Tyger Valley Shopping Centre, Durbanville Winelands (Cape Town)

Safe "IP" Shopping In The South African Shopping Center

IP Video Technology From MOBOTIX Provides Safety And Reduces Maintenance And Operating Costs

South Africa and the rising crime rate are two issues that we often hear mentioned together. But that is more applicable to large urban centres such as Johannesburg, Durban and Pretoria, and (in part) Cape Town. By contrast, the rural areas of the Western Cape, for example the Cape Winelands, have relatively lower crime rates. Close to the Durbanville Winelands, near Cape Town, we find the popular Tyger Valley Shopping Centre. At about 500,000 square meters it is the second largest shopping centre in Cape Town and has more than 275 shops, including restaurants and cafes, shops, leisure, art retail stores and a movie theater complex, turning a shopping center into a fun and feel-good oasis. For this to continue, the owners of the complex relies on the latest IP video technology. The old analog surveillance system has been replaced by a modern network solution to enhance security for the Center and its visitors.

Shopping Center Relies On A Network Solution

The management of Tyger Valley Shopping Centre has high standards for their own performance. Shops, shopping experience, and security - all work together to make guests and store owners feel secure. For this reason, the owners decided to modernize the existing video solution. "The establishment of maximum security is one of our highest priorities. Because the legacy solution had provided poor quality, low-resolution footage with associated high storage needs, and high maintenance costs, we have opted for a modern network solution," said Johan Mouton, General Manager of Tyger Valley Shopping Centre.

Many Cameras, High Costs

After a detailed assessment by the local integrators, **JIST** (www.jistgroup.co.za), numerous issues were raised that required comprehensive resolution. For example, high camera counts result in higher maintenance costs. The large amount of data generated also increased the risk of system overload, leading to slow access times through 'bottlenecking' and resulting high costs for data storage and associated hardware.

Despite employing almost 500 cameras, many critical areas such as access points to the parking areas and the entrances and exits were not adequately covered. Moreover, the image quality of the original cameras was inadequate for further processing, fornsic study, identification and proper management of the stored data. Ultimately, the existing video management solution proved to be too inefficient and impractical.

High Image Quality At Low Network Load

To cope with these requirements, the Management of Tyger Valley Shopping Centre chose to use JIST, as they were using MOBOTIX cameras. In the first phase, a total of 48 cameras were used. This comprised 23 Q24's, 16 D12's, 5 M12's and 4 M24's. The Q24's were rather uniquely, employed for use inside the parking ticket dispensers giving operators a clear view of the vehicle's license plate as well as a clear, usable image of the drivers face. They offer a high image quality as a MOBOTIX camera with 3.1 megapixels takes 30 times sharper images than analogue security cameras. This produces larger image areas, with up to 360-degree

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High Security With Easy Operating

panoramic view possible, reducing the number of cameras and thus both the acquisition and maintenance costs are reduced. Besides the cost, the cameras provide a decentralized approach to networking and storage. Every single camera has a high-performance processor on-board and can optionally be equipped with long-term digital flash memory to record and automatically store video streams. The camera does not require any external computers or video recorders; all the important functions that use a large amount of processing power are integrated into the cameras themselves. Efficient video codecs, motion detection and internal data storage help to reduce the network load to a minimum.

High Security With Easy Handling

In the management of a shopping center a large number of security problems have to be overcome on a daily basis. Although the tasks are complex, the solution must be kept simple to use. "It was with this approach that JIST addressed our challenges. The result: The entire system is now a flexible, easy to use, modular and scalable mall management solution. The Tyger Valley Shopping Centre solution exceeds our expectations. We now have a system that has many features that meet our strict guidelines in securing all relevant areas on the site with the highest possible quality of information. The ease of use of the solution associated with the optimized number of cameras allows the entire system to be managed by a single user - from a single software platform," says the general manager of the mall.

Overall, the Tyger Valley Shopping Centre has benefited from the installation in many ways. In addition to improved coverage of the complex by the MOBOTIX cameras were the maintenance costs and the risks of downtime were greatly reduced. The installed fiber network not only provides more reliable transmission of data but also allows for additional infrastructural improvements at a much lower cost. Web Access solutions are continuing to drive efficient processing and reaction in the case of events that require action. Furthermore, the modular and scalable software platform can meet future requirements to customize and expand.

Software Development

The custom written software brought its own challenges. "We wrote the software specifically on site to meet all local and future challenges as regards technology changes and to integrate the required software interfaces for every possible hardware option," said Gelderbloem. "Ultimately, we wanted to provide Tyger Valley Shopping Centre with a flexible, versatile, future-proof, easy to use and modular situational awareness solution." JIST's customized software is based on Linux. Since the MOBOTIX camera software is also based on this operating system, JIST could integrate it easily into their own programme and

create a multi-layered solution. At present, the devised application provides central access to the cameras. The layout of the floor plan serves as a simple interface for Centre navigation. The software also interfaces with the server 'push' technology of the cameras while the MySQL database is combined with the "plan", "camera connected", Camera Viewer and the user manual modes. There are no license costs for the video management software because the MOBOTIX software is free of charge.

Further Expansion Planned

With the solution developed by JIST, the Tyger Valley Shopping Centre has one of the most advanced video security systems created worldwide. The system guarantees a comfortable management of the shopping complex and the security of client and shop owners. In the course of further modernization, the owners plan to use more MOBOTIX cameras to expand the new system

and to maximize the security situation. Overall, the system will comprise approximately 300 cameras covering an area of around 1 000 000 square meters.

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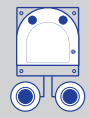
MOBOTIX stands out for its **high level of reliability**. All outdoor cameras are subjected to a stress test for temperatures between -30°C and +60°C (-22°F and +140°F). Without additional components, without heating or cooling and with no moving parts (for example auto iris), they are virtually maintenance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

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