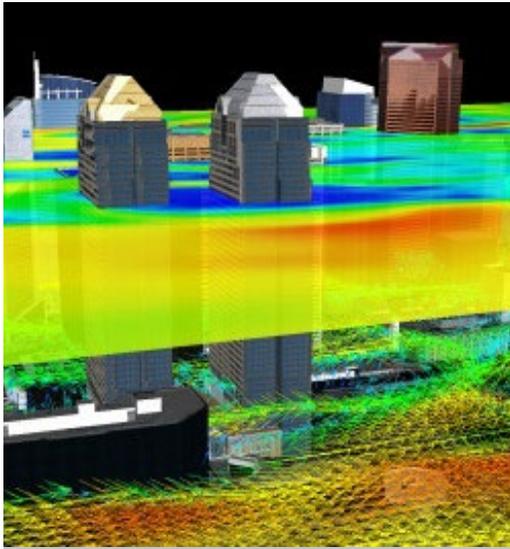# METEOROLOGY AND AIR QUALITY VISUALIZATION

Unique solutions to meet complex environmental and engineering challenges.

Accurate, site-specific weather forecasts are invaluable to operators across a wide range of sectors and industries. But harnessing the insights most relevant to your site can be a challenge – whether the issue is accessing the right data or getting that data into a format that actually helps your team make decisions.

How it works

Envision lets you store raw data from your CX1s in the cloud and access it from anywhere through a secure web interface. Scroll through your data graphically, and when you notice an area of interest, download the relevant portion for further analysis. An all-in-one solution, Envision lets you avoid the hassle of collecting and dealing with individual SENSR files.

Features:

- Configure alerts to receive an email whenever vibration exceeds a threshold you set.
- Collect data from multiple meteorological stations and automatically synchronize them with your SENSR CX1s. (No more time spent aggregating multiple data sources manually.)

Why Envision?

RWDI's Envision platform offers the perfect combination of power and usability. It generates invaluable forecasting insights and reports them in a clear, concise format. To name just a few examples, it can:

- Help dock supervisors anticipate when they can best unload a ship full of ore – and when wind and wave conditions will make the operation difficult or unworkable.

- Let operators at industrial sites know when they need to curtail operations due to weather, and when they can operate at full capacity.

- Help airport operators safely maximize up-time by advising them precisely when winds will shift or when storm conditions will arise.

Envision transforms large quantities of high-quality data into actionable guidance for site operators. It offers clear visualizations and uses web and cloud technologies to ensure that decision-makers have access to the analysis they need through the device and format that works for them – whether it's a desktop forecast that displays conditions over a large operating area, or a customized text-message with a specific alert and instruction for action.

RWDI is a valuable partner to clients seeking to...

Explore Innovations

- Create a customized alert system that informs your team of specific conditions, or of excessive noise or vibration

Create Opportunities

- Maximize up-time by aligning your operations with conditions at your exact location. Know more precisely when adverse conditions will subside, and be ready to get back to work

Meet Challenges

- Prevent complaints by limiting activities that may create problematic odour and dust emissions

