

MOBOTIX



CASE STUDY

High-resolution cameras enhance zoo security while collecting critical information on animal behavior

Customer

The Birmingham Zoo in Birmingham, Ala., was designed to inspire passion for the natural world through emphasizing conservation, education, scientific study and recreation in all aspects of the zoo's exhibits, programs, facilities and activities. The Birmingham Zoo is a leading zoological conservation, education and scientific study resource within the United States, and the family attraction of choice in the Southeast region.



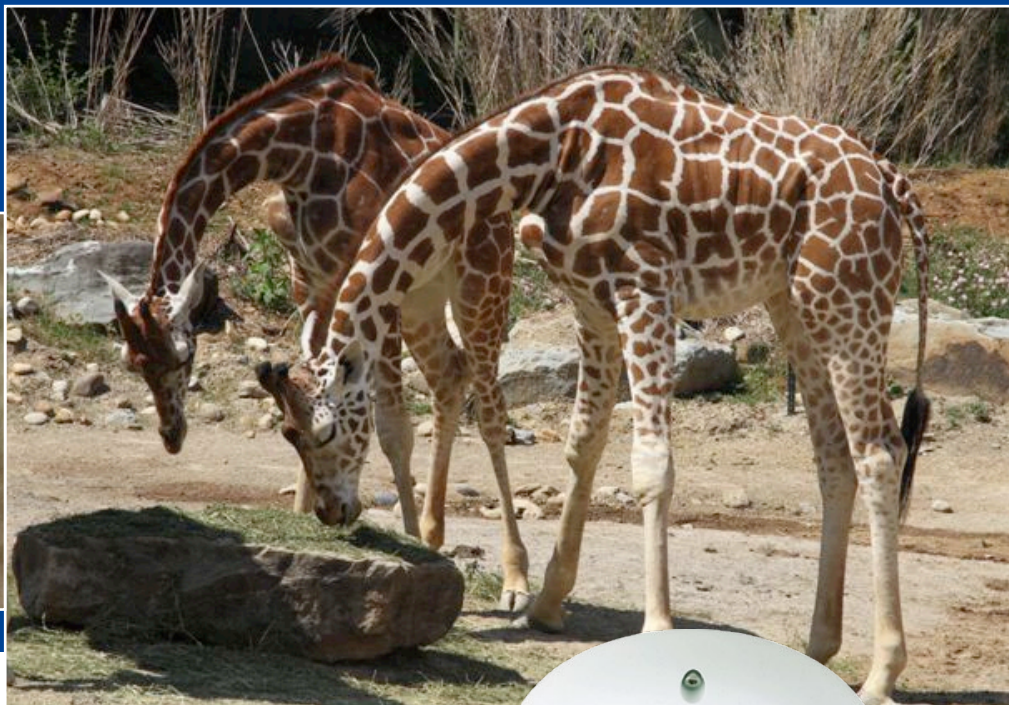
The Birmingham Zoo is uniquely poised to blaze new trails in the evolution of elephant conservation with its new exhibit, Trails of Africa. This exhibit designates the Birmingham Zoo as a national leader in

the care and conservation of African Bull elephants, and is intended to set new benchmarks for their care and breeding. Visitors can experience, explore, and become educated on the new and existing animals and their expanded exhibit areas.

Trails of Africa is designed to be a mixed-species exhibit featuring a bachelor African Bull elephant herd, red river hogs, rhinos and more. Trails of Africa also includes ground and aerial observation opportunities providing education and entertainment to the zoo's hundreds of thousands of annual visitors.

With its botanical and cultural emersion-themed motif, Trails of Africa is creating an immediate impact as a prestigious, world-class community asset. It is an economic engine for growth and tourism, and a science and ecology hub for primary schools. Trails of Africa is a place where visitors can observe African wildlife and be enlightened about the plight of endangered animals and inspired to support global wildlife conservation efforts.





Birmingham Zoo utilizes surveillance solutions to reduce crime, investigate theft and locate lost children; system doubles as tool to gather scientific animal data



Challenge

The Birmingham Zoo is dedicated to not only providing its animals with a comforting and secure environment, but to preserving data collected from its various exhibits and animals. "Animal behavior happens 24 hours per day, seven days a week, and 365 days per year," said Dan Trausch, Director of Zoo Operations, Birmingham Zoo. "But we do not have the staff resources available to devote to animal behavior 24/7." Therefore, Trausch was interested in leveraging video surveillance technology to monitor animals at specific exhibits. A new African Bull Elephant exhibit in Trails of Africa was deemed the ideal place to launch such a program as zoo officials wanted to gather information on the elephant's habits in their new environment. The new exhibit, which opened in March 2011, marks the first time that African Bull Elephants have lived in a controlled environment.

"We want to have a record of the elephants' introductions to each other, their overall behavior, and want to use video footage for scientific research," Trausch said. "Using video as a way to preserve the activity of the animals allows our team to have the data needed to be most effective and have more situational awareness."

