

Proactive tools for managing Mine Dust Risk



Shortcomings of off-the-shelf weather forecasts for Mining Operations

Broken Hill, with a rich history in mining is naturally situated in a dry climate. The orebody is still actively mined for Silver, Lead and Zinc. The mining operation is located very close to the town and residential areas. This provides several challenges to mining operations including managing the risk of mine generated Dust Pollution which can be both a nuisance and a health risk to humans.

Environmental factors such as air temperature, low humidity and wind can significantly increase the risk of airborne dust pollution. Mining activities - hauling material, blasting and crushing will add to the airborne dust concentration and add to the risk. Timely information is critical for managing and controlling the mining activity generated dust and minimising disruption to the operations.

Publicly available weather information or weather apps provide some insights on conditions within a geographical area. However, these solutions fall short for mining operators for two reasons: the data is general and it is not interpreted to the operator's needs.

"The DustX Toolbox report is used daily by all of our key stakeholders. The product very accurately predicts when the dust pollution risk is high and produces a simple to read report. Armed with this information, we are able to make swift operational decisions at the start of every shift."

Environment Superintendent

Quick Facts

- Tailored according to the relevant needs of each operation
- Ideal for mining, quarries, solar farms, large construction sites
- Information is analysed and presented in a meaningful way
- Aids the company Risk Management Plan and Risk mitigation
- Supports surrounding neighborhood wellbeing and compliance with legal requirements

Problem

Managing mine generated dust driven by weather conditions

Solution

Site-specific and fit-for-purpose dust risk forecasting tool - DustX

Results

More than 46% reduction in operations disruption

For accurate, clear and meaningful weather information for your business decisions, contact us:



Phone: +61 7 3369 3699

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Tailored Weather Forecasting for Risk Management

DustX in Action

Weather Intelligence focuses on understanding the operator's needs, provides a fit-for-purpose solution to forecast relevant data and present it in a meaningful way. DustX generates a site-specific Dust Risk forecast. Factors such as receptor location, wind speed and direction, and dust liftoff index are used to generate an hourly risk forecast for the site. The Dust Risk forecast is then delivered to all key stakeholders as a Toolbox report before each shift (See Figure 1). Additionally, when Category 1 warnings are forecast, alerts are sent via SMS and email to all identified stakeholders.

The Toolbox report is widely used by the key personnel to plan the shift activities to reduce the Risk of Mine generated dust.

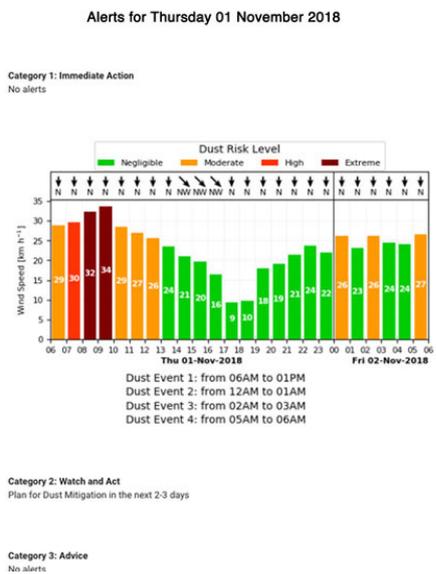


Figure 1- DustX Toolbox report

The daily Toolbox Report provides hourly site-specific dust risk forecast for the customer. Customisable alerts provide tailored alert messages to key stakeholders via email and SMS.

Dust Risk Under Control



Figure 2- The Weather Intelligence Difference

Widespread adoption of DustX by all the stakeholders has resulted in the mine being able to get a better handle on the approaching risk of dust pollution. During forecast high risk periods, the mine will typically schedule alternative work such as maintenance to avoid dusty activities. If rescheduling is not possible due to the need to meet operational targets, they will dispatch extra water trucks based on the risk level.

- More than 46% reduction in disruptions to operations
- More than 30% decrease in alarms generated by the boundary dust monitors
- Simpler and more effective decision making

"DustX has been an effective and simple tool adopted by the industry to navigate the Dust Risk. The 3-day Dust Risk forecast, allows the mine to prepare early and avoid costly delays to operations. In a world full of information, it is important to deliver the key information in the way decision-makers like to consume it. This is exactly what DustX does."

Dush Wimal
Weather Intelligence General Manager

Find out how we can help you manage your dust pollution risk and reduce disruptions to your operations



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