HUAWEI

Success Stories of Huawei AirEngine Wi-Fi 6

LEADING NEW ICT

Huawei Wi-Fi 6: Optimal Teaching Experience for 4600+ Spanish Students Anytime

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About Mondragon University

Mondragon University is a private university that ranked eighth-highest in Spain in 2017. It is part of the Mondragon Corporation and has 4600+ students.

Requirements and Challenges

Mondragon University is committed to innovating education models and the informatization of university infrastructure. It also aims to strengthen communication between students and teachers. The university's previous campus network had poor roaming experience, and there was frequent signal interruption of Wi-Fi networks in classrooms and dormitories. Meanwhile, network device warranties were coming to an end and needed to be replaced.

Why Huawei Wi-Fi 6?

- **Seamless roaming switching**: Extends Wi-Fi coverage to every corner of the campus and provides optimal roaming experience free from packet loss, ensuring lossless roaming in classrooms and dormitories.
- **Higher user concurrency**: Huawei Wi-Fi 6 allows many more users to access the network concurrently, meeting the Wi-Fi coverage requirements of high-density scenes such as classrooms and auditoriums.
- **High bandwidth, low latency**: Huawei Wi-Fi 6 can satisfy the network requirements of various modern and innovative teaching methods, such as distance teaching.

Key Products: AP7060 (Wi-Fi 6), AD9431DN-24X, AP4050DE-M, and AC6805

Gigantic Creates a New "Wi-Fi as a Service" Business Model With Huawei Wi-Fi 6

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About Gigantic

- Top 5 ISP in India
- A large customer base, covering Public Sector Undertakings (PSUs), education, and commercial sectors
- Major business: bandwidth, wireless, and VPN services

Challenges

To fuel business growth, Gigantic intended to create a new business model — “Wi-Fi as a Service" — with bandwidth and wireless resources. To this end, Gigantic was looking for a cloud managed network solution with Wi-Fi 6 products, to be able to offer better Wi-Fi services to students and teachers in colleges in Delhi.

Why Huawei Wi-Fi 6?

- 200+ concurrent links and high throughput of Huawei Wi-Fi 6 are ideal for high density scenarios like large classes and auditoriums.
- Intelligent application acceleration technology of Huawei Wi-Fi 6 reduces service latency to 10 ms, enabling a Mixed-Reality (MR) education experience.
- Huawei CloudCampus solution provides a multi-tenant network and achieves tenant-based O&M, helping Gigantic to charge by user and win thousands of POs.

Key Products: AP7060DN (Wi-Fi 6), S5720-28P-PWR-LI, Agile Controller-Campus, S5720-36C-EI, S5720-52X-LI, and S6720-26Q-SI-24S

Shenzhen Metro Teams Up with Huawei to Build China’s First 5G + Wi-Fi 6 Metro Station

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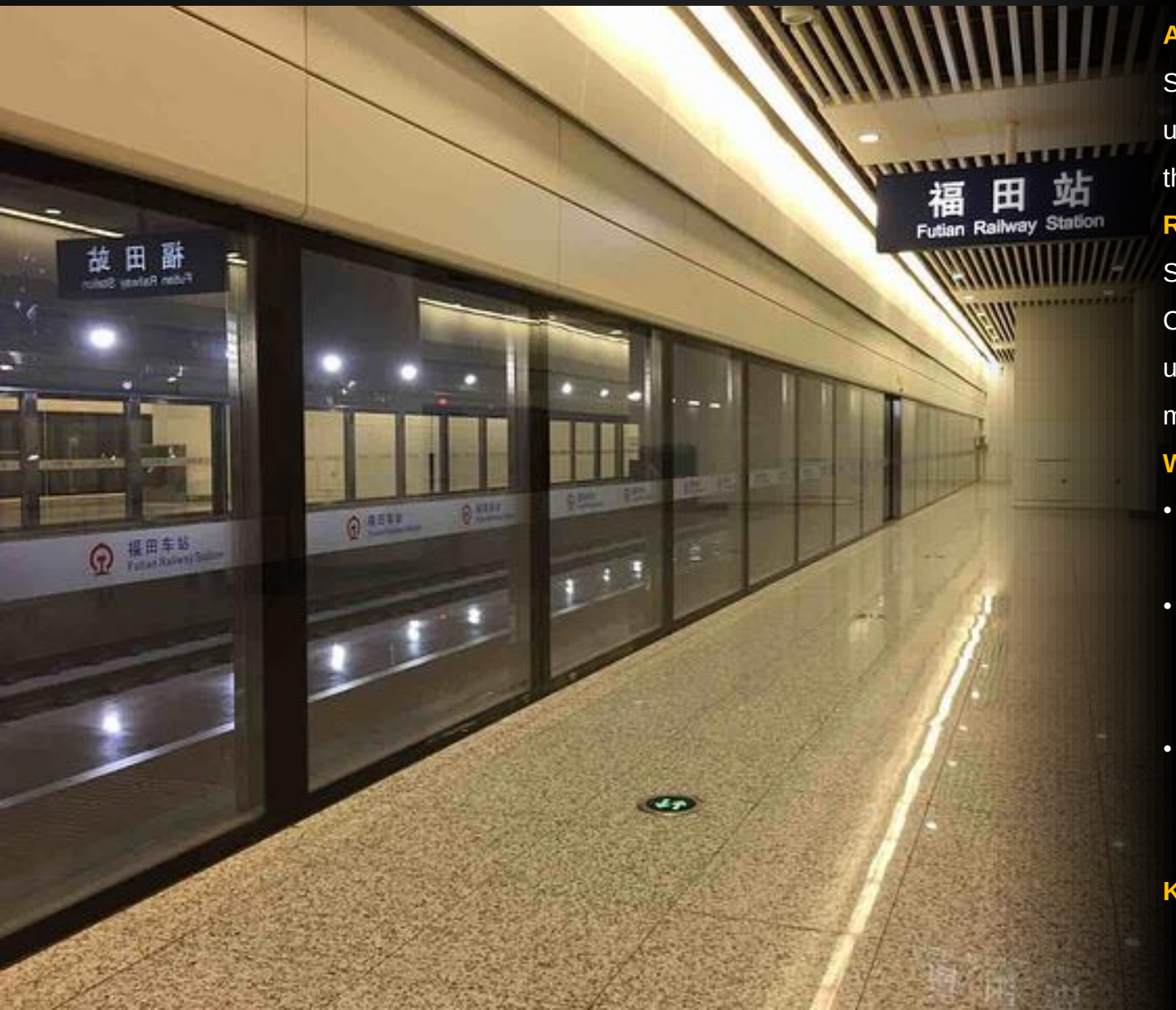

