

IoT and Automations for The Modern Campus



What's Inside

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3 Introduction

4 Trends

6 IAdea Solutions for Automating the Modern Campus

Solutions

Automations for...

8 ... Campus access

10 ... Conferences, lectures, and other events

12 ... Classroom and study space reservations

14 ... Keeping everyone informed

16 Remote centralized device management

17 Our campus success stories

Introduction

Spurred on by the pandemic, campus facility managers have had to think on their feet when adapting how they operate. First and foremost, providing a safe and healthy environment for educational activities has become paramount.

But it goes beyond future pandemic prevention; students expect more from their place of learning than ever before. A campus that embraces new systems and technologies to facilitate different personalities and learning styles.

With new technologies — such as more advanced IoT, analytics, automation, digital twins, 5G and AI — at their disposal, it is an exciting time for campuses worldwide as they undergo their digital transformation.



Trends in the Educational Sphere



Trend 1: Tech Turns Crisis into Opportunity

The pandemic has offered a radical opportunity for experimentation with new technologies, encouraging educational institutions to rethink their operating models. They can either return to the old ways of doing business, or, adopt a hybrid approach that meets the needs of the next generation of digital-native students whose lives have only become more increasingly intertwined with tech since adopting 100% online learning.

Educational institutions must look to differentiate themselves by reshaping how their campuses operate and diversify their offerings, spurred on by adoption of new technologies.

Trend 2: Declining enrollment meets growing costs

Enrollment for higher education has contracted across the board, with many students rethinking their post-secondary education plans. This is especially pronounced for international students, with enrollment dropping by a staggering 43% in a survey of more than 700 US colleges (source: Inside Higher Ed). Likewise, operational costs maintain an upward trend, putting already under strain revenues and budgets under further pressure. Furthermore, online learning has shown itself to be a lifeline during times of COVID, however, with the rise of concerns such as so-called 'Zoom Fatigue', institutions must look towards blending online and offline learning.

Automation of processes aids in mitigating the growing cost pressures, helping shrink campus physical footprints, and maximizing utilization of existing space. Needless to say, this must all be achieved while perfecting the blend of online and offline learning without negatively impacting the learning experience.



Trend 3: Actualizing Data and Insights

There is no shortage of data within educational institutions, but often being large bureaucracies with legacy IT systems that are disconnected, it goes unused. Breaking down these walls between systems and making it centrally accessible will be a crucial step in better understanding how the campus is actually inhabited by its occupants.

Campus management systems are revealing their value to through their sheer power to unite systems and data. When connected, data insights can enable universities to make informed decisions about how students are using their facilities, how resources can be allocated most efficiently and when and how to create a tailored experience for students.

IAdea Solutions for Automating the Modern Campus

IAdea's solutions enable campuses to not only embrace their digital transformation, but come out the other side of pandemic better than they started. They encourage students to learn and succeed through being able to access the facilities and space they need, when they need it, for an enhanced campus experience.

Meanwhile, campus facility managers can better navigate and execute complex reopening plans with solutions to support hybrid learning styles while maintaining social distancing for a safe return and continued profitability.

Sample Applications



On-Campus Events Management

Whether it be student lectures, guest speakers, weekend performances, night lectures for mature students or summer classes, we've got you covered



Automating Campus Entrances

Juggling ease of access for everyone while maintaining high levels of security and privacy for staff and students continues to be a top priority.



Automated Classroom and Study Space Reservations Management

Easy space reservations and management for staff and students to maximize space utilization



Automated For Keeping Everyone Informed

Ensure areas such as canteens or libraries avoid becoming overcrowded while also relaying important announcements

Idea Solution Advantages



Fantastically Easy Class and Space Management

Automation reduces the course scheduling room assignment process from weeks to days and seamlessly aligns space assignments across all faculties and departments to eliminate confusion and boost transparency. Furthermore, adjustments can be managed and published in seconds, so no one is left in the dark.



Healthy-Campus Ready

Anti-pandemic features and automations demonstrate devices as essential in managing the post-COVID campus. Touchless capabilities reduce unnecessary touch interaction and mitigate high-risk-of-transmission processes, while automated contact gathering strengthens anti-outbreak measures.



