

Arecont Vision

Accelerated transition to megapixel technology



From Arecont Vision's top floor offices in Glendale, California, the message of megapixel benefits is spread around the world.

Even though Arecont Vision's cameras have only been on the market for five years, the company is commonly regarded as a leader in high quality megapixel network cameras. Given the short period of time since megapixels surveillance cameras first made their debut, the company now sees a dramatic acceleration in the transition from analogue to megapixel cameras.

By Pär Isacson

There is a clear global trend in video surveillance going from analogue to network based systems. Steven Sarfati, senior vice president of international sales at Arecont Vision, states that their clients aim for more. Industry professionals are looking to networked systems for more than just an efficient transmission path, they're looking to improve the overall performance of their video surveillance systems. Megapixel cameras deliver the performance customers need for high quality imaging and the ability to make better use of advanced analytics.

"We see users making the switch from analogue cameras – not to 1.3 megapixel cameras, but straight to cameras with 2 megapixels or more. The reason is that professionals understand the value proposition provided with

these higher resolution devices," Steven Sarfati says.

There is approximately four times the pixel density in a 1.3 megapixel camera compared to a standard VGA resolution camera. As a result of the improved image capture performance provided by the 1.3 megapixel sensor, it is possible to replace three or four standard analogue cameras with a 1.3 megapixel camera without compromising camera coverage in many instances. Higher multi-megapixel cameras further increase the value proposition depending on the application.

"Because a single 2 megapixel camera can replace approximately five or six analogue cameras, users can realise an even greater return on investment by eliminating the need for overlapping multiple camera coverage. If you can replace five analogue cameras

with one 2 megapixel camera, you'll need four less brackets, four less lenses, four less enclosures, four less cables to install, and less installation preparation and time. Additionally, four less NVR licenses are required which can amount to a significant savings."

According to Steven Sarfati, the average NVR license can sell from one to a few hundred U.S. dollars, which can quickly add up in savings by reducing the number of cameras implemented in a system.

"When calculating return on investment comparing analogue to multi-megapixel cameras, the difference can be quite significant in favour of multi-megapixel," Mr Sarfati continues. "In effect, you purchase less of everything, and get higher performance as a result of superior megapixel imaging performance."

Soon to be six years and growing

Arecont Vision was founded in 2003 with a focus on developing the industry's most efficient megapixel technologies and cameras. Steven Sarfati joined the company in 2004 as Arecont Vision's first sales person when there were only four employees on staff. Now, Arecont Vision employs nearly 100 people.



Arecont Vision AV8360.

All design, development, final assembly and quality assurance takes place at the company's facility in Glendale, California, which also houses warehousing and shipping operations. Arecont Vision's cameras are "Made in the USA" with manufacturing local to the Southern California area.

Arecont Vision sells its megapixel cameras through a select network of professional security integrators and distributors, who according to Steven Sarfati consider their megapixel cameras to be premium products.

In recognition of the company's commitment to develop and advance products with more capabilities than competing vendors and products, Arecont Vision last December was awarded the Frost & Sullivan European Product Line Strategy of the Year.

Arecont Vision's megapixel cameras are typically used to monitor large areas, such as park-





ing, stadiums, prisons, casinos, airports and schools, because of the benefit of decreased cost per unit area under surveillance with megapixel cameras compared to standard definition cameras. The gaming industry has also been a growing market for Arecont Vision's megapixel cameras because of their ability to clearly identify chips and cards at gaming tables.

Steven Sarfati stresses that Arecont Vision's growth in the North American and European markets has been very rapid, but also that the company is pursuing growth in emerging markets such as the Asia-Pacific region.

"There is tremendous opportunity for new business development in China. Security professionals in the region are very interested in our technology and we are involved in several high profile projects employing advanced system technologies," says Steven Sarfati.

The relationship between bandwidth and megapixel

"There is a misconception that megapixel technology uses more hard disk space and more bandwidth than conventional analogue cameras, this is not completely accurate. When planning video surveillance coverage for a parking lot, you need to record the same field of view at similar combined resolutions regardless of whether you're using a single 1.3 megapixel camera or four analogue cameras. Whichever you select, you will be using a similar amount of disk space," Mr Sarfati says. "With megapixel cameras you can reduce the overall hard disk space and required network bandwidth simply by cropping the unnecessary parts of the field of view. Additionally, if you employ Arecont Vision's H.264 cameras, network bandwidth and storage requirements can be reduced by up to a factor of ten on average. This can all result in more efficient use of network bandwidth and hard disk space compared to standard analogue solutions."