About Shenzhen Metro

Shenzhen Metro works with Huawei, China Unicom, and other partners to use 5G for network access and Wi-Fi 6 for network expansion, enabling the perfect convergence of 5G and Wi-Fi 6 technologies.

Requirements and Challenges

Shenzhen Metro adopts the concept of "Operating the Metro for a Better City" and focuses on the new service mode of “Hi-tech Metro”. It hopes to use the latest network technologies to improve user experiences of the metro network and better serve the city and its citizens.

Why Huawei Wi-Fi 6?

- Huawei’s industry-leading third-generation phased array smart antennas ensure optimal signal coverage at any location.
- Intelligent radio calibration technology helps automatically detect air interface quality and intelligently optimize networks, effectively improving network capacity and user experiences.
- Intelligent application acceleration technology and multi-queue packet scheduling are employed to prevent congestion and shorten service delay to 10 ms.

Key Products: AP7060DN (Wi-Fi 6)

Huawei Wi-Fi 6: Optimal Teaching Experience for 7000+ Teachers and Students in ESPRIT University, Tunisia

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Background

ESPRIT University, the number one private engineering university in Tunisia, has over 7000 teachers and students. Every year, more than 15% of Tunisia's newly-qualified engineers graduate from this university. It is one of Huawei's key ICT ecosystem construction partners in Tunisia.

Requirements and Challenges

With the scale of ESPRIT University increasing each year, network devices in existing teaching buildings, academic lecture halls, and stadiums started to show their age. The outdated campus network was holding back education innovation. To overcome this challenge and innovate the teaching experience, ESPRIT University committed to building the first smart campus in Tunisia with a plan to introduce advanced technologies, such as VR, AR, and 4K, in the next three to five years. To better embrace the technologies, the existing wireless network needed to be reconstructed and upgraded right away.

Why Huawei Wi-Fi 6?

1. Large bandwidth, high concurrency, low latency: Huawei Wi-Fi 6 satisfies network evolution requirements for the next five years, protects the customers' one-off investment, and optimally adapts to various modern teaching applications.
2. Application acceleration: As verified by Tolly, Huawei Wi-Fi 6 reduces VR latency to as low as 7 ms, preventing dizziness during VR. This helps innovate teaching for the future.
3. Intelligent radio calibration (SmartRadio): Huawei Wi-Fi 6 allows 200+ users to access the network concurrently, meeting network access requirements in high-density scenarios.
4. Lossless and zero-waiting roaming: Huawei Wi-Fi 6 ensures optimal network access experience in densely populated universities where users frequently move and roam among APs.

Key Products: AP7060DN (Wi-Fi 6), AC6508, and S5720 switches

Huawei Wi-Fi 6: Meeting the Demanding Production Line Network Requirements of Carrier Midea India

