



Water Quality Engineering

Asset management tailored to your needs.



Panton McLeod are proud of the relationships built over the past 20 years, dedication to quality and customer service has led to client recognition.

Below are some of the testimonials & awards recently received.



The support given by the Panton McLeod team has been first class, their quick response and attention to detail have been great during the commissioning of the new WTW.

Richard Price

Project Manager, Costain.

Panton McLeod have been a trusted supplier for over 15 years, their knowledge of our asset base and assistance in overcoming shared challenges is key to our business.

Jonathon Wroe

Severn Trent.

Working with an innovative supplier like Panton McLeod is really helpful, together we were able to identify a specific water quality challenge and then collaborate on the solution.

Eddie Wrigley

Innovation Facilitator, Northumbrian Water.

Panton McLeod provide a first class service, whether that be on a planned or indeed a reactive basis and are an integral part of the drive to improve our water quality performance.

Harry Cook

Scottish Water.



Proud members of
**Institute
of Water**

We reduce our clients operational and maintenance costs while improving water quality

Clean treated water storage assets reduce the loss of chlorine residual and minimise disinfection by-products such as THMs.

Underwater HD surveys reduce maintenance costs by improving planning before systems are taken offline.

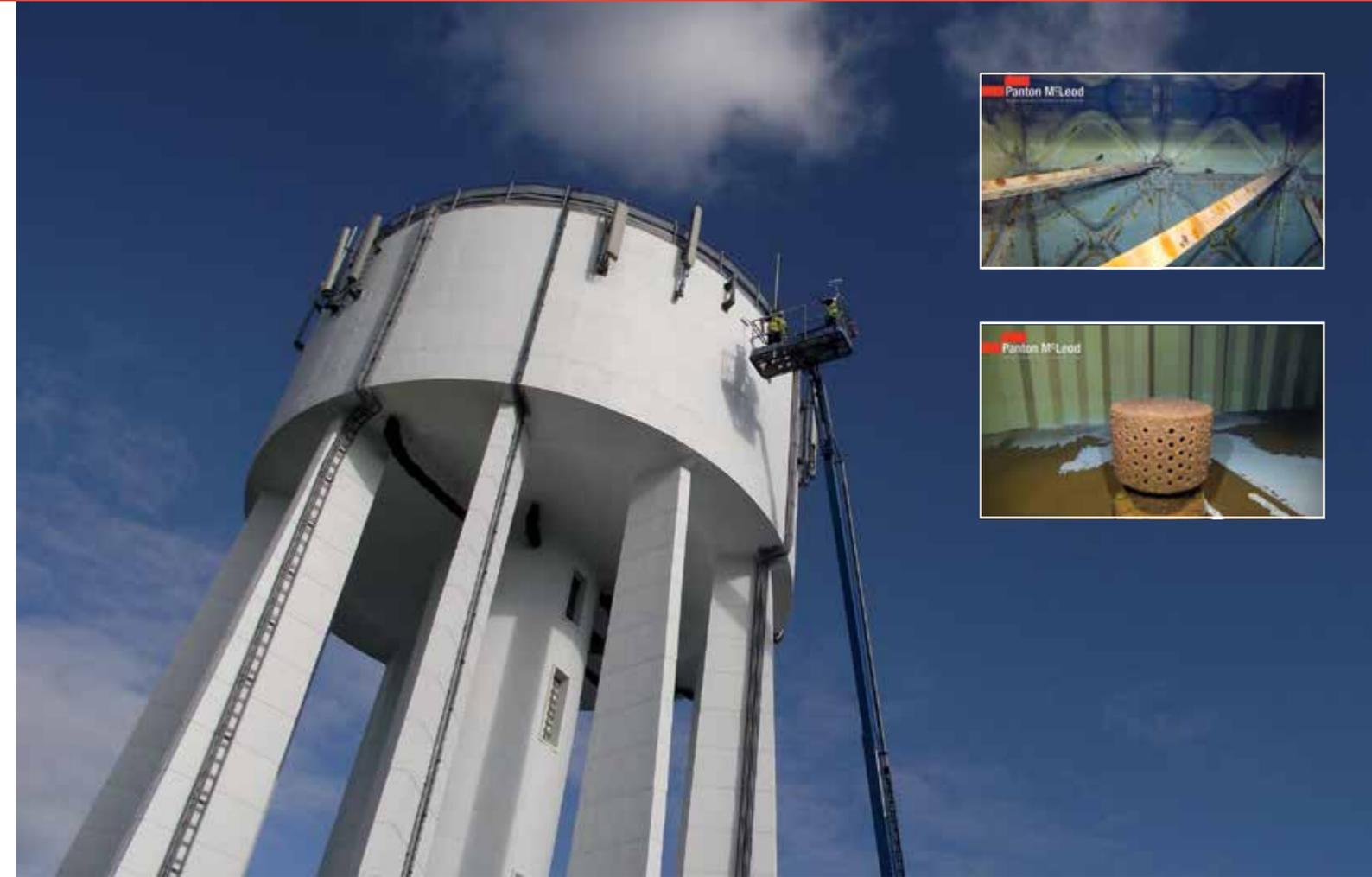
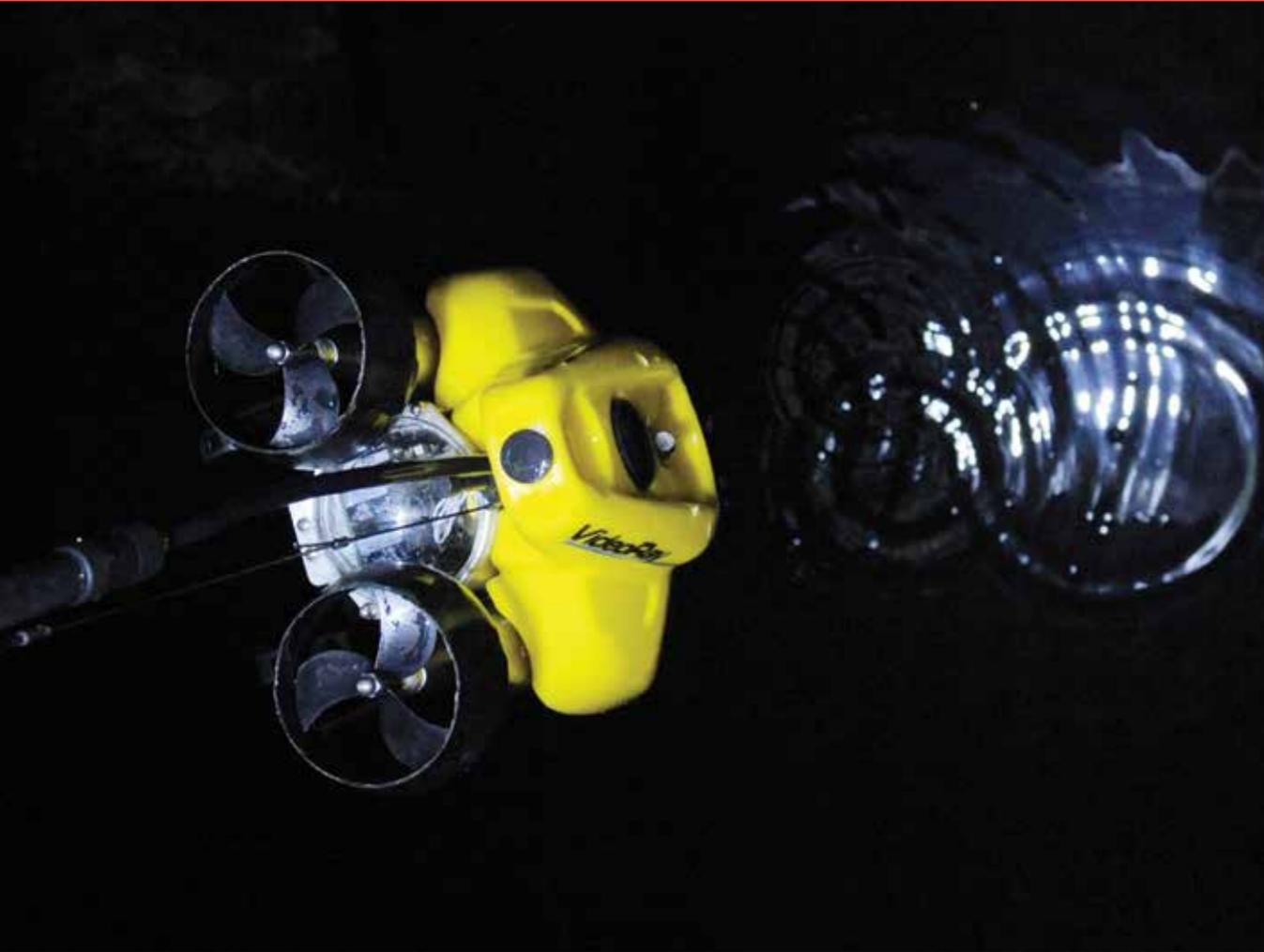
Now recognised as the market leaders in specialist Water Quality Engineering, and with over 20 years experience, Panton McLeod are the ideal long term supply chain partner.

With a number of regional bases, services are supplied to any location within the UK, Ireland or beyond. Where reactive or emergency works are required 24/7 response and advice is available via the main switchboard number.

Holding accreditation by Achilles / UVDB, ISO9001 and active members of key industry

organisations including Institute of Water, Pipeline Industry Guild and Future Water Association, Panton McLeod are known as innovators within the global water market.





