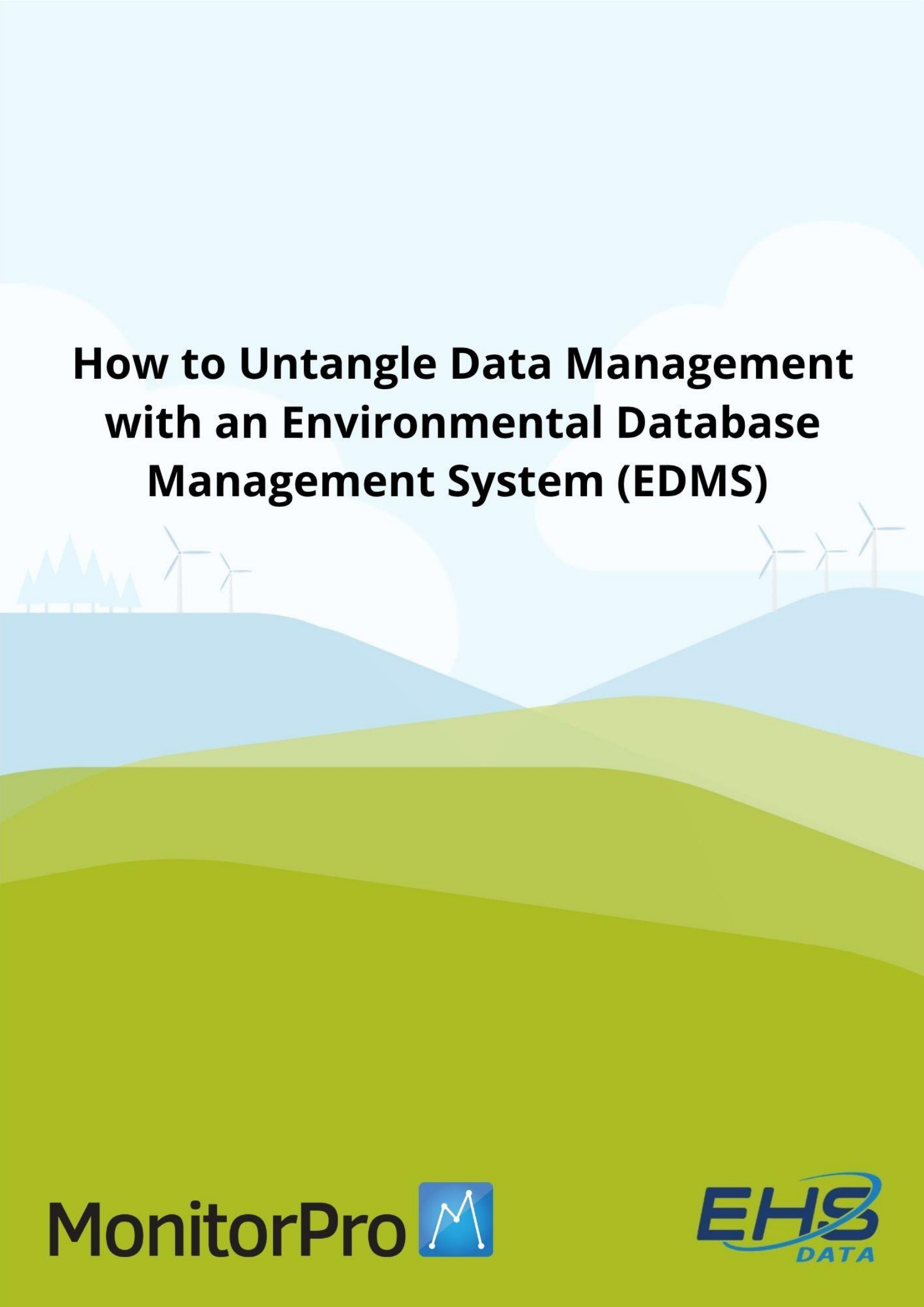
How to Untangle Data Management with an Environmental Database Management System (EDMS)



MonitorPro

EHS DATA

How to Untangle Data Management with an Environmental Database Management System (EDMS)

As a result of increasing pressures placed upon the environment and the associated negative environmental impacts, many governments and regulators have created strict rules and conditions on companies whose operations may pollute the environment. These Environmental Permits consist of various conditions that an organisation must adhere to, to continue operating. If they do not, they are at risk of fines site closures and potential prosecution if an environmental incident occurs. Part of these permits requires the collection of vast amounts of environmental data which also requires analyses and reporting. If this is not managed properly it can become overwhelming, and frequently, despite its importance for a site to remain operational, many companies still rely on spreadsheets and paper-based records.

There is an alternative to this which simplifies environmental data management and data collection, removes error, saves time, improves data analyses and ensures environmental Permit reporting requirements are met. An Environmental Database Management System provides an organisation with a way to remove the burden of environmental reporting and help ensure compliance.

