VAISALA

Vaisala Weather & Environmental Monitoring for Traffic Management

Vaisala Weather & Environmental Monitoring for Traffic Management gives agencies the equipment and sensing capabilities they need for comprehensive, real-time awareness of their road networks — in any season or situation. Built on the best road condition and weather sensors in the world, its accuracy and reliability are unmatched. Vaisala® technologies are robust and have been put to the test in every environment imaginable.

Vaisala Weather & Environmental Monitoring solutions are customizable and easily integrated. They are easily deployable as stand-alone systems or as a convenient part of a broader smart cities initiative.

Traffic management solutions are only as good as the data they use, which is why many customers come to Vaisala first to build their solution. In these cases, Vaisala often partners with other leading experts for data analysis and related tools — turning observations and data into scalable, full-stack solutions that can be customized to any situation or locale.

Weather & Environmental Monitoring applications at a glance

The real-time road and weather data that these solutions provide can be immediately applied in many ways throughout a road network:

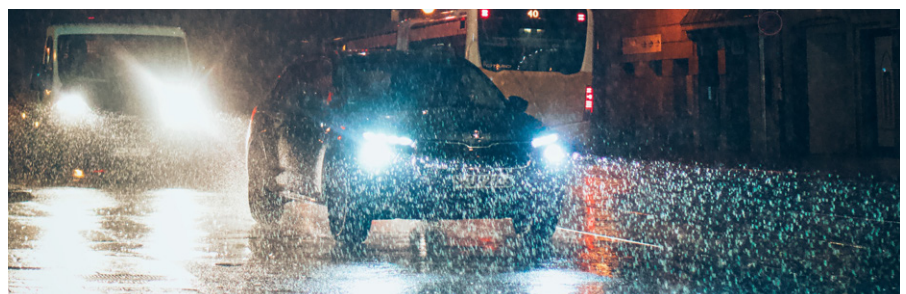|	
Specific, local traffic management notices	Provide motorists, pedestrians, and others with immediate situational awareness (such as "ice ahead," etc.) to improve safety and traffic flow.
Variable speed limit control systems	Make informed traffic adjustments using existing speed control equipment.
Rapid observations	Assess roadway improvements or prioritize fixes, increasing efficiency and effectiveness — even in off-seasons.
Wind warnings on bridges	Respond to dangerous and quickly changing conditions over waterways.
Multilane awareness and redirection	Proactively manage traffic to avoid or ease a known problem.
Environmental sensing (air quality, noise, etc.)	Provide additional value to smart cities or similar initiatives.
Signaling and traffic light sequencing	Ensure smooth traffic flow at all times.

RWS200 Road Weather Station as a platform

The RWS200 is typically the foundation of a Vaisala traffic management deployment. It is the industry's most reliable weather station for high-stakes decision-making.

An intelligent, fixed environmental sensing station, the RWS200 provides crucial benefits for agencies:

- IEC-compliant and tested in the harshest conditions
- Easy to deploy, configure, and use
- Multiple protocols, message and data formats, and integration methods supported
- Intelligent components, including remote servicing, analysis algorithms, and smart power logic
- Excellent connectivity and remote data access
- Traffic counters and cameras can be integrated into the RWS200
- Can be set up to trigger various control systems

Traffic management system integration solutions

Vaisala Weather & Environmental Monitoring solutions can be integrated into other traffic management systems in three main ways:

- Vaisala sensors: Direct integration of sensors with traffic management systems
- Vaisala data logger: Integration of local subsystems with traffic management systems
- Cloud-to-cloud integration: With smart cities platforms and intelligent infrastructure

RWS200 measurements

- Humidity, temperature, and dew point
- Road surface and air temperatures
- Friction and ice/water layer measurement
- Road surface state assessment
- Visibility and present weather
- Rain accumulation and precipitation
- Wind speed and direction
- Air quality
- Water and snow depth
- Solar radiation

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Insights and benefits summary

Features	Benefits
Comprehensive, real-time weather data	Proactive and objective alerts, traffic management decisions, and resource allocations
Detailed road state information	High degree of localization, direct understanding of risks and proper treatments
Consistent data from reliable, integrated traffic management infrastructure	Improved accountability and transparency, historical data, and benchmarking
Simple dashboarding and analysis*	Rapid information sharing, assessments of response scenarios, and proactive interventions

When paired with third-party systems

The weather won't yield. But it can be understood.

Mother Nature will always challenge us, but Vaisala Weather & Environmental Monitoring gives agencies — and the citizens they serve — confidence and safety when they need it most. It's a modern, flexible solution that's responsive to today's challenges — and it's available to you now.

Vaisala is here to help

From sensors to systems and digital services, Vaisala gives road stakeholders unrivaled road network visibility and decision support — so everyone can keep moving toward better, more insightful ways of operating. We are recognized experts in transportation, and we continue to channel our curiosity into new ways of making roadways safer and more efficient than ever — as reflected in our guiding principles:

Move ahead

Mobility and beyond

The innovators

See, understand, decide

VAISALA

vaisala.com/groundtransportation

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