

Case Study – Enterprise Foods

The Challenge

Enterprise Foods leads a highly competitive chilled processed meats market with an innovative approach to product development and brand building. The product range includes polony, viennas, sausages, bacon, ham, salami, meat loaves, spreads/pate and canned meats. Brands include Enterprise, Enterprise Deli Select, Renown, Like it Lean, Prima and Cater Select.

As part of its operations Enterprise Foods, runs a Pig Abattoir in Midrand. This abattoir is responsible for slaughtering of pigs, deboning of carcasses, and sales to wholesale and internal factories. The Midrand facility comprises approximately 5 000 square metres in total under roof – with different locations for deboning, blast freezing, chilling, and racking / storage with these locations operating under vastly different temperatures.

Enterprise needed a solution that provides early warning smoke detection and thus helps to avoid any business disruption or damage to the sensitive food stock from smoke.

Heat from a fire or a rise in temperature due to refrigeration system down time following a fire would result in stock spoilage and hence loss of revenue. Even an incipient fire in this type of environment can lead to significant losses if not detected and managed early. Food stock exposed to low levels of smoke over an extended period of time will become contaminated. Furthermore, the refrigerated facilities make use of insulated polystyrene which in itself is highly flammable.

With an operating temperature typically ranging from 46°F to -49°F (8°C to -45°C), conventional 'passive' smoke detection systems do not reliably function or operate in cold store environments. Their design, electrical components and reaction response do not provide proactive smoke detection in the event of fire.

In some countries, national fire standards further state that, unless specified, smoke detectors should not be installed if the operating temperature is below 0°C. (NFPA 72)

Although widely utilized in warehouse facilities, sprinkler systems are generally inappropriate in freezing temperature conditions.

Enterprise Foods required a proven technology in the circumstances in order to comply with the insurer's request for proper fire protection equipment.

Patrick Denysen of Xtralis the leading manufacturer of VESDA worldwide: "It may be hard to believe that a fire could occur in a cold store. However, factors such as ultra dry atmosphere, and the highly combustible nature of polyurethane or polystyrene foam insulation, wooden pallets and plastic wrapping present a high fire risk in these environments. Electrical faults from conveyor/ transport equipment, lighting, or hot spots caused by maintenance operation can also contribute to this risk."

The holding capacity of a cold store demands specialized high volume storage which can affect the airflow and impede the detection and response to a fire event.

The best way to avoid a serious cold store fire is to install an aspirating 'active' smoke detection system.

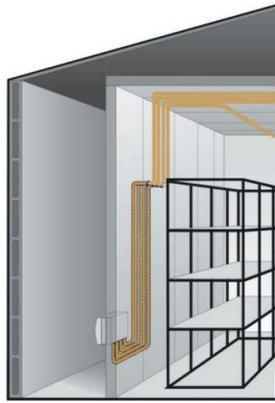
The Solution

A key element of the project is VESDA - very early warning smoke detection, manufactured by Xtralis. VESDA systems were selected for their global reputation and distinctive capabilities. Kenneth Harris of IDtek commented: "Enterprise Foods didn't just want a name. They wanted a system that would provide the absolute earliest possible warning of fire, so that it could be controlled before any real damage was done. They also needed good technical back-up service and IDtek was able to meet with them on both counts."



Ability to monitor, analyse and respond from a central location.

Xtralis VESDA
Detector located
external to the
protected area





The specific VESDA products installed are LaserPLUS detectors. These offer a simple, cost-effective solution for the protection of temperature controlled facilities. "Our consultants explained that most fire protection technologies which are designed to operate in freezing conditions are not capable of early warning detection and are prone to being damaged by production equipment", commented Wayne Aspeling, General Manager: Gauteng Manufacturing.

The low temperatures within the factory and cold store present a challenge for most detection technologies. However, VESDA detectors can be placed outside the protected area; only the sample pipe network being exposed to sub-zero temperatures. With a properly designed system, performance will be reliable and little influenced by condensation or the high airflows caused by blast chillers. VESDA is not new to this type of application, as detectors have previously been installed in other facilities such as Vector Logistics and worldwide in some leading facilities such as Dairy Crest throughout the UK. An added benefit for Enterprise is VESDA detector's adaptability to different environments. "All of our buildings operate at different temperatures so it's very helpful that the systems can be set to self learn", commented Aspeling.

Denyssen of Xtralis assisted with the design of the solution using a program designed specifically to ensure optimal performance. With the correct planning and design IDtek has commenced with the installation using their experience gleaned from similar projects previously. IDtek has recently completed the installation of a VESDA solution covering a warehouse of 40 000 square metres and suspended at an average height of 10 metres.

The solution for Enterprise has to meet with a larger overall construction plan to minimize disruption. For instance – VESDA sample piping needed to be installed taking into consideration vacancies as they became available. All sampling pipe was installed on the outside of the refrigerators with sampling making use of capillary tubing brought through the ceiling of the refrigerated unit.

The Results

The slightest sign of smoke can now trigger up to four different alarms depending upon the thresholds set. Enterprise will not face the incessant false alarms that originate when frost and mist interfere with ordinary point detectors. Alarms are logged and can be investigated afterwards. Aspeling: "We are even able to investigate the development of the smoke detection levels over time to determine potential causes / problems. We do not simply rely on a fire panel where a zone is simply active or inactive without explanation or audit trail of what has happened." "The most favourable outcome for Enterprise Foods is that we can now concentrate on generating the returns we'd expect from our operations knowing that we have addressed the associated business risks with leading technology."

Harris of IDtek advises that any company planning a similar installation needs to involve the relevant parties from a very early stage since the design of the solution needs to cater for various considerations such as airflows and physical layout of the facility. Aspeling: "We awarded IDtek the contract based on their willingness to understand our current circumstances. IDtek was also willing to explore various savings options with us. The whole switch to/implementation of the new product is expected to be complete by early 2009."

1. Fact files – case study details

	Company name	Contact name	Phone number
Solution supplier	Xtralis	Patrick Denyssen	082 906 0219
Installer	IDtek Solutions	Kenneth Harris	011 706 0101

About VESDA

VESDA has been installed worldwide in all sorts of facilities including most recently in Heathrow Terminal 5.

About IDtek

IDtek provides solutions based on proven technologies that enhance our clients' management of, as well as their staff's contribution to, the reduction of risk-related losses.

The specific requirements for managing clients' risk are addressed with honesty and expertise by our dedicated and energetic team in order to determine the most suitable risk-reduction solution.

Clients are then proactively supported throughout the solution's installation, commissioning and daily operation. In each of these areas, our service-provision is motivated by our enthusiastic desire to earn and maintain the professional appreciation of all our clients

Commitment to sustaining client relationships is an IDtek priority, founded on our drive to ensure the long-term delivery of tangible risk-management benefits. This is endorsed by a proven track record of success supported by credible references from our clients. IDtek provides solutions based on proven technologies that enhance our clients' management of, as well as their staff's contribution to, the reduction of risk-related losses.

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