Future-Focused Hardware

Idea advocates for the forward-looking campuses, confident in its support for the digital transformation of universities. With Idea providing the right technologies in the right place, educational institutions can fully embrace their digital transformation and reap the benefits that come along with it: automation of burdensome processes, maximization of efficiency, increased ROI, safe, and healthy spaces and a robust student experience.



Indispensable Usage Insights

Campus facility managers can access accurate data into spaces and their usage for deep insights that can be used to guide capital decisions, improve facilities and offer better spaces to meet student and teacher needs. Data also offers automated and simple-to-understand reporting to easily evaluate success and ROI.



Extensive Variety of Software Options and Integrations

Idea devices are champions of compatibility, happy to co-work with an extensive range of software and integrations with industry-leading software providers and campus management systems. This offers exceptional flexibility to educational institutions to pick and choose software. They can rest assured knowing that no matter the software, it is powered by a robust and solid hardware foundation to offer exceptional performance for staff and students alike.



Vital Integrated Functionality

Idea devices are feature rich, coming with integrated capabilities such as card readers or door access control that are absolutely essential in a campus environment. As they are pre-equipped, they vastly outshine comparable devices in potential applications as well as avoiding the cost creep as the need for paid extensions and addons becomes apparent on competitor devices.



Mobile Ready

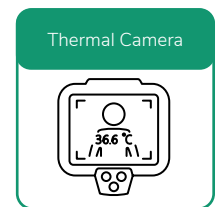
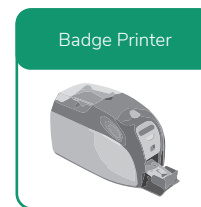
With support for HID Mobile Access, campuses are fully equipped to work with the most mobile-centric generation yet. Mobile Access grants all the same security features as a physical card, just infinitely more convenient for those who are never without their phone in hand.

01

Automations for campus entrances

- Visitor and guest registration, plus extra integrations for greater automation (badge printers, payment systems)
- Mobile options
- Protecting front desk staff and self-health checks on entry (thermal sensors, cameras)
- Contactless entries
- Live facility and resource availability (desks, parking spaces, specialized facilities)
- Automated density monitoring

Solution Elements



1. Get registered and checked in

Apart from regular full-time students, there can be all manner of guests on campus: guest speakers, contractors, short-course students and so on. Deploying the WRP-1000 alongside the GoBright visitor management solution, panels within receptions can help create a simple self-service solution for guests to register onsite. Furthermore, integrations for industry standard ID badge printers (such as HID) and payment processing are possible to ensure every visitor is registered and accounted for granting enhanced security and emergency preparedness.

2. Go mobile!

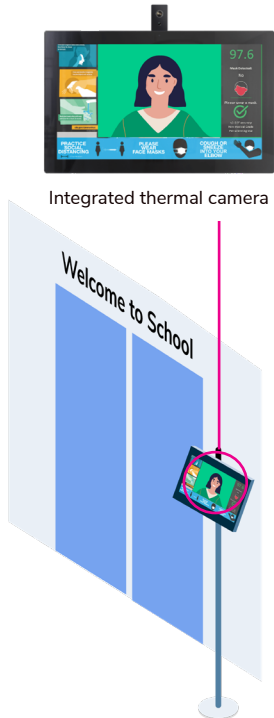
With the number of tech natives growing, mobile is the way to go. With the WRP-1000's compatibility for HID Mobile Access, once guests are registered, they can use their mobile device as an HID card. Simply holding the device within the panel's NFC can open doors or access turnstiles. Compatible with most software partners.

