College Controls Physical Access While Also Monitoring Footfall

Bournville College implemented physical access control system to create safe learning environment and collect information about movement.

<table>
<tr><td colspan="2">EXECUTIVE SUMMARY</td></tr>
<tr><td colspan="2">Bournville College
Higher Education
Longbridge, United Kingdom
13,000 Students</td></tr>
<tr><td colspan="2">CHALLENGE
Safeguard people and property in new building
Measure footfall in different parts of building
Minimize management overhead</td></tr>
<tr><td colspan="2">SOLUTION
Controlled access at all entrances and in classrooms, offices, and common areas using Cisco Physical Access Control system
Automated emergency response by integrating Cisco Physical Access Control with fire alarm</td></tr>
<tr><td colspan="2">RESULTS
Flexibly provided access to different parts of the building to students, staff, and visitors
Will collect accurate data on footfall and room utilization through college buildings
A saving of about £ 200,000 utilization PoE to support Cisco Physical Access Control gateways, with much wider user enhancements and cost reduction both in time and effort than traditional lock and key security methods.</td></tr>
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Challenge

Established in 1913, Bournville College offers courses for students pursuing entry to universities or vocational certifications. When a large local manufacturing plant closed in 2005, the college helped provide specialized jobs training to put people back the work in higher-demand fields such as auto repair and food preparation. In 2011, the college relocated to a new £66 million campus in Longbridge, England, with specialized facilities such as motor vehicle maintenance workshops, training kitchens, music studios, and a 3D cinema room. The college's building also includes facilities open to the public, such as a restaurant, hair salon, fitness center, and a 200-seat conference center.

Approximately 4500 students attend classes on any given day, and college leaders are committed to creating a safe learning environment within the multi-purpose building. "Part of our security strategy is controlling access to all areas, including main entrances, classrooms, offices, and open areas," says David Collins, senior executive of estates and IT infrastructure for Bournville College. "Our main requirement was the flexibility to define different access policies for groups such as learners, faculty, people attending an event at the conference center, and less able-bodied people who need doors to remain open longer than usual," Collins says.

The college also wanted to measure footfall in different parts of the building, to optimize traffic flow; calculate the portion of restaurant sales to nonstudents for taxation purposes; and monitor space utilization.

Solution

Bournville College achieved all of its goals with a Cisco® Physical Access Control solution. "Our new building has an end-to-end Cisco network, and we knew the Cisco physical security solution would integrate well," says Darren Hill, ICT consultant for Bournville College. The same network also supports other Cisco applications for learning and administration, including Cisco Unified Communications, Cisco WebEx® web conferencing, Cisco Digital Signs, Cisco Show and Share® (video and webcasting portal), and Cisco TelePresence® for ultra-high-quality video and audio conferencing.

In the main campus building, Cisco Physical Access Control manages access to 440 doors. Students, faculty, and staff are given badges at the beginning of the school term, and visitors receive temporary badges at the main entrance. Depending on the person's role, the badge grants entry through the main entrance as well as to classrooms and offices, certain common areas, the restaurant, convention center, and so on.

The college IT staff quickly learned to manage the Cisco Physical Access solution, because it is based on the same Cisco IOS™ Software as the college's other network devices. "Moves, adds, and changes to badge readers are very easy," Hill says. The same system controls also controls doors in a nearby administrative building, enabling the college to avoid the expense of a separate system and the personnel to manage it. Fire alarms in telecommunications rooms are integrated with Cisco Physical Access Manager so that all locked doors open when the alarm sounds. "We're in the process of also integrating the fire alarm system with Cisco Digital Signs displays throughout the building to display a visual alert," says Hill.

> "With an end-to-end Cisco solution, you have a multitude of things you can do beyond what you could do by piecing together multiple vendors' solutions. For example, Cisco Physical Access Control is not just door access control, but also a solution to monitor people's presence within the building."
>
> **— David Collins, Senior Executive of Estates and IT Infrastructure, Bournville College**

Bournville College was able to stretch its budget for the Cisco solutions for physical access control, learning, and administration by working with Cisco Capital®. A customized financing plan with an attractive interest rate covered all hardware, software, and implementation services, helping enable the college to spread costs over several years.

