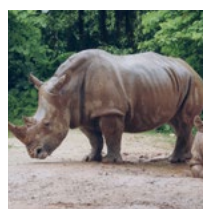


In this edition...



We reveal why upgrading safety-critical alarms might be simpler than it sounds, with a case study detailing how Omniflex helped Sasol replace 21,000 critical alarm points.



And the surprising role of wireless tank monitoring in protecting endangered rhinos in specially-designed, remote conservation habitats.



Introducing Stuart McIntosh, business development manager

The Omniflex team has gained Stuart McIntosh as a business development manager to help develop its structural monitoring and cathodic protection (CP) business offering in the UK, Europe, Middle East and the US. The need for flexible CP systems will only grow and Stuart is ready to help Omniflex provide these services.

Away from work, Stuart is a family man with two grown up sons and enjoys building, maintaining and riding motorcycles around the winding Merseyside roads. All of us at Omniflex welcome him warmly and wish him a rewarding career here.

Project complete!



Omniflex has recently completed a project for OneAIM to manufacture new ICAM Monitor back plate assemblies for the B33 MOX facility at Sellafield. The B33 Activity-in-Air Monitor Replacement Project involved replacing 34 obsolete monitors that had become challenging to maintain.

Meet the team



Ian McNeilage has been Omniflex's UK engineering manager since 2002. He was born and raised in Salisbury, Rhodesia, now Zimbabwe, and studied a four-year BSc in Electronic Engineering at the University of Natal, South Africa, not unlike our managing director David Celine.

Ian initially joined Omniflex's predecessor, Conlog, in 1990. During this time, he helped design the Maxiflex product range, today one of Omniflex's most popular. Away from work, Ian loves to fish, travel the world and to tend to the garden with his beloved wife. On rainy days, you'll find him watching the Springboks swat aside the English rugby team.

Upgrading safety-critical alarms is easier than you think



During construction of the Sasol chemical plant in South Africa in the 1970s, 21,000 critical alarm points were defined for monitoring by annunciators. However, after between 30-50 years of use, the plant needed to upgrade all 21,000 critical alarm points plantwide on a progressive basis. Sasol engaged Omniflex to provide the replacement systems.

Sasol is South Africa's largest fuel from coal processing plant and also one of its largest **downstream chemical manufacturers** and is, therefore, home to large quantities of hazardous materials that are manufactured daily. This means that it is vital that all plant processes are suitably monitored and critical alarm systems are in place, able to alert operators about any abnormal alarm events that occur.

When the plant was first constructed, it engaged Conlog, Omniflex's predecessor, to provide instrumentation for its 21,000 critical alarm points. The systems have performed admirably for decades, but are now in need of replacing after approximately 50 years of service at the plant.

"The larger systems are too costly and difficult to re-engineer, so it was vital that all field wiring remained the same on the new system," explained Sakkie Buys, engineer at Sasol Technologies. "Replacements

need to comply with the Fit, Form and Function philosophy to optimise savings.

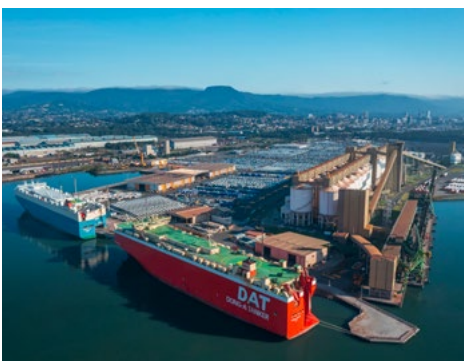
The systems that Omniflex provided for Sasol were comprised of products from across its Omni16 series of alarm annunciators, including its Omni16C 16-point alarm annunciator, Omni16R rack mounted annunciator with card slots for remote logic and OmniX remote LED displays, which provide 8 to 124 annunciator windows in a standalone panel-mount package.

"We replaced the existing rack of card mounts and inserted the Omni16R rack into the same space," explained Ian Loudon, international sales and marketing manager at Omniflex. "With 16 inputs per card, compared to the previous system that had 2 inputs per card, this meant the new system had a much higher I/O density and required less space and the new technology is 80 per cent more energy efficient using LED technology."

"It is a testament to Omniflex's ongoing alarm annunciator engineering that it was able to provide an upgrade path to all our critical alarms with minimal disruption to operations. This is something that is increasingly difficult to find these days," concluded Buys.

[Click here to read the full case study](#) to find out how Omniflex updated Sasol's 21,000 critical alarm points without any major plant infrastructure work.

