Omnifacts

Omnifacts #24

In this edition...

We share technical article abstracts on cathodic protection system design, reliable signal delivery for safety systems in mining and remote temperature monitoring in nuclear environments.

And feature a guest article from Lawrence Katz, director at Omnisystems Engineering Consultants, who discusses how Omniflex helped improve energy management capabilities in modern building developments using remote monitoring technology.

Meet the team

Many of you may have spoken to him over the phone or on emails, but now you can put a face to the name. Meet Darren Barratt, our UK-based sales manager who works out of our Stockport office.

Darren specialises in alarm systems, sequence of events monitoring, radiological protection instrumentation and remote monitoring technology. If you have any questions about how Omniflex can help you and your business

connect with Darren on LinkedIn or email him at darrenb@omniflex.com

Omniflex turns 60

In 1965, in Durban, South Africa, Conlog was founded by two young entrepreneurs looking to take advantage of the newly-invented transistor to make electronic modules for industrial automation.

Later, in 1997, the company changed its name to Omniflex, but its passion for problem solving and knack of developing innovative products lived on. Now, 60 years after our founding, we have offices in South Africa, the UK and Australia and are looking forward to another 60 years of helping businesses globally save millions using remote monitoring technology. Keep an eye out for the next edition of Omnifacts, which will be our 60th anniversary special edition.

Project complete!

To aid compliance verification in oil and gas, remote monitoring specialist Omniflex has partnered with calibration experts Kalibra OGC Services to provide the Maxiflex flow computer systems, including pulse integrity modules used for calibrating master metering systems.

These systems were integrated into two test rigs designed and manufactured in Durban to be used at various facilities in Angola and Nigeria. Warrick Riley, technical director at Kalibra commented, *"We were impressed with the accuracy of the Maxiflex system during our in-house testing and verification of our portable test rigs..."*

Read the full story on our website >>

Designing buildings with efficiency in mind

With rising costs and ever-changing regulatory demands, energy efficiency has become increasingly important across all industries. Here, Lawrence Katz, director at Omnisystems Engineering Consultants, outlines the role remote monitoring technology can aid energy management in any modern building development, and how working with remote monitoring specialist Omniflex helped.

An increased focus on sustainability in building design, combined with environmental concerns and challenges, is changing the demands placed on building professionals. As a result, designers, engineers and developers may need to incorporate energy management solutions to help streamline the design and operation of industrial facilities as well as to comply with local energy efficiency codes.

Modern, multi-use buildings often have diverse energy demands. In commercial buildings in Australia, for example, stringent energy codes cover everything from energy usage, water usage and associated building operational metrics. This requires tailored energy strategy that will account for diverse uses and peak load considerations, minimisation of energy infrastructure provisions as costs and energy efficiency factors are balanced across the lifecycle of a building. To help address this, demand side energy monitoring (DSM) is required.

This helps to balance energy supply and demand to encourage consumers to modify electricity use and achieve NABERS targets, which can be done with incentives including price signals and energy consumption displays in common areas. In addition, managing variability in these energy loads can be done through granular DSM data and diversity factor analysis – particularly in residential buildings.

Improving commissioning practices will help to minimise commissioning costs, in turn making the process more efficient. A reliable commissioning process can outweigh product cost given the high engineering labour costs associated with it. Installation and commissioning of energy monitoring systems is required to comply strictly with the building services design criteria. An efficient commissioning system can ensure there are energy savings from the outset – making the associated system costs insignificant.

Striking a balance

Managing costs and meeting energy demand can be a balancing act. This is where Omnisystems Engineering Consultant can help alongside our partners at Omniflex.

Omniflex's Omnergy energy management technology has helped track and control energy consumption in large buildings, enabling efficient building management. This has included a cable manufacturer saving AUS$1.5 million in power supply upgrades by allowing energy use to be managed remotely via the Omnergy website.

Omniflex's cloud based Omnergy energy management systems have ensured seamless energy management and regulatory compliance during commissioning, while AC load management in the residential and commercial buildings has avoided the need for substations and major infrastructure upgrades by applying Demand Side Management.

To find out the benefits of adopting remote monitoring technology, visit the remote monitoring solutions page on our website.

Novel closed-loop CP technology for corrosion control

New project announcements

We have worked with researchers at Deakin University to develop corrosion monitoring electronics for a novel closed-loop cathodic protection (CP) system for localised corrosion control in challenging industrial environments. These include floating wind turbines and underground or subsea oil and gas pipelines. Prototype field tests demonstrated the technology's ability to reduce corrosion by around 90 per cent, which can more than double operational lifetimes of these structures when exposed to harsh environments. With prototype field tests now completed, the project is entering the commercialisation phase and is now available to the wider CP market.

The closed-loop probe is the outcome of several years of research by the team at Deakin University supported by the Energy Pipelines CRC, Future Fuels CRC, the Australian Economic Accelerator project, Omniflex and specialist pipeline operators.

The technology facilitates better-than-ever localised corrosion control in complex and varying environmental conditions. The potential applications include protecting offshore structures, such as wind turbines and oil and gas platforms, and underground infrastructure, like steel pipelines and storage tanks.

See our technical artical abstracts below

Omniflex operates across numerous sectors including: radiological monitoring; remote monitoring and control for cathodic protection and industrial tanks; alarm and event management; and more. Read the abstracts below for some of the technical articles and follow the links to find the full version. This month, David Celine discusses how CP system design can support ESG reporting, Ian Loudon shares advice on overcoming signal delivery challenges in mining applications and Gary Bradshaw discusses remote monitoring technology applications in the nuclear sector.