In times when corporations and government organisations need to think twice before investing their money, some market analysts expect buyers to opt for cheaper alternatives. Some even expect a temporary surge in sales

of analogue equipment because of the lower initial cost. Mr Sarfati disagrees.

"Ultimately, purchasing inexpensive video cameras with low performance will not deliver the results businesses and governments demand. At some point, the facility's infrastructure will be updated to accommodate networked systems, which makes investments in analogue cameras somewhat counterproductive. In the interim, many users are implementing hybrid solutions combining their existing analogue cameras with Arecont Vision's megapixel IP cameras. This allows them to improve the performance and efficiency of their system providing them with megapixel cameras."

Steven Sarfati shows a couple of video clips to prove his point. With a standard VGA camera



Arecont Vision AV8180.

you get a limited field of view and you can barely make out an individual's face. The megapixel camera alternative provides a lot more detail as the image was larger and the details richer.

"With megapixel cameras, you have access to high resolution images when you need them – both live and recorded. For example, you can easily see what people have in their hands, what they look like, and you can keep zooming in closer for more details."

Arecont Vision's AV8180 and AV8360 are quad cameras with four sensors of 2 megapixels each, providing a 180 or 360 degree panoramic view respectively, to simultaneously capture an entire field of view at the same time. The units consist of four cameras in one, at about 2.5 times the price of a standard 2 megapixel camera, with the advantage of being able to replace up to 24 analogue cameras using just one cable and one enclosure. The AV8180 and AV8360 also simultaneously deliver panoramic and zoomed video.



"We are the only supplier of 1 to 5 megapixel cameras with true H.264", says Steven Sarfati, senior vice president of international sales at Arecont Vision.

Arecont Vision's cameras are equipped with multi-zone motion detection but do not house any other analytic functions.

"We believe that video analytics are best implemented on the server level. It's much more cost efficient to buy a core duo or quad core PC, and put it at the server level, rather than replicate the functionality at every camera.

Not all megapixel cameras are alike

Steven Sarfati says that all megapixel cameras do not provide the same levels of performance. H.264 compression is also not the same from one camera to the next. Arecont Vision recently announced H.264 on their cameras, which is said to save up to ten times the bandwidth and hard disk space on average compared to that of a standard JPEG.

"We are the only supplier of 1 to 5 megapixel cameras with true H.264, which provides the ability to stream the entire field of view in full resolution at full frame rates. Many other companies in the megapixel world claim to have H.264, but they only stream out at lower resolution, for example 640x480, or 320x240. Doing so might be helpful for display purposes, but for archiving, they would still have to record megapixel resolution in JPEG format, which provides no bandwidth or storage savings. Other companies can stream full resolution megapixel video, however, at crippled frame rates. In either event, they are not maximizing the benefit of H.264. What we're doing is giving the client the full frame

rate and full image resolution in H.264."

"There is also no degradation in image quality between our JPEG and H.264 images. With many of other vendors' megapixel cameras, the image quality between JPEG and H.264 is not comparable," says Steven Sarfati. "When selecting megapixel cameras, the comparison in image quality between JPEG and H.264, and the bandwidth savings are what matters."

Educating the market on megapixel

The only obstacle to the widespread acceptance of megapixel cameras has been a lack of education and information in the market. Mr Sarfati believes it is Arecont Vision's job to work with other companies in the industry to make sure end users, resellers, specifiers, and consultants alike understand the value of megapixel technology and cameras.

"We are putting efforts towards an education process regarding the benefits of megapixel technology and cameras. Arecont Vision stages seminars and hosts presentations, we distribute collateral, issue press materials and advertisements. Educating the market is a function that every one of our salespeople is involved with."

Standardisation initiatives

As a core member of the PSIA committee, Arecont Vision is participating in the ongoing effort to define specifications that help set industry-wide standards for networked video surveillance systems.

"Our involvement with PSIA has helped heighten awareness as to the requirements for megapixel cameras. It's important that professionals know that megapixel cameras need to be evaluated differently than conventional analogue cameras. They offer far superior capabilities like the ability to provide video that can be cropped, multiple simultaneous streams, regions of interest, and simultaneous digital PTZ. And with megapixel cameras, users do not have to store the entire field of view captured – that's a misconception. The overall benefits of megapixel cameras are clearly superior to legacy analogue cameras," Steven Sarfati concludes. ■