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Global Switch

Client/Project Manager:

Global Switch

Site:

Singapore and Sydney

Finding the right fire protection systems to protect mission-critical equipment in a data centre environment is a big challenge for any IT professional. As modern server units employ complex technologies that have high power consumption and generate significant amounts of heat, the risk of a fire is a real threat to data centre operators such as Global Switch.

Global Switch operates seven international data centres across the world. In Asia Pacific, it services clients from strategically located facilities in Singapore (22,000m²) and Sydney (41,500m²). These facilities house servers and other data equipment for a large number of multinational clients who are based both locally and internationally.

For Global Switch, selecting the best fire protection services company is critical to protecting their assets. The type of fire protection solutions available at its facility is also a principal consideration for clients who count on Global Switch to safeguard their valuable electronic data and to keep their business operating efficiently.

Global Switch appointed Wormald to design and install a comprehensive solution that comprises a sophisticated fire alarm/detection, fire protection and fire suppression system in both data centres in Singapore and Sydney.

Tailored solutions

As the Global Switch facilities in Singapore and Sydney are both spread across seven storeys, each level is assigned a specific purpose

and further divided into suites according to client needs. Due to this unique set up, the fire protection requirements for each level vary widely. Understanding that the IT needs of Global Switch’s clients change regularly, Wormald developed customised solutions that were completely scalable, designed to minimise disruption and maximise business continuity.

Singapore:

Fire Alarm/ Detection System	Fire Suppression System	Fire Protection System
MX Minerva Analogue System	150 Bar Inergen®	Wet Sprinkler System
VESDA® early warning fire detection system	300 Bar Inergen®	Pre-Action Sprinkler System
		Dry Riser System
		Hosereel System

In 2002, the Tyco Minerva® Analogue System with one main alarm panel and nine sub-alarm panels, together with 2,430 detectors and devices, were installed throughout the building. In order to continuously watch out for the first signs of fire, the VESDA® (Very Early Smoke Detection and Alarm System) fire detection system was also incorporated to pinpoint the location of heat and smoke in every suite. Due to the presence of high-value electrical and electronic IT infrastructure, special consideration was placed to shield sensitive parts of equipment against accidental water ingress.

Initially, the Inergen® fire suppression system was configured to help protect assets located in suites concentrated on one level. Over the next five years as business needs grew, the central bank Inergen® system was progressively extended and reconfigured, using selector valves, to protect every suite on every level.

The primary protection for the Global Switch building in Singapore uses a Wet Sprinkler System for the offices and corridors, lift lobbies and stairways to ensure compliance with local Code of Practice (CP), while for all the data centres and battery rooms, Pre-Action Sprinkler Systems have been installed to limit accidental water damage. As added protection, Hosereel Systems, Dry Risers and Breeching Inlets were also installed. In addition, fire security systems such as door access, CCTV and a public address system were also installed. With the multi-layered fire protection solution in place, any outbreak of fire will be dealt with swiftly and safely contained, if not suppressed.

Sydney:

Fire Alarm/Detection System	Fire Suppression System
Addressable System	200 Bar Inergen® System
VESDA®	Double Interlock Pre-Action System

Global Switch's data centre in Sydney was built around a large open office floor space to offer flexibility to meet the future data centre expansion plans. To support Global Switch, Wormald devised a smart cost-effective solution that could not only meet the initial fundamental requirements of data centre fire protection in the short term, but could also add-on more sophisticated fire protection solutions as required.

Wormald began the project by outfitting all seven levels of the Sydney data centre with sprinkler systems for the office areas, a water mist system for the facilities back up generators and pre-action sprinklers for all open areas. The all-round building fire protection was supplemented with 200 Bar Inergen® Gaseous Suppression Systems that were integrated throughout the critical sections.

With the basic fire protection structure in place, Wormald's engineers were able to add on individual t® Systems to each Date Suite and

expand the pre-action systems to the underfloor, as and when the various suites within the data centre were tenanted.

To date, six levels of the Sydney data centre are protected by 34 gas zones and a variety of fire and gas detection monitors. With a high degree of flexibility built into its solution, Wormald will be able to expand and upgrade the fire protection network within a short turnaround time.

Looking ahead, keeping up with changing demands

Due to the flexibility contained within the original Fire Systems Design Strategy at the Sydney location, seems to be no immediate need to update any of the existing systems. The current system will have sufficient flexibility to continue to meet the needs of all new and existing clients.

In Singapore, Wormald continues to work closely with Global Switch as building extensions take place and demand increases for their services. The upgrading and centralisation of fire alarm systems and extensions to the Pre-Action and Wet Sprinkler System is to take place to help ensure that all Data Centre Suites are covered, as new tenants come on board.

Benefits

In recognising technical and cost constraints prevent many businesses from creating the optimum environment for IT systems, Global Switch provides cost-effective solutions by taking care of its clients' needs for business continuity and risk management. Global Switch is a clear example of how continued investments in critical fire protection have allowed the business to use its state-of-the-art fire detection and suppression as a key selling point to potential clients.

Wormald is proud to work with Global Switch.

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