Operating a Next-Generation Utility: Driving Performance through Enterprise Asset Management

Mounting pressures impede performance

If you're finding it difficult to manage your utility operations effectively, you're not alone. As a whole, the industry is facing a slew of challenges that strain the ability to meet strategic organizational goals.

- **An ageing infrastructure:** From sewer lines to water mains to electrical substations, utility components put in place decades or even a century ago are increasingly in need of repair and replacement.
- **A workforce in transition:** A significant portion of your workforce is nearing retirement—presenting a potential loss of know-how and a need for focused new employee development.
- **Compliance concerns:** As regulations for tighter discharge limits and air emissions evolve, you need to be prepared to address them while meeting related reporting obligations.
- **Reliability standards:** Your customers are relying on your organization for high-performance utility operations. This need for consistent, reliable service levels puts greater urgency behind the adoption of standards such as PAS-55, ISO 55000 and ISO 50001, which provide guidelines for establishing energy and asset management programs that are accurate, repeatable, timely, and cost-effective.
- **Outdated business systems and models:** Existing processes and systems prevent you from clearly identifying what needs to be done when, where, and with what priority. You could bolster decision-making through analytics; but to benefit fully, you also need to enable easier interaction between asset management and GIS systems. Plus, you need to improve support for mobile workers.

You need a way to systematically and efficiently turn these challenges around before they further impede organizational performance.

Improve your approach to enterprise asset management

Your core capabilities around enterprise asset management (EAM) have a direct impact on how well you can overcome these multiple challenges. So it makes sense to carefully assess—and then enhance—your EAM system.

When you do, you'll transform a daunting situation into one that helps you derive and demonstrate operational, economic, environmental and technological benefits.

Alignment with the triple bottom line

When deployed effectively, EAM plays a central role in helping public and private utilities achieve sustainable asset management in a way that balances economic, social, and environmental concerns. To achieve these results, you need to simultaneously contain asset management costs, improve service and reliability, and realize environmental benefits and regulatory compliance.

Targeted improvements: EU 20/20/20

Many European utilities face added pressure to get EAM right for energy demand management and alternative energy objectives, such as the European Commission's 2020 goals. These goals call for achieving a:

20%

cut in greenhouse gas (GHGs) emissions (or 30% as part of an international agreement)

20%

energy share from renewable sources

20%

increase in energy efficiency

Greater insight and efficiency through smart EAM

From inefficient maintenance practices to overspending on certain asset and equipment repairs, an insufficient EAM approach can undercut your organization's performance and jeopardize your ability to meet social, economic, and environmental goals.

Here are some telltale signs of subpar (or underperforming) EAM capabilities:

- Productivity lags from inefficient processes that require physical monitoring or excessive human intervention to perform inventory management, maintenance, or other activities.
- Decision making and reporting suffer due to siloed systems and non-standardized operations that prevent full visibility into performance, costs, and environmental impacts, including waste levels.
- Insufficient preparation for storm events or asset wear and tear increases the risk of insurance claims or equipment breakdowns.
- Customer satisfaction issues increase as a traditional, reactive approach to maintenance and repairs results in asset downtime, less responsive service, and higher costs.

Successful EAM leverages improved processes and technology to enhance visibility into your operations for smarter asset management, optimal utility performance, and greater productivity and collaboration. At the same time, it allows you to more easily connect asset performance with associated costs, so you can make better decisions related to resource allocation.

The rewards of smart EAM

When you have the ability to more precisely measure and monitor individual asset performance, efficiency can achieve a noticeable improvement. Consider the typical results an organization can experience with robust EAM capabilities:

