

G&G Sicherheitstechnik

“Because of its versatility, our container solution has the advantage that it can be relied upon even when used on difficult terrain. Here, it is important that the cameras are of high quality in order to cope with the conditions. We have been working with Axis and Aimetis successfully for years.”

Bernd Gerhards
Managing Director



Customer Profile

Location: Weinsheim, Germany

Application: Site surveillance, remote monitoring

Partner: Axis Communications

Mission

In response to numerous requests from customers, G&G developed a solution for mobile use with high-resolution network cameras for the surveillance of large areas. The cameras also needed to have their own independent power supply.

Temptations are everywhere

Large construction sites, such as those on highways or wind turbine installations, place a heavy demand on security services. Since valuable building materials, machinery, and raw materials such as diesel and gasoline are stored there overnight, they are a popular target for criminals. Expensive machinery is also increasingly subject to damage from vandalism. For a technical surveillance solution to meet this challenge, it must be portable and robust, must have its own power supply, and must cover a large radius. It must also be compatible with the current dataprotection regulations. In order for the system to be suitable for all areas, it may not violate current regulations on large area surveillance.

Mobile video container with robust shell

Since there were no suitable systems on the market to meet the requirements, G&G Sicherheitstechnik decided to develop its own video container. Sea-freight containers are robust and vandal-proof and are ideal for housing and protecting all the equipment needed for video analysis. Symphony, a video management software from Aimetis GmbH, is used to run the software algorithms and program functions that G&G Sicherheitstechnik GmbH developed in-house.

The container itself functions as a module and can therefore be optimized to the customer's needs. Another advantage of the container is that it can be easily moved from place to place with forklifts and cranes. The system usually has several connection types such as GSM and LTE. If the wireless network fails, as can happen during large events, connection is maintained via satellite.

Up to five network cameras can be fitted to the mast on the container, which can be extended to a height of 5.3 meters. This facilitates 360° analysis up to a radius of 120 meters. The container can be fully set up by one person within ten minutes. Even with the extendable mast, the entire system is watertight so that the equipment inside is kept dry and safe from damage during bad weather, such as heavy rain or storms.

The containers are also provided with their own independent power supply so that the equipment can be used anywhere. The Diesel power generator and photovoltaic system with battery backup provides cost-effective and reliable power for up to three months.

As soon as a person approaches the area monitored by the cameras, the system automatically triggers alarms and alerts e.g. a security service. A previously recorded audio file or announcement can be played at a volume of up to 113 decibels. The audio file could be, for example, a police siren or an announcement that someone is trespassing. This is to deter unauthorized persons or potential criminals. The software is intelligent enough to reduce the number of false alarms by excluding the effects of moving branches, animals, lights from car headlights, etc. It is therefore very good at recognizing which occurrences are relevant and which are not.

Solution

G&G Sicherheitstechnik is the first company on the market to develop a video container with extendable mast. The mast is fitted with five network cameras from Axis, covering a radius of 120 meters. A sea-freight container is used as a housing or base. The advantages of this system are that it is self-contained and can be perfectly adapted to the needs of the customer on a semi-modular basis. The mobile video container has LTE, GSM and satellite connection. A separate power supply comprising photovoltaic and diesel power generators with battery backup ensures continuous operation.

Result

Since it is possible to exclude certain areas during surveillance, this equipment can also be used in areas that are sensitive and subject to data protection regulations. The payback period is less than twelve months and compensates for the cost of personnel many times over. Since the surveillance container blends in well with the environment of large construction sites, thieves generally do not notice it. The video container has already led to police arrests every two weeks, on average.

The images are recorded and stored for up to four weeks at a time. The system has an additional level of security in that it functions under a “double storage” policy, storing data both locally and in the cloud. This ensures that the video recordings are not lost and the data can still be analyzed even if the container or the components inside are damaged.

When choosing the cameras, G&G gave high priority to light sensitivity in order to provide good pictures at night.



G&G Sicherheitstechnik uses AXIS P33 Series Network Cameras. The cameras provide video streams from 1.3MP through 5MP and are easy to install. There is no problem with fitting them to the masts. The focus and zoom are remotely controlled so the cameras can be easily operated and aligned even when the mast is already deployed. They are designed for outdoor use, so they are able to withstand extreme temperatures. With their protective housing and the somewhat inconspicuous design, the dome cameras are ideal for video surveillance of hazardous areas. When choosing the cameras, G&G gave high priority to light sensitivity in order to provide good pictures at night.

Also suitable for sensitive areas

The first prototype took about nine months to develop. In 2012/2013, G&G produced the 0-series with six container units. This was quickly followed in 2014 by the first small series comprising 20 units. In the meantime, the areas of application for the container have been extended. Although the focus has always been on large construction sites, this was expanded to include large sales areas such as the outdoor area of car dealerships. They are also popular for the surveillance of large events. Marketing departments have also discovered this mobile solution and use it, for example, to analyze the number of cars passing a certain location every hour.

With round-the-clock surveillance over a large area, the issue of data protection is often problematic. In order to meet the stringent requirements, the container solution is able to hide certain areas during the surveillance or show them blacked out. Fitted with this option, the containers can also be used in sensitive areas. This ensures that the cameras only record the highway construction site and not passing cars or adjacent buildings.