Fulfill Expectations

- Enhance safety by anticipating and preparing for adverse conditions
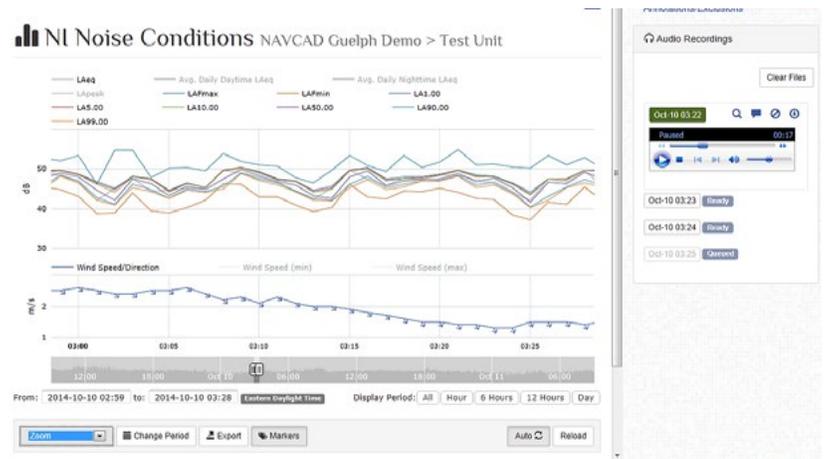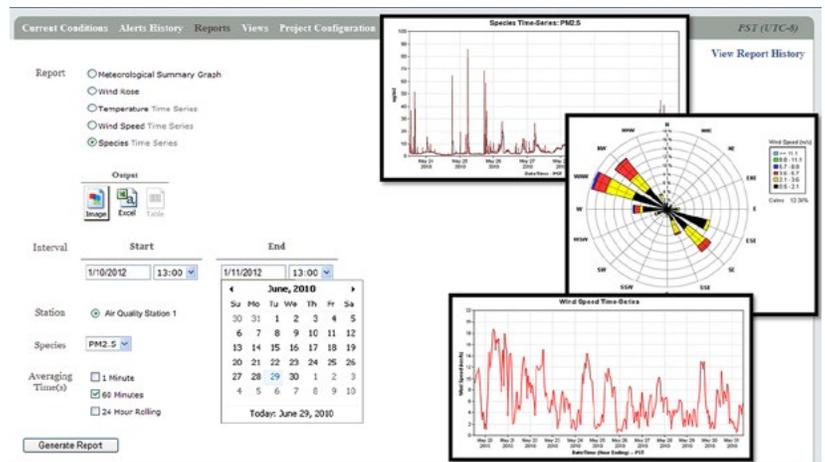- Meet regulatory requirements and create easy-to-review records of site conditions

Diverse Applications

Meterology and air quality monitoring.
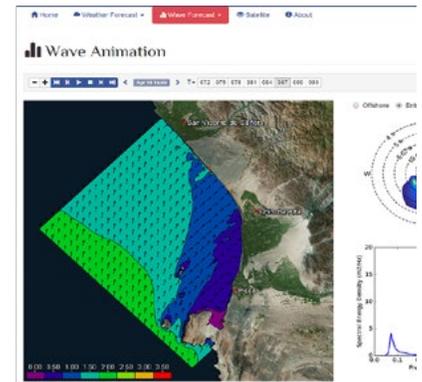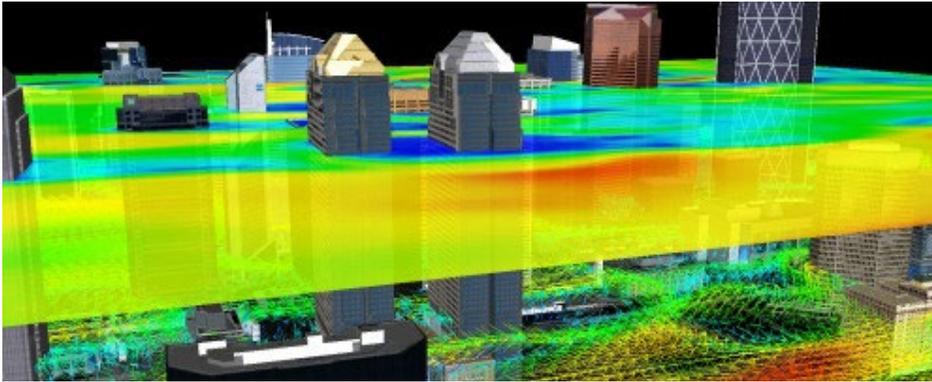Access your meteorology and air quality data online, in a secure, web-enabled interface.

Features:
- Integration with existing meteorological and air quality instruments
- View live or quality-assured historical data
- Automatic, customizable e-mail/SMS alerts
- Site-specific weather forecasts
- Flexible reporting
- Data extraction into CSV or Excel

Wave and weather forecasting.