The Panton McLeod management team are available to support clients whether at strategic planning stages, by promoting best practise or through collaborative innovation projects.

Panton McLeod can provide embedded operational & support staff to assist with

programme management, service delivery or temporary cover.

Panton McLeod are able to respond via the manned 24/7 switchboard number. Support can range from initial advice over the phone to fast response "feet" on the ground.

Responding to some of the highest profile situations over the past 20 years, and armed with their propriety Reg 31 approved PM88 de-contamination cleaner they can help resolve an emergency situation in the shortest time allowing assets to be returned to service safely.

Pressure has never been higher on the water industry to improve water quality while also reducing overall cost. Key to this challenge is the ability to accurately prioritise investment. Panton McLeod can assist by providing standardised asset reports grading condition. All data is captured electronically and held centrally for later assessment.

Additionally with the combined ability to inspect assets both in an isolated state (confined space entry works) or when fully operational (robotic inspection) Panton McLeod are able to complete a full assessment of the asset base irrespective of operational or time constraints associated with isolation.

Where major refurbishment is expected such inspections can also be used to provide certainty of scope prior to commencement. This allows supply chain partners to provide a more accurate target cost and also improved programme planning, minimising the time the asset is out of supply.



Panton McLeod are a key supplier to many of the largest water providers, through the supply of their DWI Reg 31 (Reg 27-Scotland/ NSF-U.S.A.) approved PM55 and PM88 cleaning products for self use by the client, or through their full supply and application service.

Cleaning & Disinfection

Panton McLeod clean and disinfect hundreds of water retaining structures each year including tanks, towers and reservoirs of all sizes and design.

Cleaning can be completed using a variety of techniques to match the need of the asset including:

PM55 advanced cleaning

Low pressure removal of Iron, Manganese & Biofouling from the internal surfaces of assets without the risk of substrate damage.

Provides a clean tank that offers predictable chlorine demand.

Also lab proven to kill and disinfect where Cryptosporidium may be present.

PM88 "oil buster" decontamination

All of the benefits of PM55 and in addition can be used where bacteriological or hydrocarbon contamination is present.

Proven during many of the UK's highest profile emergency situations.

Standard Wash-down & Spray Chlorination

Cleaning without the risk of substrate damage associated with high pressure methods.

High Pressure Cleaning & Spray Chlorination

Where required teams are trained to conduct high pressure cleaning or surface preparation.

Pipeline Flushing

As part of a co-ordinated network maintenance programme Panton McLeod are able to offer fully trained and equipped teams to carry out routine flushing within DMA zones.

Boreholes & Wells

Using skills and experience shared with our key partners in the USA Panton McLeod are able to provide disinfection and yield recovery services to boreholes and wells.

The PM cleaning products are able to remove Iron & Manganese build up from within the borehole pack chemically without any damage to the fabric of the asset.

Mixing, Aeration & Pipework Modification

Panton McLeod are able to assess the performance of your asset using our Dead Spot Sampling™ techniques and where THMs, thermal stratification or dead spots are identified a variety of solutions are available to ensure the asset performs at its optimal level.

Small value reactive repairs to return assets to service.

Where inspection or cleaning works identify defects in the asset that pose an immediate water quality risk Panton McLeod teams are able to scope and deliver small scale repair works ensuring the asset is returned to

service as quickly as possible. Typical projects include :

- Ladder Replacement
- Joint Repairs and Overbanding
- Ball valve replacement / servicing
- Patch Repairs
- Protective Coatings
- Roof Drainage Works

Managed drain-down

Where required Panton McLeod can provide a full managed drain-down process, this can include isolation, drain-down and management of the outflows including onsite treatment of the waste waters as required.

Panton McLeod provide an efficient commissioning process, creating a single interface between specialist and principal contractor, whether the largest new WTW scheme or a small rural supply, their reputation for excellence in Water Quality and hygienic working practises allows for the removal of duplicated supervision.

Their commissioning services include :

Consultancy & Advice – Engineers are often asked to provide advice at the detailed design stage ensuring that pipework can be installed with safer and swifter commissioning in mind.

Pipeline Flushing and Swabbing – Removing any residual construction debris and entrapped air.

Pressure Testing – Through the use of GPS tracked data loggers, offsite 3rd party verification and bespoke equipment pressure testing can be completed with full traceable assurance for the end client.

Pipeline Cleaning & Disinfection – Employing a variety of methods and products to best suit the asset and its surroundings including the removal of contaminants such as cryptosporidium and hydrocarbons.



Flood Testing and Asset Condition Grading – During commissioning Panton McLeod are often asked to provide an independent assessment of the asset condition to the shared end client.