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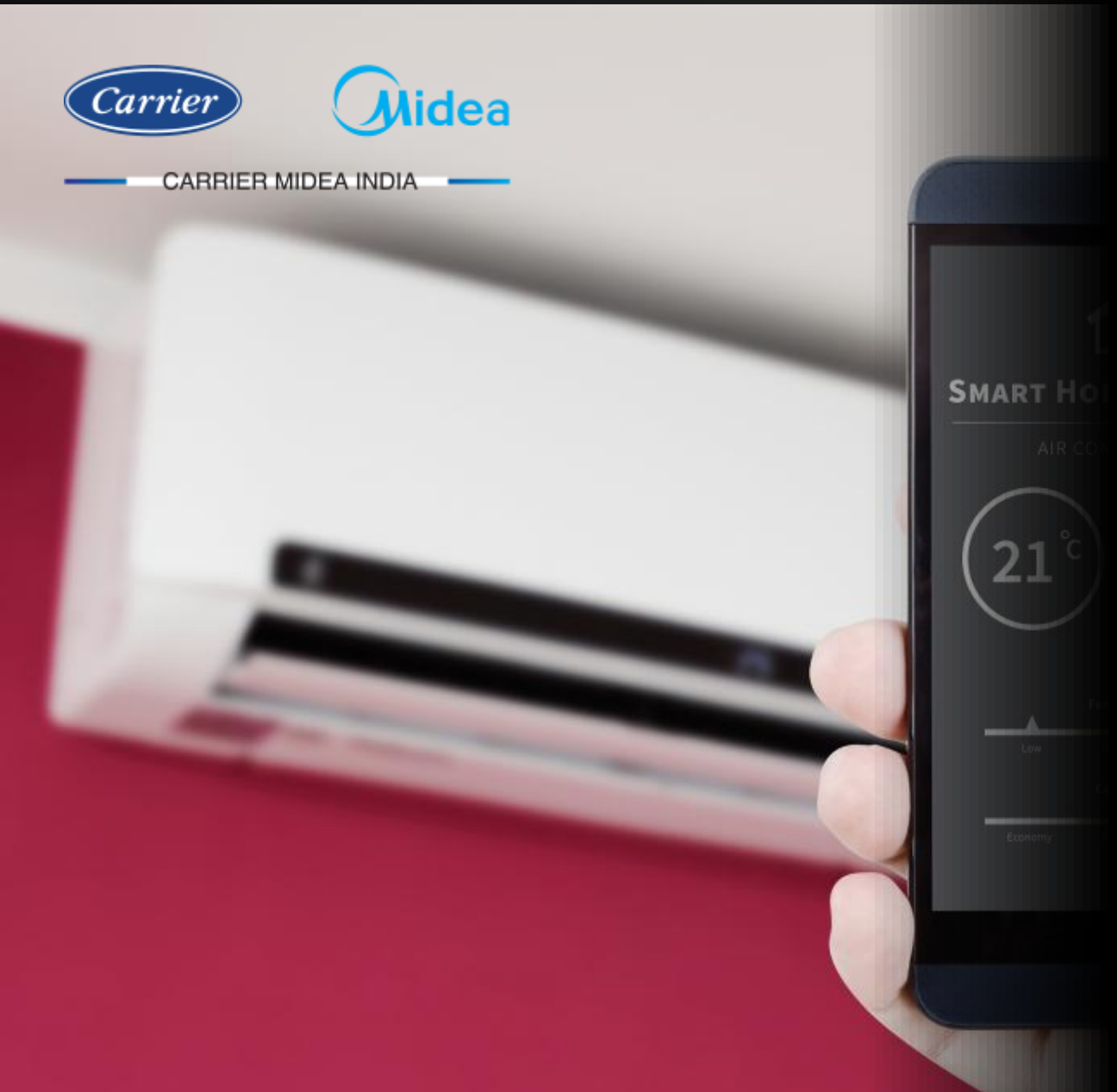

Background

Carrier Midea India is a joint venture between UTC Climate Control & Security (UTC CC&S) and China's Midea Group. It holds the third largest market share in the Indian home appliance industry.

Requirements and Challenges

Carrier Midea India expanded its factory in 2019. Comprehensive network coverage was required to satisfy service requirements in and outside of the factory, as well as on the production line. In particular, Carrier Midea India plans to introduce automatic production tools such as scanners, mechanical arms, and automated guided vehicles (AGVs) to the production line. To fully utilize these tools, a network that could provide high bandwidth and low latency was needed, requirements a traditional Wi-Fi network cannot provide.

Solution

A tailored campus solution: AP7060DN, AP6050DN, AP8050DN, AirEngine 9700-M, S12700E, S5720 SI/EI PoE, and USG6650E

Customer Benefits

- High bandwidth and low latency: Huawei Wi-Fi 6 best adapts to the network requirements of automatic production, improving production efficiency and ensuring optimal user experience.
- Powerful network infrastructure: Huawei Wi-Fi 6 lays a solid foundation for the customer’s service innovation and smart manufacturing needs.

Huawei Wi-Fi 6: Powering an All-Wireless Mobile Phone Production Line at Genew India

Authorized

Background

Genew India, a branch of Shenzhen Genew Technologies Co. Ltd., is committed to constructing dust-free workshops for mobile phone vendors, such as Vivo and OPPO.

Requirements and Challenges

Genew plans to build a new Vivo mobile phone production line with full Wi-Fi coverage in India. In particular, the wireless modules of mobile phones need to be tested in the test workshop. Therefore, the workshop network must provide high bandwidth and support high-density concurrent device access.

Solution

A tailored campus solution: AP4050DN, AP7060DN, S5720 LI POE, S7703, and Agile Controller

Customer Benefits

- Industry-leading data transmission: 8 antennas in a single radio and up to 3.5 Gbit/s bandwidth, accelerating software downloads and updates and improving the per-mobile phone testing efficiency.
- High-concurrency: higher mobile phone concurrency, faster access, authentication, and performance tests of wireless modules on mobile phones, and improved efficiency of testing multiple mobile phones on the production line.

