

Water Monitoring System Benefits

REDUCE EXPOSURE TO RISK

Relying entirely on taking manual measurements of your organisation's water assets exposes you to risk in the timeframe between measurements. Even when a measurement has been taken which is determined to be within a safe range, changes in ambient conditions immediately following the measurement can affect temperatures to a point where bacterial build up takes place. The Neptune system identifies high risk conditions and alerts you to them as they occur.

This will limit risk of infection as Legionella can occur in a very short time frame.

MANAGE COMPLIANCE

Every organisation is responsible for ensuring exposure to bacterial risk is properly assessed and controlled. Neptune helps your organisation meet this obligation by perpetually monitoring temperatures across your water assets.

INCREASE EFFICIENCY

Remote monitoring allows site visits to be dramatically decreased, creating significant efficiencies across your organisation including reducing time lost travelling to site, reducing carbon emissions and fuel costs.

REDUCE ERRORS

Manually recording water temperatures is a process which is prone to keying errors by its very nature. Automatically collecting sensor data reduces the chance of these errors which inevitably occur with any manual entry process.

REDUCE SITE VISITS

Automated recording frees your staff from the monotonous task of taking manual water readings, allowing them to be redeployed to carry out more interesting and productive work.

INFORMS WATER SYSTEM DESIGN

Collation of long-term data gives detailed insight into the water system performance and allows localised water system design flaws to be identified, allowing improvements to be made.

SPECIFICATIONS

ENVIRONMENTAL

Operating temperature -10 to +60 C
Ingress protection IP65

PHYSICAL

Size Rugged design
122mm x 75mm x 36mm
Weight 160g
Colour Grey
Material ABS plastic

POWER

Type Primary cell battery, serviced by user
Nominal 5 years operation

COMMS

Internal antenna
LPWAN (Low Power Wide Area Network)
LoRa 868MHz EU
Sigfox 868MHz EU

SENSORS

Sensor Types 2, 3 or 4 Sensor cables
Range Thermistor
-10 to +100 C
Accuracy 1% +/- 0.5 degrees C
Pipe Clips various to suit pipe diameter
Cable standard 1m length terminated with M8 connector

CERTIFICATION

UKCA

NERO

Water Safety Monitoring System

Alpha Micro's NERO remote water safety monitor, enables businesses to meet all the HSE Compliance requirements needed to ensure a safe and healthy water supply.

The risk of Legionella is a real threat, and over the past several decades, outbreaks of Legionnaires' disease have been traced to building water systems including hot water heaters, showers, spas, humidifiers, ventilation and cooling systems, as well as other structures and locations.

With the Nero & Neptune water safety solution, you can reduce the incidence of Legionella infection and ensure that all water safety requirements are met by monitoring the real-time and genuine status of your water.

Once installed, daily alerts from the Neptune portal will keep you informed and on top of any potentially hazardous developments. This will allow management of your water installations to be more dynamically monitored, therefore keeping maintenance to a minimum with reduced site visits.

Previously:

- 1000'S of visual inspections for each site throughout the year
- Time spent locating and measuring individual pipes, taps and tanks
- Recording all results on paper
- Entering relevant data into spreadsheets
- Submit reports at least once per month



Real-time, genuine readings.

Now with NERO you can have:



REAL TIME MONITORING
of temperature and flow events



HISTORIC DATA
Point in Time Analysis



VISIBILITY FOR ALL STAKEHOLDERS



INCREASE EFFICIENCY
Fewer site visits,
Lower carbon emissions
- lower costs



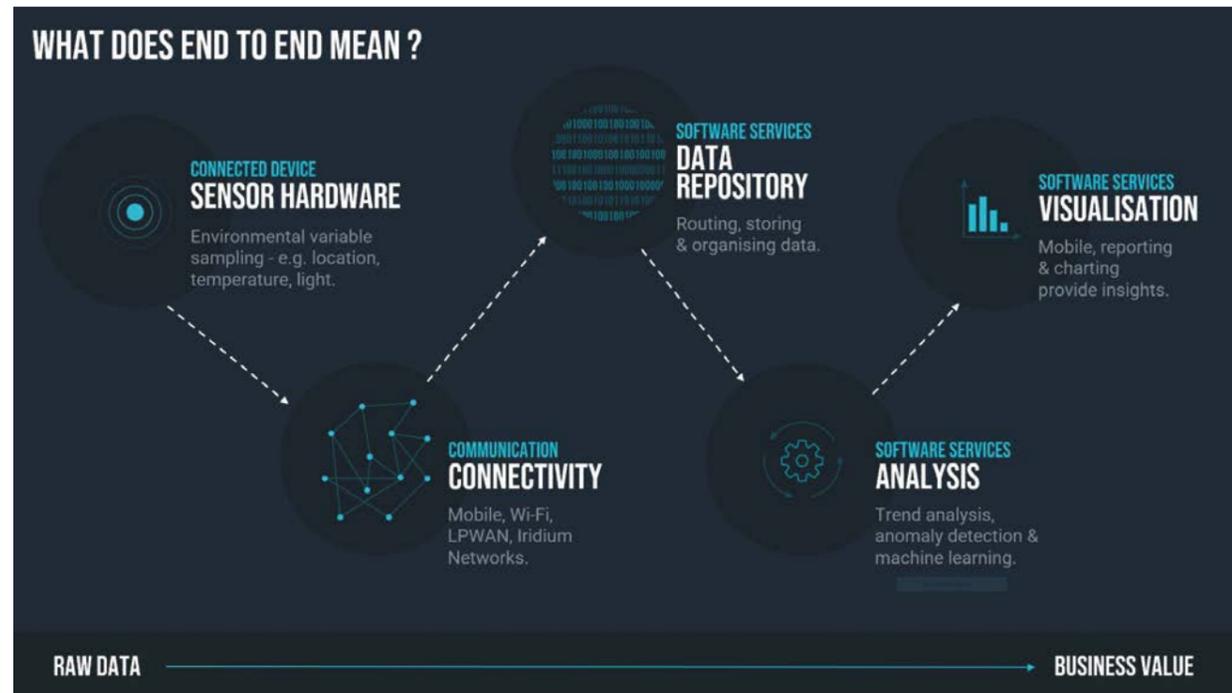
IDENTIFICATION OF MAINTENANCE TASKS
and manage defect liabilities



