



Healthier Schools can Change the Future

ABB HVAC Building Automation & Controls



Solution Overview

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Centralized control

Centralized energy management and automation control. Group schedule and address alarms and alerts allowing for early and swift maintenance

Energy management

Energy monitoring, analysis and optimization with Cylon Active Energy Manager and ABB Energy Solutions deliver energy consumption savings

Meters

ABB state-of-the-art meters provide complete power quality analysis and accurate energy efficiency monitoring

Room control

Efficient operation of lighting, sun-shading, heating and cooling systems saving operational costs and improving the overall space environment

Security and safety

SmartIP connected ABB-Access Control Solution and ABB-VideoControl surveillance system, ensures a secure and safe environment and controls

Building automation control

Intelligent integration of state-of-the-art BACnet (IP and MS/TP) controllers for optimum HVAC control, efficient climate control, optimum temperature and air quality

Drives

Optimized control and efficiency of equipment. ABB Drives deliver reliability of operation and reduce energy consumption

Sensors and display

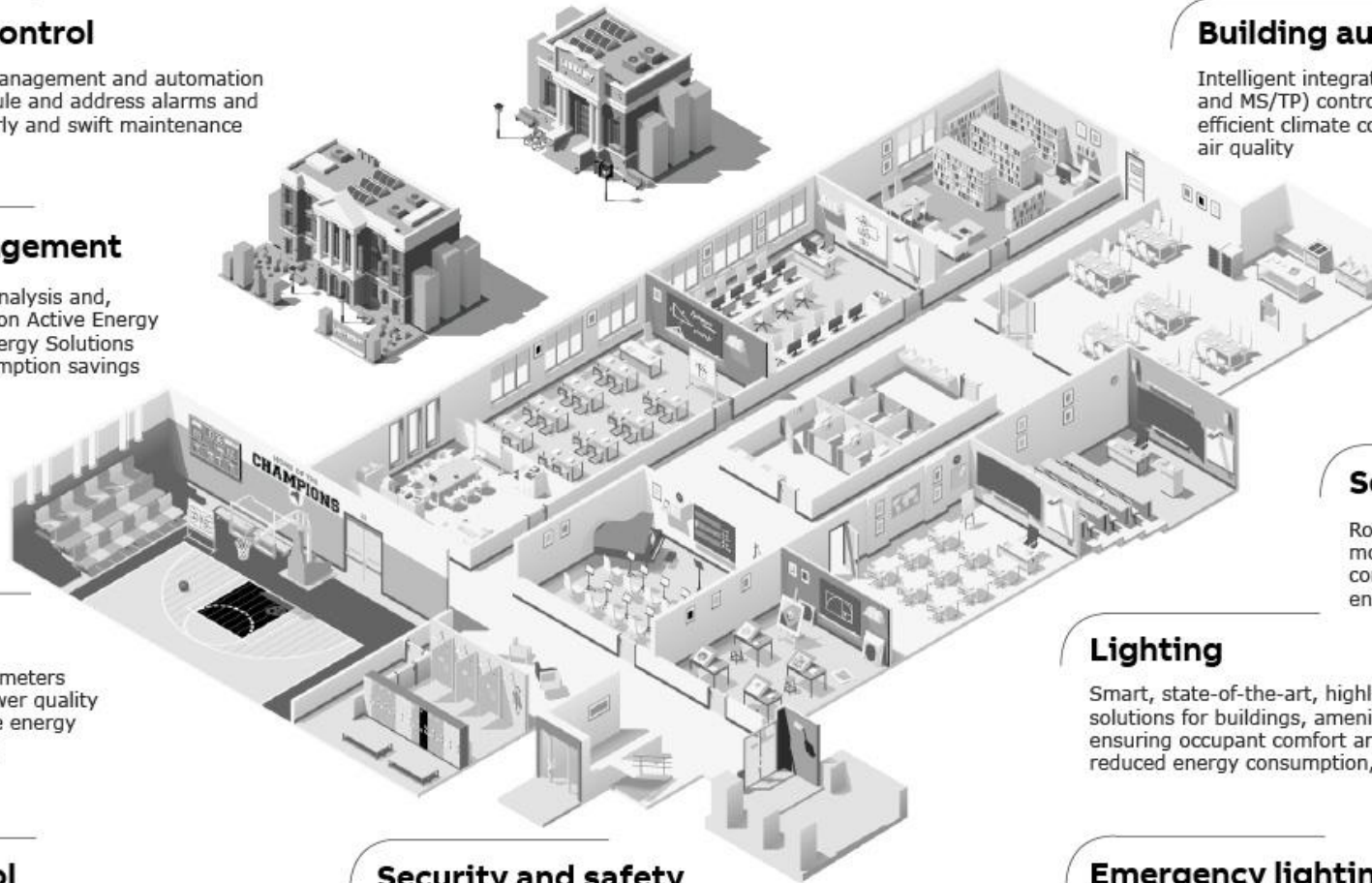
Room smart sensors and attractive wall mounted displays deliver occupancy comfort and control of space environments

Lighting

Smart, state-of-the-art, highly user-friendly lighting solutions for buildings, amenities, and campus grounds ensuring occupant comfort and safety in open spaces, reduced energy consumption, and increased cost savings

Emergency lighting

ABB's comprehensive portfolio of specialist emergency lighting brands, AC and DC central battery systems, and smart monitoring safety systems offer a complete solution for safe evacuation



The Best of Both: ABB + Cylon



Why ABB Building Solutions

We've got your back with safe and sustainable solutions and dedicated resources and support.



