

## Thermal imaging allows Sasol to keep it cool. Axis thermal network cameras deployed to monitor Sasol production facility.



Organization:  
Sasol Ammonia and  
Nitro Plant

Location:  
Sasolburg, South Africa

Industry segment:  
Industrial/Manufacturing

Application:  
Health and safety

Axis partners:  
TVMS, Milestone  
Systems

### Mission

Sasol Limited is one of the largest international integrated energy and chemical companies in the world. As just one of their many focused activities, their plants at Sasolburg and Secunda are the only ammonia manufacturing and marketing plants in South Africa. Sasol Ammonia and Nitro, Sasolburg, required an alternative method of monitoring heat intensity emitted from their production plant during the gas-to-chemical process. As the flame produced by the production process is invisible to the naked eye, meticulous monitoring and safety regimes are imperative.

### Solution

Security technology specialists, TVMS, was tasked with demonstrating a variety of thermal cameras for Sasol Nitro. The highly competitive bid process was effortlessly dominated by the AXIS Q1910 Thermal Network Camera from both a cost and functionality perspective and the decision was taken to roll out this technologically superior surveillance solution at the Sasolburg plant.

"The effectiveness of the AXIS Q1910 was instantly apparent and the customer needed no further convincing," enthuses Belinda Gouws, director of TVMS.

### Result

Sasol engineers and safety officers are now far better equipped to provide meaningful feedback to frontline staff regarding dangerous or inefficient conditions that may occur during the production phase. Temperature fluctuations affecting both raw and processed ammonia stockpiled in storage bays awaiting packaging for shipment, can immediately be investigated and rectified, thereby preserving the quality of the product.

"Evacuation procedures are no longer triggered by assumptions or inclement weather conditions, we have been able to boost productivity by reacting to scientific data instead of conjecture."

Gerrit Fourie, Sasol Ammonia.

### A reliable option for a tough setting

Sasol Nitro, a division of Sasol Chemical Industries, produces and markets ammonia, ammonium nitrate based fertilisers, commercial explosives, nitric acid, phosphoric acid and a range of specialised blasting accessories. Their production plants are responsible for the transformation of ammonia into ammonium nitrate which is the building block for the Sasol Nitro mining explosives and fertiliser businesses.

Sasol Nitro produces ammonia from synthesis gas and converts some of this ammonia into nitric acid. These processes require extreme heat and create a challenging environment for monitoring, regardless of whether the surveillance is for reasons as critical as safety or simply to ensure cost-effectiveness.

Axis thermal network cameras create images based on the heat that radiates from any object; this allows safety officers to monitor the size of the flame emanating from the production plant albeit invisible to the human eye. The extent of the flame signifies the quantity of raw material being processed, too high a flame would indicate that too much raw material is being processed which could, in turn, affect productivity.

### Protecting valuable stock

The AXIS Q1910 Thermal Network Camera is able to offer optimum performance even under difficult climatic circumstances such as haze, dust or smoke. This makes it the ideal choice for surveillance of the Sasol ammonia storage area. This area contains ammonia, stored in bays, in both raw and processed form. A digital thermometer attached to the input/output of the camera is displayed on the operators control room screen and a custom-made colour palette denotes any temperature fluctuations.

Shrinkage or loss of product due to contamination has been drastically reduced as the monitoring solution is designed to send email and audio alarm alerts to the control room when instability occurs. Safety officers and engineers are able to react in a timely manner to these warnings, averting potentially costly losses.

### Turning monitoring into money

As an Axis Partner, TVMS pride themselves on their commitment to excellence and their strategic decision to sell the most advanced and innovative security technology. The Sasol Ammonia and Nitro surveillance solution has brought both of these objectives to life.

The tremendous decrease in the plant's production down-time as well as the availability of valuable, real-time camera footage are both indicators of a successful installation. "The system provides the user with ample pre-warning when things are not functioning efficiently," remarks Malcom Govender, Project Manager at TVMS, "nothing is left to chance."

Plans are now underway to increase the number of cameras currently monitoring this Sasolburg plant and several surrounding plants, such as those manufacturing waxes and polymers, are being examined for similar installations.



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