20%

▼ **reduction in facility and equipment downtime**

25%

▲ **increase in labor productivity**

19.4%

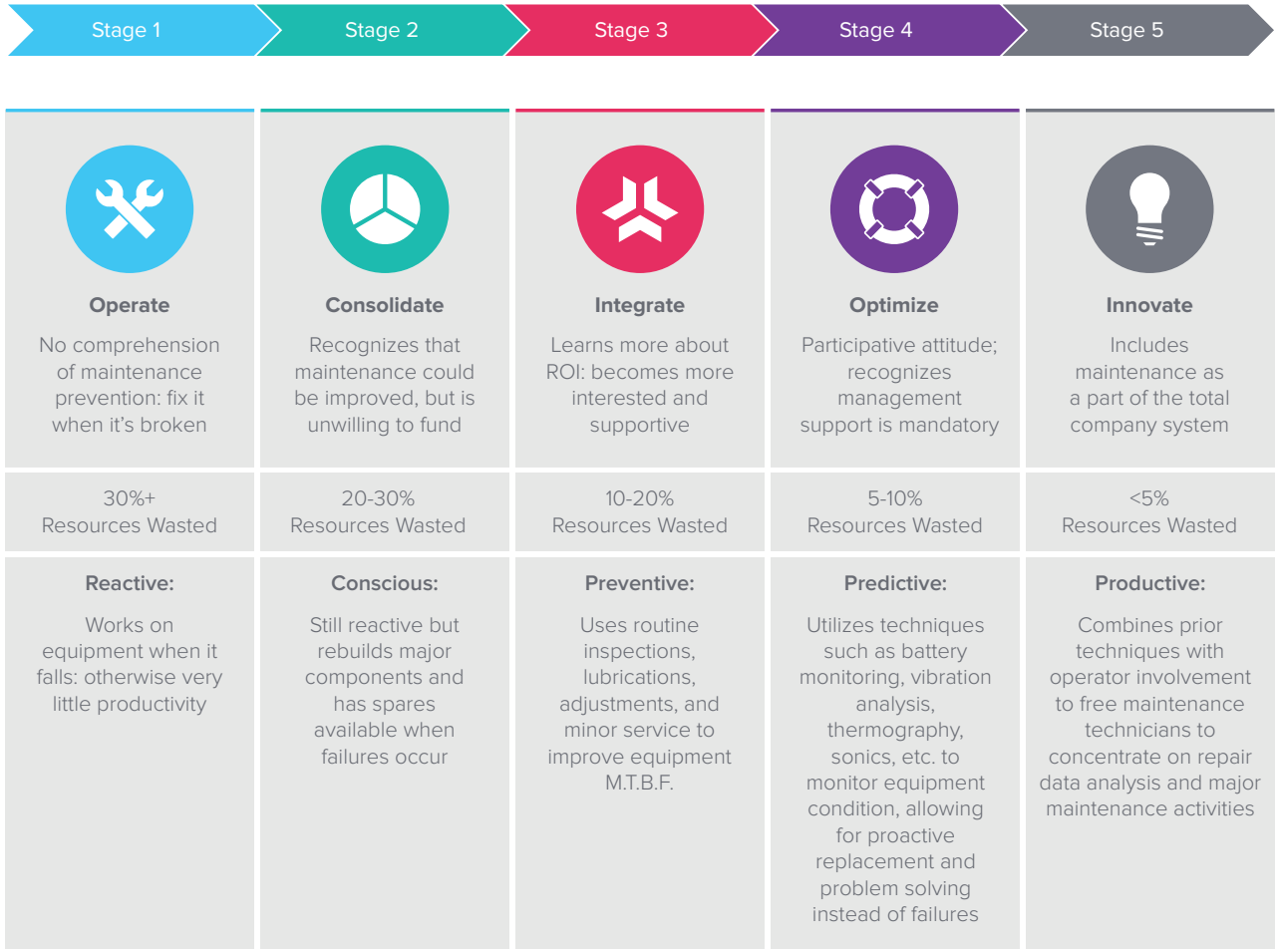
▼ **decrease in MRO material costs**

Data based on Infor EAM customer results.

Toward a more mature maintenance model

More than **80%** of power and utilities CEOs say technological advances will transform their business over the next five years. And only the minority believes that R&D, HR, and IT departments [their operations] are well-prepared to execute needed shifts.[1]

This preparation includes incorporating new EAM technologies that enhance maintenance operations to achieve gains in efficiency and support business continuity. But benefiting from these advances calls for assessing where your organization stands today in terms of maintenance maturity. With this understanding, you can pinpoint the capabilities you need to move more rapidly along the continuum—such as increased automation, real-time monitoring, and data analytics.



