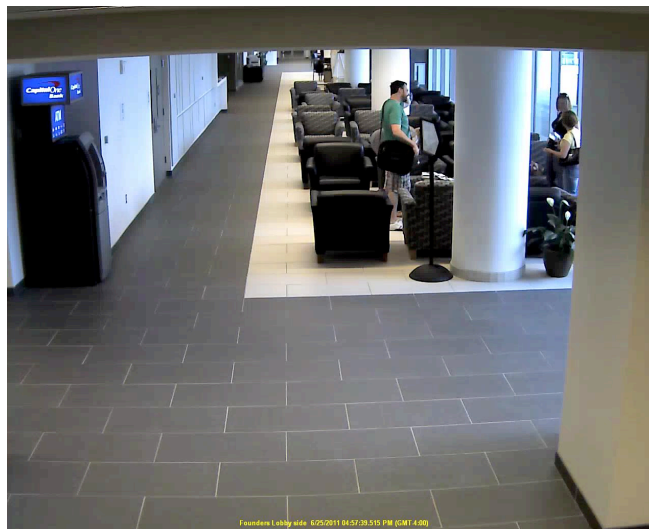# George Mason University Deploys Arecont Vision Cameras

Several Arecont Vision Models Including 8-Megapixel Panoramic Cameras
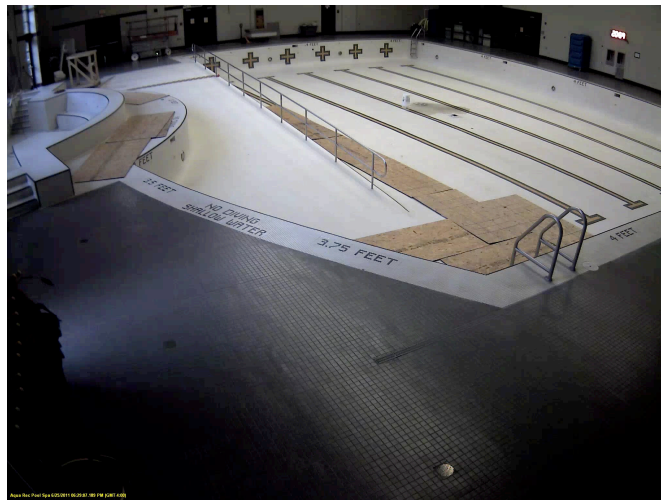
Keep Watch Over Multiple Campuses

CUSTOMER:

George Mason University is one of Virginia's fastest growing higher education institutions with four campuses and 36,000 students. Located in the heart of Northern Virginia's technology corridor near Washington, D.C., George Mason University offers strong undergraduate and graduate degree programs in engineering, information technology, biotechnology and health care. The George Mason University School of Law has been recognized by *U.S. News and World Report* as one of the top 40 law schools in the United States.

CHALLENGE:

The previous video system at George Mason University suffered from poor video quality and a lack of standardization. The legacy system could not provide the needed levels of video surveillance, either related to the area being viewed or the quality of images needed to identify events and/or individuals. A new construction project included the required funds for an initial investment in an IP-based surveillance system. The University needed a system that could provide better video quality to capture facial recognition and to offer a wider range of options.

MEGAPIXEL SOLUTION:

A need for better image quality led George Mason University directly to IP-based megapixel camera technology. The University evaluated several well-known camera suppliers before deciding on Arecont Vision, which leads competitors related to processing power, breadth of the product line, and use of H.264 compression technology to minimize bandwidth and storage needs.

"We have installed almost every variety of megapixel camera made by Arecont Vision, from the 1.3 megapixel MegaDome® to the 8 megapixel 360-degree SurroundVideo® panoramic camera," said James L. McCarthy Jr., Director of Physical Security, George Mason University, Fairfax, Virginia. The capabilities of various cameras are matched to the areas they need to cover.

Cameras have been installed in athletic facilities, including an Olympic-sized pool; in

academic buildings; and in parking garages, according to Brian Piccolo, Senior Account Executive, S3 Integration, Baltimore, Maryland. The system was designed jointly by George Mason University and S3 Integration. Future installations will include the University's residence halls.

