

Elevating all-weather flight safety at Cambodia's Techo International Airport

Case Study



The client:

Cambodia Airport Investment Company

Vaisala solution:

AviMet® Automated Weather Observation System (AWOS)
X-Band Weather Radar
WindCube® Scan wind lidar
IRIS Focus Remote Sensing Software
AviMet software suite

As Cambodia's most ambitious aviation project to date, Techo International Airport (TIA) is set to transform the country's air travel landscape. The airport is 20 km south of Phnom Penh, where it will accommodate 13 million passengers each year when it opens in 2025.

Ensuring safe aircraft operations in all weather situations is a core priority, particularly in the face of frequent windshear. Windshear is a fast and unpredictable change in wind speed or direction. It can be a major safety risk, especially during takeoff and landing.

To mitigate this risk, the Cambodia Airport Investment Company (CAIC), a joint venture between the Royal Government of Cambodia and the Overseas Cambodian Investment Corporation, selected Vaisala partner

Trust Global Service to lead the installation of advanced meteorological and windshear detection infrastructure.

THE CHALLENGE:

Ensure all-weather aviation safety

TIA's tropical climate brings frequent monsoons, high humidity, and severe storms, making windshear detection and prediction essential for flight safety. Without an effective alert system, pilots and air traffic controllers may face unpredictable and hazardous conditions, putting aircraft operations at risk. The challenge was to deploy a fully integrated, state-of-the-art meteorological system that could continuously provide precise, real-time windshear detection to maximize aviation safety.

"Safety is our top priority at Techo International Airport, and having Vaisala's advanced windshear alerting system ensures that we can provide pilots with the most accurate data for safe operations."

*Okhna Charles Vann
Chairman of CAIC*

THE APPROACH:

World-class aviation weather instruments and insights

Trust Global Service implemented a comprehensive windshear alerting solution for Techo International Airport, including the Vaisala AviMet® Windshear Alerting System – a trusted solution already used worldwide to improve runway safety. The system at TIA integrates multiple advanced technologies that provide exceptional accuracy and reliability.

Vaisala AviMet Automated Weather Observation System (AWOS) ensures real-time monitoring of key meteorological parameters, while Vaisala X-Band Weather Radar provides enhanced weather data for early detection of severe turbulence. Vaisala WindCube Scan wind lidar delivers high-resolution wind measurements for detecting hazardous low-level windshear events.

The airport gains intelligent data visualization and decision support for air traffic controllers with Vaisala IRIS Focus Remote Sensing Software, while the Vaisala AviMet software suite provides an integrated approach for processing, analyzing, and disseminating critical windshear alerts.

The system delivers real-time windshear alerts directly to pilots, air traffic control, and airport operations teams, so they can take immediate action to ensure safe aircraft movement.

THE RESULTS:

Set up for safe and efficient takeoffs & landings

The deployment of the AviMet Windshear Alerting System at TIA represents a major advancement in regional aviation safety and operational reliability. The airport benefits directly from:

- Enhanced safety: Real-time windshear detection improves pilot awareness, reducing the risk of weather-related landing and takeoff incidents
- Operational efficiency: Integrated systems ensure minimal disruptions, optimizing air traffic control decision-making in changing weather conditions
- Regulatory compliance: Alignment with ICAO and WMO requirements positions TIA as a benchmark for regional airport safety standards

The successful collaboration between Trust Global Service and Vaisala showcases how cutting-edge meteorological solutions can significantly enhance airport safety and operational performance. With the AviMet Windshear Alerting System in place, TIA is well-equipped to handle every challenging weather event and ensure safe air travel for millions of passengers each year.

Why Vaisala?

For 50 years, Vaisala has been a pioneer in aviation weather technology, ensuring that every measure is taken for unparalleled safety, efficiency, and sustainability.

Our gold standard suite of solutions is trusted in more than 170 countries and over 2000 airports globally. In fact, every commercial flight around the world will use weather observations produced by Vaisala equipment or forecasts driven by our sensor measurements at some point in their journey.

With a commitment to constantly evolving our portfolio, Vaisala remains at the forefront of the industry, continuously exploring new horizons.