Campus Entrance

3

Self-Health Check Screening

XDS-2285 + 22MILES's TempDefend

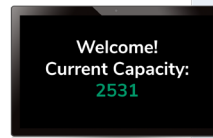


Integrated thermal camera

6

Capacity Information

XDS-2285 + Irisys SafeCount™

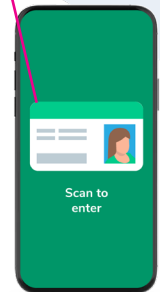
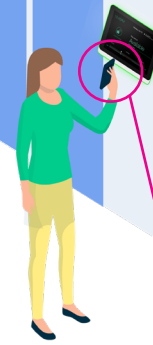


Integrated ID badge printer

2

Mobile Entry

WRP-1000



1

Campus Visitor Self-Check In

WRP-1000

3. Guarding the health of front desk staff

The XDS-2285, paired with 22MILES's TempDefend thermo-sensing technology, can aid in the prevention of viral spread by leveraging a combination of camera technology, facial and body temperature detection software, integrated sensors, and dynamic machine learning algorithms. Everyone on the campus can undergo a rapid health self-screen to ensure they are healthy before entering. Front desk needn't approach people for temperature screening, thus reducing transmission risk.

4. Contactless entry

Contact-free access is supported with QR code invites. Administrators and meeting organizers can make use of either Accruent's EMS or Oomnis' FlexO Workspace management solutions to pre-register guests and then issue an invitation to them that features a QR code valid for a limited time. By simply scanning the QR code using the WRP-1000's integrated scanner, they can have safe and contactless entry.

5. Live facility and resource availability

Students and staff can stay informed with a full overview of facilities and their availability at any time through a partner's app, such as that of GoBright, EMS, or Oomnis. This can include desk space in the library, group study rooms, specialized facilities or even parking availability. They can either search for the space they need by entering their criteria within the app or browse through the directory on an XDS-2288 kiosk device and then reserve the space they need.

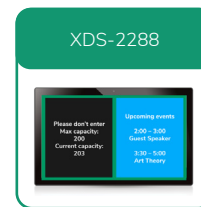
6. Density monitoring

Different systems — such as movement and occupancy sensors — combined with room reservation data can be consolidated within software such as Oomnis' FlexO to give accurate overviews of real-time occupancy and keep facility managers informed. Furthermore, reports can be automatically generated to give daily, weekly or monthly of occupancy for greater insights into space utilization, and inform whether goals are being met.

Automations for management of campus conferences, lectures and other events

- Room capacity limiting
- Automated HVAC systems for regulating air quality, temperature, and airflow
- Automated attendance checking
- Automated reports regarding attendance
- Automated data collection and deletion

Solution Elements



1. Overcrowding prevention

Limiting capacity is an absolute necessity as campuses reopen, particularly during lectures, job fairs, and an assortment of other events. Campus facility managers can deploy real-time occupancy monitoring solutions to keep track of occupancy.

Irisys SafeCount™ compatible signage, such as the XDS-1588, strategically placed at entrances can inform people about the current occupancy status, or they can be segmented to display the occupancy status alongside health and safety reminders. When occupancy is high, warnings and bulletins can be displayed to deter people entering and prevent overcrowding.

[Dive deeper >](#)

2. Environmental automation

In busy conference rooms, event spaces or lectures areas, temperatures can quickly rise and air quality rapidly deteriorate without suitable ventilation. HVAC systems can be automated to adapt based on booking schedules to increase output before and during events to ensure adequate cooling, maintain adequate air quality, and likewise reduce output during periods of vacancy for enhanced environmental sustainability.

*Requires further third-party integration

Lecture, Conference and Event Spaces

1

Capacity Information

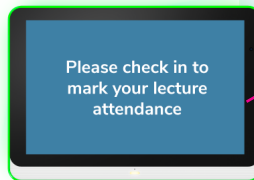
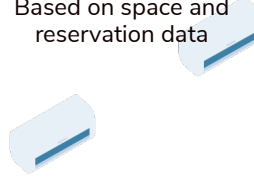
XDS-2285 + Irisys SafeCount™



2

HVAC Automations

Based on space and reservation data



3

Student Attendance Records

WRP-1000

4

Student Attendance and Space Utilization Records

3. Attendance management to aid contact tracing

When attendance is mandatory, the WRP-1000 champions an easy solution for attendance monitoring that is vastly more efficient than a printed-out registration sheet that needs signing. Attendees need simply tap their HID card or HID Mobile Access-enabled device, or swipe their student card with the PRB-101 magnetic stripe card reader to mark themselves as present in the system. Such a solution can also aid in contact tracing efforts if necessary. No more tedious passing around of a sign-in sheet.

