

IFSEC 2017: Big data and artificial intelligence more than buzzwords

Published on 30 Jun 2017



A growing emphasis on the impact of data – storing it, analysing it, and getting more value from it – was a common theme at this year’s IFSEC. Throughout the three days of the show at London’s ExCeL exhibition centre last week, there were many conversations about the growing benefits of the data generated by today’s physical security systems.

- ✦ Industry embraces deep learning & artificial intelligence
- ✦ Video analytics increasingly critical
- ✦ Access control provides business intelligence
- ✦ The move towards edge-based storage

Deep learning and video analytics

Video data was one key focus; especially how tools such as artificial intelligence and deep learning will create more value. However, Bjørn Skou Eilertsen, Chief Technology Officer of Milestone, warns that some companies may be adopting the [deep learning buzzwords](#) prematurely for marketing purposes. *“I am surprised that so many companies at IFSEC have picked up on deep learning without having meat on the bone,”* he says. The real challenge is to drive the deep learning value proposition, and truly deliver on the innovations to customers. Not surprisingly, he sees [Milestone’s “open system community” approach](#) as the best way forward.

Embracing deep learning and artificial intelligence will change the dynamics of video analytics and could lead to a renaissance in the market, says Eilertsen. Historically, video analytics have been rules-based and *“you have to know what you’re looking for,”* says Eilertsen. The approach has limited ideas about what analytics can do, while issues such as ownership of patents have made companies hesitant to enter the fray. The deep learning approach both breaks through the confines and makes patents covering rules-based analytics irrelevant.

“It’s changing the dynamics of the analytics market and inviting new players to engage,” says Eilertsen. *“Deep learning and neural networks are not managed the same way, they are easier to engage, and more people are engaging.”*

Growing camera counts and multiplying data streams

More and better video analytics are a necessity as camera counts grow and video data streams multiply. Video analytics add a critical automation aspect to video systems, enabling systems to process video and provide needed information without requiring operators to view hours of video to find a needed detail – the proverbial needle in the haystack. Using neural networks to analyse video offers a clear advantage over the process of monitoring 10,000 cameras, for example.

The extra processing power for deep learning comes from graphics processing unit (GPU) hardware, which provides faster, parallelised computing and enables neural networks. *“It changes the way the industry looks at analytics,”*

says Eilertsen. He sees coming innovation around more predictive modeling and systems that change over time to solve a shifting array of problems. Milestone's future lies in supplying a deep learning element operating alongside the video management system, providing a platform onto which innovators from the Milestone "community" can solve new problems that leverage the value of tons of video.

Milestone has extended its VMS ecosystem to even the industry's smallest customers. Milestone has released a free video management system (VMS) product for use with up to eight channels. The approach allows a small business to embrace video surveillance on a small scale and low cost, and then grow the system over time, hopefully eventually becoming a customer of Milestone's XProtect corporate-level product. The transition path only involves upgrading the licence as the system grows. A basic, eight-channel system is built using the same binary code as the larger products.

AI education at IFSEC

NVIDIA, the GPU manufacturer that provides hardware for the industry's transition to artificial intelligence and deep learning, exhibited at IFSEC as part of its [continuing awareness push in the physical security market.](#)



NVIDIA also raised awareness of AI and deep learning at its GPU technology conference in San Jose

Eddie Seymour, European Technical Director of NVIDIA, acknowledged a mission of

“evangelism” at IFSEC. *“We’re not here to sell you anything, it’s more of an education,”* he said. NVIDIA is working with partners to incorporate GPUs, including Jetson “embedded” systems, into various technologies.

To illustrate the sheer power of AI platforms, a flat screen monitor at NVIDIA’s stand displayed video analytics working simultaneously on 30 high-definition video streams, illustrating the fast processing capabilities as the system identified anomalies on each stream as a rapid pace.

Seymour said they have had a lot of conversations with end users at IFSEC about how they might use the technology. NVIDIA can then act as “matchmaker” to pair up end users’ needs with various partners that are working in those specific areas. City-wide projects are a focus for NVIDIA, and Europe is another place where cities are embracing newer intelligent systems. Seymour says the market is more fragmented in Europe than in the U.S., and there are more startups playing in this arena.

Leveraging access control data

Data is driving innovation in the area of access control, too. More customers are looking for ways they can leverage access control databases for information about buildings, people, movements, and behaviour in the corporate environment. Combined with information from IT systems, access control can provide a holistic view of a business. *“You can see the trends and statistics, can predict some issue about a certain door,”* says Raf Schrijvers, Project Marketing Manager EMEA, Tyco Security Products. *“You can discover anomalies in terms of business users, for employees and for subcontractors and visitors. In the case of subcontractors, you can verify how long they were on the premises. Access control becomes a tool to track work time.”*

Being at IFSEC (in a meeting room at the back of the hall), Tyco had a chance to hear the voice of customers. *“They want to use access control systems in a good way, capturing data and doing something with that data as useful information,”* says Schrijvers.

“We can go into complex reports and make them easy to read for management. They can evaluate building uses and energy costs, or calculate cost savings over time.

Access control becomes a real tool for them, and they can even make the company money over time.”

In addition to listening to customers, Tyco’s meeting room also provided a forum to discuss the corporate roadmap and strategic vision with select customers. Product enhancements include embedded visitor management, dual-factor authentication and enhanced security. Mobile apps are another area of focus, offering new ways for users to interface with their access control systems. Users can provide “I am safe” messages in an emergency, for example, or pop-up alarms can be communicated easily from the central system.

Optimising storage for video surveillance

Storage is another aspect of data in the physical security market that was well covered at IFSEC 2017. Western Digital (WD) focused at the show on their broadening range of storage products, now including in-camera flash (SD) storage as a result of WD’s acquisition of San Disk. Resonating with the market trend toward more edge-based storage, San Disk products offer high endurance, which is needed for video surveillance applications where they might need to last for five years or



Tyco's customers want to capture access control data as useful information

more. A mistake integrators make is using consumer-grade SD chips, which have not been optimised for video surveillance applications, says Ziv Pax, Director, MCS Industrial Channel Business, San Disk (a WD brand).

WD also unveiled its Gold storage platform for larger enterprise uses (550 terabytes per year in workload) as well as the Purple product, which accommodates 180 terabytes per year in workload and now offers up to 10 terabytes of storage (new at the show).

In addition to better security, an emerging byproduct of our industry's products and systems is a steady flow of data that can be translated into useful information for customers. It was one of several hopeful signs revealed in our discussions at IFSEC. The industry is clearly moving in new directions, with new vibrancy and towards renewed prosperity.

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