Reservoir Cleaning & Disinfection – This can include PM55 & PM88 chemical treatment, low pressure cleaning to protect the asset substrate or high pressure cleaning where required.

Reactive Snagging or Repair Works – Panton McLeod teams are multi-disciplined and are often able to carry out reactive waterproofing, protective coating or joint works to ensure “into supply” dates are met.

Automated De-chlorination – During system resilience tests, Panton McLeod can

provide manned or automated de-chlorination systems allowing the treated water to be returned to a local water course of head of the works more easily.



Onsite Waste Treatment – Where Panton McLeod operations produce waste waters a full range of treatment options to ensure compliance with EA / SEPA discharge consents are available.

Cost effective, sustainable and portable solutions remove the need for liquid waste to be removed from site.

Services include :

Controlled & Monitored De-chlorination

Removal of free chlorine using a controlled process, waste flows are dosed accurately

ensuring no over-dosing, records are kept throughout the operation and can be kept for later review.

Flow Control

Flow rate or total flow monitoring equipment can be used inline to ensure discharges do not have a negative impact on any receiving waters.

Settlement

Multistage settlement can be employed to ensure compliance with EA / SEPA guidance.

Pressurised Filtration

Using pressurised filtration particle size in discharges can be reduced to 25 or 10 micron.

pH Correction

Correction of pH can also be included if required by local conditions.

Suspended Solids

Measurement of suspended solids can be achieved inline or within an open channel.



With a successful track record of over 12 years, robotics are now recognised by drinking water operators and regulators as a useful tool for many types of assets and tasks, and not just those that are difficult to isolate.

Removing the need for confined space entry they provide a safe method of completing both inspections and cleans, some of which were previously impossible.

Inspection

Using HD cameras assets can be inspected while in operation, while fully loaded any stress related defects can be seen in their true state.

The removal of often lengthy and costly isolation planning means that large numbers of assets can be inspected within a short period allowing investment prioritisation ahead of a proactive funding period.

Where assets are suspected of behaving unusually or where a failure is suspected then

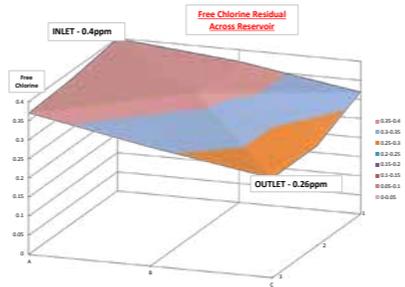
the ROV can quickly investigate without the delay associated with drain-down methods.

ROVs can be used to trace expected leakage route, DWI approved tracers can be injected at the point of suspected leakage while the asset is full and under full loading.

Dead Spot Sampling™

Sample points within assets are normally limited to inlet or outlet pipework, to enable asset owners to gain visibility of the performance within the asset Pantan McLeod have developed Dead Spot Sampling™. The system effectively creates infinite sample points, visibility of asset performance can be crucial when combatting poor mixing or thermal stratification.

The system provides the client with immediate temperature and chlorine values, thereafter samples collected can be analysed for bacteriological, disinfection by-products, GCMS analysis or flow cytometry.



Cleaning

Responding to the needs of the industry Pantan McLeod pioneered the use of Robotic cleaning technology within the UK potable water market over the past 12 years.

With a fleet of Robotic reservoir cleaners Pantan McLeod are able to clean reservoirs previously inaccessible to maintenance activities while they remain "online" and "live into supply".

These services have allowed clients to clean these problem reservoirs and therefore protect stored Water Quality across their entire asset base eliminating the risk of interruption to supply associated with reducing available storage.



Intrusive Works

To mitigate any affect on water quality during projects the inspection ROV can be employed to provide live visual information to live intrusive works..

Previous projects include the installation of new pipework through reservoir walls and the installation of new hatch covers by live cutting of the roof slab.

Raw, Industrial & Process Water Robotics

Pantan McLeod have now developed their robotic services for use in markets outside of final stage potable water. Dedicated equipment ensures there is no risk of cross contamination.

The ability to inspect and clean assets on production streams such as early stage water treatment or chemical production sites can remove the need for downtime and prevent costly outages.

All of the robotic services can now be offered to raw, mid treatment process or non-municipal industrial water.

Some of the markets currently being serviced include:

- Raw water storage and treatment assets.
- Cooling tower sumps.
- Canal basins.
- De-min or process water tanks.



Find Out More / Contact Us

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www.pantonmcleod.co.uk

Head Office

Panton McLeod Limited

Amanzi House

Unit 2 Tweedbank Industrial Estate

Galashiels

TD1 3RS

Panton McLeod offer national coverage from regional offices located across the UK.

If you require any further information or assistance including **24/7** Emergency Response please contact our head office in the first instance.

T - 01896 663 330

F – 01896 759 345

E – info@pantonmcleod.co.uk