Murmansk Sea Commercial Port Increases Profits with Axxon Enterprise

The publicly traded Murmansk Sea Commercial Port (MSCP) was founded in 1994 as a state enterprise and is the forth-largest port in Russia - the second-largest port in all of North-Western Russia. With seventeen berths and a total of 120,000 square meters of outdoor storage space, more "black gold" is exported through the Murmansk port than through the ports of Saint-Petersburg, Kandalaksha, Vyborg and Vysotsk combined.

In 2009 the port's cargo turnover amounted to 15.1 million tons. Of all cargo flows passing through the Murmansk port, 95,8% are for export, and most are headed to Western European countries, making the port not only a prominent local port but a significant enterprise on the international market, as well.

Key issues:
Quality control, cost efficiency, safety and prevention

After approximately ten years of steady growth, the port's management realized that some key issues were interfering with the port's profits - namely quality control, cost efficiency, damage and theft prevention, and fire safety.

At the time, the port's management was supported only by radio communication. "We could not see the work being done, so we had no way of evaluating procedures or ensuring compliance with quality and safety standards," explains Chief Engineer Igor Prischepov.

Visual quality control was key to preventing damage caused by employees who neglected to uphold procedures and standards. At the time, careless crane operators, in a hurry to increase their output, were causing damage to the equipment, which in turn caused considerable expense for the port, including penalty payments to the railway, repair costs, and the maintenance of a special work team. Similarly, over-ambitious loaders were transporting 1.5 – 2 times more weight than was acceptable by safety regulations, thereby causing unnecessary expense related to servicing and replacing the equipment.

In addition, because it keeps extremely valuable property in its territory, the port was also at risk of theft and vandalism.

Fire safety was a third critical concern. As the MSCP is used for coal transshipping and storage, it can be exposed to fires, particularly during warm and dry seasons. Yet the port lacked an effective system to help prevent fires and take immediate, appropriate action when such an event occurred.

The top management of the MSCP made a decision to implement a CCTV Surveillance System throughout the port territory. With the help of video surveillance, MSCP hoped to ensure fire prevention discipline, compliance with work performance requirements and safety standards, and property security.

Choosing the system: Not a decision to take lightly

To select the best possible system, the port's top management invited potential integrators to bid on the project. Five companies accepted the invitation, including a team from The Center of High Technologies - Universal, which has been operating for 6 years and has produced more than 130 network video surveillance systems with 2 - 56 cameras at that time. Universal proposed a system they had successfully integrated in numerous installations – Axxon Enterprise, an integrated security platform from Axxon.

Bidding participants were requested to demonstrate the capabilities of their systems. Each of the competitors placed one or two video cameras in the port's territory and installed recording equipment. They were then evaluated on the following criteria: overall quality of the system (video signal transmission in particular), ability to work without additional cable lines and other service utilities, integration capabilities (including IP cameras), and reliable function.

Of the demonstrations, there was one clear winner: Axxon Enterprise. This integrated platform was judged a reliable, multifunctional and flexible tool that could be adapted to new tasks and requirements as the port's security needs increased. In particular, Axxon Enterprise stood far above the competition with its ability to integrate with a wide variety of IP-cameras by different manufacturers.

"Axxon Enterprise was the clear choice," Prischepov explains. "It was the most flexible and development-oriented product, providing exceptional image quality and a convenient and user-friendly interface. During the proposal process it was the only one of all the products that could work with both the analog and IP cameras integrated into the system."

Adapting to the challenges

CHT "Universal" set about building the CCTV Surveillance System in their first cargo district. The first stage of the installation CCTV System included one video server and five remote work stations, which were connected with two analog and seven IP-cameras. The project was then expanded to include three video servers, 15 remote work stations and 23 cameras. The Axxon Enterprise system now controls 15 berths, as well as areas of coal transshipment, portal filling stations, freight car repair areas, platforms for freight car loading, and storage facilities.

When installing the system, CHT Universal relied on Axxon Enterprise's ability to adapt to some unusual challenges. For example, implementing video surveillance on the port territory was difficult given the significant change of lighting conditions during the long polar night, particularly during the winter period when the system building took place. To overcome this, high-resolution cameras with high-aperture lenses and spherical elements were chosen, which allowed for a high quality video picture even under poor lighting.

Another non-standard solution was the transmission of video signals via Wi-Fi. It was discovered during the project that some cameras were needed where there were no telephone lines. To lay the lines along the wells would be expensive, inefficient and unreliable. "We installed a Wi-Fi access point and one IP-camera," says Vladimir Schukin, Technical Director of the CHT Universal team. "During this period we, and the management of the Murmansk port, made sure that the equipment operation was stable and reliable. It worked very well."

The decision to choose Axxon Enterprise pays off

"The installation of the Axxon Enterprise system proved to be the best choice," confirms Alexei Abramov, head of the second cargo district of the Murmansk sea commercial port.

Axxon Enterprise helps enforce fire safety throughout the port, detects smoke and fire, and immediately alerts a fire-brigade when an incidence occurs. The video surveillance system also provides information to investigate the cause of fires if and when they occur, to determine whether the cause was negligence, arson, or climate-related causes.

"Axxon Enterprise is also a great assistance for the Dispatch Service," adds Abramov. "A real-time vision of the district allows us to make smart decisions and react promptly to the operational situation. Archived records allow us to analyze the work, identify areas of weakness, and make swift changes when necessary. Above all, Axxon Enterprise ensures better efficiency and cost-effectiveness, and encourages the best behavior of employees".