Huawei Wi-Fi 6: Smart Campus for Xiamen University Malaysia

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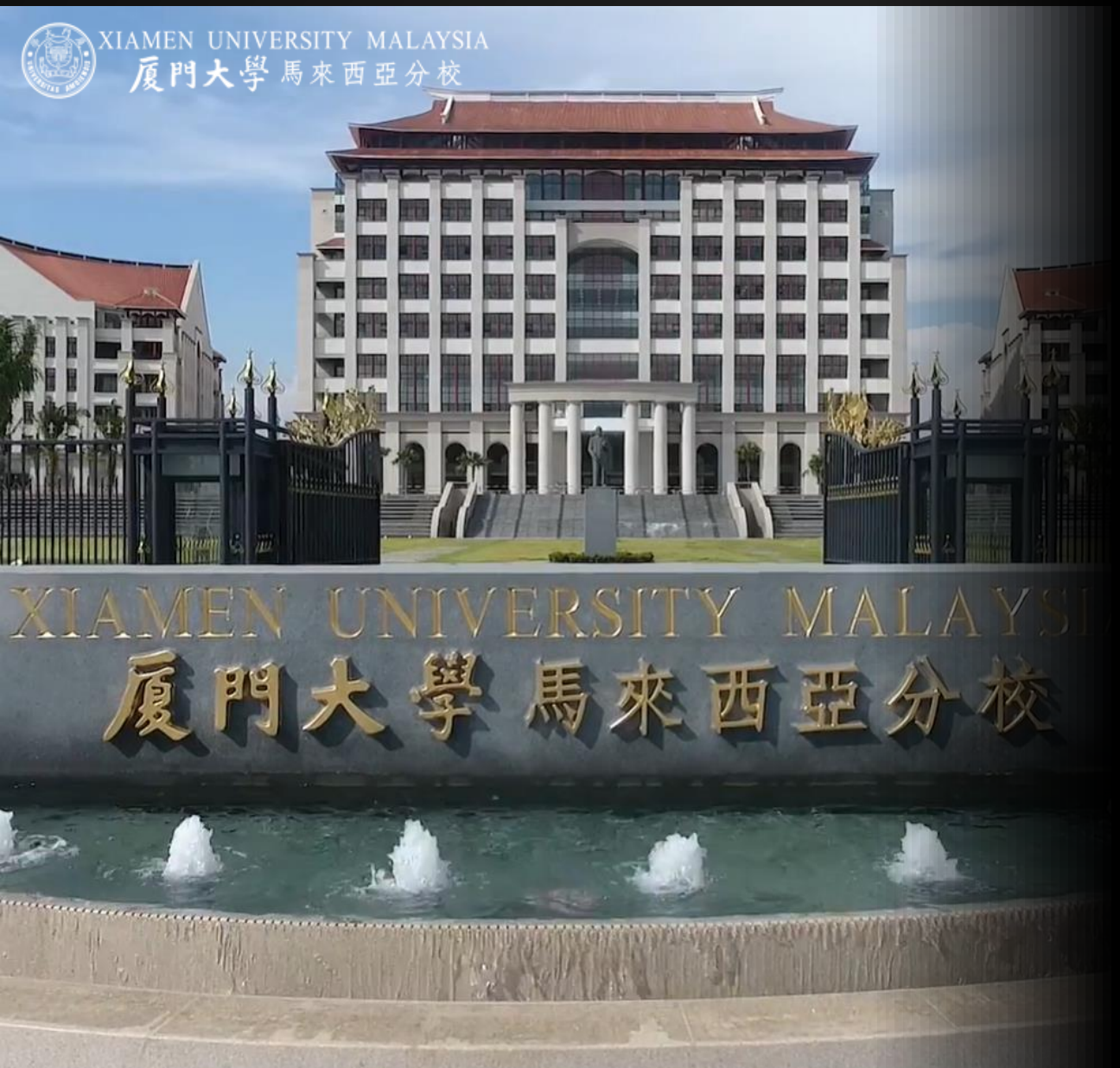

Background

Xiamen University Malaysia (XMUM) is the first Chinese university to open a campus outside of China, with more than 5000 students on campus. To build a connected and advanced campus, the university needed to construct various information areas, such as office areas for teachers and administrative personnel, smart classrooms, multimedia classrooms, laboratories, student dormitories, student recreation centers, canteens, libraries, music halls, and stadiums.

Requirements and Challenges

- Provide stable and reliable information infrastructure for teachers and students.
- Provide high-speed networks for offices, classrooms, and dormitories.
- Lay the foundations for the development of smart education.
- Enable teachers and students to enjoy a high-speed and smooth network access experience even in high-density areas such as stadiums and canteens.

Solution

Huawei CloudCampus Solution + intelligent O&M solution: AP7060DN, S5700/S12700 series switches, CloudCampus@AC-Campus, and CampusInsight

Customer Benefits

- **High speed**: Large files and HD videos are transmitted at high speeds.
- **Excellent quality**: Huawei's first ever commercial Wi-Fi 6 AP features high throughput, high concurrency, and low latency. By deploying this AP, teachers and students can enjoy excellent Wi-Fi across the campus, even in very dense areas such as e-classrooms and music halls.
- **Smart**: Huawei provides advanced IoT expansion, facilitating deployment of IoT services on a smart campus.

Huawei Wi-Fi 6: Excellent Wireless Experience for FC Basel Fans in Switzerland

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Background

St. Jakob-Park in Basel is the largest football stadium in Switzerland and home to FC Basel, with a capacity of 42,500 seats. The stadium hosted the 2016 Europa League Final.

Requirements and Challenges

Vendor C's network faces the following problems: low concurrency, slow speeds during peak hours, frame freezing, and insufficient Wi-Fi coverage. 30% of the fans in the stands need to access the network at the same time, therefore high-density Wi-Fi is needed.

Solution

Huawei CloudCampus Solution: AP7060DN, AP5030DN, AP4050DN-E, and S5720-LI series switches

Customer Benefits

- **Comprehensive Wi-Fi coverage**: Huawei re-plans AP deployment locations and simulates signals using Huawei's in-house network planning tool, extending Wi-Fi coverage to every corner of the stadium.
- **Better Wi-Fi experience**: Huawei deploys high performing Wi-Fi 6 devices with high bandwidth indoors, optimizing network experience in indoor areas such as canteens and VIP areas.
- **Higher concurrency**: Huawei deploys a high-density Wi-Fi network with small-angle directional antennas for outdoor areas, facilitating network access for a third of fans during peak hours.

