

Volta's data centre protected with early warning leak detection system



The award-winning, carrier-neutral Volta facility has a Tier III data centre infrastructure with a footprint of 91,000 sq ft (8454 sqm) that provides organisations and companies with a highly flexible, secure and scalable IT and hosting environment. Safety, security and one hundred percent reliability is paramount for any single part of and for the data centre as a whole. In accordance to this John Speers, Facilities Manager at Volta, and his team were exploring different solutions to find the most efficient, reliable and cost-effective early warning detection system that proactively protects against water leaks at the earliest stage.

Comprehensive leak detection

It is a fact that water leaks have always been one of the primary causes of unscheduled downtime in data centres along with human error, interrupted power supply and hardware disruptions. When present water leaks can



"The Seahawk leak detection solution would at once trigger an acoustic or optical alarm and send warnings to our data centre specialists, who could easily pinpoint and remedy the potential issue long before it would become critical," said John Speers, Facilities Manager at Volta.

The SeaHawk leak detection solutions allow to remotely monitor any spot, zone or areas in the data centre that are susceptible to leaks. This early warning system can be installed using spot detectors, sensing cables or a combination of both sensor types. If the detector probes and sensing cables come into contact with water, acids, bases or other hazardous liquids, the zone or distance-read controller, depending on which version is installed, pinpoints the exact location of the leaks, triggers an acoustic or optical alarm and generates warnings that are sent to the data centre personnel by SNMP or email. Depending on the model, the controllers have 4 20mA electricity or dry contact interfaces and can communicate via Ethernet, N2, Modbus or BACnet. The latter makes it possible to integrate the SeaHawk leak monitoring solution into an overarching data centre infrastructure management (DCIM) or building management system (BMS) application.

cause serious structural damage in a data centre and can prove costly to repair. Therefore, taking precautions by implementing an early warning leak detection system is an important mission critical decision. The Volta facilities management team clearly specified their requirements for an ideal solution to remotely monitor areas that are susceptible to leaks: Since chilled water technology is used in the complete Volta data centre, it is important to have very comprehensive leak detection on each floor. Furthermore, the water supply and return lines, storage tanks and raised floors should be monitored permanently. Before even the smallest leak could become acute, the Volta data centre experts should preventatively receive alerts and be able to detect the potential leak precisely at any location allowing them to take countermeasures.

380m sensing cables on each floor

With these requirements in mind John Speers and his colleagues designed together with their technology partner Daxten a customised leak detection solution that is based on standard components of the RLE Seahawk product line. The system consists of distance-read controllers and approximately 380m sensing cabling on each of the active data hall floors at the Volta data centre. The cables, built with resistance in the sensing wires, identify the change in resistance when minimal amounts of fluid bridge the



Sensing cables around the perimeter of a room or in a serpentine pattern in the raised floor reliably detect, whenever a contact with water happens.



The distance-read controllers identify the location, where fluid is in contact with the sensing cables or spot detectors.



Spot detectors are used to detect conductive fluids in confined areas such as in drip pans or floor drains.



With one input and three outputs, the X-connector allows sensing-cables to be branched in three separate directions.

two sensing wires. The controllers with integrated graphical mapping enables the facility specialists to speedily detect the exact location should water come into contact with any part of the sensing cable.

“Now we are superbly prepared and our assets as well as the equipment of our customers are perfectly protected, if a leak situation was to ever arise,” stated John Speers. “The Seahawk leak detection solution would at once trigger an acoustic or optical alarm and send warnings to our data centre specialists, who could easily pinpoint and remedy the potential issue long before it would become critical.”

Automated countermeasures

Additional safety and protection is added by the support of the existing building management system (BMS): The leak detection system communicates via Ethernet, N2, Modbus or BACnet, so that predefined preventative or emergency measures – for example the shutdown of pipe valves – can be initiated automatically by the BMS if needed.

Cost-effective and easily expandable

In economic terms, it is worth mentioning that the facilities experts at Volta chose a leak detection and monitoring solution that represents a long term reliable system with very low operational costs. Its modular design offers cost-effective and on-demand extension capabilities and makes it future-proof for the ongoing growth of the Volta data centre infrastructure.



About Volta

Volta is an award-winning, carrier-neutral data centre in Central London. Located in Great Sutton Street and built to Tier III standards, Volta is a 91,000 sq ft data centre. Designed to address the ever-increasing infrastructure demands of businesses, Volta provides organisations and companies – including cloud and managed service providers, media and financial services – with a highly flexible, secure and scalable IT and hosting environment. Volta offers unparalleled resilience in central London, benefiting from two separate 33kV supplies, with ultra-fast connectivity linking customers to a variety of world-class carriers, cloud providers, networks and major Internet exchanges.

For more information, please see www.voltadatacentres.com



Company profile Daxten

Daxten was founded in 1994 as Dakota Computer Solutions. As a manufacturer and distributor of innovative solutions, Daxten is at the forefront of promoting energy efficiency within the data centre. The company offers cutting edge cooling optimisation (CoolControl), power distribution, monitoring and data centre infrastructure solutions which improve the resource efficiency and reliability of the data centre. Daxten is headquartered in London and Berlin.

For further information, please visit www.daxten.com

Daxten Ltd
5 Manhattan Business Park
Westgate
London W5 1UP

Tel: + 44 (0)20 8991 6200
Fax: + 44 (0)20 8991 6299
info.uk@daxten.com
www.daxten.com/uk/