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POWERING IoT AND EMBEDDED INNOVATION

Smart-Building Tech Enhances the Education Environment

One lesson learned from the pandemic is the importance of in-person learning. K-12 students get more than education at school. They get vital resources and relationships that help them thrive. Everyone—administrators, teachers, parents, and students—want their campuses to provide a safe and healthy atmosphere.

With a broad set of needs—from improving indoor air quality to addressing physical security—school administrators need to make prudent investments to achieve their goals.

Through its expertise in smart-building technologies, Honeywell International Inc., a global provider of technology solutions works with schools to tackle these challenges.

Schools often don't have the budget for major capital expenditures. It's essential for administrators to be aware of funding sources for upgrades and to deploy solutions that leverage existing infrastructure. Honeywell's smart-building platforms can work with systems already in place, for both cost and sustainability.

AI and Computer Vision Expand School Health to School Safety

The company helps schools implement a broad range of solutions based on IoT technologies from AI and computer vision at the edge, to centralized management in the cloud. For example, its smart-building platforms can help school districts maintain physical security while regulating air-quality control, managing energy, heating and cooling systems—each through AI-powered video, sound detectors, and real-time analytics.

The system tracks KPIs and issues alarms to a dashboard that includes a view of floorplans and equipment, allowing predetermined workflows to make instantaneous changes that align with emergency protocols. It can adjust temperatures, manage lighting, expel bad air, pinpoint security incidents, and turn HVAC systems on and off at preset times.

Smart-building sensors continuously collect data on environmental and situational conditions. Data is fed into an analytics engine that triggers automated adjustments to support various goals—reduce energy consumption, improve ventilation, and enable fast response to security threats.

"That is how school administrators are prioritizing their solutions right now," says Bruce Montgomery, Sr. Strategic Accounts for SLED & FED Markets at Honeywell. "They're using preventive technologies, such as software, that can take feed from existing camera infrastructure, or can be retrofitted on an access control system. This can then help them keep their staff, visitors, and students safe and healthy within the building."

Diverse Systems Work Together

While most schools use older systems, open solutions are essential. Proprietary hardware and software can pigeonhole them into a specific technology, which may become outdated or obsolete. That's one reason why Honeywell uses the Mercury platform—an open protocol supported by more than 20 vendors.

"Our goal is to make sure we can continue to use and improve their overall systems without having to purchase new hardware," says Montgomery. "As it turns out, a majority of schools use or are navigating to open Mercury Hardware."

The platform enables Honeywell to integrate a variety of building control and air quality systems. And on the security side, it supports and integrates with Honeywell's and other vendors' access and video—integrating a variety of systems into a single interface.

Intel® is a key partner in making this possible with high-performance processing at the edge and pre-built AI algorithms. For instance, Intel processors power Honeywell's NVR rendering and decompression for video systems in security use cases.

"I've been using security and video and access for many years," says Montgomery. "Never have I seen a higher level of performance in our video and processing technology than we are seeing right now with Intel."

The company is also putting a strong focus on its Forge connected platform, which applies AI-based analytics to smart-building and security management systems. Such developments will help smart buildings get smarter and optimize safety. And that allows schools better control in running buildings that affect health and security while driving toward sustainability and efficiency.

Secure Buildings Are Healthy Buildings

More than ever, IoT technologies make integration of campus security, constituent safety, and healthier environments possible. Secure buildings advance healthier buildings.

"Customers are asking, 'How do I manage building controls and HVAC in relationship to my security?' We're starting to see them really get some synergy together, and we're joining those discussions right now," says Montgomery. "And we see a whole new set of efficiencies when you start combining building controls across the entire set of campus needs."