Huawei Wi-Fi 6: Efficient Wireless Office Network for Southstar Drug in the Philippines

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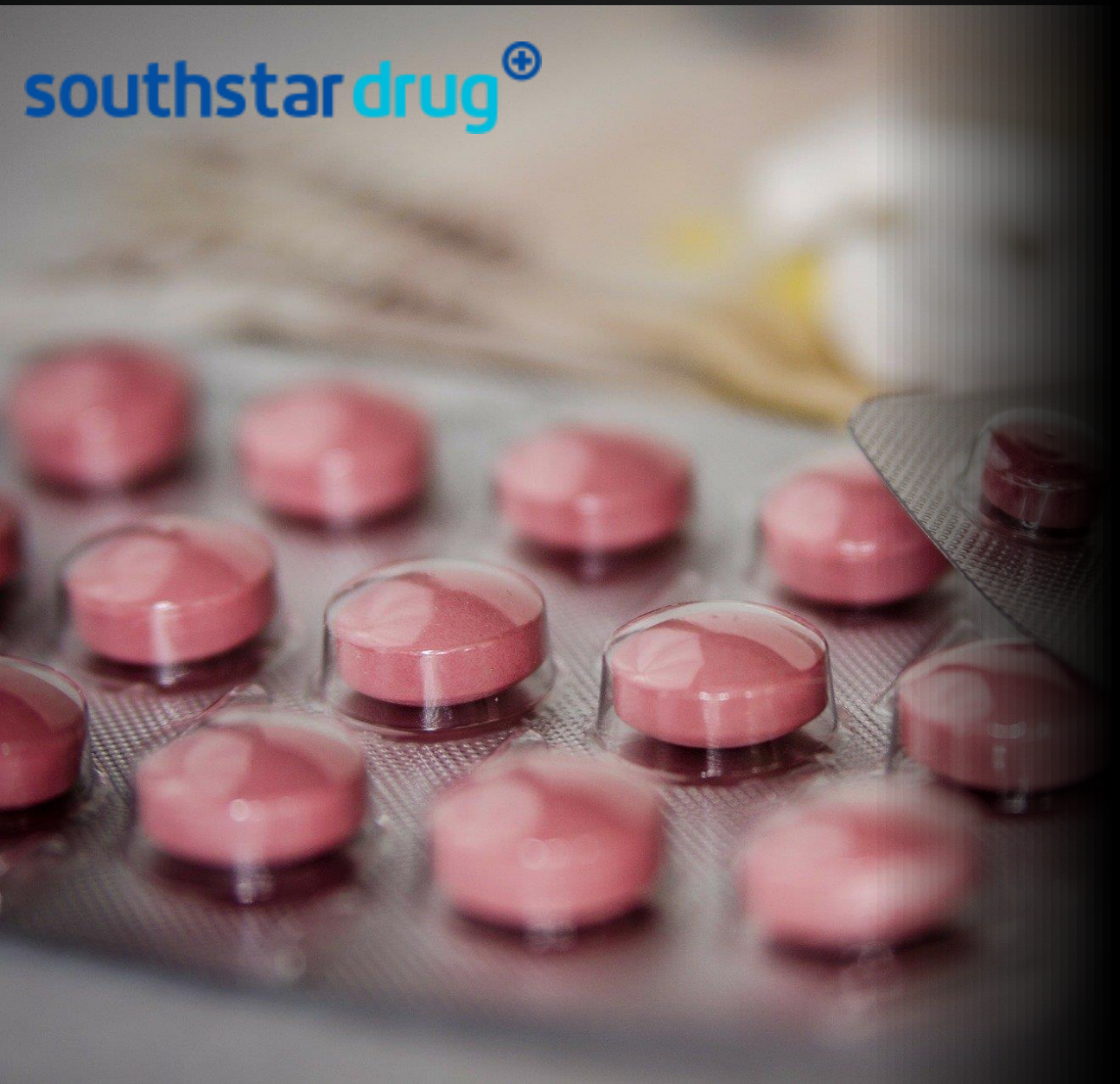

Background

Southstar Drug is owned by Robinsons Retail Holdings, Inc. It is the Philippines' second largest retail chain. Southstar Drug has expanded its retail presence with more than 500 branches nationwide, and they are constantly increasing. Its vision is "to become the drugstore of choice in service, trust, accessibility and responsibility".

Requirements and Challenges

To better adapt to its rapidly growing services, Southstar Drug has built a new DC office area in Taguig City. However, Southstar Drug faced numerous difficulties during construction of the new DC office area, for example, the long construction period of traditional wired networks, high Total Cost of Ownership (TCO), and inflexible Local Area Network (LAN) locations. As a result, Southstar Drug sought a stable, high-bandwidth, and cost-effective wireless office network solution.

Solution

CloudCampus Solution: AirEngine 5760-10 and S5720-HI series switches

Customer Benefits

- **Fast device deployment**: Shortens the network rollout period.
- **MU-MIMO**: Enables a large number of users to access the network concurrently, improving wireless network access experience.
- **Smart antenna**: Increases the received signal strength of STAs and reduces co-channel interference between neighboring APs.

Huawei Wi-Fi 6: High-Bandwidth Wireless Office Networks Across Multiple Campuses for Energotel, Slovakia

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Background

Energotel is the largest electric power group in Slovakia. It provides high-quality services to a wide range of clients based on the telecommunications infrastructure of Slovak Energy.

Requirements and Challenges

Energotel has six office buildings, including the headquarters building, sales department building, and transformer substation office building. The live Wi-Fi network has been operating for more than six years, providing only 1 Gbit/s uplink bandwidth and poor security and user experience. To resolve this issue, Energotel planed to reconstruct office networks on these campuses, striving to implement full-wireless coverage and improve network bandwidth, throughput, security, and reliability.

