Ice Arena
in Donezk, Ukraine

MOBOTIX Solution provides increased security of the Ukrainian "Druzhba" Ice Hockey Stadium

Ice hockey is a popular sport in Ukraine, one which attracts a lot of fans to stadiums to see the players of their favorite teams. And one of these stadiums is the Druzhba Palace of Sports in Donezk, home of the HK Donbass Donezk ice hockey team since 2005. The 2011 Ukrainian champion is aiming to join the ranks the Kontinental Hockey League (KHL), where hockey teams from Russia, Kazakhstan, Latvia and Belarus meet to play. And things can get heated both on and off the ice – as more than 4,000 fans fill the arena to cheer their favorite team game after game.

The name of the stadium, „Druzhba," means something like „friendship." In 2011, Druzhba was equipped with a video security solution from the German company MOBOTIX AG in order to maintain this sense of „friendship," even with the fans of the opposing team, and to provide excellent security both inside and outside the stadium.

Rising Visitor count leads to increased security demands

The Druzhba Arena was built in 1975 and renovated in 2011. As part of the construction work, the agency responsible for the renovations decided to install a security system. This was due in part to the increasing number of visitors and in part to the fact that this security system was one of the requirements for hosting international championship games. The demands on this video security system were enormous: high-resolution images with low bandwidth requirements and an affordable and easy-to-use video management system.

While searching for the right solution Druzhba Arena got in touch with the security department of Donbass Arena. In 2008, Donbass Arena installed a MOBOTIX system with over 600 cameras in order to prepare the stadium for the 2012 UEFA European Football Championship. After hearing the very positive reports from the Donbass Arena, the IT department Druzhba Arena decided to contact Incom Company, Advanced MOBOTIX partner in Kiev.

After just a single demonstration of the cameras, the decision was made to install these high-resolution video systems in the Druzhba Arena. „The MOBOTIX solution met all of our expectations for a modern video security system. It delivers crystal-clear, high-resolution images and requires very little bandwidth," says Alexandr Brylov, head of the security department of Incom Company. Each MOBOTIX camera contains a high-performance computer and if necessary, a long-term digital flash memory (MicroSD card) for recording data over several days. A PC is needed only for viewing the video material – not for recording and evaluating the material. This ensures a low network load and saves on resources. The decentralized concept makes the camera system very cost-efficient. In addition, while other providers require customers to purchase an expensive video management system, MOBOTIX offers the necessary software free of charge. This is certainly another advantage for users.

Seeing everything with MOBOTIX

The cameras were installed in strategic locations around the arena. The stadium fills up all the way to the very last seat for important games against

Beyond**Human**Vision

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Security for the Fans and Players of the Ukrainian Druzhba Palace of Sports in Donetsk

major opponents. And most importantly, the cameras need to continuously monitor entrances and exits, where masses of people make their way onto the grandstands. Cameras are also installed at the entrances to the referee's room, changing rooms and rooms for cleaning staff in order to provide the best possible security around the clock for arena facilities.

A total of 74 cameras are installed in sensitive areas. A number of different camera models are used in order to meet the requirements of these areas. The Q24, M24 and D14 have been used, in addition to the M12 and D24 models.

The MOBOTIX D14 camera is particularly well-suited to areas in which a 180° panorama view is required. A total of ten cameras are installed at the main entrance of the stadium, ensuring coverage over a very large area. The visitors

surge through there into the entrances to the grandstands. Nineteen Q24 hemispheric cameras are installed at the 13 entrances to the grandstands as well as at the entrances to the service, team and VIP areas. This model is perfect for use in these areas – thanks to its simple design and 360° allround view for monitoring the entire room. Just one Q24 camera can monitor an entire room and store the recording as a high-resolution video sequence in the camera itself. Like all MOBOTIX cameras, the Q24M has no moving parts and therefore has a very long service life with minimum maintenance. In spite of the camera's powerful processor, the average power consumption of the Q24 with activated MicroSD card recording is still very low – only 4 watts.

Twenty-two M24M cameras are installed in the grandstands. The 90° wide-angle lens of the M24

allows nearly an entire room to be monitored from just one corner. The camera delivers crystal-clear images, with megapixel resolution and digital zoom as well as a frame rate of 30 VGA images (640 x 480 pixels) per second. All of the events in the corridors are monitored by nine D24M dome cameras.

