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**Secure production processes: ABUS video surveillance in the Ellerdonk gravel plant**

**Gravel and sand play a role in many parts of everyday life: They are used in construction, in the manufacturing of glass and porcelain, and even as an additive in toothpaste, cleaning materials and cosmetics. But where does this valuable raw material come from? Processing facilities like the Ellerdonk gravel plant in Rees source and unearth stones from up to 30 metres below the surface and process it into industrially usable gravel. While moving the stones, the conveyor belts are monitored very closely because if contamination is not detected promptly, a high product quality cannot be guaranteed. Therefore, the Ellerdonk gravel plant relies on intelligently positioned ABUS IP cameras which quickly detect disturbances and thus ensure a consistently high product quality.**

**ABUS video cameras for quality assurance**

In the first step of gravel production, biological refuse like branches and mussels are removed from the stone. This is essential for the quality of the finished product. But despite being cleaned in special sieving and jigging machines, there is always a possibility that foreign matter is between the stones. This is where the ABUS video surveillance solution takes effect: “Our machines stop automatically as soon as they encounter coarse contaminants” explains Udo Wehning, manager of the Ellerdonk gravel plant. “However, it is considerably faster to detect refuse using the camera image. Visual contact is the most important measuring device” he adds. With the installation of a total of 13 ABUS IP tube outdoor cameras at critical production points in both indoor and outdoor areas, a smooth production flow is ensured. The cameras, including those hanging in underpasses and dark places in the machine halls, are able to produce sharp images in full HD quality, despite the difficult lighting conditions thanks to the night vision function.

**Video surveillance for the prevention of mechanical breakdowns**

In addition to quality monitoring, the cameras also quickly detect disturbances because in places where multiple conveyor belts merge, spills can occur all too quickly. “When spilled gravel clogs machine inputs or even works its way into the gears, action must be taken immediately and production is stopped,” says Wehning. Thanks to live transmission to an ABUS 32-channel video recorder and two monitors in both the manager’s office and on the loading dock, incidents can be detected in real-time. The surveillance monitor simultaneously displays 16 image sections all of which portray the faithfully rendered detail and colour of all relevant locations.

**Oversight of the production site with PTZ camera domes**

In addition to the production machines, the gravel plant also includes storage silos and a shipping harbour on the Rhine river. Because of this, the entire operation stretches across a large premises which makes overseeing them more difficult. However, due to the installation of two ABUS PTZ outdoor camera domes at the highest points of the gravel plant, it is possible to keep an eye on all relevant locations and to warn employees over the loudspeaker system in case of danger. The camera domes’ panning and zoom functions allow operations to be monitored in real-time and on a stationary basis. Additionally, the night vision function and tremendously robust housing enable video surveillance in challenging light and weather conditions.

**Early fire detection is important**

Oversight over the entire gravel plant premises is also beneficial for early fire detection. Gravel plants are generally at a higher risk for fire as the majority of the conveyor belts and machine parts are made out of rubber, a highly combustible material. Yet the machines must receive regular maintenance by means of welding machines. Just a few sparks are enough to set a plant on fire. This danger can be countered with the help of video surveillance. Wehning stated: “We can only respond to fires when they are detected early. The ABUS cameras help us to do this.”

**Quick, no hassle installation**

The modern video surveillance solution by ABUS was installed over a time period of three to four weeks. For help with this, Wehning turned to Peter Ising from the company Phonepoint, a service for security systems and telecommunications in the region. The positioning of the tube cameras was determined by the plant manager himself as he knows his plant and the locations that should be under surveillance very well. He was extremely satisfied with the quick and professional installation: “The installation was hassle-free,” says Wehning. “As plant manager, I hardly noticed it. That speaks volumes for the logistics of the installation.”

**Vibrations create challenges**

The biggest challenge during the installation of the video surveillance was the powerful vibrations caused by the heavy machinery in the gravel plant. Such vibrations usually make maintaining a constant camera image difficult. By relocating several video cameras and individually adjusting the camera mounts with additional rubber parts and steel joints, a good image result was achieved after these initial adjustments.

**High satisfaction with the video surveillance system**

The best gravel quality and highest level of safety at work is now guaranteed by a stable video image in real time and full HD. Udo Wehning, very impressed with the new video surveillance solution by ABUS, had this to say: “After the challenges at the beginning, which are normal for a plant of this size, we have seen results and have ended up with footage that we are extremely pleased with,” says Wehning.