Solution

Campus solution: AP7060DN, AP6050DN, and AirEngine 9700-M

Customer Benefits

- **Optimal network access experience**: Huawei Wi-Fi 6 provides 4x user bandwidth and 10 Gbit/s uplink, helping achieve highly efficient collaboration and communication via 4K/8K HD videos across campuses.
- **High concurrency + 100 Mbit/s bandwidth per user**: Wireless access replaces wired access, enabling users to access the network anytime and anywhere, and enjoy optimal network access experience.
- **More secure connections**: Huawei utilizes WPA3 standards to encrypt data on the public Wi-Fi network, protecting user privacy.

Huawei Wi-Fi 6: Outstanding Wi-Fi Well Suited to High-Density Commercial Areas for ACT, India

Authorized

Background

Atria Convergence Technologies Ltd. (ACT) is the largest Internet Service Provider (ISP) in southern India. It provides services in five major states: Karnataka, Andhra Pradesh, Telangana, Tamil Nadu, and Delhi. With the sustained growth of its Internet Access Provider (IAP) services, ACT has transformed to provide enterprise access and urban hotspot network operation services. Public Wi-Fi has become one of the most critical demands.

Requirements and Challenges

The rapid development of mobile Internet and the popularity of smart terminals has caused a surge in the number of network access terminals in urban hotspots, such as stations and airports. Therefore, building superior Wi-Fi networks is a top priority for ACT. However, ACT faces a number of challenges, such as how to ensure high-density access, how to ensure network access continuity while roaming, and how to simplify access authentication.

Solution

Campus solution: AP7060DN, AP4050DN, S6720-EI, and CloudEngine S6730-HI

Customer Benefits

- Huawei Wi-Fi 6 provides high concurrency and high bandwidth, improving the network access experience.
- Huawei Wi-Fi 6 products provide comprehensive security authentication policies, and can interconnect with the third-party Authentication, Authorization, and Accounting (AAA) server, ClearPass, achieving Wi-Fi monetization easily and quickly.

Huawei Wi-Fi 6: Future-Proof Office Network for SEB, Malaysia

Authorized

Background

Sarawak Energy Berhad (SEB), one of the two largest electric power companies in Malaysia, is a state-owned electric power company located in Sarawak. It has a history of more than 100 years and provides electric power for millions of people in urban and rural areas in Sarawak.

Requirements and Challenges

- Complex process for guests to log in to and access the existing Wi-Fi network, poor user experience, and difficulties managing the network.
- Digital transformation to improve the overall service operations of SEB + demand for IoT expansion.

Solution

Campus solution + intelligent O&M solution: AP7060DN, AC6508, S6720 series switches, Agile Controller, and eSight

Customer Benefits

- Huawei latest Wi-Fi 6 APs meet the high-speed network access, high concurrency, and all-wireless access requirements of office networks. In addition, Agile Controller is used to uniformly deliver policies to devices in order to isolate employees from guests, simplifying overall network management.
- Huawei deploys powerful switches that support POE++ power supplies and can power STAs from as far as 200 meters away, resolving potential power supply issues and ensuring flexible network deployment.
- Huawei implements future-proof network planning and construction that can flexibly expand IoT applications through various IoT cards, such as RFID and ZigBee.

Huawei Wi-Fi 6: Digital Warehousing for SONGMICS, a Top Amazon Seller

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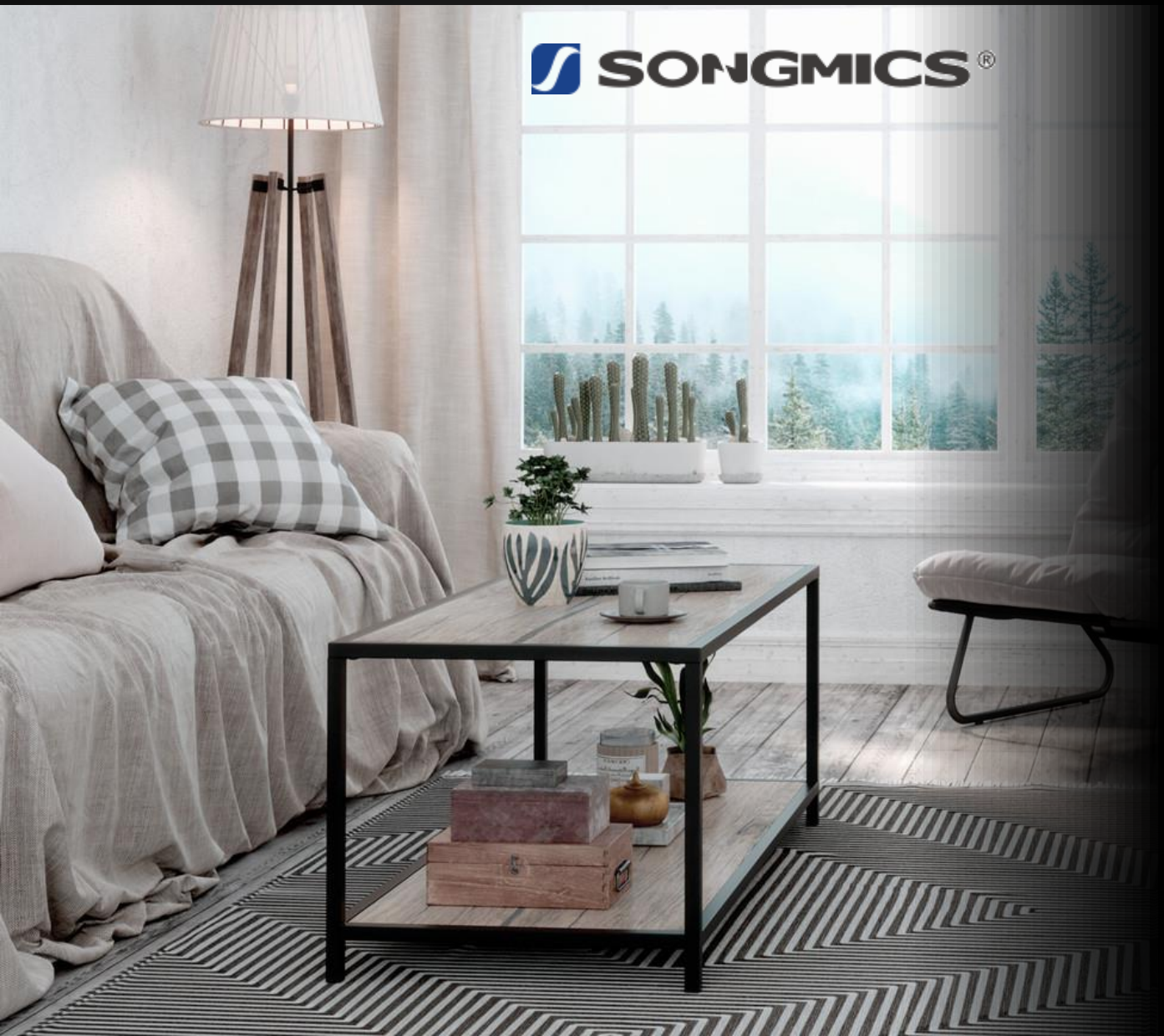