MOBOTIX video solutions provide high security both inside and outside the arena, where fourteen M12D cameras are monitoring the parking lot. The weatherproof dual network camera delivers megapixel resolution. And two separate image sensors for day and night operation with color and black and white sensors make the camera perfectly suited for operation around the clock. Depending on the lighting conditions, the device switches automatically between the color sensor with the daylight lens and the light-sensitive black and white sensor.
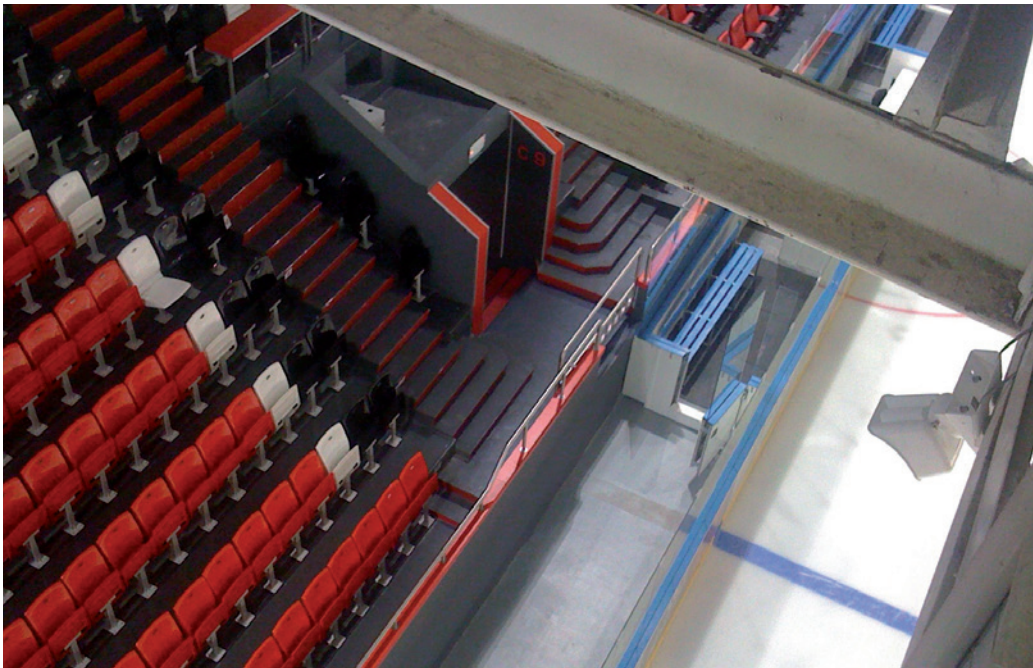
A total of 74 cameras are securing the area at strategic places of the ice arena: Entrances, offices, team dressing rooms, traffic lights and parking lot. To monitor the special local features MOBOTIX camera models M12, D24, M24, D14 and Q24 were installed.

it's all a matter Of Resources

The video management system is operated by two staff members on game days. The rest of the time it works without any supervision at all. Thanks to the event search function, it is possible to search for specific events quickly and easily. MOBOTIX cameras enable the user to set up event-controlled recordings that are triggered when movement is detected in the camera image or if the specified volume level is exceeded. In addition, the user can set up an alarm which automatically triggers a phone call to a specified number if a particular event occurs. „This helps us to save valuable resources. We do not need a large IT department to control and monitor the system, so we can save time and money," says Alexandr Brylov, describing the advantages of the solution.

The next Generation of The MOBOTIX Camera Family

„The MOBOTIX system has proven to be a reliable security solution. Since we installed the cameras, our staff, players and visitors feel much safer. More and more fans have started bringing their families to the stadium and we are often sold out," says Brylov, pleased. Because of this, the Druzhba Arena is currently planning to expand the grandstands. This means that more MOBOTIX cameras will be installed in the future. The growing number of visitors will also make it necessary to build additional parking spaces. And of course this means that more cameras from the German company will be needed to help keep an eye on everything.

MOBOTIX

MOBOTIX has developed and manufactured IP video systems, video management and analysis software in Germany since 2000.
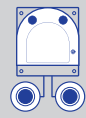
MOBOTIX stands out for its **high level of reliability**. All outdoor cameras are subjected to a stress test for temperatures between -30°C and +60°C (-22°F and +140°F). Without additional components, without heating or cooling and with no moving parts (for example auto iris), they are virtually maintenance free.

MOBOTIX delivers a **perfectly matched package**, starting with the microSD card for storage management and HD audio (microphone and speaker) with VoIP telephony through video analysis, a professional video management system and motion detection software reducing false alarms.

The **decentralized architecture** means that a central computer is not required and the network load is minimal. The intelligent cameras from MOBOTIX process and store image data themselves, trigger events and, in the event of remote access, manage the frame rate and resolution depending on the available bandwidth.

The **6MP Moonlight sensors** and complementary **thermal imaging technology** ensure reliable detection of moving objects, even under the most challenging light conditions and over long distances. As a result, it is possible to cover large areas with just a few cameras. Less power cabling, less IT infrastructure and fewer additional light sources are needed. MOBOTIX cameras are powered using standard PoE and do not require more than 4-5 watts.

An intelligent IP video system from MOBOTIX allows you to **reduce total costs**. The investment pays for itself after a short time and the free-of-charge software and updates ensure it is a future-proof investment.

Outdoor Dual Lens

M15/16 AllroundDual	S15/16 FlexMount	D15/16 DualDome
Robust for extreme conditions	Flexible dual camera	Modular dual camera

Thermal

M15/16 Thermal	S15/16 DualThermal
Thermal dual	Thermal dual

Outdoor Single Lens

M25/26 Allround	S15M/26 FlexMount	Q25/26 Hemispheric	D25/26 Dome
Robust for extreme conditions	Discreet, video analysis	Discreet, video analysis	Modular Fix dome

Indoor

i25/26 Panorama	c25/26 Hemispheric	p25/26 Allround	v25/26 MiniDome
180° hemispheric	Discreet, video analysis	Modular ceiling camera	Vandalism camera

Door Modules

Camera	BellRFID	Keypad

MxDisplay+

Remote Station

Door Sets

Double Frame		Triple Frame	

Retailer information:

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