Cathodic protection

How CP system design can support ESG commitments

Major infrastructure like wharves, bridges, pipelines and tanks are under constant threat of corrosion, which, should it take hold, will render them unsafe. Traditionally, phase control cathodic protection (CP) systems were used to safeguard infrastructure, but these come with numerous challenges such as the expense of copper cabling and the associated power loss. These become bigger problems for asset owners who must now contend with environmental, social and governance (ESG) reporting. In one of our latest articles, David Celine explains how CP system design can actually support ESG commitments, while lowering costs and improving maintenance programmes. **Read it in full on our website.**

Telemetry

Boosting long-distance critical signal delivery in mining

In mining applications globally, conveyor belts of up to 20 km are used to transport ore from the excavation point to various locations, including processing and stockpiling sites. Damage to conveyors often cause cargo spillage and create major safety risks. To manage this, mining conveyors usually feature contacts that indicate problems like breakages, but these are often unreliable over the long distances involved. In a new article, Ian Loudon explains how these challenges can be overcome using bidirectional fibre optic modules. **Read it in full on our website.**

Temperature monitoring

Preventing nuclear events with remote monitoring

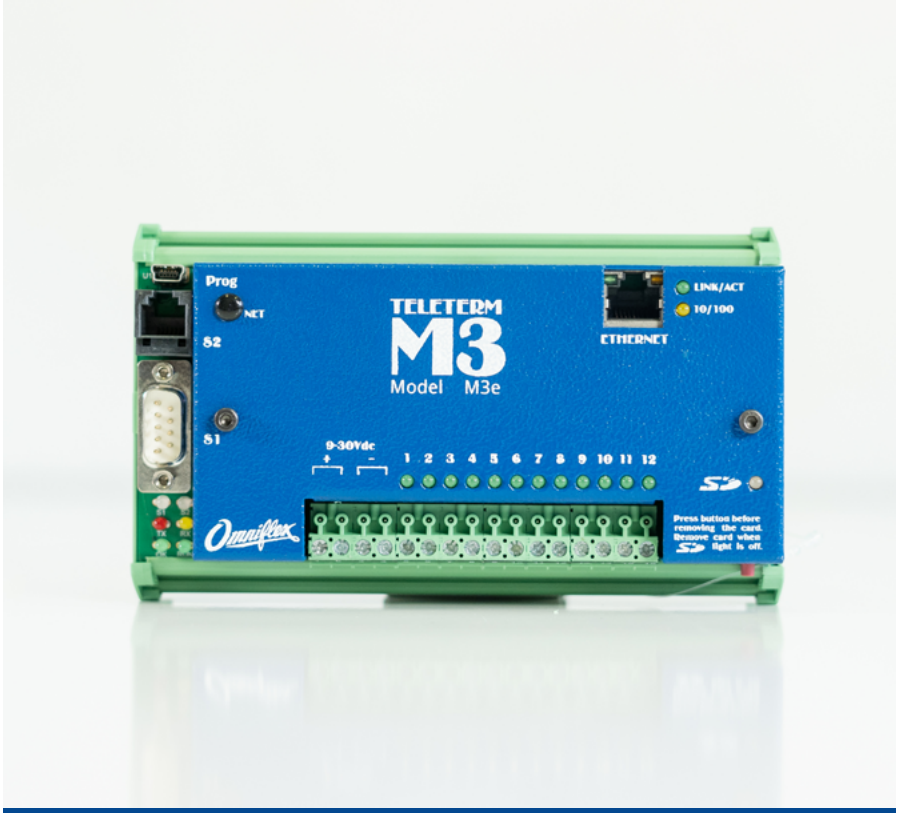
Monitoring temperature is crucial in the nuclear industry. If a reactor or fuel rod's temperature rises to a potentially dangerous level, it runs the risk of fires and other catastrophic events. Having unexpected high temperatures can cause environmental and health risks as well as unplanned downtime, preventing essential work being conducted, therefore knowing about a potentially dangerous situation arising before it takes hold is pivotal for both safety and business. In a new article, Gary Bradshaw highlights the important role remote monitoring plays in the nuclear sector. **Read the article in full.**

Previously in Omnifacts

In the last edition, we showcased our recent project with Scan RF where we implemented site-wide monitoring at the 17,000 hectare Kolomela iron-ore mine in South Africa.

We also shared abstracts of articles about the role of alarm annunciators in temperature monitoring; simplifying battery management for dual-voltage systems; and how sequence of events modules can cut unplanned downtime. We also spotlighted our FCX module, a bidirectional fibre optic switch contact repeater unit.

Product spotlight



Flexible remote terminal units for industry

The Teleterm remote terminal units (RTUs) provide an easy-to-use front-end interface to SCADA/HMI platforms via communications ports like ethernet or RS485 and are compatible with Omniflex's web based Data2Desktop remote monitoring platform. By combining all the standard features of a COTS product, the Teleterm range provides a trouble-free installation and setup in a matter of minutes.

Our Teleterm M3 module is a market-leading RTU, featuring an on-board RS232/485 port, designed to enable communications with a wide range of devices using most network options, including GSM, radio, ethernet, Modbus, 3G, satellite and Conet. Furthermore, it comes equipped with twelve digital or analogue configurable I/O, which enables full environmental monitoring covering parameters like temperature, pressure, humidity and water levels etc. It is also fitted with an onboard SD card for data logging, which is ideal for data auditing purposes, especially for post-event analysis.

To find out more, read the datasheet on our website.

Get in touch with us

www.omniflex.com

www.linkedin.com/omniflex

What to expect in edition #25 of Omnifacts

60 Years ANNIVERSARY SINCE 1965

We will be celebrating our 60th anniversary with a special edition of Omnifacts. This will include stories from across our history and a look at some of the key figures that helped us get to where we are today.

We will spotlight our founders in a special meet the team section and look back at how they got started in 1965.

We will share a timeline of some of our key milestones from across our history, including key product innovations and landmark appointments.