Results

In a recent internal survey, most students indicated that they feel safe and secure in the building. High levels of security are demonstrated across college with 95 percent of students agreeing completely or mostly; this is an improvement on last year (+5). The IT team, for its part, appreciates that the Cisco Physical Access Control system is flexible, easy to manage, and lowers costs compared to the previous methods of access control.

Safe Environment for Learning

"The role of the college is not only to educate, but also to safeguard students, faculty, and staff," says Collins. The Cisco Physical Access Control system helps to create a safe learning environment by helping to keep visitors from student areas, and by helping enable the IT team to remove access privileges with a few clicks when students no

longer are enrolled. And the ability to assign different privileges to groups and individuals helps the college protect people from wandering into areas where they might not be safe, such as the motor vehicle area.

The system also collects valuable data for investigating incidents. "The Cisco Physical Access Manager keeps a log that shows attempts to use badges for doors where they are not allowed, which lets us take a look at out-of-the-ordinary activities warranting investigation," says Hill.

Accurate Footfall Measurement

"With an end-to-end Cisco solution, you have a multitude of things you can do beyond what you could do by piecing together multiple vendors' solutions," says Collins. "For example, Cisco Physical Access Control is not just door access control, but also a solution for monitoring footfall."

Footfall measurements help the facilities team optimize traffic flow throughout the building and are useful for reporting. For example, as a charitable organization, under U.K. law, Bournville College cannot claim back value-added tax (VAT) on all purchases. However, it can claim VAT on food purchases made by nonstudents. "We need to report revenue subject to VAT quarterly, as accurately as possible," says Hill. "With Cisco Physical Access Control solution, rather than guessing the percentage of students, staff, and public visitors who enter the building, we have hard data that backs up our reports to the College Senior Management Team. Monitoring the areas people enter provides a more accurate representation of footfall and traffic patterns than video analytics."

The college also uses the CPAM logs to compile frequent granular space utilization reports, allowing the college to make best use of its estate by formulating new and enhanced timetabling schemes based upon business needs, so that the government can identify colleges that need more space.

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> **— Darren Hill, ICT Consultant, Bournville College**

Cost Savings

The IP-based physical access control solution saves costs in several ways:

- **Eliminating costs for keys and replacing locks when keys are lost:** College personnel receive a badge that also serves as a photo ID and provides printing and library privileges. "Not having to recall keys when people leave eliminates overhead and improves security," says Hill. "If someone loses a card or leaves the college, we simply deactivate the card instead of recalling the key or changing the lock. This will save a considerable amount of expense and manpower through operating an intelligent access control system."
- **Lower cabling and energy costs:** The Cisco door access systems receive power over Ethernet (PoE) from Cisco network switches, avoiding the considerable cost to bring power and battery backup supplies to each door, which eliminated a cost of about £200,000 from the main campus build cost. In addition, the college plans to use Cisco EnergyWise™ technology, built into Cisco switches, to automatically power down the readers when the building is closed.

- **Controlling doors in another college building:** A separate administrative building connects to the main building over dark fibre, and the IT staff can centrally control the remote building's door gateways, as well. "There's value in the simplicity of operating as if we were one site," says Hill.

Flexible Access Controls for People with Disabilities

A significant number of less able-bodied students attend Bournville College, and the Cisco Physical Access Control solution helps enable the college to accommodate special access needs. The IT team simply enters the requirements for an individual student, such as keeping doors open longer.

Next Steps

Next, the college plans to add more controllers to additional areas of the building, such as the motor vehicle area and other vocational trade areas, and a gated car-park facility.

And because the Cisco Physical Access Control system is IP-based, the college can integrate with other IP-based systems to increase safety and operational efficiency. One idea under consideration is to integrate with the video surveillance system to capture video of vehicles when drivers badge into the parking facility. Another is to help enable staff to remotely open their office doors for visitors by pressing a button on their Cisco Unified IP Phones. A similar integration would allow the car park attendant to remotely open the gate for people who do not have cards.

Bournville College is also considering using the Cisco Physical Access Control solution to control doors in a soon-to-be-constructed 200-bed student residence hall for international students.

For More Information

To learn more about Cisco Physical Security Systems, visit: www.cisco.com/go/physec.

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