

## VESDA Mining

# FIRE PROTECTION FOR THE MINING INDUSTRY



### Challenges of Smoke Detection in the Mining Industry

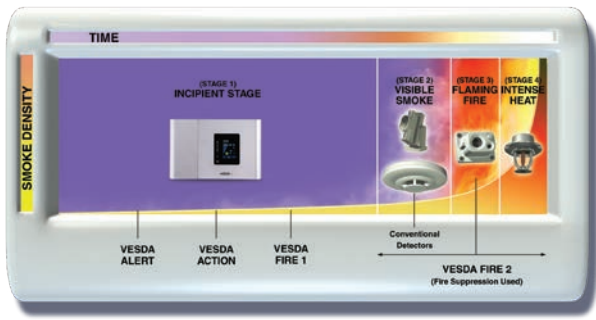
- An undetected fire could spread rapidly in mining facilities because of the diversified nature of environments and applications.
- The dusty, wet and potentially explosive environment presents unique fire detection challenges.
- Detector maintenance can be an issue in areas with difficult access, such as underground tunnels.
- Smoke originating within electrical or mechanical equipment is slow to detect and can cause extensive equipment damage.
- Remote and distributed mining sites are costly and difficult to monitor and maintain.

Relatively high power consumption, increasing use of sophisticated electronics, and the harsh environment present significant fire risks for the mining sector.

### Why VESDA?

VESDA aspirating smoke detection (ASD) systems can be designed, modelled and installed for any harsh, dirty, dusty or polluted environment like mining. Traditional smoke detection systems have always struggled to perform in these difficult and hazardous environments. Poor detection, shorter detector life, false alarms and high levels of maintenance are all factors of concern and increase ongoing costs of mining operations.

VESDA overcomes these challenges by providing reliable early warning fire detection to enable rapid responses while operating with low maintenance.



A VESDA aspirating smoke detector provides very early warning of a fire at the earliest stage. The multiple alarm levels can be configured to initiate an appropriate and planned response.

## Proven VESDA Applications

VESDA ASD has been used for fire detection in the mining industry for years – from coal and metaliferrous to oil and gas and other forms of mining.

### Switch and Control Rooms

A VESDA detector will provide the earliest warning of smoke in or near mission-critical equipment in switch and control rooms. Room and cabinet sampling and use of capillary tubes for in-cabinet sampling are common ASD techniques.



### Conveyor Belts and Drive Units

The large drive motors, belts and rollers found in these areas create a fire risk. Carefully positioned sampling pipes enable early detection of smoke anywhere along the conveyor tunnels, while the detectors can be located in positions easily accessible for maintenance.



## Drag Lines and Shovels

VESDA detectors are used to protect drag lines, which can be as tall as 10 stories with one or two switch rooms. VESDA remote displays are mounted in the operator's cabin for early notification of a fire alarm.

VESDA detectors can be installed underneath the drag line in the hub to provide very early fire detection. Fire risk in this area, which contains large amounts of power cabling, is usually due to the build-up of grease and other petroleum products.



## Others Areas

VESDA is ideally suited to protect other areas within mining sites where dust and background levels of smoke are high. Use of pre-filtering may be required in some dirty areas.

- Maintenance sheds
- Warehouses and storage areas
- Cribs

## Mining Facilities Protected by VESDA

- Anglo Coal - Australia
- Argyle Diamond mines - Australia
- BHP - Australia
- Black Swan - Australia
- Cadia Gold Mine - Australia
- Comalco/Rio Tinto Aluminium - Australia
- Cordeaux Collery - Australia
- Dry Bulk Terminal - South Africa
- Goro Nickel - Noumea
- Impala Platinum Mines - South Africa
- Letseng Diamond Mine - South Africa
- Mt Isa Mines - Australia
- Nabalco Gove - Australia
- Western Mining - Australia