MANAGE HSE COMPLIANCE
Compliant to L8 Standards

NERO + Neptune

Working with our Software partner M2M Cloud, we can offer an end to end solution, or you can simply, take the data and import into your existing back office solution.



Neptune – Water Safety

Developed under guidance from leading water safety experts with in-depth domain knowledge, Neptune is a best-in-class, enterprise-grade water monitoring solution.

The system, which is currently being utilised across both public and private sector organisations, calculates risk based on current and historic sensor measurements in order to facilitate real time risk analysis and deskill the water system management process.

The identification of various risk indicators allows the system to detect conditions which are prone to encouraging bacterial growth such as Legionella, thereby facilitating a more proactive approach to water risk management.

System Features

ORGANISATIONAL HIERARCHY

Following installation of the Nero water safety monitoring sensor on your water system you can start configuring the powerful and flexible multilevel user hierarchy. Group hierarchies of unlimited depth can be constructed allowing Neptune system users to be mapped onto your organisation's building management structure. This allows every type of organisation from the simplest to the most complex to be represented. Nero water monitoring devices can then be attached to the hierarchy at the appropriate node. This facility allows fine grain control of system scope, meaning that users have visibility of the sensors they're responsible for monitoring, and no others. A breadcrumb trail facilitates easy navigation up the levels of the hierarchy.

ALERT NOTIFICATION

On discovery of suboptimal conditions such as those prone to encouraging bacterial growth, the system notifies users in order that they can take action to rectify the issue. Once rectifying action has been carried out, optional notes can be made against the alert to record the action made. If notes are added, then these form part of a comprehensive audit trail of the water asset. Sophisticated alert suppression logic allows fine grain control of notification regeneration in order to mitigate alert fatigue.

RISK SCORE

Following a bench marking period, Neptune uses proprietary machine learning algorithms to assign a risk score to the water asset. This score encapsulates the exposure to risk such as bacterial growth as captured by the Neptune system. By highlighting issues with your most at-risk water assets this allows organisations to focus only on the infrastructure which requires action rather than be distracted with those water assets operating within healthy ranges. This facilitates the deskillling of water system management to persons of responsibility onsite and removes the reliance upon experts with domain specific knowledge.

LOW MAINTENANCE DEVICES

Nero water monitoring devices are built to our own requirements and produced by Alpha Micro Components. The device come in two variants depending upon application; two wire and four wire. The devices use LoRaWAN technology (Sigfox version also available) resulting in an average battery life of around 5 years. The device samples every 10 seconds and transmits every 15 minutes with summary data including highest, lowest, average and flow events. Devices can be fitted to pipework or installed behind panelling.

MOBILE FRIENDLY

Neptune has been developed with a mobile first approach meaning that all functionality is available on mobile, tablet and desktop form factor devices. Presentation is therefore optimised for the form factor of the device, allowing engineers to make full use of the software wherever they are.

CURRENT READING & FULL HISTORY CHART

At any point the user can view the current reading for all 2 or 4 probes associated with the asset. In addition, history charts present up to 2 weeks of data for an asset.

FULL HISTORY DOWNLOAD

Both events and temperature levels data can be downloaded in CSV format. All historic data for every asset on the system is stored indefinitely. Organisations have an obligation to keep this data for compliance reasons.

API INTEGRATION

A comprehensive API allows data captured within Neptune to be integrated with third party FM (Facilities Management) and BMS (Building Management Systems), allowing for a Dashboard approach if required.

BUILDING FLOOR SCHEMATIC VIEW

A floor plan schematic of your building can be uploaded and the position of your water assets marked on the plan. This is critical in installations where dozens of devices may be installed in order to identify the precise location of each attached water asset.

CONSULTANCY & INSTALLATION SERVICE

Services are available to carry out a full site survey in order to advise on the best placement of devices and ensure they are within range of the LoRaWAN network. In addition, advice is available on set up of users as well as device configuration and notification setting to optimise system performance.

FROST WATCH

The system can detect when pipe temperatures fall below a specific level and send an alert to the maintenance team or individual so corrective action can be taken to avoid burst pipes.