New project announcements



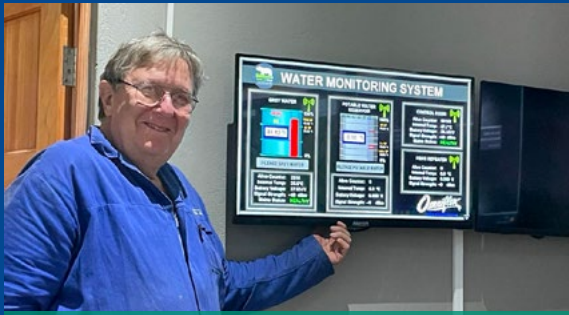
Protecting Australia's harbours from a silent threat

Omniflex has completed the addition of remote monitoring to the existing cathodic protection systems at five berths in Port Kembla, NSW, Australia.

The existing impressed current CP systems vary in age – some installed as far back as the 1980s – and the port owners, NSW Ports, enlisted Omniflex to install remote monitoring to these CP systems to enhance their surveillance and provide accurate energy monitoring. [Click here to read the full story](#) and David Celine's, CEO at Omniflex, explanation of the challenges presented.

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, Ian Loudon gives insight into the use of wireless tank monitoring in rhino conservation habitats and signal conditioning in the plant environment. In addition, Gary Bradshaw explains the advantages of distributed alarm annunciator systems.



Wireless

Water monitoring for rhino conservation

To rescue, rehabilitate and protect rhino populations, highly specialised conservation programs have been set up in some of the biggest national parks in Southern Africa. In fact, over 44 per cent of protected land in South Africa is dedicated to nature reserves, which all need to manage the continuous supply of clean, filtered water and process waste water to run efficiently. [Here, Ian Loudon explores how South African rhino sanctuaries are using wireless tank monitoring to keep conservation programs running.](#)



Safety and alarms

Increased flexibility for safety-critical alarm annunciators

Businesses in the nuclear, petrochemical and oil and gas sectors generally follow best practice guidelines like the EEMUA 191 standard when it comes to safety-critical alarm systems. However, as regulations increasingly require data acquisition and sequence of events capabilities for critical alarm systems, many plant managers are struggling to find a cost-effective way of keeping up. [Click here to read Gary Bradshaw's discussion on why installing a distributed alarm annunciator system might provide the solution to plant managers' problems.](#)



Instrumentation

Signal conditioning in the plant environment

Measurement and control of physical properties are the foundation of all critical industrial technologies. Automation for industry 4.0, process control, data acquisition and alarm processing all rely on the conversion of physical signals to a standardised, usable format, that engineered systems can reliably use to manage industrial processes. [Click here to read Ian Loudon's explanation of the challenges of industrial signal conditioning and its importance within safety engineering.](#)

Last time in Omnifacts

Last edition, the triumphant return of Omnifacts showcased our offering in several different sectors. We previewed our case study on Bulk Liquid Berth 1 (BLB1), a project in which Omniflex helped Infracorr and NSW Ports navigate the hazardous and awkward environment to remotely monitor cathodic protection systems at Port Botany, Sydney. We also shared technical articles on: selecting the right radio frequency for telemetry applications; low-cost satellite-based remote CP monitoring of pipelines; and the importance of understanding SIL ratings. We also introduced our CEO David Celine and the new addition of Alastair Allen, electrical engineer at Omniflex UK. Omnifacts is our chance to share with you, our customers and industry friends, both our technical expertise and the human side under the bonnet.

Product spotlight



Omniterm TXB – the Multitool of signal conditioning

Traditionally, separate dedicated signal conditioning units would be required for converting different types of signals into usable formats. The Omniterm TXB, however, is different.

Designed as a universal input transmitter, it uses DIP switches to set the input / output types and can be configured for a wide range of applications. Using the Omniset configuration software included also provides maximum instrument flexibility. Configuration can be done in minutes without the need for any special test equipment.

The Omniterm TXB uses the industry standard 1,500 V of isolation to ensure trouble-free measurement and has been certified for use in safety integrity level (SIL) one applications, as well as Emphasis-assessed for use in the UK nuclear industry. This product has been designed with high reliability

applications in mind. The output stage has built in overload indication to detect overloaded output circuits.

The Omniterm TXB provides extremely low life-cycle costs by reducing spares stock-holding requirements, and reducing specialist technical expertise required for field support, module replacement and field configuration. This holistic approach to instrumentation asset management ensures reliable performance and minimal down-time.

To see the full specification range, read the [Omniterm TXB Product Brief here](#) on the Omniflex website.

What to expect in edition #23 of Omnifacts



We'll introduce you to our future-minded R&D manager operating on the cutting edge of industrial instrumentation, cathodic protection and remote monitoring technology.



Learn about how we upgraded a series of obsolete MPAS90 alarms, alongside AMS Nuclear Engineering, to modernise EDF Hinkley Point's safety systems.



Read about the essential considerations to make about power availability when planning a wireless telemetry system and how to guarantee data transmission from remote areas.

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