



Donaldson.
FILTRATION SOLUTIONS



**REDUCE YOUR TOTAL
COST OF OWNERSHIP
WITH CONNECTED
FILTRATION MONITORING**

Plant management teams understand the importance of properly capturing and managing dust in their daily operations. Continuous monitoring and analysis of dust collection systems can help improve efficiency, reduce unexpected downtime, meet compliance reporting requirements, and trim operating costs. Realizing these benefits has never been more crucial as many manufacturers face labor shortages, supply demands, and other issues stemming from the pandemic.

Adding connected monitoring capabilities to dust collection systems enables plant managers to proactively monitor equipment performance and address current staffing challenges at the same time. By providing their teams access to real-time collector performance data, notifications, and reports, either remotely or from the office, a connected monitoring service can help ensure teams are always aware of their facility's dust filtration activity and maintenance needs.

The following industry survey data and business examples illustrate the benefits and total-cost-of-ownership value that a connected filtration monitoring service can provide plant management teams.

SURVEY INSIGHTS

In 2020, Donaldson conducted a survey of U.S. engineers, Environmental Health and Safety (EHS) professionals, and maintenance managers who are responsible for or have a working knowledge of the operations, maintenance, safety, and environmental standards associated with dust collection. The survey found that many organizations struggle to readily recognize and efficiently resolve issues with their dust collection systems.

Thirty percent of survey respondents said they captured dust collector data through manual recording, seven percent reported using cloud-based internet services and five percent admitted to not capturing any data at all.

A significant percentage of the respondents are missing opportunities to gain key insights from their dust collectors, either by not receiving real-time data and alerts (32 percent), or by not understanding how to interpret the data that they collect (40 percent).



Overall, 60 percent of all respondents said they faced at least one collector downtime event per year, while 14 percent faced at least one per month. Furthermore, 49 percent of all respondents reported experiencing an entire line shutdown due to an unexpected event.

The findings reveal a need for more plant management teams to consider implementing a filtration monitoring service that includes training and ongoing customer support. More than half (56 percent) of respondents view dust collection as critical to their processes, and half of those surveyed would like more education on dust collection.





BY THE NUMBERS



30%

Surveyed said they capture dust collector data through manual recording.



72%

Surveyed are missing opportunities to gain key insights from their dust collectors.



56%

Surveyed view dust collection as critical to their processes.

LOWER THE COST OF OWNERSHIP

Donaldson's iCue™ Connected Filtration Service can help plant teams understand and stay on top of their dust collection process. The iCue service can work on both new and existing collectors of multiple brands. Using an independent cellular connection is ideal, in most cases, to separate plant control systems from corporate networks. The service can provide customizable insights and data on one or multiple collectors at different locations.

In the long term, this approach to maintenance can help lower the total cost of collector ownership. The following are five benefits that can stem from using connected filtration monitoring to extend the life and utilize the full potential of your dust collection system.

A connected filtration monitoring service like Donaldson's iCue service can help plant teams better understand and stay on top of their dust collection process.





1 COST SAVINGS

A connected filtration monitoring service typically pays for itself by preventing just one downtime event.

Lost production time can quickly add up per hour. Based on a 2018 Donaldson study of manufacturers in major verticals, the average cost of downtime is approximately \$3,300 per hour.

During a trial of Donaldson's iCue service, a large multinational mineral processor detected a compressed air problem. Monitoring saved this customer valuable production time and the need to immediately replace their collector.

Maintenance and troubleshooting of a dust collector can cost anywhere between \$120 and \$2,000 per incident since the typical hourly cost of a maintenance worker is \$60, and the average time to make a repair is about two hours. Adding more workers and more time greatly increases the costs.

A metal fabrication company was struggling with shorter than expected filter life in its collector. After discovering the compressed air supply needed to be adjusted, filter life was extended by one year and the customer saved more than \$19,500 in expenses.

2 RAPID PROBLEM RESOLUTION

When detecting a problem like a high pressure drop or excess moisture in a compressed air stream, a connected filtration monitoring service can send real-time alerts to process owners and their service partners, so they can resolve the issue.

A manufacturer in the livestock food industry was filtering sticky material that regularly plugged the hopper and required extensive cleanup. With a monitoring service in place, the manufacturer started receiving alerts about potential hopper plug events and was able to quickly respond. The service reduced a typical two-hour maintenance assignment to approximately 15 minutes.

BY THE NUMBERS



\$3,300

The average cost of downtime per hour when a collector needs maintenance.



\$19,500

Amount saved by a metal fabricator when Donaldson's iCue service discovered its collector's compressed air supply needed adjustment. The alert helped extend filter life by one year.



