

Comba

## ONE DAS. ALL OPERATORS.

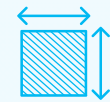
## Comba ComFlex Max Enables Multi-Operator 5G DAS for a Major International Airport

## BACKGROUND

As airports evolve into highly connected digital hubs, reliable mobile connectivity has become essential across every passenger touchpoint – from check-in and security to boarding, retail, and parking.

To support the launch of a new terminal at one of Southeast Asia's busiest airports, the project aimed to deliver the region's first commercial multi-operator shared 5G infrastructure for a major international airport. The deployment was designed to serve multiple mobile operators by supporting both legacy technologies as well as advanced 5G MIMO configurations on a single integrated DAS platform.

Covering 120,000m<sup>2</sup> and designed to serve 20 million passengers annually, the terminal set a new benchmark for high-capacity airport connectivity.



**120,000m<sup>2</sup>**  
coverage



**20M**  
annual passengers



**3 Operators**  
on one DAS



**4x4 MIMO**  
5G

## CHALLENGES

**! Multiple operators on one shared infrastructure**

The airport required a single DAS platform capable of supporting multiple operators simultaneously, eliminating duplicated systems while maintaining equal service quality.

**! Supporting 3G, 4G, and 5G together**

To enable concurrent support for legacy and 5G NR technologies, customized dual-band LTE 2x2 MIMO and dual-band NR 4x4 MIMO were deployed in a single-system solution optimized for high-density environments.

**! Delivering consistent coverage across complex spaces**

Open concourses, lounges, parking areas, and metal-heavy corridors each presented unique RF challenges requiring flexible coverage design.

**! Zero-margin deployment expectations**

As the region's first shared 5G airport deployment, the project demanded flawless performance and reliable service from day one.

## THE SOLUTION

Comba deployed **ComFlex Max**, its advanced active DAS platform, to deliver shared multi-operator 3G/4G/5G connectivity across the entire terminal.

### Unified Multi-Operator Architecture

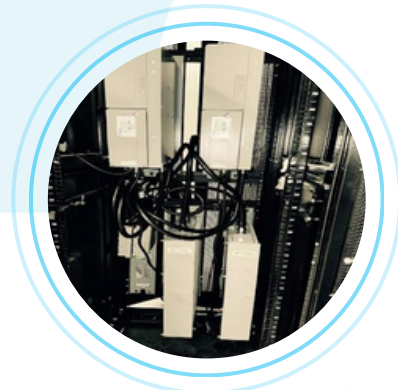
A single DAS platform supports all operators and technologies, including LTE 2x2 MIMO and NR 4x4 MIMO configurations. This reduced infrastructure simplified operations and optimized equipment room usage.

### Coverage Optimized by Environment

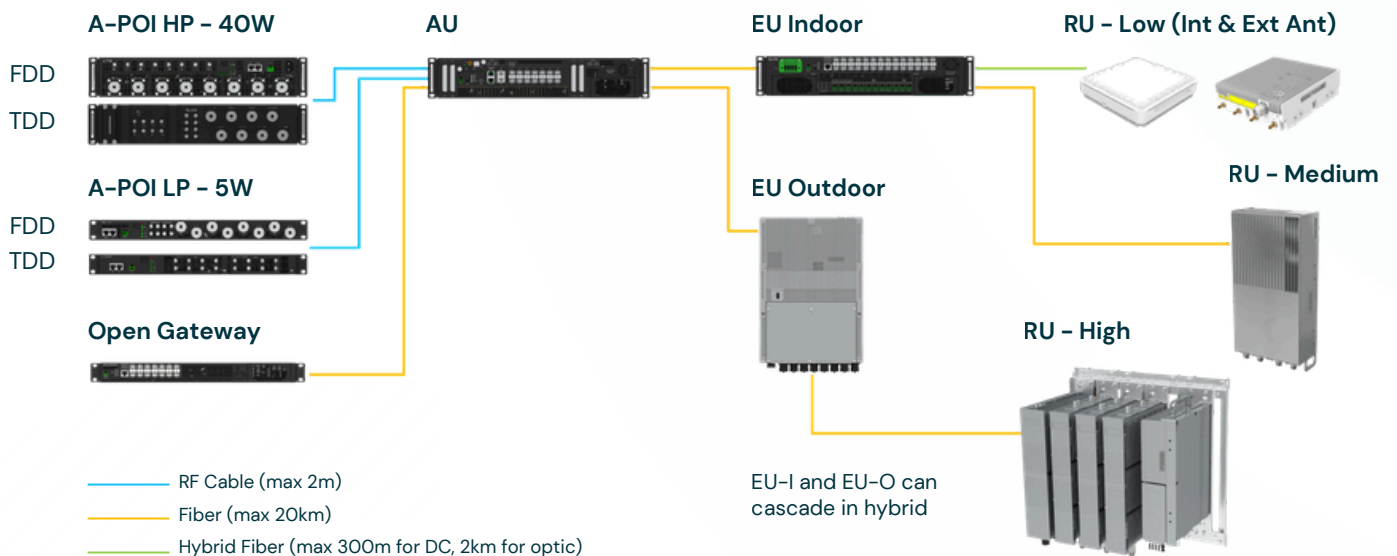
High-traffic public areas were designed with 4x4 MIMO for enhanced 5G capacity and throughput, while private and parking areas incorporated 2x2 MIMO to ensure reliable and consistent coverage throughout the terminal.

### End-to-End Project Collaboration

Comba worked closely with the airport authority, operators, and neutral host across site surveys, RF design, deployment, commissioning, and performance validation to ensure seamless project delivery before terminal launch.



### ComFlex Max Architecture



## KEY FEATURES & BENEFITS

### ✓ Shared Multi-Operator DAS

A single DAS serves all operators, reducing capital expenditure and simplifying management. The reserved slot for a fourth operator allows new entrants to join without costly retrofits.

### ✓ High-Capacity 5G Performance

The system delivers the throughput and capacity needed in dense airport environments. Passengers can enjoy smooth video calls, streaming, and enterprise applications across the terminal.

### ✓ Future-Ready Design

The platform supports bands up to 3.5GHz with advanced MIMO, enabling evolving 5G services, including private network slices and enterprise applications, without the need for hardware replacement.

### ✓ Full Technology Consolidation

Legacy, current, and next-generation technologies operate on a single platform. Operators can migrate at their own pace without any infrastructure changes.

### ✓ Flexible Coverage Architecture

High-power units cover large areas efficiently, while low-power distributed points provide targeted capacity where passenger density is highest. This approach avoids over-provisioning and maximizes efficiency.

### ✓ Proven Performance

Design simulations and on-site testing confirmed that coverage targets were achieved across all areas, from check-in halls to parking structures.

## PERFORMANCE RESULTS

### Verified High-Speed 5G Performance

On-site testing confirmed strong and consistent network performance across the terminal:

- ✓ Downlink throughput > 800Mbps
- ✓ Uplink throughput up to 160+ Mbps
- ✓ Seamless multi-operator connectivity throughout the terminal

## CONCLUSION

By deploying ComFlex Max, the airport established a new benchmark for shared multi-operator 5G connectivity in Southeast Asia.

The project demonstrates how a single active DAS platform can support multiple operators, multiple technologies, and advanced 5G MIMO requirements while delivering reliable high-capacity coverage for millions of passengers.

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