Background

SONGMICS, founded in 2012 in Germany, is one of the largest sellers on Amazon. Since established, SONGMICS has been on a mission to provide affordable, aesthetic, convenient, and durable home necessities that appeal to people all over the world. SONGMICS is planning a new digitalized warehouse in Germany for continuous good service to their customers. The new warehouse is planned with 20,000 square meters with a 900 square meters office, and it will be ready for business from 2020.

Requirements and Challenges

SONGMICS is calling for an end-to-end Wi-Fi solution to:

- Provide high-quality Wi-Fi coverage and seamless roaming
- Achieve higher-precision location based services (LBSs)
- Satisfy a wide range of innovative and emerging services, such as asset management and automated guided vehicles (AGVs)

Solution

Campus solution: AP7060DN, S6720SI, and S6720HI
HiSec solution: USG6530

Customer Benefits

- Smart antenna: good signal coverage + uninterrupted production + non-stop signal transmission for the barcode scanner on the move
- Lossless roaming + low latency + zero packet loss: ensure consistent user experience and implement quick code scanning, intelligent sorting, and non-stop goods transportation
- Wi-Fi 6 solution for AGVs: higher unattended supply efficiency of digital warehousing
- Future-oriented infrastructure: meet service innovation requirements and reduce investment in new devices

Huawei Wi-Fi 6: High-Speed Wi-Fi Network for Selfnet e.V.'s Dormitories in Stuttgart

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Background

Selfnet e.V. is a non-profit student association run entirely by volunteers with the purpose to promote the transfer of knowledge in the ICT field. It builds and manages a network for dormitories to provide students with direct, fast, and unrestricted Internet access, facilitating scientific research and education development.

Requirements and Challenges

- ≥ 20-30 Mbit/s bandwidth for each dormitory room
- Wireless coverage for outdoor spaces and basements in some dormitories
- Secure, reliable Internet access for individuals and IoT devices
- Flexible, convenient O&M

Solution

Campus solution: AP5760-10, AP8050DN, AP8030DN, AP5030DN, AP4050DN, AP2051DN, AP6010DN-AGN, and AC6605

Why Huawei Wi-Fi 6?

- 802.11ac/ax Wave 2 AP: works at a rate of over 1.2 Gbit/s, ensuring high-speed Internet access
- Built-in adaptive antenna array on the AP5760-10: moves signals with users and achieves 20% greater coverage distance
- RADIUS authentication + DTLS-based data link encryption on APs + dual-link cold backup of WLAN ACs: stronger security and higher reliability
- AP access via STelnet/SSH: facilitates remote management of widely distributed APs

Huawei Wi-Fi 6: Next-Generation High-Speed Wireless Office Network for APSTAR

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Background

APT Satellite Company Limited ("APT Satellite" or "APSTAR") is a leading satellite operator in the Asia-Pacific region. It provides superior "one-stop-shop" satellite transponder leasing, broadcast, Teleport and Network, as well as data center services for broadcasters and telecommunication customers in regions in Asia, Europe, Africa, Australia and Pacific island.

Requirements and Challenges

Legacy 802.11n Wi-Fi devices are about to reach end of service (EOS), and cannot meet bandwidth-hundgry wireless office services. Considering this, APSTAR expects a next-generation high-speed wireless network that offers superior experience for employees and guests, thereby accelerating its digital transformation journey.

Why Huawei Wi-Fi 6?