*Requires further third-party integration

4. Automated attendance reporting

At the end of school year, when student reports are due, educators need all the help they can get. With further integration from a software partner, evaluating student attendance and activity or event participation is. Reports can be automatically generated for review later to evaluate:

- Lecture attendance rates
- Attendance on a student-by-student basis
- Event attendee statistics and insights

*Requires further third-party integration

5. Automated data collection and deletion

During large events, manual data collection can be arduous and mistakes — such as an illegible name or phone number — can hamper efforts such as contact tracing. The WRP-1000, paired with GoBright's visitor solution, allows registration data to be seamlessly collected when people check in for an event. Data is stored for as long as necessary before being automatically erased to satisfy data privacy policies for attendees' peace of mind, and ensuring the organization avoids accidentally exposing itself to fines.

03

Automations for classroom and study space reservations

- Space utilization for study, lecture, or work spaces
- Room access for high-value equipment
- Finding the right space
- Space pre-bookings for desks, , or specialized facilities
- In-room HVAC/AV automation
- Automatic room releases for no-shows with motion sensors
- Automated repeat bookings and reminders

Solution Elements



1. Enhanced space utilization

Room booking systems making the entire process of finding a space and reserving it a walk in the park. Staff and students alike can book the spaces as and when needed with absolute ease, which in turn encourages people to use space. The result is enhanced levels of space utilization. Compatible with most partner software solutions.

3. Planning ahead

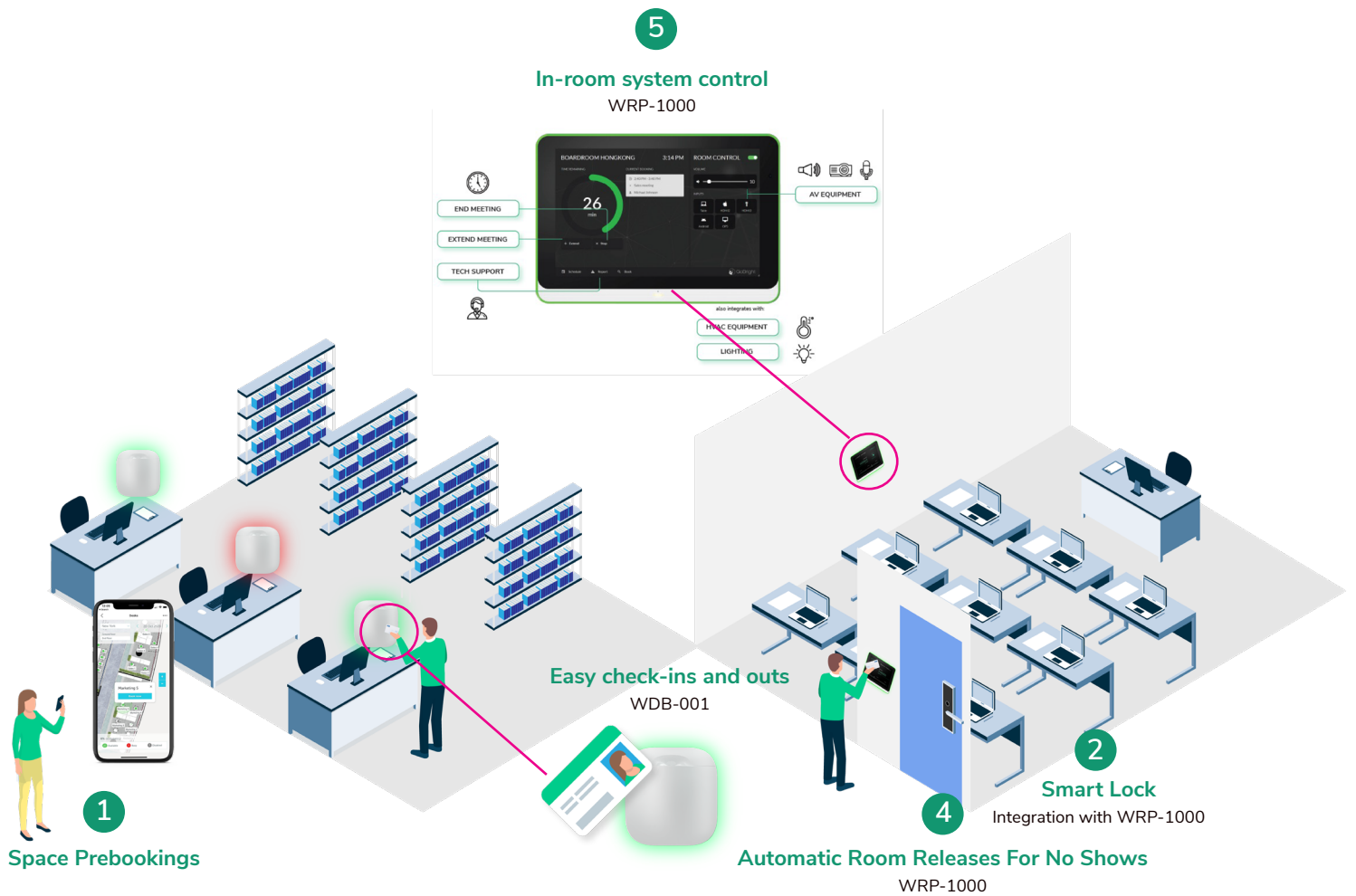
Desk, classes, specialized facilities and even parking spaces can be booked well ahead of time via most our partners' mobile apps or portal to ensure there is a free parking spot and a study space available as soon as people arrive. For even greater convenience when booking ad hoc, spaces can be booked directly from a wayfinding kiosk such as the XDS-2288 for ultimate booking ease.

