



# APPLICATION STORY



## Avoiding accidents with mining vehicles

FLIR Systems PathFindIR thermal imaging camera helps to avoid sometimes deadly accidents.

*South Africa is a world leader in mining. The country is famous for its mineral resources, accounting for a significant proportion of world production. South Africa's wealth has been built on the country's vast mineral resources.*

*Nearly 90% of the platinum metals on Earth, 80% of the manganese, 73% of the chrome, 45% of the vanadium and 41% of the gold are produced in South Africa. Only crude oil and bauxite are not found here.*

### Mining industry in South Africa

The country is a leading producer of precious metals such as gold and platinum, as well as of base metals and coal. It is the world's fourth-largest producer of diamonds. And experts believe there is still considerable potential for the discovery of other areas that have yet to be fully exploited.

The mining industry is also South Africa's biggest employer, with around 460,000 employees and another 400,000 employed by the suppliers of goods and services to the industry.

### Trysome Auto Electrical Parts Distributors

Trysome Auto Electrical Parts Distributors, is the largest single source supplier of auto-electrical heavy duty components in Southern Africa.

Established in 1991 based in Jet Park near

Johannesburg, South Africa, Trysome has branches in several areas in South Africa. Trysome is focused on providing specialized auto electrical components for heavy duty automotive, earth moving, construction, agricultural, transport and mining machinery.

### Accidents with mining trucks

"The mining industry is a huge market in South Africa.", explains Mr. Eddie Smith, founder and Managing Director of Trysome. "We supply the mining industry with cameras and other systems for their trucks and other heavy equipment. No matter if the mining is done in open mines or underground, mining equipment is always huge and heavy and accidents where mining trucks are involved are always serious."

"Definitely accidents with the trucks that are being used for open mining. Not only are they



Mr. Wayne Jeffrey, National Sales Director, Trysome - Mr. Eddie Smith, Managing Director, Trysome - Mr. Tinus Diedericks, Timeless Technologies



Accidents in which mining trucks are involved are always serious. This car was run over by a mining truck.

extremely big, but the driver is sitting in a very elevated position. This means that he can not always see what is happening directly in front, on the side or at the back of his truck."





*The PathFindIR thermal imaging camera can easily be mounted on front of a mining truck.*



"Not having a clear view of what is happening around him can provoke, sometimes deadly, accidents. A mining truck is a huge vehicle and when the driver does not see a normal car which is parked in front or behind him and drives back, he just goes over it. Sometimes he doesn't even feel that he went over a car and just continues his road. Accidents like this happen regularly since people do not always realize the danger of being close to one of these trucks," Eddie Smith further explains.

#### **Avoiding accidents**

"In order to avoid these types of accidents, Trysome supplies a wide range of cameras and other products that are being installed on the mining trucks. Some of the trucks are equipped with a small radar system which warns the driver when something goes in front of him. We also install microphones on the trucks so that when people are shouting, a natural thing to do when danger occurs, the driver will hear the warnings in his cabin."

"The truck can also be equipped with cameras. They can be mounted on the front, the side and the back. The images are shown on a large LCD display inside the cabin. Before starting his truck

the driver needs to check all sides of the truck to see if the road is clear. Some of these cameras are even equipped with infrared illuminators so that the driver also gets a comprehensive image when it is getting dark."

"But cameras with infrared illumination can only be used for short range observations. Furthermore, a lot of the mining trucks that are being used for open mining often need to operate in foggy conditions. And no matter in which type of mine they are working, there is always a lot of dust around. Fog and dust are not the ideal conditions to see with CCTV cameras or with infrared illuminators."

#### **PathFindIR thermal imaging cameras**

"We were looking for another technology that can help drivers of mining vehicles to avoid accidents. After some research we got in contact with Mr. Tinus Diedericks, distributor of FLIR Systems thermal imaging cameras in South Africa."

"When we found out what the FLIR Systems PathFindIR thermal imaging can do, we were impressed. Not only does it produce a crisp image in total darkness, but it can also see through light fog, dust and smoke. Exactly what is needed for a mining vehicle."

"We are now installing the first 68 PathFindIR thermal imaging cameras on board of mining trucks. They are easy to integrate and are being mounted on the front of the truck. The images the PathFindIR is producing are being displayed

on a large LCD screen inside the truck's cabin. The driver has the ability to switch on the thermal imaging camera at all times but the thermal images are automatically displayed on his screen once he goes faster than 17 kilometers per hour. In this case we want him to look at the thermal images regularly. Not only during the night, but in daytime as well since the PathFindIR helps him to see in the dusty, and sometimes foggy, conditions in which the driver needs to operate his truck," Eddie Smith further elaborates.

#### **Potential for thermal imaging**

"The first installations were done on trucks operating in open coal mines. But no matter if the trucks are being used in coal, gold, diamond or any other type of mine, they always need to operate in dusty conditions. They can all benefit from having a thermal imaging camera installed. But also other big and heavy equipments like excavators, wheel dozers and any other equipment that needs to operate in dusty conditions can be easily equipped with thermal imaging cameras."

"And not only in open mines. Also underground, where, apart from dusty, it is always dark; mining equipment can be equipped with thermal imaging cameras."

"If you look at the cost of a truck and the money that is lost when a mining truck is involved in an accident, installing a PathFindIR thermal imaging camera is only a very small cost. We therefore see more and more companies that are thinking of installing PathFindIR thermal imaging cameras on their trucks as well," concludes Eddie Smith.



*The thermal images produced by the PathFindIR are displayed on a large LCD display inside the trucks cabin. They help the driver to avoid accidents.*



For more information about thermal imaging cameras or about this application, please contact:

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