HELIOS® ENVIRONMENTAL INTELLIGENCE PLATFORM

FAST AND ACCURATE REAL-TIME GROUND WEATHER ANALYTICS

BENEFITS

Improves street-level situational awareness and short-term weather forecasting by validating real-time ground conditions day and night

Provides immediate access to weather condition analytics from an aggregated network of nearly 40,000 traffic, vehicle, and surveillance cameras

Delivers 95% weather detection accuracy capturing hyperlocal extremes and short-lived severe events not detected by traditional methods

Know the weather on the ground at all times. Helios® environmental intelligence analytics from Harris Corporation detect the occurrence and impact of weather on road conditions and critical ground infrastructure using existing traffic, vehicle, and surveillance camera networks. Helios® provides alerts for changing conditions to support weather forecasting, emergency response, and vehicle safety.

Helios® sees hyperlocal weather conditions often missed by traditional weather sensors, radar, and satellites due to its dense camera network and real-time image analysis capabilities. Helios® supports applications ranging from forecast validation to "look-ahead" road condition alerts for advanced driver assistance systems (ADAS).

Helios® operates 24/7, both day and night, turning any surveillance or video camera into a weather sensor. Helios® instantly analyzes thousands of cameras and combines with temperature data to provide accurate ground weather detection and warnings.

Helios® analytics help weather forecasters, transportation managers, public safety officials, and logistics managers understand weather and its impact on road conditions and critical infrastructure. This enables users to improve driver safety, avoid costly delays, increase productivity and efficiency, and be better prepared to handle unplanned weather situations.

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HARRIS® TECHNOLOGY TO CONNECT, INFORM AND PROTECT™

Helios® is ideal for organizations who rely heavily on location-specific weather information to inform, react, and protect:

- Local and regional transportation authorities
- Air, sea, and land transit agencies
- Emergency response agencies
- Local and national broadcast weather agencies
- Telematics, connected car, and autonomous system providers
- Commercial transportation companies
- Enterprise shipping and logistics managers

About Harris Corporation

Harris Corporation is a leading technology innovator, solving customers' toughest mission-critical challenges by providing solutions that connect, inform and protect. Harris supports government and commercial customers around the world. Learn more at harris.com.

HELIOS® WEATHER ANALYTICS

HELIOS® ANALYTICS FRAMEWORK

Helios® scalable cloud analytics services leverage a growing network of existing cameras to process imagery in real time using machine learning to instantaneously identify and classify changes in ground weather conditions.

Better hyperlocal ground weather information enhances operational efficiencies and ultimately helps the end-user make decisions that save time, money, property, and even lives.

PATENTED ANALYTICS

Helios® analytics turn any surveillance or video camera into a weather sensor. With 95% weather detection accuracy, Helios® creates 24/7 alerts for phenomena such as road snow, road ice, wet roads, poor visibility, and precipitation. Helios® also provides alerts for transitioning and trending ground weather conditions, allowing users to quickly view corresponding camera imagery for closer monitoring.

There is no need to spend valuable man-hours monitoring hundreds of cameras; let Helios® analytics do it for you.

Browser-based interface users have an interactive mapping application that integrates multiple weather observations and data layers such as clouds or radar to get the most complete picture of weather events in a particular spot.

For integrators, a REST JSON-based API is available for direct integration into any application.

DYNAMIC WEATHER CONDITIONS ANALYTICS

Helios® Visibility Analytic

The Helios® Visibility analytic alerts users of real-time fog formation, dissipation, and overall poor visibility conditions caused by fast-moving, localized fog, heavy rain, heavy snow (white-out condition), or even smoke. The Helios® Discrete Distance Visibility analytic incorporates a discrete sight distance.

Helios® Precipitation Analytic

The Helios® Precipitation analytic detects moderate-to-heavy rain conditions that require reduced speed and could result in hydroplaning and localized flooding.

Helios® Transition Analytic

The Helios® Transition analytic identifies transitioning and trending ground conditions that are predictive of major incidents. For example, knowing exactly when snow begins to accumulate can help ensure safer travel and efficient deployment of resources.

ROAD CONDITIONS ANALYTICS

Helios® Road Wetness Analytic

The Helios® Road Wetness analytic provides confirmation of precipitation affecting road or pavement conditions. This analytic notifies users of wet or dry pavement and potentially dangerous areas during a storm event.

Helios® Road Snow Analytic

The Helios® Road Snow analytic provides visual confirmation of snow impacting road or pavement conditions. The Road Snow analytic identifies three specific road snow conditions: no snow, partially covered, and totally covered.

Helios® Road Ice Analytic:

The Helios® Road Ice analytic provides warning for road icing conditions by combining information about precipitation on the ground, falling precipitation, fog, and road temperature.

Helios® is adding traffic congestion detection to its suite of analytics to allow users to correlate mobility with road weather conditions.

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HarrisGeospatial.com/Helios

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