Comprehensive Portfolio

- Complete HVAC line
- Digital portfolio
- One point of contact



Dedicated Support across States

- Local System Integrators
- CSE Specification support



End-User Relationship



Project Management Excellence

- Support with Industry



ABB Community + Toolbox

- Ability to access and materials directly and efficiently, in parallel with purchasing of product



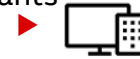
▶ **Incremental** technical sales resources



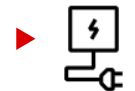
▶ **ShopABB + ABB Ability®** Digital Platforms



▶ **Continued** investment in plants and products



▶ Digital tools:
Division 23+25, Spec Tool* energy management



▶ **Broadest** one-line in the industry



▶ **Selective** sales strategy



▶ **Advanced** controller technology



▶ Technical Support
Engineer and design assist teams



▶ **Large** installed base

*Coming soon.

Benefits of working with ABB

Consulting Engineer

When a consulting engineer chooses to work with an ABB Approved System Integrator they access best in class HVAC control, flexible lighting control, exceptional room controls, shading control, emergency lighting, security access controls, coupled with intelligent sensors from ABB and energy management and monitoring tools to develop truly world-class smart building solutions.

Full features & benefits: <https://bit.ly/3NOBqPI>



Benefits of working with ABB

Facility Manager

ABB products and solutions, built on an open platform, offer flexible point configuration, are quick and easy to install. Enhanced diagnostic tools and software provide for strategy simulation and testing, efficient commissioning, and testing, resulting in a more robust solution with reduced installation, maintenance, and time on site.

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Benefits of working with ABB

System Integrators

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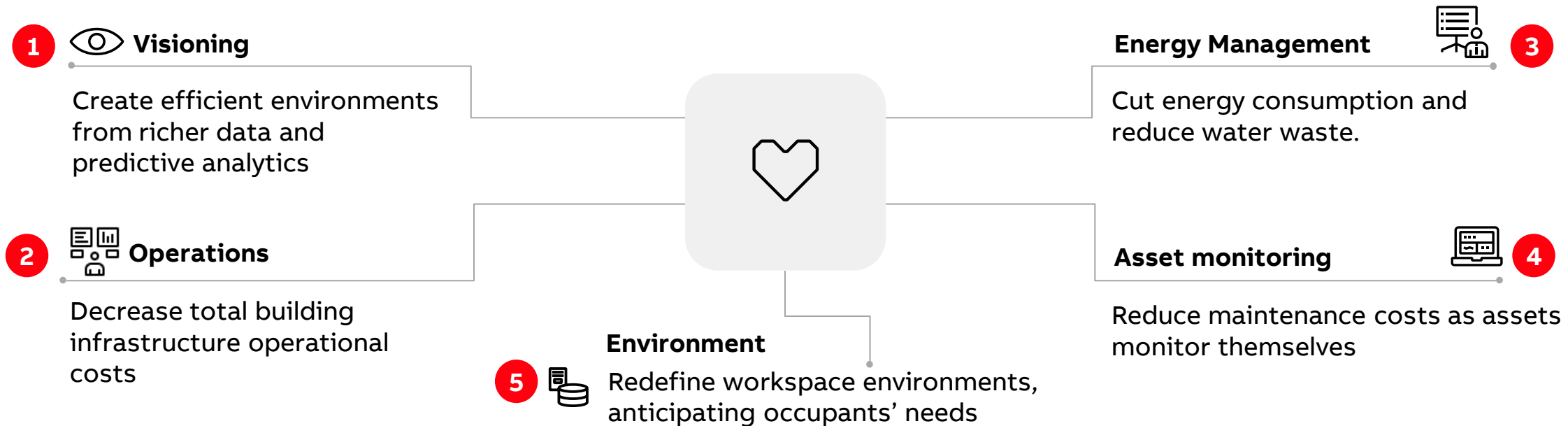




Opportunities

The top five opportunities for healthy school buildings

The AI can capture data from day-to-day building operations to enable new levels of automation, which enables buildings to “think,” engage and learn.