15 minutes

Donaldson's iCue service helped reduce hopper plug events for a livestock food manufacturer from nearly two hours to just 15 minutes.

3 REDUCED MANUAL MONITORING TASKS

Manual monitoring tasks, such as reading and recording differential air pressure and visually assessing dust opacity, can be reduced by up to 50 percent with a connected filtration monitoring service. For example, by eliminating in-person checks twice a day for 15 minutes each week, a significant amount of productive work time is saved on an annual basis.

A mineral plant that conducted a trial filtration monitoring program was able to slash preventive maintenance time on its 23 dust collectors by 900 hours per year. Remote monitoring allowed the maintenance team to reduce the frequency of walk-by, manual checks on each collector, which freed up more time to devote to other priority projects.

Furthermore, some dust collectors are located in areas that are hard to reach and may involve extra risk mitigation and safety practices by maintenance teams. Depending on the plant, some collectors filter a variety of materials that could potentially be hazardous and require additional protocols and protection from exposure. Leveraging a connected filtration monitoring system can help reduce the frequency of labor intensive, cumbersome tasks for these teams.



4 AUTOMATED COMPLIANCE REPORTING

A key benefit of a connected filtration monitoring service is its data collection and reporting capability. By removing the need to manually record compliance data, reporting can be streamlined and legacy data can be preserved.

A metal casting provider with operations across the United States wanted to collect compliance data in a uniform manner, so its corporate EHS teams implemented Donaldson's iCue service. It automatically captures collector compliance data through a user-friendly web dashboard, allowing their teams to review and report on enterprise information from a single interface.

5 EASIER ADHERENCE TO REGULATIONS

Many regulatory agencies require electronic data capture and digital logs rather than visual inspections and paper-based reports.

For example, in California, Air Quality Management District (AQMD) rules for metal foundries require the use of a triboelectric sensor to monitor stack emissions. Visual opacity checks alone are no longer sufficient. Data must be automatically logged in a digital format so it can be downloaded for compliance reporting. A connected filtration monitoring service helps plant management teams in California and other areas meet these stringent requirements.

A SOLUTION TO CREATE STAFF EFFICIENCY AND LONG-TERM COLLECTOR VALUE

Limited production capacity, staffing shortages, and extensive job requirements are making it a challenge to keep up with manually monitoring dust collection equipment on a daily and weekly basis. Today, using a connected filtration monitoring service, maintenance engineers can establish operational parameters for their equipment and remotely track the performance of their collectors via a connected device. Whether on-site or remote, access to near real-time data for your collector – or a network of collectors – is available today.

Industry survey data and Donaldson's work with multiple customers demonstrates how a connected filtration monitoring service can make a plant manager's job easier and over time help extend the life and value of their total collector investment. Timely alerts and reports allow routine maintenance and any unexpected repairs to be addressed – not too early or not too late – so production levels are maintained to meet today's pressing supply and distribution demands.



To learn more about the Donaldson iCue connected filtration service, or to request a demo, contact us.

The iCue service is available in the US, Canada, Europe, and Asia Pacific

North America: connectedsolutions@donaldson.com

Europe: connectedsolutions-europe@donaldson.com

Asia Pacific: connectedsolutions.apac@donaldson.com

Important Notice: Many factors beyond the control of Donaldson can affect the use and performance of Donaldson products in a particular application, including the conditions under which the product is used. Since these factors are uniquely within the user's knowledge and control, it is essential the user evaluate the products to determine whether the product is fit for the particular purpose and suitable for the user's application. All products, specifications, availability and data are subject to change without notice, and may vary by region or country.



Donaldson Company, Inc.,
Minneapolis, MN
[donaldson.com/icue-collector-monitoring](https://www.donaldson.com/icue-collector-monitoring)

F119520 (10/22) ENG Reduce Total Cost of Ownership with Connected Filtration Monitoring ©2021-2022 Donaldson Company, Inc. All Rights Reserved. Donaldson, Torit, iCue and the color blue are marks of Donaldson Company, Inc. All other marks belong to their respective owners.

Europe
connectedsolutions-europe@donaldson.com
Italy: 800-142-858
Germany: 0800-1825848
Belgium: 0800-70-613
Spain: 900-494-733
UK: 0800-014-8116
France: 0-800-90-45-56

North America
connectedsolutions@donaldson.com
United States & Canada: 833-310-0017

Asia Pacific
connectedsolutions.apac@donaldson.com
China: +86-400-820-1038
India: +91-124-4807-400 | +18001035018
Japan: +81-42-540-4112
Thailand: +65-6311-7373