Over 700 Axis cameras installed at Belgorod's largest shopping and entertainment center.

GRINN Corporation and IT Center LLC jointly selected Axis cameras to provide security at the MegaGrinn shopping and entertainment center in Belgorod.

Organization:
GRINN Corporation

Location:
Belgorod, Russia

Industry segment:
Retail

Application:
Safety and security

Axis partners:
IT Center LLC, ITV

Mission

During the construction of a new shopping and entertainment center, the developer had the task of ensuring security not only for the facility itself, but more importantly for the future customers and tenants. The core of an integrated system needed to consist of an IP video surveillance system with cutting-edge features. The key objectives were continuous monitoring of shopping and entertainment center halls, surveillance of storefronts, and monitoring of store cash register areas.

Solution

The set objectives required high image detail, while the size of the facility required a large number of various types of cameras; this, in turn, required smart algorithms to reduce loads on both security system operators and video surveillance system network resources.

Based on these assumptions, GRINN Corporation technical specialists tested cameras from various manufacturers on exhibition stands from IT Center, and selected a series of Axis network cameras integrated with Intellekt software. The key selection criteria were not only high reliability and dependability of equipment and software, but also the wide spectrum of features needed by the client.

Result

Careful work resulted in a single IP video surveillance system for all the client's facilities. Data from all video cameras stream to the operator post, providing continuous monitoring of the entire shopping and entertainment center grounds. The smart component of the video system significantly reduces the required number of security system operators compared to systems of previous generations.

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> "We tested cameras from many manufacturers, but only Axis cameras provided us with the necessary image quality and reliability. Axis equipment does a great job of handling the workload even under worst-case conditions, and thanks to the highly qualified specialists from IT Center LLC, we have at our disposal a reliable system that allows us to achieve a wide range of objectives."
>
> Viktor Yazvinsky, GRINN Corporation Communications and Specialized Technology Manager.

Facility characteristics

The Mega Grinn shopping and entertainment center, built and opened in 2013, comprises 168,000 square meters and is the largest shopping and entertainment center in Belgorod. Much of the center's space is dedicated to customer recreation: a huge amusement park for the entire family; a children's play and exercise center; a six-screen movie theater for 1,200 viewers with cutting-edge digital movie equipment and 3D-Auro sound systems; a bowling alley with 26 lanes; a regulation-size Olympic ice hockey rink; "Chasy" night club; a billiard club with 26 tables; a karaoke club with two halls; a food court with six operators; three themed restaurants; and many cafes and bars.

Camera selection

A facility with so many functions always requires an integrated approach to video surveillance. The large number of customers and employees, delineation of access areas, changing lighting and contrast – these are just a few of the many factors the installer must consider. Around 700 Axis cameras were installed within the site. AXIS P3344 Network Dome Cameras were selected for surveillance of shopping areas; these cameras ensure sufficient oversight, and they also blend in well with the stores' interior decor. Monitoring of cash register operations, which requires high detail, was organized using AXIS P1344 HDTV Network Cameras. The "main force" at multiple entertainment sites consists of over 300 AXIS M1114 Network Cameras. Security for the parking lot required more resilient solutions, both in terms of climate and the human factor, so vandal-resistant outdoor cameras were selected: AXIS P3346-VE fixed dome cameras and AXIS M3114-VE discreet, compact cameras. The impressive operating temperature range (from –40 °C to 55 °C for AXIS P3346-VE and –20 °C to 50 °C for AXIS M3114-VE) make them irreplaceable for Belgorod's harsh winters.

Infrastructure solutions

700 cameras generate an enormous amount of information, so a dedicated fiber optic cable infrastructure was developed to transfer video data. Video data are processed by 12 DELL PE R720 servers (2 CPU E5-2643/32G/3*300G SAS/Win 2008 Server). Memory is provided by a DELL PV MD 3260i + MD3060i system with a total of 360 TB of memory. The network is built on 4 DELL PowerConnect 8024 switches (24*10 Gbps); DELL PowerConnect 3524P and 3548P switches were selected as floor switches. The operator post is equipped with 20 DELL Precision T3600 graphic stations using DELL OptiPlex PCs with Intel i7 and i5 processors.

Software selection

Operation of such a huge system requires not only integrating video surveillance from the entire complex, but also significantly automating processes in order to minimize the human factor in surveillance and reduce the number of operators required. Intellekt software was selected, with help from IT Center specialists. It was exactly what was needed: broad scaling capabilities, convenient interface, high analytical capacity, compatibility with Axis equipment, and continuous manufacturer support – the competitors never stood a chance.

Project outcome

The video surveillance system has become an irreplaceable tool for both the security service and the GRINN Corporation management. The user interface can (with the corresponding access) create ad hoc queries to the archive to obtain precise access to times, events, or facilities, which greatly simplifies and accelerates resolution of incidents. Smart video signal processing optimizes the surveillance process and greatly reduces the workload of security service personnel, which has a positive effect on the quality of their work.

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