



# THE BENEFITS OF DATA MANAGEMENT

From AllMax Software, Inc.

The big meeting with the engineers and auditors for the new plant construction is coming up. They've asked for the last 20 years of flow data for your facility. You know your operators have been collecting it, but some data is on a handwritten form, some is on the Excel document, and one file won't open on your desktop. You're starting to get a headache from the stress.

With a complete data management plan, you can be ready for that important meeting in no time. But what is data management and why is it important? What benefits does it provide you, your plant, and the industry? How can you implement a new data management plan or improve what you're already doing?

Data management is managing data. That's all it is. But it has a few nuances. It is managing data throughout the entirety of the data life cycle. But as a whole, when we say "your plant's data management," it means the plans, procedures, and practices that you have put in place to ensure the efficient management of all the data coming and leaving your plant. So why is data management important?

## Data Management Benefits You

Data management allows easier access to quicker and easier monthly and annual reporting. Having the data not only available but also having relevant and correct data at your disposal helps keep everyone accountable for their actions and gives the hard numbers you need to justify your actions. Adjusting plant processes, backing up expenditures, or making valid cases for budget adjustments. But as a whole, data management allows you to spend less time collecting and entering data and more time running your plant.

## Data Management Benefits Your Plant

Having data readily available for each of your treatment processes and plant allows you to improve those processes by addressing inefficiencies, adjusting your plant processes based on the data you're receiving, or analyzing and running more efficiently. A data management plan also ensures you have access to historical plant data. You'll be involved in a plant audit or possibly a plant upgrade or new plant construction. There is a lot of information that is required during those events. Think back and ask yourself how fast and easy it was to obtain that data and get it to the auditors or engineers or integrators.

Having an effective data management program will enable a future user to discover, access, understand, and use your data. Today, is the plant data that you have from 20 years ago usable or relevant? Will what you are doing today be usable by you or your replacement 20 years from now?

## Data Management Benefits the Industry

Believe it or not, your plant's data benefits the entire industry. Some plants on a larger scale than others, but it's all relevant information. Having data readily available for case studies on your plant's performance, how you handled a specific event, how you came to making tough decisions. The data you provide tells the story and helps other plants in similar situations. The ability for you to provide relevant data is also critical for manufacturers, distributors, and engineers as new technologies are constantly being introduced into the industry.



## The Data Life Cycle

The data life cycle is the sequence of stages that a particular unit of data goes through from its initial capture to its archival. It's often used in scientific processes, but it applies quite well in the wastewater and water industry because, in the end, operators are scientists and the treatment plant is a research project. Operators are generating data, finding out the best and most efficient way possible to treat effluent, and using data to do so.

The data life cycle can be applied at the micro-level for each piece of data that comes into your plant, or the macro-level for your entire data management process.

**Plan:** Planning is where you ask the most questions and lay the groundwork for what you want to accomplish with your data and how that is going to happen. What data are you collecting, where can you find it, when are you collecting it, and who will be collecting that data? Plan how the data will be stored, organized, managed, described, shared, and preserved.

**Collect:** How you collect data determines usability later. Using uniform data collection, entry sheets, and templates keeps related data stored and organized consistently. When saving your data, using the same file format and standard naming conventions ensures usability and easy identification. Creating a master list of every collected parameter and keep a master list of each data collection site establishes consistent data collection.

**Assure:** This is where you assure the validity of your data. Luckily for lab data, much of this quality assurance is already specified. However, for data out in the plant, many times, checks and balances are not implemented or available to ensure validity. To strengthen your data, describe conditions that may affect quality, double-check hand-entered data, check formats, perform statistical summaries, and check for questionable values.

**Describe:** This step is where all the additional information regarding the data is compiled. This supporting information is called metadata, it's giving context to a piece of data. This is where things can get convoluted if the consistent organization and formatting of your data has not been implemented.

**Preserve:** Identify data with long-term value. To enable others to find and use your data, use common industry keywords to make it easily identifiable.

**Discover/Integrate/Analyze:** Now putting your plant data to work. Utilizing the tools and expertise that you have at your disposal to make the data work for you. Creating charts and spotting trends, finding inconsistencies, establishing cause and effect. This step analyzes your treatment process and learns where improvements can be made.

Use the data life cycle with each of your data sources. Run through the cycle for data being collected from your SCADA system. Scan for any manually entered data. Run it up against your lab, maintenance, and energy usage data. Separate it into chunks and make sure each unit is functioning efficiently and then take what you find into the integrate phase and see how to tie them all together. That is when you have a complete data management plan.

## Taking Action

AllMax Software, Inc. has been providing and supporting data management software solutions designed for maintenance, wastewater, water, and pretreatment professionals for over 25 years, serving over 2,000 customers around the world. Providing state-of-the-art technology and innovative software solutions, AllMax can address the unique data management needs of plants and facilities.

**Operator10® wastewater:** Our Operator10 software is your central data storage hub for all your operational data and offers many options to apply the data life cycle to your plant. DataViews are one of our most powerful tools for entering and reviewing data: manually enter data and create unlimited custom DataViews for a concise view of the data you need to see. Sampling Events allow users to enter additional details related to lab results. Our OPC/DDE Interface allows for direct connection to your SCADA system to pull in data at intervals down to the minute. An available Historian Interface allows you to grab and incorporate historical data from your SCADA into the Operator10 database.

**Operator10® water:** There are a lot of moving parts involved in operating a water treatment facility, and your operational data can come from a variety of different sources—leaving you with multiple databases and software applications housing the data you need to analyze your plant efficiency and to generate your regulatory reports. Operator10 is designed to be a centralized database solution to manage all your operations data—with features that make data entry into Operator10 quick and easy. DataViews, Sampling Events, and OPC/DDE Interface and Historian Interface enter, store, and automate the collection of your plant data.

After collecting data into the Operator10 software, create charts that present your operational data in a visually impactful way. A full-featured 3-D charting package is included in the software and can make correlations between different parameters, quickly reveal connections, and add punch to your presentations.

Need that report done today? Operator10 can create regulatory and management reports using built-in report forms, including regulatory reports for many states, using your inputted data.

All in all, data management benefits you, your plant, and the industry. By implementing the data life cycle at your facility, data can be planned, collected, assured, described, and implemented to make important decisions and upgrades to plant processes. With a database like Operator10 from AllMax Software, Inc. the meeting with the engineers will be a breeze.

Contact AllMax Software, Inc. for a closer look at our Operator10® line of software



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