

Port

Sea and inland ports: Process optimisation through video security technology

Sea and inland ports are important transportation hubs for international commodity trading. Giant container ships lay anchor and discharge their shipments, waiting to put out to sea again with new cargo. Video cameras distributed across the area monitor all activities around the clock. Regensburg based CCTV/IP expert Dallmeier also offers tailored solutions for ports.

Nowadays, the range of applications for video security technology is no longer limited to traditional security tasks such as the detection of unwanted intruders or even the prevention of terrorist attacks. Video surveillance has meanwhile become an indispensable tool to design all processes across the port area as efficiently as possible. This includes access controls, the prevention of accidents at sluices and the administration of the commodity flows throughout the harbour. One thing certainly applies to ports: Time is money, and whenever the stream of goods comes to a halt for some reason or time-consuming searches must be carried out to find lost shipments, cash money is at stake.

Access control



Whether by land or by water: The port area may only be accessed by authorised personnel. High-resolution Cam_inPIX® cameras therefore detect everybody who enters the premises and document the ship traffic as well as the movements of people and vehicles at the port's gateways. Often, the CCTV/IP system is complemented by intelligent video analysis systems which automatically carry out certain processes such as opening barriers or issuing alarms in cases where unidentified vehicles or ships are noticed.

One of those systems is the DI-Detector NPR (Number Plate Recognition), an intelligent video analysis system which uses intelligent sensors and advanced hard- and software technology to identify the number plates of stationary and moving vehicles. Provided the system installation was carried out professionally, the evaluation precision is up to 98%, even with adverse weather conditions or darkness.

In order to make the access controls as safe, but also as fast and efficient as possible, the number plates of authorised vehicles are entered into a database. When a car or truck approaches the control post, the database is searched for registered number plates. If a number plate is recognised, a relay contact issues a clearance to the system and the barrier opens. Other application possibilities are virtually unrestricted. The DI-Detector NPR could also, for instance, trigger a recorder that will monitor the access road for a certain period of time. That way, known vehicles of suppliers would always be monitored while driving along the lane but would also be able to reach their destinations quickly without having to go through time-consuming controls. Also, cameras can be installed at the gateways of the carriers and be connected to the system. Should a vehicle not have reached its destination some time after passing through the access gate an alarm could be generated using PGuard advance, a Dallmeier software for the administration of incoming messages.

Theft protection

Numerous goods and containers are stored at the port's reloading points, and they all have to be protected from theft. With the DI-Detector Intruder, Dallmeier offers a first class solution for securing certain areas against unauthorised access. The DI-Detector Intruder is a development entirely based on the SEDOR® technology and allows for an effective surveillance both outdoors and indoors.

The system determines for example if an object approaches an area, from which direction it is coming, or how long it stays in a certain area. Based on the carried out classification, the system is able to differentiate between an object "person" and for instance, object "animal". Comprehensive validity checks reduce false alarms to a minimum without missing "real" alarm messages.

Tracking of commodities



Unfortunately it is impossible to completely eliminate cases of damaged goods, loading errors or other kinds of loss during the distribution of goods at freight hubs. However, using a high-value video surveillance the movements of every single container can be documented completely. Misguided goods can quickly be found again and the system also helps in conclusively proving transport damages. Disputable situations, which might for example arise when trying to determine when the damage occurred and who was responsible, can be resolved definitively and without the need for time-consuming investigations. Therefore, payments of damages can be allocated to the responsible individuals.

The goods are scanned at the entrance, continuously tracked while passing through the freight hubs and again electronically registered before going out. Additionally, every scanning process is recorded by a camera. The ideal solution for that application are high-resolution cameras with Cam_inPIX® technology. They provide detailed and true-colour images, even under the most difficult lighting conditions such as extreme backlighting at the gateways to the storage halls.

The scan data are recorded together with the pictures in the digital recording system so that the pictures and package data can later be matched up. The barcode for each package can then be used to identify and trace the item through the warehouse. This allows not only individual packages but also whole pallet loads of assembled packages to be monitored as they progress through the warehouse.

Preventing accidents or pile-ups

Whether at sluices, quay walls, storage areas or access roads; wherever traffic comes to a standstill the loading of goods slows down as well. In that context, video systems offer the possibility to react immediately in case of conspicuous events. Such events include accidents, developing congestions, or parking offenders blocking the flow of traffic. Thereby, the system has two main advantages: For one thing, automatic alarm messages can specifically direct the attention of the security personnel to certain areas. Without that support it would hardly be possible to monitor the port area twenty-four hours a day. Secondly, thanks to the video recordings security staff can, in the true sense of the word, immediately visualise what is happening on the ground and react accordingly.

Integration possibilities

The surveillance of port areas is very complex. The biggest benefit is realised when all systems are intertwined and linked up. Every Dallmeier CCTV/IP solution is therefore designed to be able to serve as an open platform for third-party integration.

From cameras to recorders and storage systems right up to video management, all Dallmeier products can be integrated into any kind of third-party systems (overriding property management systems, access controls, fire detection systems etc). Likewise third-party systems or individual components can of course be integrated into existing Dallmeier solutions. The integration process is carried out by using either standard or customised communication protocols, so-called "Open Platform Tools", or else through tools that are specifically developed for the customer.

Therefore, the security systems remain open for adjustments and expansions and offers long-term investment protection.