

## VESDA Protects Tyre Warehouse

An international tyre company replace the fire protection system in two of their Thai warehouses to reduce maintenance costs and false alarms.

Tyre manufacturer

**Location**  
Thailand

**Industry**  
Manufacturing

**Products used**  
VESDA LaserPlus detectors (total of 30)

### The challenge

An international tyre company in Thailand operates several large warehouses. These warehouses contain a wide array of products in open area storage spaces, ranging from raw materials, wholesale goods and retail consumables to flammable paint.

The same warehouses also rely on a high degree of warehouse automation, with several electrical and electronic systems operating 24 hours a day, 7 days a week. In such situations, any overheating and overloading of electrical cables can be a major fire hazard. Packing materials, pallets, battery or gas powered forklift trucks and other flammable materials further contribute to the risk of fire.

Losses associated with a fire in one of their warehouses would be catastrophic. The consequences could range from stock damage to major losses in sales due to being unable to supply goods. The consequences could also have much greater impact on the wider community environmental damage is considered.

Considering the size of the warehouses and the fact that fires will be subjected to the influence of natural airflow in the enclosure, an effective fire protection system had to account for the uncertainty of smoke propagation through the warehouse. A small fire might start in one bay, but by the time the smoke reaches the ceiling it could have drifted 2 bays over.

Since mid 2003, two of the company's warehouses were protected by a combination of beam and conventional point detectors. However, over time, some issues such as the frequent occurrence of false alarms, environmental conditions and the need for early detection have become obvious. The cost of bringing in access equipment to reach the detectors for maintenance, plus the associated cost of warehouse downtime while the maintenance was carried out were also significant. All these factors led to the need to look for an alternative solution.



## The Solution

After an extensive assessment of various smoke detection technologies, the company decided to install a VESDA advanced air sampling detection solution in two of their warehouses. The systems provide reliable, very early smoke detection, despite the many difficult environmental challenges posed.

A VESDA aspirating smoke detection system continuously samples air from the warehouse via multiple sampling holes in a pipe network and transports the air sample to a centrally located detector for accurate analysis. One VESDA detector can cover an area of up to 2,000 m<sup>2</sup> (20,000 sq. ft), providing cost effective smoke detection, regardless of the size, configuration and warehouse storage requirement. The flexibility of VESDA pipe network design, such as vertical pipe runs and in-rack protection, ensures a cost-effective and fit for purpose fire engineering solution.

## The Benefits

With programmable smoke sensitivity levels, a VESDA detector can be customised to address the unique environmental characteristics of a warehouse facility, such as the external pollution and airflow from the dispatch and delivery areas. This has overcome the problems with false alarms that the company experienced with their previous fire protection system. "We now enjoy a warehouse that is free from the disruption of smoke detector false alarms. The VESDA system also gives us confidence that our stock and business are safe from the disaster of a fire" said the company's Environment and Prevention Manager.

In addition to its advanced smoke detection capabilities and programmable alarm thresholds, a VESDA system's staged levels of response to an escalating fire condition provides the earliest opportunity for incident investigation and management; reducing the requirement for fire brigade intervention.

This innovative system feature, combined with the ability to interface with an existing fire panel and response system, provides optimum fire protection; reducing the risk of stock loss, supply downtime and structural damage.

Previously, maintaining beam detectors and conventional point detectors required physical access to the detectors, installed high above floor level. The company now enjoys reduced maintenance and testing costs and disruption as the VESDA detectors can be maintained from floor level.



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Environment and Prevention Manager.

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Document: 13631 Version: 00

