

CASE STUDY

Real-time Climate Monitoring & Forecasting Solution for a Mountain Trek Organizer



OVERVIEW

The client is a mountain trek organizer, providing hikes and tours to snow-capped peaks. They own multiple resorts, bed and breakfast inns, and camps, strategically positioned along the multi-day mountain trail to provide lodging for hikers.

CHALLENGES

The client sought a solution to ensure the well-being of its customers during mountain treks. They wanted to continuously monitor local climatic conditions along the hiking route.

The client had a network of electronic sensors placed on the ground, which continuously streamed data on various climate parameters, including wind speed, air pressure, humidity, temperature, precipitation, and sunlight conditions.

INDUSTRY

- Mountaineering
- Recreation

SERVICES

- Data Modeling
- Stream Analytics
- Dashboards
- Forecasting

TECHNOLOGY

- Azure Communications Service
- Power BI
- Azure Alerts
- Azure Streaming Analytics



SOLUTION

Contata thoroughly understood the client's concerns and developed a cutting-edge stream analytics hub, which assimilates incoming data within a sliding time window of the preceding 5 minutes.

The aggregated data is seamlessly transmitted to a user-friendly Power BI dashboard accessible to both hikers and client station staff. Additionally, we used Power BI to generate alerts that are rapidly transmitted through Azure communication services, facilitating notifications via IVRS phone calls, emails, and SMS based on the severity of the alert.

Contata also created an advanced forecasting model that efficiently predicts future weather conditions by analyzing local climate data. This innovative system provides accurate forecasts for the upcoming hours, contributing to ensuring the safety of the hikers and preventing any unexpected events.

BENEFITS

- 8% reduction in operational costs.
- Faster and more reliable transmission of sensor data.
- Automated alerts for warnings and quick responses.

About Contata

Contata Solutions is a trusted leader in technology and digital innovation. Through our work in data engineering, data analytics, machine learning, marketing automation and app development, we deliver solutions that address complex problems in ways that are simple, insightful and impactful.

Our promise and value proposition to our customers is simple: we leverage our deep technical expertise and global presence to bring software products and data-driven decision capabilities to life.

Founded in 2000, Contata is a privately-held company headquartered in Minneapolis that serves clients globally from offices in the United States and India.