The Evolving Landscape of Security Technology

Lessons from ISC West 2024

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I spent the last week at ISC West 2024, one of the largest security technology conferences in the world. As MOBOTIX's CTO, it's always exciting to see the latest innovations in the security industry and how they can help us create even better solutions for our customers. After walking the show floor and seeing plenty of product demos, I came away with one major takeaway: the landscape of security technology is evolving quickly.

The Synergy of Edge Computing

I went into ISC West this year optimistic about what we'd see regarding edge. AI-powered security solutions are becoming more prevalent and advanced, with real-time analytics that can quickly detect and respond to potential threats. And the marriage of integrated apps and edge computing is allowing for even faster and more efficient processing of data, making it possible to monitor multiple cameras and sensors in real time without relying on a central server. In addition to the many new apps on the edge, those systems looked for modern storage solutions. Many showcased camera systems integrated directly into cloud without need for local server structure. Algorithms are then not limited to capabilities of edge systems but can rely on the full computational power of the cloud backend system. Therefore, advantages of direct real-time first analysis on the edge are combined with the massive power of cloud systems.

Thermal Technology: From Niche to Norm

Another trend I looked out for this year was the use of thermal technology in security solutions. Usage of thermal sensors for protection of critical infrastructure is getting an almost common technology that was demonstrated by several companies. The sensor technology was not even limited to thermal, but also systems as Time-of-Flight sensors or LIDAR systems that are directly measuring distances of objects were part of the exhibition. Although thermal use cases were described as thermographic technology, surprisingly little demonstrations used the actual temperature values and relied more on the visual representation of the thermal image itself. Thermal technology was by itself also directly combined with AI technology to allow for detection of relevant objects. Use cases for actual pixel-wise temperature measurement were rather limited and only shown with few examples as early fire prevention. More refined thermal cameras are used for solutions such as early fire detection, but the general applications for thermal technology are expanding.

An Evolving Industry

One major takeaway for me is that cameras need to be more and more tailored to the actual use case instead of being generic. This specialization of the camera is not necessarily on the hardware level but is shifting more and more to the software level where the specialization of the camera is provided by software level only. This specialization is also supported by AI which allows for an analysis of the video data tailored to the individual needs of each application based on sophisticated training frameworks. ISC West 2024 was much more than a showcase of technological prowess—it was a testament to our industry's tenacity and foresight. We are entering an era where security solutions aren't just solutions; they are preemptive, deeply integrated systems tailored to the unique needs of each use case.

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