- Wi-Fi 6 from 5G leader: Huawei's Wi-Fi 6 AP7060DN supports 12 spatial streams, achieving a device rate of up to 5.95 Gbit/s.
- SmartRadio for air interface optimization: ensures optimal performance upon AP deployment at scale and delivers superior access experience anytime, anywhere.
- Huawei Agile Controller-Campus: unified authentication for wired and wireless users; 802.1X authentication for AD domain accounts; guests' self-registration with and access to the Internet through personalized portals

Customer Benefits

- Consistent experience for wired and wireless users over a Wi-Fi 6 office network
- Unified authentication for wired and wireless users, simpler network access and rights control, and higher digital levels of enterprise IT

Huawei Wi-Fi 6: Next-Generation Energy-Saving, High-Speed Network for The PARQ of TCC

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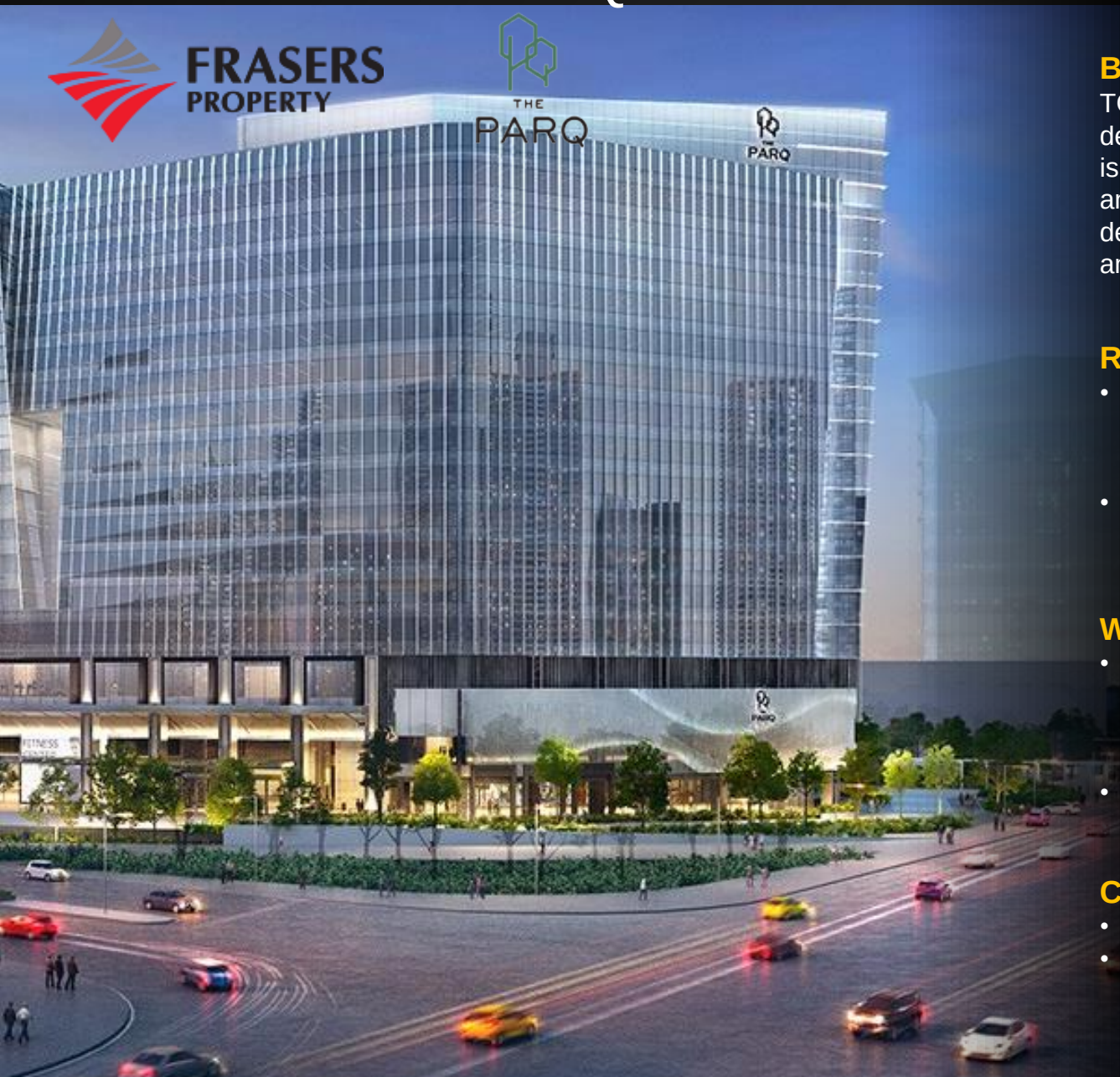

Background

TCC Group is one of Thailand's largest enterprises. Its portfolio includes real estate development, hospitality services, wine, and manufacturing. Frasers Property Limited is a multi-national real estate and property management company that develops, owns, and manages properties. At the intersection of innovative architecture, sustainable design, and fully integrated building, The PARQ redefines what it means to work, live and play in Bangkok.

Requirements and Challenges

- High-speed network access in public areas, such as parking lots, outdoor parks, retail floors, elevator halls, and corridors: facilitating hotspot creation based on new technologies in buildings
- Energy-saving network: less cabling and ICT device deployment spaces + less energy consumed by ICT devices

Why Huawei Wi-Fi 6?

- POL solution, constructing an all-optical network for the entire building: 80%↓ cabling and IT equipment room spaces, 60%↓ power consumption, 50%↑ expansion and MA efficiency, scalable to as far as 40 km away (vs. pure IP network)
- Ultra-large bandwidth + ultra-high capacity + ultra-low latency + flexible IoT expansion: well suited to service requirements of The PARQ

Customer Benefits

- Superb user experience in The PARQ
- Energy-saving, high-speed network aligned with The PARQ's expectations and vision

THANK YOU