Case Study

UC Irvine Anteater Pavilion



Full case study: <https://bit.ly/3uidAEq>

Project Details

- Project Highlights
- Variable pumping / variable flow chilled water 'system with two centrifugal pumps.
- System dP control, dP setpoint optimization and reset. High temperature (360F) hot water flow control.
- Variable pumping / variable flow heating hot water system with two centrifugal pumps.
- System dP control, dP setpoint optimization and reset.
- Supply temperature setpoint optimization and reset.
- Variable pumping / variable flow chilled water system with two centrifugal pumps. System dP control, dP setpoint optimization and reset.
- Four air handling units. Supply and return fan

Healthy, Smart Schools

Healthy, Smart Schools

Where students do their best learning

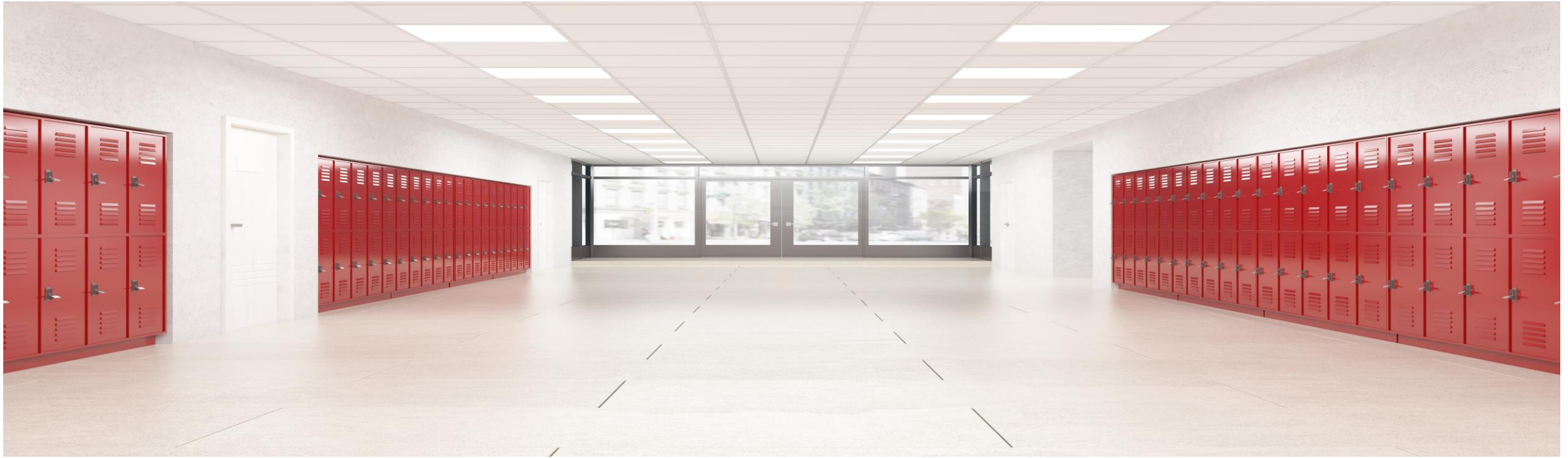
A Smart school or university is one that is digitally connected to the next generation, for the next generation. And every day, the Internet of Things (IoT), digitalization, automation, and vast amounts of data bring us closer to creating a truly Smart School.

More than ever, school administrators recognize the value in making facilities upgrades and investments in smart infrastructure today to have a positive impact on tomorrow.



Safer learning environments

Schools extend beyond the classroom. Safer learning environments improve the well-being and confidence of students, faculty and staff. ABB Building Solutions can assess the health, safety and security of your school and university buildings.





Indoor air quality meets new industry demands

One critical component is indoor air quality (IAQ) and the importance of proper ventilation.

It's clear that achieving healthier indoor air is a win-win, not only for curbing the spread of airborne germs, but also for improving learning outcomes and, most importantly, keeping students in the classroom with their teachers.

Good IAQ contributes to a favorable environment for students, performance of teachers and staff and a sense of comfort, health and well-being.

These elements combine to assist a school in its core mission, educating children.

Solutions for healthy environments

Smart building solutions provide the blueprint for connected schools and universities.

Our connected systems and solutions provide real-time insight that can help prevent the spread of infectious diseases, improve the health of shared environments and provide students, staff and parents with greater confidence in school safety and security.



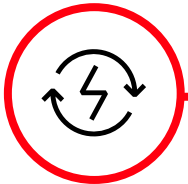
Smart infrastructure for education



When working with a school or university, the first step is to ensure the existing infrastructure, such as the Heating, Ventilation, and Air Conditioning (HVAC) system and building automation system, along with filtration, are working properly.



Next, we consider how new smart air technologies including digital tools and enhanced filtration, can deliver improvements rapidly and where they are most needed.



Finally, we can upgrade and modernize equipment and controls to current standards, and optimize performance, from ventilation, scheduling and controls, to leveraging artificial intelligence, remote monitoring and cloud-based analytics.

Incorporating artificial intelligence to deliver zero emissions

Artificial intelligence holds powerful new analytical technologies that enhance the ability to design and manage the built environment in ways that meet human and environmental needs. The technology offers products and services that make a decisive contribution toward greater sustainability in the built environment and for the planet.



Q & A

Thank you for joining us!

ABB