Overwhelmed by Environmental Data Management

In addition to vast amounts of data that's required to be collected for ongoing reporting requirements, many operators also have large volumes of historical data stored in a multitude of spreadsheets and databases. This historical data is important because it provides the operator with a baseline record of environmental conditions before site activities commenced. For a new site, this information can be used to establish existing background concentrations and natural variations within the area, helping to inform risk assessments and site management plans. For existing sites, historical data is equally valuable as it enables operators to identify long-term trends and compare current conditions against established baseline levels. This can help distinguish between naturally elevated concentrations and changes that may be associated with site operations. In the event of an alleged pollution incident or permit breach, the data can provide evidence to demonstrate pre-existing conditions, support investigations into the source of contamination, and help operators defend against claims that they have caused or contributed to environmental impacts.

Environmental data which requires collection can include; groundwater (levels and quality) waste, dust and other air quality variables, surface water, effluent quality, flow rates and weather. In addition to the automated collection of data via data loggers, much of the data collected on site is planned and collected using manual methods such as spreadsheets and paper notepads. Using these methods can be error prone, including not finding the correct sampling locations in the field, identifying and planning the sample points and data that require collection, problems transposing data from field notepads into Excel/Databases, or not receiving alerts to confirm samples have been missed. Data input from different sampling teams and unvalidated data entry can cause inconsistencies in the record of data points.

Having information spread across disparate sources such as paper documents, Excel spreadsheets or self-made databases can make it difficult for operators to track compliance and quickly identify breaches. Complicated sheets with formulas and conditional colouring can quickly become out of date meaning breaches are missed. Similarly, this scenario can make it difficult to compile data for reports, which may be required as part of a sites legal and permit obligations. If data is in multiple spreadsheets or files, they must be manually extracted into a single document to perform the required analysis and construct reports. This generally involves a time-consuming process of collating the correct data and from multiple sources for analysis and can also introduce the potential for more errors being included into the data.

Multiple people contributing to reports and pulling data from various sources can result in data being lost in emails or delayed, resulting in risks of missing data or late report submissions.

This highlights several key problems for organisations using spreadsheets:

- How do managers know they are on top of all their monitoring and data collection?
- How can users easily judge performance and compliance (e.g. with permit threshold)?
- How can data be shared easily with the team and external stakeholders?
- How can organisations regularly and efficiently produce their reports for internal or external bodies?
- How can users view historical trends in data over many years that are spread among a host of different systems or platforms?
- Can users defend their data and audit it?
- How much time does all this take?
- How many errors are in the system and can data be validated?

Often sites spend a significant amount of money on data collection and sample analysis. However, staff often then spend time inefficiently crunching numbers in spreadsheets and self-made databases. This can often result in several human-induced errors in the data, or

reporting is difficult to pull together and is late, damaging relationships with regulators and other stakeholders.

Specialised Tools for Environmental Data Management: Environmental Database Management Systems (EDMS)

A solution to resolve the problems identified above is an Environmental Database Management System (EDMS). These systems provide several advantages to simplify and improve an organisation's environmental data management;

- Manage all types of Environmental Compliance Monitoring data, including ground and surface water, leachate, discharges, gas, air, dust, soil, noise and more in on centralised secure database
- Flexible and comprehensive compliance limit system
- Validation of data to rule out outlier or physically impossible data
- Immediate email notification of issues or breaches
- Full scheduling and planning capability
- Alerts if data is missing
- Routinely automated and ad-hoc Compliance Reports
- Regulators prefer secure and auditable systems
- Automated Imports and validation
- Integrate with other systems
- Wide range of interpretation tools
- Large volumes of varied data can be easily managed with consistent and standardised name and date formats.

Choosing the Right EDMS

The choice comes down to specification and budget, but other important things to consider are:

- Can I see a demonstration of the product
- How many other customers does the supplier have
- How often is the system updated, continually improving a product and fixing bugs should be crucial from any credible company
- What are the support arrangements
- How is the data handled, backup security, auditable, accidental deletions etc.
- Does the software have any relevant accreditation such as MCERTS

Simplify Environmental Data Management and Remove the Burden of Environmental Reporting with an EDMS

The use of an EDMS has the potential to enable companies to reduce cost, improve environmental performance, strengthen relationships with stakeholders, and reduce risk. There are many companies that offer differing software solutions, however, not all provide the best solution for managing your data. Companies wishing to invest should first determine their requirements and then fully engage with suppliers early in the process of software procurement to ensure they get the correct product for their requirements.

MonitorPro is a leading EDMS by EHS Data, providing an easy-to-use and efficient environmental data management system to manage all environmental and compliance data in one centralised platform.

With over 25 years of providing environmental data management systems to organisations worldwide, **MonitorPro** is used by more than 200 clients in over 40 countries, with implementations ranging from single-site installation to large multi-site corporate applications. Our experienced team have a vast knowledge throughout all industries ranging from mines, utilities, waste management, and local authorities meaning we can offer you the best possible solution that suits your environmental compliance needs.

Contact us today to find out more.