

## Safe and efficient airport operations: Vaisala helps Kenya Meteorological Department in every kind of weather



### The challenge: Limited weather data leaving too much up in the air

Weather affects the efficiency and safety of almost every operation at an airport, regardless of its size or location. The Kenya Meteorological Department (KMD) offices at various airports across the country needed to provide information required for aviation operational planning and flight operations to ensure the safety of landings and takeoffs. Some airports were relying on limited weather data gathered using simple automatic weather-monitoring systems, while others were lacking any kind of system.

### The solution: The right technology and expertise

Vaisala has been delivering weather observation systems to aviation authorities and meteorological offices in Africa

since 1980. In September 2017 the company opened a permanent office in Nairobi to support its customers in Eastern and Southern Africa.

Through competitive tendering process, Kenya Meteorological Department (KMD) acquired the Vaisala AviMet® Automated Weather Observing System (AWOS) for three of its airports, including the country's main international gateway, Jomo Kenyatta International Airport in Nairobi, which was already operating an older Vaisala AWOS system together with Moi International Airport in Mombasa. The other two airports included in the project scope were Eldoret International Airport and Kisumu International Airport in western Kenya, the country's third busiest airport.

At the start of the project Vaisala experts visited all three sites to agree on the optimal way to move forward and build

#### The client:

Kenya Meteorological Department (KMD)

#### Vaisala provided:

AviMet® AWOS

Observation Manager NM10

Thunderstorm Manager

relationships with key personnel. This ensured that the systems precisely matched the customer's needs. Key personnel from KMD also visited Vaisala's facility in Finland to participate in factory acceptance testing and take part in dedicated training sessions organized by Vaisala.

Once the systems had been delivered to the sites, a Vaisala field service engineer worked closely with the local partner

to perform installation and on-site testing. This ensured that everything was up and running on schedule. At all the three airports, the field sensor data is transmitted by UHF radio modems to the AviMet® central data units, which collect, process, monitor, distribute, and archive the data.

In addition to the Vaisala AviMet® AWOS, KMD also acquired the Vaisala Observation Network Manager NM10 to connect the systems together and enable remote fault diagnosis and maintenance for all three airports. In many cases this eliminates the need for KMD personnel to travel to the site to resolve potential faults. Different users can also view aviation weather information from all three airports in real time via a customizable browser-based view.

Furthermore, the project scope also included Vaisala Thunderstorm Manager,

*“Vaisala’s deep knowledge of meteorological measurements and field practices makes them an outstanding provider of meteorological systems for airports. We are extremely pleased with the performance of the systems and our continued collaboration with Vaisala.”*

**Peter Ambenje**  
Director  
Kenya Meteorological Department

a web-based lightning display and alarm system for alerting users of approaching thunderstorms. The system helps to ensure the safety of local ground and maintenance crews while minimizing operational downtime at the airports.

### **The results: Operational safety ensured, no matter the weather**

Vaisala AviMet® AWOS enables KMD to provide air traffic controllers, pilots, and other airport users with aviation meteorological data. The accurate and reliable weather observations provided by the system conform to ICAO and WMO requirements and ensure operational safety at all three airports regardless of weather conditions.

Meanwhile, the Vaisala Observation Network Manager NM10 allows the weather across three airports to be monitored from a single location and enables remote fault diagnosis and maintenance, saving costs and time.

And finally, potentially hazardous thunderstorm activity can be identified and tracked in real time with Vaisala Thunderstorm Manager, improving situational awareness and increasing the safety of airport operations.

With the right technology and expertise in place, KMD can continue to operate whatever the weather.

*“Everything was carried out professionally and according to schedule by Vaisala’s skilled product and project engineers, and their work matched the project plan and project specifications exactly.”*

**Peter Ambenje**  
Director  
Kenya Meteorological Department



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