



MOBOTIX

CASE STUDY

City of Dillingham, Alaska

Network Cameras Save Lives

Dillingham is a busy coastal community located on Alaska's Bristol Bay. With a population of 2,300, the "Sockeye Salmon Capital" is best known for the abundance of salmon and its commercial fishing industry. From May to August each year, between 5,000 and 8,000 fishermen and tourists arrive in Dillingham to work the summer fishing season.

Additional Security Concerns

The large transient population in Dillingham during the summer also creates additional security concerns for the city authorities. The majority of these concerns are a result of an increase in the consumption of drugs and alcohol. Over the last three years, the community has experienced a growth in the crime rate with an unusually high number of deaths and frequent cases of assault posing a problem for public safety. Although Dillingham has the only police station in the region that is staffed around the clock, the seven patrol officers on duty are no longer able to cope with the onrush of tourists and fishermen in the summer. Richard Thompson, Dillingham's Chief of Police states: "One of the problems was that people frequently fell into the cold water in the harbor and were unable to get out on their own. We had to find a solution to monitor this and other areas. And we wanted this solution to be not only viable and affordable, but also to reflect the principles we live by here in Dillingham."

Serving The Citizens

Dillingham is a friendly, caring community that offers its inhabitants a good quality of life and an open path of communication with the authorities. City administration upholds such traditional core values as fiscal responsibility and self-sufficiency. The prudent use of resources by living within the community's means is among the most important objectives of the city authorities. Alternatively, increasing the local police force to address the safety/security concerns would have proven too expensive, particularly because this expenditure could only be justified during the relatively short summer season.

Highly Detailed Images Even Under Extreme Weather Conditions

The city decided to install a video surveillance system to enhance public safety in specific public locations and in areas where the risk of accidents is high. City officials determined that this was the best solution for the city because it balanced the need for increased security while utilizing minimal resources.



Security Vision Systems





MOBOTIX – withstanding extreme weather conditions.

A number of different factors were considered in the selection and implementation of the surveillance system. On the one hand, the customer wanted a digital system, which significantly simplifies the installation and the temporary storage of the images.

On the other hand, the cameras would have to be capable of withstanding the extreme weather conditions that prevail in this region – average temperatures from November to March often lie far below the zero degree Celsius mark. The system also had to be easy to operate, eliminating the need for special training courses for the system operators.

“We knew that MOBOTIX cameras were already being used here in the area and that they had proven to be very robust, even under our difficult climatic conditions here,” explained Thompson. The MOBOTIX systems proved to be superior to those of other suppliers in many respects. In addition to easy installation, these systems place a very low load on the network because the data is already compressed in the cameras. TecPro Ltd (www.tecproltd.com), a MOBOTIX system partner in Anchorage, was commissioned to deliver and install the cameras and the corresponding network infrastructure in September 2005.

Customized Solutions For An Individual Project

To connect the cameras positioned at different outdoor locations around the city and in a number of public buildings, TecPro Ltd installed a secure network with sufficient bandwidth for the solution. The company utilized an encrypted wireless Ethernet solution to transmit and feed the data to the network at police headquarters. This effectively eliminated the need to install expensive data cables over long distances, thereby simplifying the installation and the subsequent system operation.

The security system is now in operation and consists of total eighty MOBOTIX M10 and D10 network cameras. The system monitors activities at specific public locations in the city of Dillingham such as the port facilities and its container dock, the small boat harbor and public buildings like the Public Safety Building and both the community fire halls and other areas.

Security Even During Power Outages

Two to six cameras each were combined in clusters for the outdoor locations to provide different viewing angles of the areas being monitored from the same vantage point. Although these “clusters” require several cameras each, they have an advantage over rotating or swiveling cameras with moving parts because they maintain functionality reliably even under extreme weather conditions.

One of the most significant challenges faced during this project was the necessity to design a mounting system enabling the cameras to be installed on 150’ light poles. At other outdoor locations, the cameras are installed on wooden power and telephone poles or attached directly to existing structures. The mounting system was designed to incorporate the battery backup system and camera power supplies. The battery system keeps a cluster of cameras (ranging from two to six) operational for several hours on battery power. This mounting system was also designed to incorporate attachment of the wireless modems and antennas.

TecPro Ltd installed Esteem Ethernet wireless modems for the wireless connection within the system. Software for image retrieval, viewing and management from IPVision Software completes the solution.





Cameras With An IQ

The most important functions of the MOBOTIX network cameras include their ability to detect motion in user-defined image windows, thus automatically triggering the recording function to record safety-related events as well as their ability to send messages or alarms. As Richard Thompson explained: "This makes it easy for our staff to focus on tasks other than monitoring the security system. We are automatically notified only when necessary, allowing officials to multi-task and fill a number of roles and functions for the city. In addition to the ease of operation, the system guarantees that critical points around the city are monitored consistently, allowing officers to intervene quickly in any situation to specifically handle any problems that arise." Selective recording, which is controlled by the cameras with integrated intelligent software, also saves storage space, reduces network load and functions without requiring constant monitoring by the staff in the control center.

