



# Environmental Monitoring Solutions Develops Smart Data Management System

AssetWise<sup>®</sup> 4D Analytics Provides Connected Platform for Real-time Data Insight and Advanced Analysis Capabilities, Optimizing Time, Costs, and Operations

## INTELLIGENT MANAGEMENT OF ENVIRONMENTAL PERFORMANCE DATA

Environmental Monitoring Solutions (EMS) supports every aspect of a company's interaction with the environment. They provide a range of environmental monitoring, data acquisition, and smart air and emissions, as well as water and wastewater products and services to protect businesses and improve green credentials. As it has never been more critical to comply with environmental regulations, EMS developed an environmental data acquisition system known as eDAS 4.0 that supports their users in collecting, analyzing, and visualizing their environmental performance data. "It's predominantly about providing the users with their operational intelligence to be able to make improvements or identify where they might make improvements on those environmental impacts. That's the key thing for us," said Gary Thursfield, technical director at EMS.

The eDAS system helps ensure users' operations are in environmental compliance by collating, centralizing, and presenting monitoring data in a user-friendly, accessible dashboard. For more regional manager and analytical type roles, however, many users preferred something web-based, so they could visualize and analyze the data remotely in real time to determine whether they have a problem and see what's happening within their organization. "The main aim of the project is to provide users with data in as near real time as we can possibly get through the system and onto their desktop, wherever they are, and whatever device they want to visualize that data on," said Thursfield.

## SUPPORTING REAL-TIME ACCESS TO VARIED DATA ACROSS MULTIPLE USERS

eDAS is a straightforward technology system that, like many data management and visualization systems, relies on applications that can provide basic dashboards, automated capabilities, and/or web-based connections. However, EMS faced challenges within their system with segregating different users' data in real time and providing the level of analysis that some users wanted. They could find software that either enabled all users to visualize their static data or provided real-time data visualization for one user, but not individual, real-time data access for each of their several hundred users. "Isolating each user and only giving them access to their data [in real time] was difficult in the back end," said Thursfield. "Sort of basic visualization, some of our users want to drill into data and analyze it to some extent."

An additional challenge for EMS was that they work across several different sectors, ranging from industrial, consultancy, and advisory firms to regulatory water companies and national asset management programs, resulting in data coming from multiple sources. The instrumentation for data collection was also different across the various fields. With multiple data loggers and elementary units, data was being accumulated from the various sources in different formats. To accommodate the multisourced, multiformatted data, facilitate real-time data visualization for each individual client, and provide a deep level of analytics, EMS needed an advanced, web-based data analytics application

## PROJECT SUMMARY ORGANIZATION

Environmental Monitoring Solutions

## SOLUTION

Enterprise Engineering

## LOCATION

United Kingdom

## PROJECT OBJECTIVES

- ◆ To support smart management of environmental performance data across multiple industries.
- ◆ To implement a centralized platform for real-time data access and visualization.

## PROJECT PLAYBOOK

AssetWise

## FAST FACTS

- ◆ Environmental Monitoring Solutions developed eDAS as a digital data repository available for clients to collect, visualize, and analyze their environmental performance data.
- ◆ Powered by AssetWise, eDAS offers real-time data accessibility and advanced analysis via an interface for intelligent, data-driven insight into user operations.
- ◆ The Bentley-based eDAS system facilitates smart operations to save users time and costs when identifying potential issues and minimizing environmental impact.

“Our priority is to present the data in a personalized manner that is tailored towards the preference of the user to make it easy for them to access and understand the data they need, and AssetWise achieves that for us.”

– Gary Thursfield, Technical Director, Environmental Monitoring Solutions



that also presented a professional, final visualization product. Several software packages offered 80% of what EMS needed, but the remaining 20% was missing, and that 20% is usually what takes up 80% of users’ time. “For us, the challenge is finding an application that does everything we need in one package,” said Thursfield.

### A COMPREHENSIVE, WEB-BASED TECHNOLOGY SOLUTION

EMS selected AssetWise 4D Analytics as their web-based data platform and connected, centralized data hub to provide users with real-time access to and visualization of their environmental performance data. Bentley’s advanced application facilitated data integration, incorporating data from multiple sources in various formats, while also segregating that data. Therefore, each user could visualize and analyze only their individual operations in real time, within the same platform as the other hundreds of users. By using AssetWise, EMS could isolate all the data simply with the click of a button.

“This is a game changer for us. We can isolate the users, only giving them access to their dashboards, and then take any data, time series data, and import it manually and automatically. The creation of dashboards is as simple as selecting ‘create a new dashboard,’ drag a widget, configure the widget, and there’s the data for them straight away,” said Thursfield.

Another standout feature critical to EMS’ software selection was the ability for users to dive deep into their data, such as isolating pockets of peak discharge in water supply. Users wanted to see their real data at any time, from anywhere, and drill down from a data chart into data sections. They could navigate across time scales, using that data to identify operational issues through digital, automated workflows. Not only does AssetWise provide these advanced analytics, but it also does it via a visual digital presentation. Users can view their data, be it a time-stamped number, a flow meter reading, or quality measurement, in a polished format that offers additional confidence that the already accurate data is reliable, usable, and trustworthy. Bentley’s comprehensive, web-based solution provides



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real-time access, user segregation, interoperability, and advanced analytics—all within a contemporary interface that is visually appealing. “It’s that combination of all those aspects, all in one place, that we couldn’t find anywhere else,” said Thursfield.

### CENTRALIZED DATA HUB FACILITATES SMART OPERATIONS

Powered by AssetWise, eDAS provides a centralized, web-based data hub where users can access their data in real time at the click of a button. “When we can pitch to users that you can log in anywhere and see your data, that becomes really powerful,” said Thursfield. The benefits are not linked to productivity but relate more to users seeing their data to determine whether they have an environmental compliance issue. Using AssetWise as the connected data platform for eDAS saves time and costs by centralizing environmental performance data that can be observed on a user-friendly, real-time dashboard at any time, from any place, to determine user operations’ environmental impact. Bentley’s application offers EMS users connectivity, easy accessibility, and visualization, enabling offsite calibration and intelligent insight in their onsite operations. “We’re making sure that users are aware of their environmental impacts so that they can then go and do something about it, and they can then come back to AssetWise and see the impact of the improvements they’ve made,” said Thursfield.

Compared to the previous software EMS used to power eDAS, AssetWise not only provides a more attractive interface, but also automates complex engineering calculations and generation of dashboards and reports, consistently providing current, reliable data. Having a centralized, web-based data hub with advanced analytical capabilities facilitates quick and cost-effective data accessibility and data-driven insight to help users identify potential issues and minimize their environmental impact to meet regulatory requirements. “What AssetWise does for us is it provides operational intelligence to be able to see what our users’ impacts are, and we give them the opportunity to minimize those impacts,” said Thursfield.



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