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St. Bede's College Supports Innovative Learning Programs With Xirrus Wi-Fi Network

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DAVID CRACKNELL,
DEPUTY PRINCIPAL FOR ICT AND INFRASTRUCTURE, ST. BEDE'S COLLEGE

Overview

LOCATED IN MELBOURNE, AUSTRALIA, St. Bede's College is a Catholic secondary school for boys in years 7 through 12. The college has 1,550 students and 180 teachers, administrators and support staff.

As part of its tradition of academic excellence, the college encourages student-led learning. "Students learn better by doing something themselves than by watching a teacher," says David Cracknell, Deputy Principal for ICT and Infrastructure. Student-led learning requires two ingredients: fast, reliable Wi-Fi and a computer for every student.

Wi-Fi - Foundation for 1:1 Computing

THE COLLEGE NEEDED A WI-FI SOLUTION that could connect all devices in a classroom at the same time, delivering consistently fast performance. "Most wireless solutions we looked at couldn't do the job," Cracknell says. Then he discovered Xirrus Wi-Fi, designed specifically for high-density environments like schools. Each Xirrus Wi-Fi access point (AP) can contain up to eight radios. "We saved the cost of buying and managing a centralized physical controller because each Xirrus Wi-Fi AP acts as its own controller," says Cracknell.

Now every classroom and office has Wi-Fi. St. Bede's provides notebooks for students in years 10 through 12 and iPads for students in years 7 through 9. Many students and staff bring three or more devices to school, including smartphones, tablets, notebooks and wearables.

New Ways of Learning

RELIABLE, HIGH-PERFORMANCE WI-FI engages students and energizes the classroom. Teachers use Google Apps to distribute articles and collaborate on assignments with individual students, groups or the entire class. Students enjoy watching educational videos from a subscription-based cloud service. "Even when many students stream educational videos at the same time, the Xirrus Wi-Fi network doesn't falter, even a little," says Cracknell. Students include video in their reports and presentations, which they submit over the Xirrus Wi-Fi network to Google Drive. When learning about art, for instance, a student might use Google Drive to store and share a recording of himself explaining features of a painting as he circles and describes those features. Teachers can view progress on student work in real time and give timely feedback.

Recently St. Bede's year 8 and 9 students joined NASA astronaut Douglas Wheelock in an exciting video conference. "The wireless throughput was essential to the success of the video session and the educational outcomes," Cracknell says. "The Xirrus Wi-Fi performed flawlessly."

Xirrus Wi-Fi also enlivens science, technology, engineering and mathematics (STEM) education. Students develop coding and game design skills on their wireless devices.

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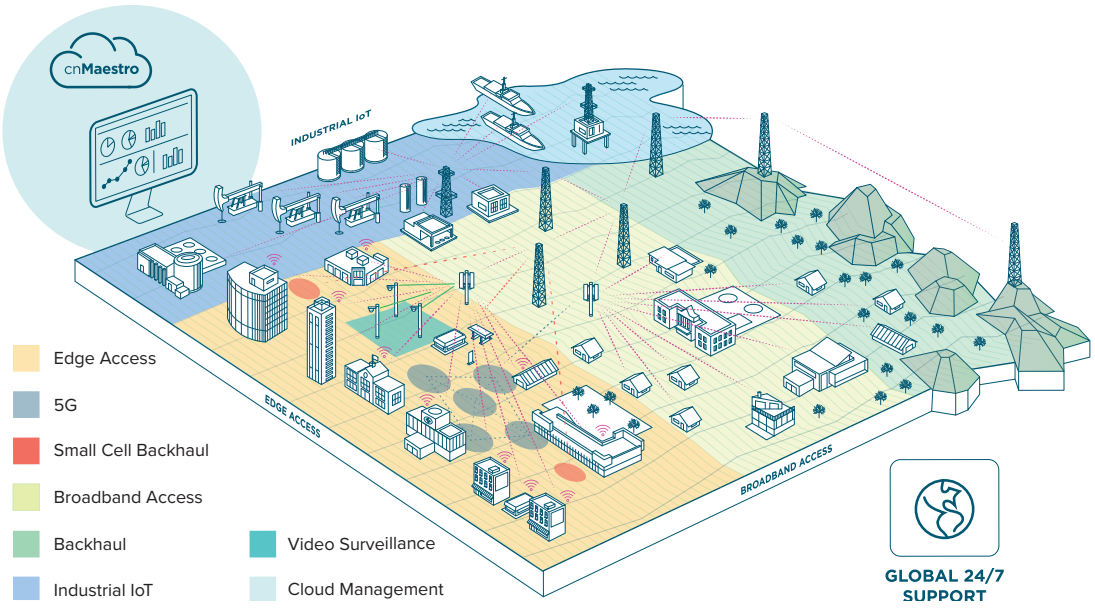
A group of tech-savvy students records instructional videos about ICT topics, uploading the videos to Google Drive for on-demand viewing by teachers and staff. In 2016, a team from St. Bede's qualified for the world finals of Formula1 Technology Challenge in Schools, using wireless notebooks and the Xirrus Wi-Fi network as they designed a miniature F1 car.

Access to Video Surveillance Feeds From Anywhere

THE XIRRUS WI-FI NETWORK PLAYS A ROLE in campus safety as well as learning. "With the Xirrus [Wi-Fi] network, administrators and campus safety personnel anywhere on campus can use their iPhones to view real-time and recorded video from more than 40 video surveillance cameras," says Cracknell. Not having to return to the office to view video enables staff to quickly learn about and respond to events.



Cambium Networks' Gigabit wireless solutions enable municipal, enterprise and service provider operators to tailor connectivity to meet exact requirements and grow as needs evolve.

Simple Management

THE ICT TEAM used Xirrus Management System (XMS) to configure most radios to operate at 5 GHz, which supports more simultaneous connections than the 2.4 GHz band. Teachers and students have come to depend on Wi-Fi, and XMS also makes it easy to quickly find and remediate any issues. If XMS shows that several APs in the same area are down, for example, the ICT team knows that the problem is likely with the switch, not the Wi-Fi. About twice a month Cracknell helps a distraught student find a misplaced iPad or notebook by using XMS to locate the classroom where the device last connected. Xirrus Application Control helps the ICT team understand each application's bandwidth demands. If demand ever starts to outstrip bandwidth, Cracknell will use Xirrus Application Control to give priority to learning applications.

Adaptive Wi-Fi = Long Investment Life

WHEN THE 802.11AC WAVE 2 IS INTRODUCED, St. Bede's can adapt without the expense of purchasing and deploying new APs. Just a few software clicks will upgrade the existing Xirrus Wi-Fi APs to support the new standard.

Cracknell concludes, "The best infrastructure is invisible — like underground pipes. Our Xirrus Wi-Fi network operated invisibly and reliably for five years, and we look forward to the next five."