No, Big Brother Is Not Watching You

The city openly addresses the possible conflict of interests with regard to citizens' right to privacy that using cameras for public safety have the potential to create: "It was never our intention to set up a system for comprehensive surveillance anywhere, and that is certainly not what the citizens want," said Thompson. This was another reason for choosing these cameras: MOBOTIX technology is able to use a very low image resolution to produce fogged out or "pixilated" portions of an image that are irrelevant to security surveillance, including distorting images of people recorded unintentionally by the cameras to protect their privacy. This function proved to be an important point for city administration to allay any

fears the citizens had for their privacy. "The MOBOTIX cameras really fit the bill: they not only make security surveillance easier, they also protect the privacy of persons who are not associated, but adjacent to, areas under security observation," Thompson continued.

A section on the Dillingham website (www.ci.dillingham.ak.us) is specifically devoted to providing the citizens with comprehensive information on the purpose and location of the cameras as well as on the project's financing. Users can also take advantage of a function to retrieve current images of the harbor and the docks at any time.

Brought In By Bush Plane

Another issue that the project leaders had to address before the final installation of the system was ensuring the safe transport of the camera assemblies and tested component groups, including the wireless modems and power supplies. But here too, they came up with a very unique solution. To leave nothing up to chance at this stage of the game, the technicians packed the camera assemblies in lightweight crates and chartered a bush plane from Paul Claus of Ultima Thule Outfitters, the best bush pilot and outfitter in Alaska. They hand-loaded all the gear into the DeHavilland "Turbine Otter", Paul's plane, and then met the plane in Dillingham to off-load all the gear themselves as well.

Richard Thompson is happy with the results: "We are delighted at how high the quality and the detail of the images are. Now, we have a much higher likelihood of successful investigation, which saves us a lot of costs. Thanks to the reliable cameras from MOBOTIX, we can now guarantee the security and safety of our city, even during the peak season, without having to hire additional police officers, which would certainly increase our costs in the long term."



Original images by the MOBOTIX cameras



MOBOTIX Technology – Cost Savings in Every Aspect

High Resolution For Sharp Images

All MOBOTIX cameras are high-resolution cameras with integrated image storage and 960 lines (1280x960 pixels) resolution. The **stored image** thus contains 12 time more detail for creating zoomed sections of the image than regular cameras with 240 or 288 lines (CIF, 2CIF). This is why one single MOBOTIX camera with a 90° wide-angle lens is sufficient to monitor an entire room and yet provides more detailed images than traditional technology. The MOBOTIX Day/Night cameras feature zero maintenance with one color and one B/W image sensor.

Intelligent Storage Technology Uses Fewer DVRs

The new, decentralized storage technology pioneered by MOBOTIX reduces the number of recorders that store the smooth high-resolution video by up to 90%. 40 cameras store smooth video streams including audio on a single PC, each managing its own ring buffer and database. Intelligent search features provide swift access to the stored events. There is no software required for storing and managing video, eliminating license fees and the need for expensive software. Event-controlled recording and automatic increase of frame rates upon detecting movements drastically reduce the storage requirements.

Low Power Consumption Means Enormous Savings

Since MOBOTIX cameras are anti-fogging, do not require heating and only use 3 Watts each, power can be injected into the network cabling using standard PoE products, year round. This drastically reduces the amount of cables and the power requirements for backup power.

Integrated Telephone Features

All MOBOTIX IT and Secure models feature bidirectional audio support. The built-in microphone and loudspeaker are used for live audio transmissions and storage purposes. Voice messages with PIN confirmation and call forwarding via IP or ISDN telephony have been integrated as well. Using the switch outputs, you can switch lights or open doors from the phone or from the computer.

Robust and Well-Protected

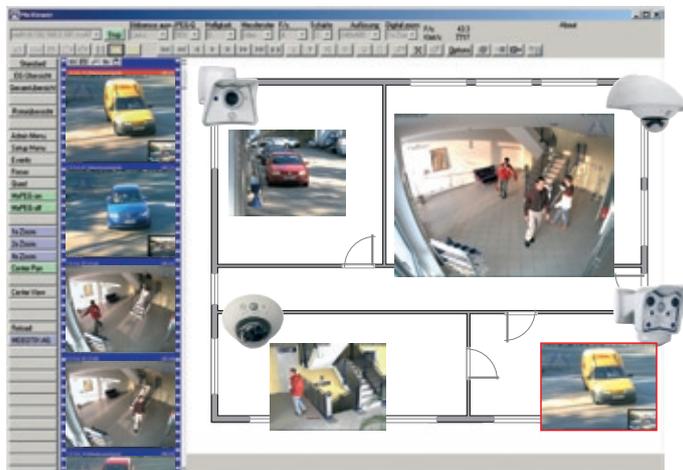
The fiberglass-reinforced housing is shockproof and the SecureFlex mount protects the network cabling as it completely conceals the cables (M12/D12 models). Weatherproof (IP65) from -30° to +60°C (-22° to +140°F).

High Return on Investment

Since the number of cameras and storage capacity are freely scalable and any kind of data connection can be used (ISDN, DSL, Ethernet, Wireless, GSM, copper, optical), MOBOTIX means high ROI, even years after installing.

State-Of-The-Art Technology

Developed and manufactured in Kaiserslautern, Germany, MOBOTIX produces image-storing weatherproof high-resolution cameras, including lens and wall/ceiling mount for as little as 598 EUR excl. VAT. To date, more than 100,000 cameras have been sold worldwide.



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