

Handong Global University

CommScope delivers a connected campus for digital learning

CUSTOMER

Handong Global University

COUNTRY

South Korea

CHALLENGES

- Provide secure, stable Wi-Fi infrastructure for a smart campus
- Reduce Wi-Fi service complaints while supporting a sudden increase in mobile usage
- Satisfy increasing demand for high-speed access campus-wide, especially in high-density areas

SOLUTIONS

- 730 RUCKUS indoor access points (including Wi-Fi 6)
- RUCKUS ICX switching (including multi-gigabit edge)
- RUCKUS virtual SmartZone controller OS (vSZ)
- RUCKUS Smart Cell Insight (SCI)

RESULTS

- A connected campus with secure and stable Wi-Fi infrastructure for digital learning
- Future-proof Ethernet switching with stackable multi-gigabit edge network
- Centralized management for better visibility and control
- Big data analytics help identify trends and potential issues before they occur



Overview

Since its founding, students and staff at Handong Global University (HGU) in Pohang, South Korea, have been guided by a single question: “*Why not change the world?*” That challenge, the school’s motto, has inspired HGU to create a world-class learning environment focused on creativity and problem solving. Maintaining that environment requires a sophisticated smart campus powered by a robust and reliable ICT network.

In early 2019, HGU embarked on a campus-wide upgrade of its Wi-Fi infrastructure. The school partnered with

CommScope to help re-imagine and redefine the possibilities. The result is a future-ready Wi-Fi network that supports the smart learning potential for students and faculty while helping administrators keep the university running smoothly.

A growing demand for seamless connectivity

With more than 6,000 students living on campus, the HGU’s wireless network is expected to perform—in all locations and at all times. As enrollment has continued to grow, however, the school’s old wireless network showed it was ill equipped to keep up. As wireless traffic from students’ social media use and

“We used to receive complaints about Wi-Fi performance in libraries and student dormitories, where large-scale downloading would occur, or where large numbers of students generally congregate. Today, almost all the complaints have disappeared, and user satisfaction has greatly increased.”

Jinwoo Lee

**Information Infrastructure Team
Handong Global University**

connected learning applications increased, so did network interference. The existing access points (APs) simply couldn't handle the demand. The HGU IT team tried increasing the number of APs on campus, but that only added to the overall interference and cost.

So, in early 2019, the IT team decided on a total overhaul of the school's network infrastructure. Their primary goals were to manage interference, improve network capacity, and create a reliable, high-performance wireless network that would meet the ambitious needs of students and staff for years to come.

“We needed to rebuild our network from the ground up, so we can have fast and reliable Wi-Fi throughout the campus,” said Jeong Ah Seo, IT infrastructure team leader, Handong Global University.

As a start, HGU ran month-long trials of selected Wi-Fi solutions, using the school's main library as a test location. After putting multiple solutions through their paces, the IT team was convinced the CommScope RUCKUS Wi-Fi solution provided the best mix of performance, scalability, reliability, ease of management and cost.

A simple solution to a hard set of problems

As part of the overhaul, HGU opted to deploy the CommScope RUCKUS R710, R720 and R730 APs across campus. The RUCKUS R730 was of special interest to the team. As a Wi-Fi 6 AP, it supports 8X8 multi-user MIMO, giving it the muscle to handle high-density traffic demands in areas such as the libraries and auditoriums.

At the same time, all the CommScope RUCKUS APs provided patented BeamFlex® adaptive antenna technology. BeamFlex enables the AP's antenna system to continually sense and optimize for its environment. With interference, noise and network performance issues minimized, students and staff could enjoy better performance and more stable connectivity. In all, the project called for 730 high-performance, Wi-Fi 6-enabled APs. 440 CommScope RUCKUS APs were installed in the student dormitories, and another 290 across campus.

To connect and power the APs, HGU opted for CommScope RUCKUS ICX switches—specifically, the ICX 7150 and the ICX 7650 series switches. The CommScope RUCKUS ICX series of fixed form-factor switches work together with the APs to simplify network setup and management, enhance security, minimize troubleshooting and simplify potential future upgrades to the network.

Network management is handled via the CommScope RUCKUS SmartCell Insight. As a Wi-Fi reporting engine, SmartCell Insight uses advanced machine learning to enable HGU IT staff



to detect and proactively address services issues. It also is a big data analytics engine that can collect data from wireless controllers, access points, clients and applications. Should HGU choose, they can use this capability to grow and manage their Wi-Fi networks for the future.

Changing the world, one connection at a time

Post upgrade, the difference in Wi-Fi performance has been dramatic. HGU's wired and wireless network infrastructure is more than up to the task of supporting the university's e-learning tools and curriculum, video lectures, and administrative tools like electronic attendance management. Whether in class, on campus or relaxing in the dorms, all students have seamless, high-performance Wi-Fi access.

The network's increased reliability also means the IT team spends less time responding to Wi-Fi issues and more time in proactive planning. HGU credits the turnaround to CommScope's cutting-edge technology that has satisfied all the goals—capacity, coverage and performance—with fewer APs and much lower TCO.

Looking ahead, HGU envisions more than a connected campus. With technologies like IoT and Smart Campus connectivity, there is plenty of room for growth and development—room to elevate the student experience while lowering costs. By deploying their new CommScope RUCKUS network, they've taken the first step. Now the next logical question is: "From here, why not keep going? *Why not change the world?*"

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