[1] 17th Annual Global CEO Survey: Industry Perspectives, PwC, 2014.

Structuring your work environment for productivity

Does the following scenario sound like your organization? Your older asset management system presents all plant employees with the same screen—requiring them to dig through multiple tables until they locate the information they need. Meanwhile, plant operators or mechanics waste time making daily rounds to physically read instrumentation panels, while remote workers manually document services performed in the field, and then enter it into the system once on site.

Seasoned knowledge workers know how to navigate your unwieldy systems. But as the shift to a less-experienced workforce continues, you need a simpler, more intuitive approach that builds intelligence into business functions and brings workers quickly up to speed.

You can boost productivity when you employ an asset management system that enables:

A modern, configurable user experience:

Employees like operators, mechanics, and electricians can access role-based screens to find information relevant to their jobs and have data delivered to them automatically at the frequency they desire. For example, operators can configure the system so that it collects and transmits key data every hour from all the instrumentation currently in place. This could include meters and sensors, as well as temperature, vibration, or other KPIs for a particular subcomponent. In addition, the technicians are alerted automatically to issues such as a phase imbalance or other abnormality.

Configuration capabilities that extend to your organizational structure:

You can allow multiple treatment plants to each own or manage their data independently and still have access to a centralized asset management system. By having this flexibility, you can establish desired data management protocols while retaining the ability to roll up all data to run productivity, safety, and other reports via your management dashboard.

Structuring your work environment for productivity (continued)

Mobile access from any laptop, smartphone, or tablet: You can manage assets more efficiently by permitting field service workers to directly access your asset management system. This includes allowing them to submit work requests or work orders through their mobile devices, along with critical information captured during offsite inspections.

You can improve the accuracy and performance of all your remote workers when you provide mobile access to your EAM system.

A systematic approach to improved asset performance and management

It's impossible to achieve the greatest efficiency and value from your assets if you're capturing limited data on select processes or systems. Instead, you need to include all the processes, systems, buildings, and assets—down to the subcomponents involved—as you monitor equipment health and consumption at your facilities.

Likewise, you need the ability to automatically access and capture all required levels of detail for each asset type so you can evaluate asset performance, prolong asset life, and simplify asset management.

The following capabilities offer a systematic way to accomplish this:

Enabling metered usage measurement and usage value transmission to subcomponents:

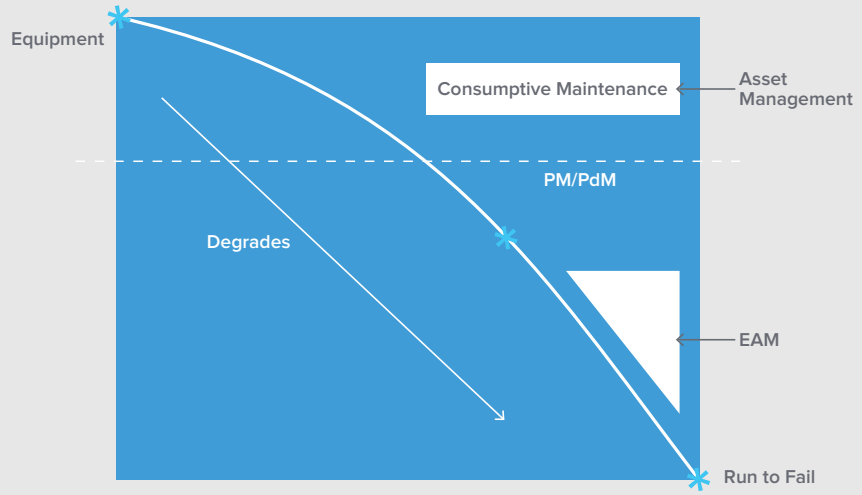
You can assess performance at a granular level to gauge reliability and determine if you can extend the lifecycle of an asset or achieve savings by shifting some of the load to another piece of equipment. You'll help reduce unnecessary wear and tear, lower electrical consumption, and prevent other waste and inefficiencies in the process.

Supporting condition-based monitoring:

From the time you start up a piece of equipment, you can literally run it to critical failure without sufficient insight into equipment performance. Through condition-based monitoring, you can receive automatic alerts at the earliest possible moment to inform you when equipment is degrading or exceeding set benchmarks. Then you can take immediate corrective action.