2. Under lock and key

The WRP-1000's access control integration can provide greater levels of security, especially useful for rooms with may contain expensive or specialized equipment. The WRP-1000 integrated with EMS can provide a secure space entry solution. Student or staff ID can be authenticated through physical HID card or Mobile HID Access to then grant room access. Entry data is also recorded should it be needed at a later date for anti-theft activities.

4. The solution to no-shows and ghost reservations

Plans change, bookings get forgotten... That should not affect space utilization though. If reservation bookers fail to show up and check in on the WRP-1000, the room reservation system will be notified and spaces can automatically be switched back to available after a designated period of time, free for someone else in need. Most software partner solutions feature policies designed to automate room management.



5. Smarter environments

The control of HVAC, AV, and room reservation systems can work together to automatically create the best environment for learning. HVAC systems can automatically start heating or cooling a room in advance, while AV systems can be booted up automatically so that they are ready to go right as the lesson or student meeting starts, all based on a room's booking schedule. Some systems can be fine-tuned through a single interface on an in-room WRP-1000 panel loaded with Pronestor's software. Classes start on time and there is less fiddling around with technology controls.

*Requires further third-party integration

6. Reservation repeats and reminders

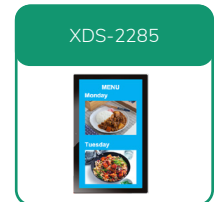
For fixed weekly classes, reservations can easily be set to repeat on weekly-basis, so there's no need to create a new reservation every week. Likewise, automatic reminders can be sent from the booking system via SMS or email to ensure people do not forget their reservations.

*Requires further third-party integration

Automations for keeping everyone informed

- Automated emergency warnings
- Automated room-change announcements
- Up-to-date room and space statuses
- Automated reminders
- Automatic cafeteria menu rotation

Solution Elements



1. Automated warnings

During emergencies, time is of the essence. The XDS-2288 or WRP-1000 can display on-screen weather apps can notify occupants of severe weather warnings and precautionary measures. Likewise, emergency operations center announcements can immediately be displayed on screen when APIs are integrated with signage for real-time bulletins and emergency feeds, eliminating much of the delay where previously details would need to be manually relayed and then posted on screen.

*Requires further third-party integration

2. Automated room-change announcements

Plans change. If a scheduled class is unexpectedly cancelled, or a lecture changes location, notifying every single person is a challenge. Automatic announcements highlighting changes can be displayed on signage, such as the XDS-2288, throughout the campus, or via push notifications to attendees' phones to easily alert of any changes.