A unique, high-resolution, forecasting workstation for marine loading and unloading, based on some of the most advanced numerical models available. Ship captains, pilots, harbourmasters, schedulers, and other professionals benefit from this multi-day, port-specific wave and weather forecast tool, which we offer in partnership with BAIRD.

Features:

- 15-day, site-specific wave and weather forecasts
- Multiple forecast locations (offshore, entrance channel, port)
- Robust, user-friendly web interface
- Simple dashboards plus access to complex analytics
- Automated alerts when specific wind and wave thresholds exceeded
- Multi-scale wave surface and spectral energy plots
- Satellite imagery for visible water and fog conditions
- Wind gust forecasts at multiple heights

- Automatic relay of Weather Office alerts
- Advanced auditing keeps a record of each weather forecast, alert and recipients
- Lightning prediction
- Customized forecasts can include multiple parameters (wind gust speed, precipitation, temperature, etc.)
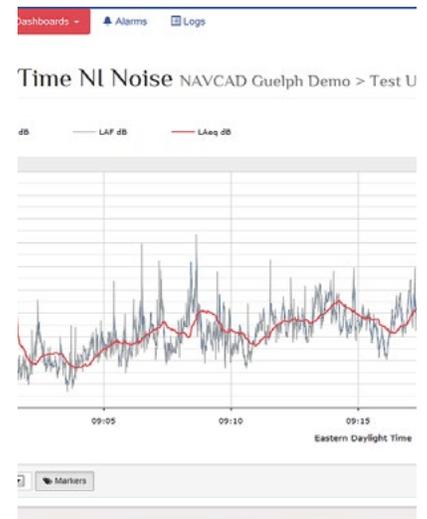
Advanced wind warning system.

An automated computer modeling system that combines weather forecast technology with the science of wind engineering and complex aerodynamics. This tool provides site- and height-specific wind gust forecasts to contractors working on tall buildings, bridges and other construction sites.

Features:

- High-resolution forecast conditions displayed hourly and updated every three hours
- System can automatically deliver forecasts by email at specific times of day
- Customizable alerts (email, text message) for wind gusts at specific working heights; you set the wind speeds that trigger an alert, and determine who should be notified

Construction insights.

Get precise meteorology updates to help plan a range of construction decisions. Publicly available weather forecasts don't offer the location-specific insights you need, and measurements from your site support immediate action but can't help you plan your work to ensure safety and maximize efficiency. Envision is a powerful and customizable tool that can be configured to match your standard operating procedures and answer your most important questions.

Benefits:

- plan the safe and efficient use of swing stages, heavy lifts and cranes with precise wind strength forecasting and gust prediction
- increase site safety and efficiency by securing materials during windy conditions and allowing easier access to them during calm periods
- get precise air temperature predictions for concrete pours
- accurately assess the chance of precipitation when you're planning groundwork

Noise and vibration.

Configure Envision to collect and display real-time noise and vibration data that enables remote monitoring and analysis.

Features:

- Capture and review recordings
- Customize Envision to exclude or include certain readings
- Set alerts to notify you if vibration levels reach specific areas or surpass given thresholds
- Integrated with industry standard anemometers

Wind-blown dust.

Prevent complaints and other offsite issues by using Envision to time industrial activities – from mining to rail and marine loading/offloading – for favourable local wind conditions.

Features:

- Continuous monitoring of local conditions
- Advance notification of when unfavourable weather will occur and for how long
- Customizable alerts and alarms when specified thresholds are exceeded

Odour from waste facilities.

Help your facility adhere to regulatory requirements, mitigate off-site odours, and limit blowing debris from an operating face. Envision supports close adherence to your facility's standard operating procedures (SOPs) pertaining to weather – whether they're focused on wind, temperature, or precipitation.

Features:

- Continuous monitoring of local conditions
- Advance notification of when unfavourable weather will occur and for how long
- Customizable alerts and alarms when specified thresholds are exceeded