Birmingham Zoo contacted Jason Maddox, Owner, Advanced Integration Systems, to discuss how traditional surveillance technologies could be used to enhance the zoo's scientific

research and data collection projects. Advanced Integration offers a comprehensive selection of high-tech security equipment, surveillance installations and alarm monitoring services to protect its widespread client base in Alabama, and had previously assisted Birmingham Zoo on other projects. Maddox assessed the zoo's desire for camera coverage in the elephant exhibit as well as its need to maintain a secure facility. Trausch had already conducted research on the types of surveillance cameras available and knew he wanted to leverage IP-based technology to have access to higher quality images than traditional CCTV systems. With that in mind, Maddox recommended a MOBOTIX decentralized surveillance system for its cost efficiencies, high-resolution video and video management system with simplified user interface.

Solution

MOBOTIX is a pioneer in the development of high-resolution surveillance technologies and its decentralized concept makes high-resolution video systems cost efficient. One MOBOTIX camera with 3.1 megapixels records 30 times more detail than traditional CCTV cameras. As a result, larger image areas of up to 360-degree views are possible. This reduces the number of cameras needed in any environment and therefore, upfront and long-term costs. Unlike other systems, the decentralized MOBOTIX concept incorporates a high-speed computer into every



camera to reduce network bandwidth because video is processed on the cameras itself and images do not have to be transferred continuously.

Advanced Integration installed 12 MOBOTIX high-resolution cameras to cover all areas within the five-acre exhibit, select point-of-sale stations and the safari café. The cameras, a mixture of MOBOTIX M12, M24 and Q24 cameras, are managed by MOBOTIX MxControlCenter. MxControlCenter is professional video management software included with the purchase of MOBOTIX cameras at no additional cost. It includes all the functions required from a robust security software solution including unlimited users, simple configuration and installation, layout editor for floor plans, and a user-friendly interface and camera view. When combined with the MOBOTIX decentralized concept, it delivers a complete security system at an extremely cost effective price.

“The comprehensive surveillance system from MOBOTIX enables Birmingham Zoo to record footage of the elephants’ behavior for scientific purposes, which is critical to understanding the breed’s inherent personality,” Maddox said.

The MOBOTIX surveillance system is also used to enhance security in critical park areas. The zoo called upon Advanced Integration to add cameras at additional point-of-sale areas, its membership office, its parking lot, and at high-risk areas such as entrances and exits. In total, more than 30 cameras are included in the zoo’s security infrastructure. Trausch said the zoo makes the safety and security of its guests a priority and uses the camera system to investigate incidents such as lost children or incidents of theft. The

system has already proved useful in reducing crime. A camera facing the entrance caught the image of a suspected thief leaving the zoo and zoo officials were able to pass the image over to police as evidence.

Results

“At the moment, we have 70 percent of the exhibit area covered by the MOBOTIX system and we’ll look to expand the coverage as the exhibit grows,” Trausch said. “We have three elephants now and will soon have four. As the new elephant is introduced to the existing herd, we will be able to record the interactions and that footage will be immensely valuable to the scientific community at large. We are happy with the results we’ve experienced with the MOBOTIX system as it provides detailed images of situations, including close ups of live and recorded images through its built-in PTZ capability.”

Birmingham Zoo is one of the top five largest elephant exhibits in the nation. Trausch said the zoo’s commitment to animal research and development, and its new exhibits, drove visitors numbers up in 2011. It continues to innovate with the addition of new animals and exhibits, and technology deployments. The zoo recently installed a portable MOBOTIX camera to monitor a pregnant female orangutan that recently gave birth. The event and the baby orangutan’s first days were available for zoo officials to view through remote access to the MOBOTIX video system, providing the zoo with access to more detailed scientific data than previously thought possible.



MOBOTIX – Made in Germany: Innovative Technology, Reduced Total Costs

The German company MOBOTIX AG is known as the leading pioneer in network camera technology since its founding in 1999, and its decentralized concept has made high-resolution video systems cost-efficient.

Increased Resolution Reduces Amount Of Cameras Needed

1536-line, high-resolution sensors give a better overview and allow users to monitor an entire room with just one camera.

Reduced Installation Costs At Any Distance

Standard Ethernet connection enables the use of common network components such as fiber, copper and wireless (wi-fi).

Intelligent Cameras Reduce The Number Of Recording Devices

The decentralized MOBOTIX concept makes it possible to store data from approximately ten times more cameras to a single storage device than is normally possible.

Event-Controlled Image Format Minimizes Storage Costs

Automatic image adjustment (frame rate, size) based on movement, sound or signal input reduces the bandwidth and storage requirements.

Low Power Costs, No Extra Heating

Anti-fogging without heating allows usage of standard PoE technology to power the system via Ethernet or two-wire cable, saving power cabling costs.

Backup Power Supply Costs Reduced By Over 80 Percent

Low power consumption, approximately four watts, enables year-round PoE (no heating required) with one centralized UPS from installation room using the network cabling.

Robust And Practically Maintenance-Free

Fiberglass-reinforced composite housing with built-in cable protection and no mechanical moving parts (no auto iris) guarantees longevity.

Software For Thousands Of Cameras And Storage Devices Included

The right premium user interface software for every application: MxEasy for compact video solutions, MxControlCenter for professional control centers.

Unlimited Scalability And High Return On Investment

While in use, more cameras and storage can be added at any time; image format, frame rate & recording parameters are camera specific.

Additional Functions And Other Extras Included

Audio support, lens, wall mount and weatherproof housing (-30 to +60 °C; -22°F to +140°F) are included; microphone & speaker available in almost all models.

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