



## ATEX certified Pan Tilt Zoom camera from Bosch

Application Note: Monitoring hazardous environments



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Printed in the Netherlands  
VS-EH-en-06\_F01U520113\_01

Safety is a vital concern for the energy industry. When potentially flammable materials such as oils and natural gas are used in generating power, the need to maintain all plant, equipment and machinery to the highest level of excellence is an absolute priority. At the same time, the hazardous environment created

while a plant is in operation can make it difficult or impossible for engineers to check equipment and track down faults. And remote monitoring devices can often give insufficient visual clarity or limited visibility range to diagnose potential problems accurately.



#### Safe for explosive environments – the MIC440 ATEX-approved range

The solution is the MIC440 ATEX certified fully functional pan, tilt and zoom (PTZ) camera. The MIC440 ATEX certified range of cameras meets the stringent ATEX Directive 94/9/EC Exd IIC T6 for safe use in explosive atmospheres such as those found in oil, gas and chemical processing sites and petrochemical refineries. The units are precision engineered to deliver 360° continuous rotation pan with 320° tilt. Moreover, with an optically perfect flat viewing window, the camera is ideal for scrutinizing machinery in places where people cannot enter for practical or safety reasons.

#### Gas turbine monitoring at InterGen, U.K.

It was for these reasons that the global power generation company InterGen chose to install the MIC440 camera to monitor a gas turbine at its cutting edge new power plant in Spalding, U.K.

Spalding Energy Power Plant is one of the most modern and efficient in the U.K. With an output of 860 MW, it uses a combination of gas turbines, heat recovery steam generators and steam turbines to supply energy into the UK National Grid.

The two gas turbines operate practically around the clock and when they are running, it is against site procedures for anyone to enter certain areas inside the installation because of the potential risks. At the same time, it is necessary to be able to monitor equipment constantly in these areas. This presented Spalding engineers with a dilemma which they successfully overcame with the MIC440 camera.

The camera was installed in one of the two gas turbines at Spalding. Thanks to the sheer versatility of the MIC440 and the pan, tilt and zoom control, the operators were able to monitor both turbines from a safe, remote location. The camera's ATEX certification and a specification that includes full sealing against any electrical sparks escaping, ensure totally safe operation in the potentially volatile environment at the Spalding Energy Plant.

#### Eliminating unplanned shutdowns

The camera soon justified its presence. A few days after installation, engineers detected a small pool of oil on the floor near some piping while carrying out a routine off-line inspection. They concluded that there must have been a slight oil leak and knew that the leak was almost certainly caused by a change in oil pressure which only occurred when the machinery was running. When it was off-line, it was impossible to see where the leak was occurring which meant they needed to be able to observe the section of installation near to the pool of oil while the plant was running.

The camera was then directed at the suspect area of piping once the turbine was fired up again and the operators were able to zoom in closely to examine all the joints. The camera's excellent images enabled them to identify the place where the oil was leaking almost immediately. The plant was shut down for a short period and the repair was swiftly and efficiently completed. Afterwards, the camera was used to ensure that the repair was effective.

Following this experience, the management of the plant expressed their complete satisfaction with the new camera. They also stated that unplanned shutdowns may have occurred if the leak had not been detected in good time, which would have had a major impact on Spalding's commercial business. They concluded that by

providing them with the ability to diagnose the problem safely and remotely, the camera could well have saved InterGen the many thousands of pounds it would likely have cost them to attempt to locate the leak while the plant was off-line.

For more information about the MIC camera range from Bosch, please feel free to contact your nearest Bosch representative or visit our website: [www.boschsecurity.com](http://www.boschsecurity.com)

