

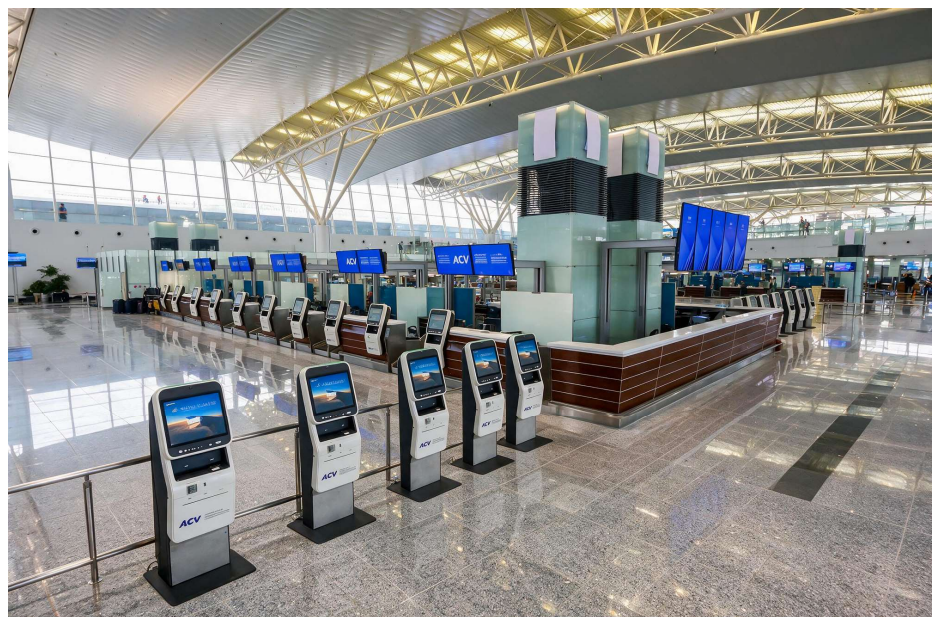
Powering Hanoi Airport's Digital Transformation with a Future-Ready 5G DAS Platform

■ Background

As Vietnam's second busiest airport and the primary international gateway in Northern Vietnam, Noi Bai International Airport plays a vital role in connecting the country to regional and global destinations. To accommodate growing international traffic, the airport undertook a major expansion of Terminal 2 (T2), increasing its annual international passenger handling capacity **from 10 million to 15 million passengers**, with future scalability to support up to 18 million passengers annually. The expanded terminal now spans more than 200,000 square meters, making it one of Vietnam's most important aviation facilities.*

The T2 expansion forms a key part of the Airports Corporation of Vietnam's (ACV) digital transformation strategy and marked the large-scale deployment of an integrated digital airport ecosystem. Advanced services such as self-service check-in, self-bag-drop systems, automated immigration processing, intelligent baggage handling and biometric-enabled passenger services are helping transform both the passenger journey and airport operations.

As passenger volumes and digital services continued to grow, the airport required a high-capacity, highly reliable and future-ready wireless infrastructure capable of supporting seamless connectivity across the terminal. The network needed to serve increasingly connected passengers, enable mission-critical airport systems and provide a scalable foundation for long-term 4G and 5G evolution.



Noi Bai International Airport

■ Challenges

The newly expanded terminal required a wireless infrastructure capable of supporting rapidly increasing passenger traffic while enabling the airport's digital transformation initiatives.

The solution needed to provide comprehensive indoor coverage throughout the more than 200,000-square-meter terminal, support multiple mobile operators on a shared infrastructure, and deliver the capacity

required for bandwidth-intensive applications and future 5G services. At the same time, the airport required a highly reliable platform capable of supporting mission-critical airport operations around the clock.

■ Requirements

To support the airport's long-term digitalization strategy, the new wireless infrastructure was required to deliver both exceptional performance and future scalability.

The airport specified a **downlink throughput target of more than 800 Mbps** to ensure sufficient capacity for bandwidth-intensive applications such as ultra-high-definition video streaming, immersive AR/VR experiences, cloud-based applications and real-time passenger services. The solution also needed to support frequency bands up to **3.5 GHz**, providing compatibility with current and future 5G spectrum deployments while enabling long-term network evolution.

In addition, the airport required comprehensive **4G and 5G indoor coverage**, support for all major Vietnamese mobile operators on a shared platform, and a scalable architecture capable of accommodating future capacity growth. High service availability and carrier-grade reliability were also essential to ensure uninterrupted communications for both airport operations and passengers.

■ Solutions

To address these requirements, PROSE supplied its Active-Passive Hybrid DAS solution for Terminal T2.

The solution combines active and passive DAS technologies to provide high-capacity coverage while optimizing deployment efficiency and long-term operating costs. The active DAS architecture leverages PROSE's DAS platform, **comprising Central Units (CU), IM2U modules, Network Expansion Units (NEU) and Intelligent Remote Units (IRU)**, to deliver seamless connectivity throughout key passenger areas such as departure halls, arrival halls, boarding gates, security checkpoints and commercial zones. The system supports frequency bands up to 3.5 GHz and incorporates 4×4 MIMO capability, enabling high-capacity 4G and 5G services throughout the terminal.

To efficiently cover technical and service areas, including basement facilities and baggage handling zones, the deployment also incorporated High-Power Remote Units (HPRU), creating a balanced hybrid architecture that combines performance, scalability and cost efficiency.

The solution supports **Viettel, Vinaphone and Mobifone** on a shared infrastructure platform, allowing multiple operators to utilize a common DAS network while simplifying future expansion and reducing deployment complexity.

To ensure uninterrupted operation, the system incorporates AC/DC hot backup, UPS protection and battery backup systems, delivering carrier-grade reliability for airport operations and passenger connectivity.

■ Results

The deployment has established a robust connectivity foundation across one of Vietnam's most important aviation hubs.

Today, the DAS solution delivers seamless 4G and 5G connectivity throughout the expanded terminal, supporting millions of international passengers annually while enabling the airport's growing portfolio of digital services.

Field testing confirmed that the deployed network successfully met the airport's coverage and performance requirements. The solution provides the capacity and reliability needed to support high-density passenger traffic, mission-critical airport systems and an increasingly digital passenger journey.

By enabling all three major Vietnamese operators to share a common infrastructure platform, the solution also improves spectrum utilization, reduces infrastructure duplication and enhances the overall passenger connectivity experience.

With the deployment of PROSE's DAS solution, Noi Bai International Airport has strengthened its digital infrastructure to support seamless passenger connectivity, smart airport operations and long-term 5G evolution. The shared infrastructure approach enables multiple operators to deliver high-quality services more efficiently, while the scalable architecture provides the capacity and reliability required to support growing passenger volumes and the airport's ongoing digital transformation journey.

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