# COMMSCOPE®

# Connectivity, a critical enabler of higher learning in a digital age

## Customer

Universiti Teknologi Malaysia

## Country

Malaysia

## Challenges

As a world-leading technology research university, Universiti Teknologi Malaysia (UTM) must provide its 25,000 students and 1,500 staff members a world-class connected campus. Recently, with student enrollment and demands on the Wi-Fi network rising, the UTM IT staff realized it was time for a major network upgrade. Bandwidth, coverage, reliability security and ease of management were all key drivers. CommScope had everything UTM needed.

## CommScope Solution

With the Ruckus portfolio of high-performance access points and ICX fabric switches, CommScope was able to meet UTM's technical network requirements while saving the school money. The future-ready network is a perfect fit for a university that is redefining the future every day.

Universiti Teknologi Malaysia (UTM) is a leading entrepreneurial research university in Malaysia, specializing in engineering, science, and technology. Established in 1972, UTM has earned a reputation as a top postgraduate technology research university, not just in Malaysia but across the globe. With student enrollment on the rise and technology playing an increasingly important role in learning and campus life, UTM knew their wired and wireless campus network needed to perform at the same level as its students and faculty. They enrolled CommScope to help.

## Good timing opens the door to new network opportunities

Established in 1972, Universiti Teknologi Malaysia (UTM) has earned a reputation as a top postgraduate technology research university, not just in Malaysia but across the globe. Like all universities today, UTM is faced with ongoing changes as demand for technology innovation among students and staff increase, especially in the area of wireless connectivity. On any given day, 25,000 undergraduate and postgraduate students and 1,500 UTM staff use their laptops, tablets, and smartphones to access learning and research materials, some of which include high-definition video.

Recently, it became apparent that the university's growing student population was stretching the existing campus network's capabilities in terms of bandwidth, connection speed, and reliability. The number of students, faculty, staff and guests accessing the system was growing, so was the need for greater network security. With its managed services contract about to expire, UTM IT administrators saw an opportunity to re-evaluate and upgrades their existing wired/wireless campus networks where necessary.

> "Providing high-performance, reliable coverage across campus is key to helping students get the best learning experience while they're here at UTM. That's a major reason why infrastructure enhancements, like cutting-edge Wi-Fi, are so important."
>
> **Dr. Mohd Shahizan Othman**
> **Director, Center for Information & Communication Technology, UTM**

After a thorough vendor search, headed by Associate Professor Dr. Mohd Shahizan, the UTM project team selected CommScope and its Ruckus family of Wi-Fi solutions. For Shahizan and his team, the selection process was difficult. CommScope and its Ruckus portfolio stood out, but there is always concern that the product specification sheets aren't always indicative of how the solution will perform in the customer's environment. So, they did extensive testing.

"They tested our access points in all conditions and from every angle, comparing them to other vendors in terms on density coverage, throughput, performance and security," said BK Choo, CommScope Regional Manager for Malaysia, Brunei and Cambodia.

Ultimately, the quality of the Ruckus Wi-Fi portfolio won out. "Selecting Ruckus technologies was the best solution for us by far; it provided the most value and far better Wi-Fi performance," said Shahizan.

## Smart CommScope solutions improve campus connectivity and network management

In designing the wireless network, the CommScope/UTM team focused on delivering reliable Wi-Fi to all users, especially those in typically dense areas such as the library or lecture halls. To ensure the most reliable campus-wide connectivity, CommScope recommended the Ruckus R510, R610 and R320 access points (APs), which offered several key benefits compared to the university's old Wi-Fi APs.

The superior RF performance of Ruckus APs enabled the team to use fewer APs overall, leading to lower deployment and management costs. At the same time, the Ruckus APs feature patented BeamFlex technology, which provides extended range and adaptive signal steering for significantly improved network performance and reliability across campus. UTM deployed more than 1,800 Ruckus APs indoors and outdoors and virtually eliminated Wi-Fi dead zones campus-wide.

The network upgrade also called for expanding UTM's wired network infrastructure; for this, the team deployed 280 Ruckus ICX 7150 switches across the university's core, distribution and access networks. The Ruckus ICX family of fixed form-factor stackable switches work together to simplify network set-up and management, enhance security, minimize troubleshooting and make upgrades easier down the line if needed.

The entire network is managed through the CommScope Ruckus SmartZone platform, running on a virtual High Scale (vSZ-H) controller. The vSZ-H is a carrier-grade network controller that lets UTM employees manage both the wired and wireless network infrastructure with ease. It's especially valuable for onboarding student devices (via student user IDs) and enabling IT administrators to track network usage reports when needed. At the same time, the vSZ controller provides excellent flexibility with an eye to the future. It can scale to support 300,000 devices and expand and adapt to meet the changing needs of the university.

## Connected campus today and smart campus tomorrow

Today, UTM's wireless network is more robust, reliable and capable than ever before. The improvements in performance and coverage have been significant. On any given day, the system serves up Wi-Fi for approximately 35,000 mobile devices—such as laptops, smartphones, tablets, and other smart devices—connected at the same time. What's more, the new network provides the scalability to meet the university's growing needs.

"One of the emerging applications we are looking at for UTM is the ability to support AI and IOT to improve operating efficiencies and the student experience across the university," according to BK Choo.

For example, UMT is now looking at possibly using IoT in the residence halls to provide a better student experience and save money on utilities. "For an institution with the caliber of UTM, that is the level of performance students, guests, faculty and staff expect," BK Choo explained.

"Our main goal was enabling an optimal learning and teaching environment for both students and staff. To this end, we're very happy that CommScope with its Ruckus solutions have enabled us to do exactly that."

**Professor Dr. Mohd Shahizan Othman**

CommScope pushes the boundaries of communications technology with game-changing ideas and ground-breaking discoveries that spark profound human achievement. We collaborate with our customers and partners to design, create and build the world's most advanced networks. It is our passion and commitment to identify the next opportunity and realize a better tomorrow. Discover more at commscope.com

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