

# THE TRUE COST OF COLLECTING DATA CASE STUDY

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## Introduction

Modern aerosol mass measurement instruments like the TSI Environmental DustTrak™ Aerosol Monitor enable the collection of data logged measurements 24/7, 365 days a year. This logged data can indicate trends and can be used to take action when levels exceed set limits. But none of this matters if you can't get the data.

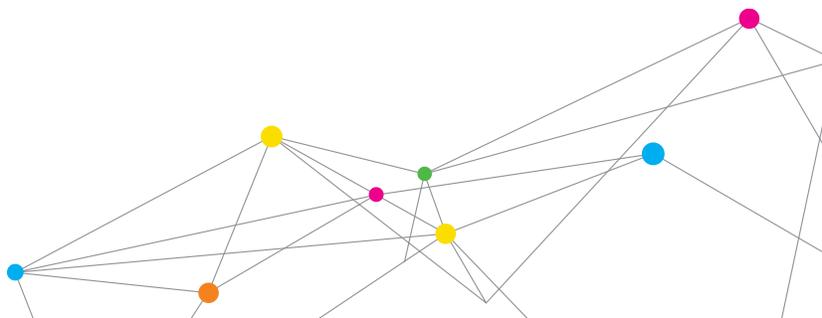
TSI's partnership with Netronix enables turn-key wireless cloud-based data management. It provides real time access to the instrument data 24/7/365 from any web accessible device for an associated fee. This data is priceless when considering the value of the data and the cost of alternative market options currently available.

## Case Study Example

The TSI Environmental DustTrak Aerosol Monitor can be deployed in remote locations as a stand-alone unit with solar power. The instrument can literally be in the middle of nowhere to provide real-time access to data—anytime, anywhere. Customers in Australia have already deployed TSI DustTrak Monitors across the Australian Outback inside enclosures with solar power systems. When an instrument is several hours drive from the nearest road, the data cannot be collected every day, without the use of a sophisticated wireless data management system like the TSI Environmental DustTrak Aerosol Monitor.



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## CASE STUDY

### Case Study Example, continued

Even if the instruments are not remote by the Outback comparison, getting to each instrument to collect data can be very time consuming—even if only deployed around all sides of an open pit mining operation. An illustrated example is provided for to the right.

The illustration shows eight instruments deployed around the site with each instrument located at 5 mile intervals (15 minutes driving time). In this particular example, total travel time to visit all the instruments equates to 120 minutes (2 hours). Add an additional 10 minutes to download the logged data and to restart each instrument, increasing the total travel time to visit all the instruments to 200 minutes (3.3 hours).

The table also provided to the right compares the cost to collect the data manually and using the TSI Cloud Data Management System as hosted by Netronix. As shown, the cost-savings is evident with use of the Cloud Data Management System when considering both the direct and indirect costs of employing manual data collection.

In addition, if site activity is regulated by a local air district or is cause for concern by neighbors, the operation could be at risk if the air district or local government issues a cease and desist order. How would shutting down operations for half a day impact the bottom line financially? How about shutting down for a week? The financial risks could prove to be huge.

That's why smart Risk Managers use every technology resource available to keep the operation running efficiently. Real-time data collection works to avoid and mitigate problems. In our mining operation example, if weather conditions change and the wind switches to the northwest, sensors #2, 1, 8, 7 and 6 will begin recording elevated readings as methods of dust suppression fail. Using the Cloud Data Management System, Risk Managers, and the Operation team as a whole, can get alerts sent direct to their cell phones indicating sensor readings are exceeding the pre-determined set point. Within minutes, this can initiate immediate notification to equipment operators to increase dust suppression control measures, or stop the dust generating activities for a limited time until the weather conditions remedy.

In this example, the cost of perimeter dust monitoring is part of the price of managing risk and collecting good data. It's easy to see how real-time access to data and employing sophisticated alert capabilities can alleviate risk and save an operation money. It also can have great benefit in reaffirming the responsible nature of a company within the surrounding communities to maintain support for the existence of the operation.

Ultimately, the true perspective and cost of monitoring data equates to what the data is being collected for and what kind of decisions will be made according to the data received by the sensors.



Mine Operation Monitoring Example	
X	Operations Office
1-8	Monitoring Locations

Manual Data Collection				
	Cost	Daily Quantity	Daily Cost	Monthly Cost
<b>Direct Cost</b>				
Labor	\$10/hr	4 hours	\$40	\$800
Vehicle (with maintenance, fuel and insurance)	\$0.58/mile	15 miles	\$8.70	\$174
<b>Indirect Cost</b>				
Work Comp, Payroll, etc. (40% of payroll cost)	40% of payroll	-	\$16	\$320
<b>Total</b>			\$64.70	\$1,294
Netronix Wireless Data Management				
	Cost	Daily Quantity	Daily Cost	Monthly Cost
<b>Direct Cost</b>				
Netronix Access	-	-	-	\$135
Number of Nodes	-	-	-	x 8
<b>Total</b>			-	\$1,080



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