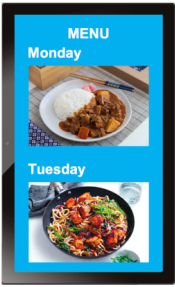
*Requires further third-party integration

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Full campus facilities overview and booking XDS-2288 and GoBright

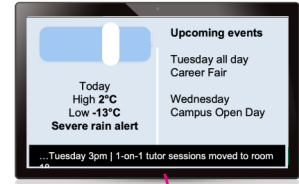
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Bulletins XDS-2285



4

Menu auto-rotations XDS-2285 and SignApps Express



3. Automated Reminders

On-screen visual reminders and bulletins easily come out superior over loud spoken bulletins that can interrupt classes, quiet study and busy trains of thought. Simple on-screen notices, such as “please wear a mask at all times” displayed in an eye-catching manner on WRP-1000 booking panel outside of lecture theatres or classroom can ensure everyone is made aware of what is important without any unnecessary disturbance.

4. Automated Cafeteria Menu Rotation

When menus change on a daily basis, manually updating them every day can be quickly becomes tedious. But with [SignApps Express](#), managing your on-screen content is a doddle. With an intuitive interface, easy-to-grasp user commands and endless templates to make use of, users of any IT skill level can quickly create and publish content.

Remote Centralized Device Management

- Preventative maintenance to mitigate downtime during class hours
- Easy deployment of new devices that do not require hiring an IT expert
- Totally scalable: no limit to the number of devices deployed on campus
- Automated troubleshooting takes care of problems with interrupting classes or students

Solution Elements

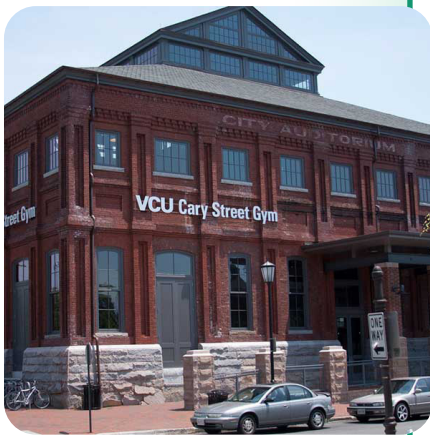


Admin task automation

IAdeaCare allows the automation of admin tasks to reduce the workload for on-campus IT teams. Insights from data analytics can facilitate preventative maintenance. Meanwhile, day-to-day admin tasks such as firmware updates, scheduled maintenance and failed-device reboots can be automated for off-peak times to reduce services outages and cause minimal disruption to teachers and students alike.

Likewise, as campuses grow, school IT admins can upgrade their IAdeaCare to an Enterprise account that better supports management of large amounts of device deployments. Indispensable features such as role-based management, single sign on, and enhanced policy management facilitate admin task delegation, and strict adherence to campus IT and security policies.

Discover some of our campus success stories



Accurate and efficient facility management solutions for campuses

More than just a renowned public research institution for the curing of diseases through groundbreaking research, VCU is an organization that leverages technology to encourage the success and well-being of its students, faculty, staff, and community.

With deeply-ingrained core values of diversity, inclusion, and equity that provide a safe, trusting, and supportive environment to explore, create, learn, and serve, VCU takes interdisciplinary collaborations and community partnerships seriously.

Investing in advanced technology has enabled VCU to facilitate transparent communication, better on-campus living, smarter learning environments, community engagement and partnerships, and most importantly, inspiring the next generation of thinkers and game-changers.

[Discover the case study now >>](#)

Taking room booking to the next level at Monash University's new Learning and Teaching Building

Newsly opened in March 2018, Monash University's Learning and Teaching Building is a world class education hub located on the university's Clayton campus in Melbourne. The four-storey building features striking architecture, a student-focused design, and state-of-the-art audiovisual systems. Just like a restaurant needs to carefully manage its table bookings, so does a university need to keep close tabs on the use of its lecture and meeting rooms.

The Learning and Teaching Building has over 130 rooms used by both staff and students. Monash University utilizes both Syllabus Plus timetabling software and Google Calendar to allow staff and students to schedule bookings of these rooms. As part of a large-scale AV fitout, Monash approached Melbourne-based company Concierge Displays to implement a room booking display system to manage the use of all meeting and faculty rooms within the Learning and Teaching Building.

[Discover the case study now >>](#)



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