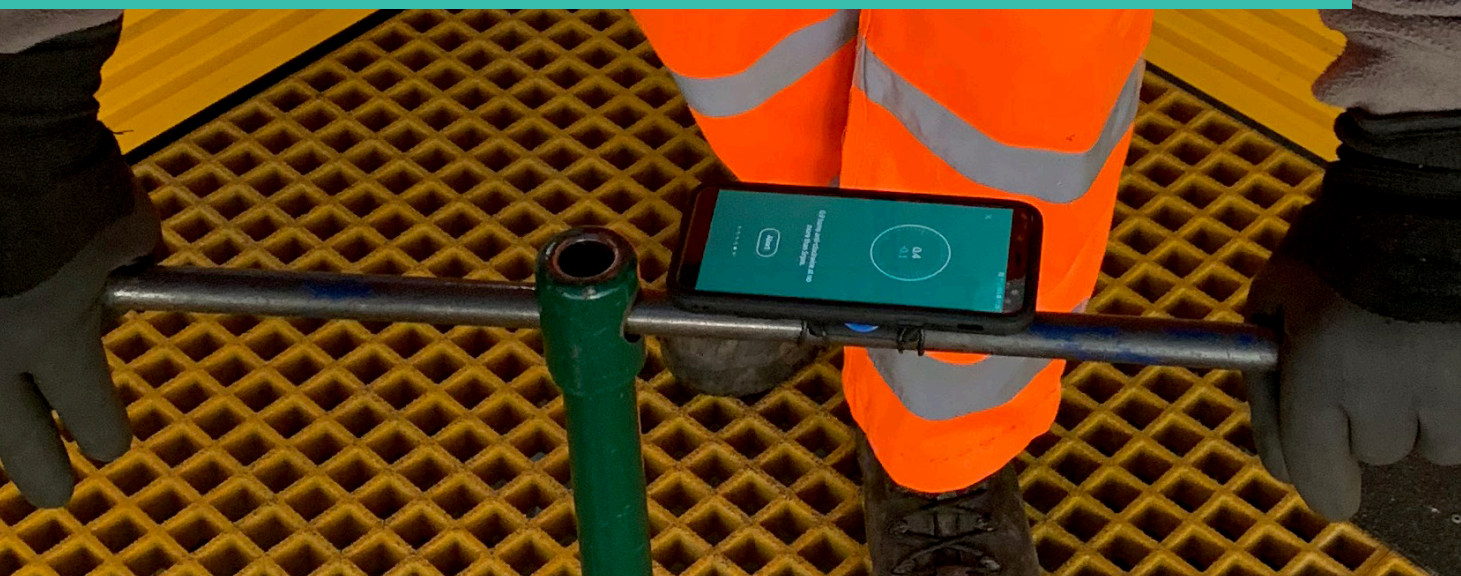
SmartValve™

If you would like more information about SmartValve or to book a demo, please email andrew@smartvalve.co.uk or call Andrew Talkes, Director on 07961 507279.

smartvalve.co.uk