Two panoramic 360-degree cameras are positioned over a broad plaza area to enable surveillance of activity on the plaza while also covering doors leading into an adjacent building. Each camera's 8 megapixel images (from four 2 megapixel sensors) provide 360-degree coverage from inside a 6-inch dome. The camera is used to view large areas while capturing megapixel detail. Each camera provides up to 6400 x 1200-pixel images at 5.5 frames per second (fps), or can be set for lower resolutions at higher frame speeds, such as 1600x1200-pixel images at 22 fps. The cameras use Arecont Vision's MegaVideo® image processing at billions of operations per second. The cameras also provide image cropping and up to four regions of interest.

Several 180-degree cameras cover the pools and gym floors in George Mason's athletic facilities. The 8 megapixel, 180-degree panoramic camera also incorporates four 2 megapixel CMOS image sensors to provide 6400 x 1200-pixel panoramic images at 5.5 fps.

Covering long and narrow runs (such as hallways and drives) are 3 and 5 megapixel cameras from Arecont Vision. Arecont Vision's 5 megapixel camera uses a 1/2-in. CMOS sensor to provide 2,592 x 1,944-pixel images at 9 frames-per-second. Light sensitivity is 0.3 lux at F1.4. The camera can output multiple image formats, allowing the simultaneous viewing of the full-resolution field-of-view and regions of interest for high-definition forensic zooming. Arecont Vision's 3 megapixel camera provides 2048 x 1536-pixel images at 15 frames per second. Light sensitivity is 0.2 lux at F1.4.

The images from Arecont Vision's IP megapixel cameras are fed to a local ExacqVision network video recorder, which is monitored by a Central Security Operations Center. Signals from some of the cameras are also fed to a central server that have been downloaded with Exacq software. All video data is transmitted over a secured, firewalled, standalone security

network within the George Mason University intranet system.

The majority of the Arecont Vision cameras are placed in areas where there is sufficient light at all times. Parking garages are currently monitored with Arecont Vision day/night cameras, which use a motorized infrared (IR) cut filter. These cameras can monitor license plate numbers and increase the productivity of garage personnel by monitoring daily tasks like: credit card transactions, remotely.

Now, any George Mason University department that wants to add video surveillance can call on S3 Integration to upgrade and expand the system using funds provided through departmental budgets.

MEGAPIXEL BENEFITS:

"Advantages of Arecont Vision cameras over competitive products include performance, versatility, price and ease-of-use," said Mr. Piccolo. The end-user customer especially likes the ease-of-use and the sharp pictures available from the various Arecont Vision models. "The price point was better and [the cameras] helped eliminate some costs," said Mr. Piccolo.

"We now have better forensic capabilities and more flexibility in the recovery of data," added Mr. McCarthy.

The main attribute of the Arecont Vision camera line is the ability to install fewer cameras while capturing video from a larger area. Fixed megapixel cameras providing virtual pan-tilt-zoom (PTZ) within captured images translates into fewer moving parts than traditional PTZ systems, which reduces overall maintenance cost and the potential for system failure.

The picture quality and digital zoom capabilities of Arecont Vision cameras far exceed analog technology and allow George Mason University to retrieve usable video. Combined with recent cost reductions in NVR storage and network switches, the use of fewer cameras allows George Mason University to transition to higher-quality video at a minimum increase in

cost.

Megapixel imaging represents a significant upgrade in system functionality compared to standard-resolution cameras. In addition to lower bandwidth and storage requirements, using fewer megapixel cameras to cover larger areas can dramatically decrease costs related to other elements of a system, such as fewer software licenses, fewer lenses, and a decrease in man-hours needed to install the system.

ABOUT ARECONT VISION:

Arecont Vision collaborates with various NVR suppliers such as ExacqVision to ensure smooth integration of systems using Arecont Vision megapixel cameras. Arecont Vision also works with technology partners for tighter integration with complementary products, including servers, storage and other systems, which makes the integrator's job even easier. The overall systems at George Mason University have performed well to date, and Arecont Vision has been responsive.

Arecont Vision's camera line ranges in image resolution from 1.3 to 10 megapixels, including camera models providing advanced capabilities such as dual day/night and panoramic viewing. Using H.264 compression, Arecont Vision cameras provide greater compression efficiency to solve system issues related to bandwidth and storage. The Arecont Vision line also include the MegaDome™ series of all-in-one-dome cameras and a compact JPEG series of cameras to address cost-sensitive applications.

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