A systematic approach to improved asset performance and management (continued)

Compiling comprehensive asset data: Organizations often use siloed departmental systems to manage data for activities ranging from capital planning to procurement to maintenance tasks. But this lack of information sharing can result in delayed equipment purchases, poorly scheduled maintenance, or other consequences that increase inefficiencies and costs. A single, integrated system that provides a complete record of asset data helps eliminate these issues while improving team productivity. For example, your engineers can view cost history and equipment performance and maintenance records to more easily calculate lifetime ROI and improve future budget planning. And with real-time access to information on feed or flow rates, plant operators can determine when adjustments need to be made—avoiding potential overflows or other undesirable situations.



You can employ a combination of condition-based monitoring and consumptive maintenance to achieve the optimal balance of maintenance cost and asset performance.

Savings opportunities through condition-based monitoring

When you employ an EAM solution that enables enterprise-wide condition-based monitoring and alerting, you increase your potential to recoup savings from greater operational efficiency. This capability helps you offset potential equipment failures—and achieve subsequent savings—through OEM preventive and predictive maintenance services.

Meanwhile, additional savings are possible from "consumptive maintenance" related to the use of energy or fuel, for example. This stems from your ability to respond to immediate alerts when equipment is degrading based on a standard deviation set-point off of normal utility consumption trends.

Analytics as the key to predictive maintenance and energy savings

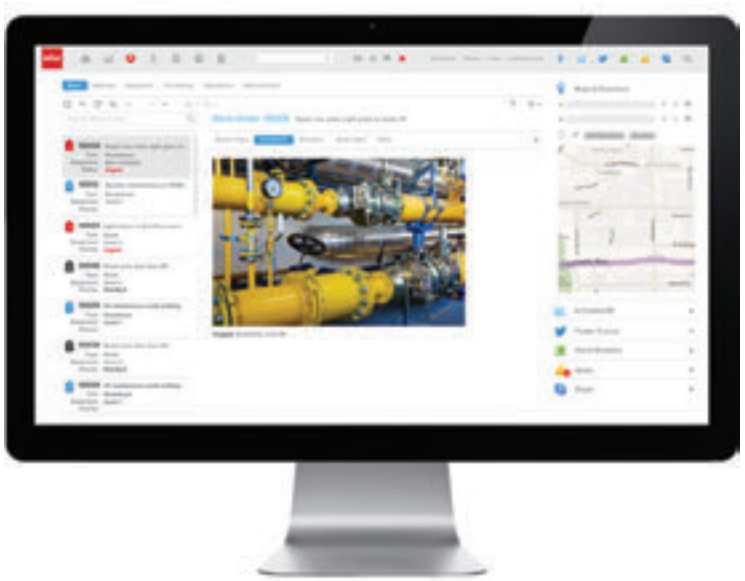
Years back, your maintenance management system had a relatively simple function. It tracked how a piece of equipment was operating, and when it broke, you fixed it. As your maintenance operations became more preventive, the focus shifted to scheduling and performing maintenance when equipment reached a certain stage of its lifecycle—even if it wasn't actually required. While this kept operations running 24/7, it did so at both higher labor and equipment costs.

Today, the focus is on a predictive approach as a way to gain better control over maintenance costs and extend the life of assets. The best way to accomplish this is through the use of analytics software that allows you to analyze performance down to the subcomponent level.

Leveraging analytical software to this degree can help you operate more efficiently. But it can also help you achieve energy savings. In some instances, you may find that you need to replace a certain piece of equipment not just because of its poor condition, but also because it's consuming too much electricity and generating excess operating costs.

Using analytics for enhanced equipment monitoring

Employing analytics to improve your utility operations allows you to derive real value from data. For example, a water treatment plant can utilize data from meters and sensors distributed throughout the plant to monitor equipment conditions, such as vibration analyses and energy consumption. Then—by applying comprehensive asset management solutions to adjust equipment run times, maintenance levels, and balancing loads among plant equipment—plant managers can optimize the mix of energy and maintenance costs based on both equipment lifecycle costs and performance.



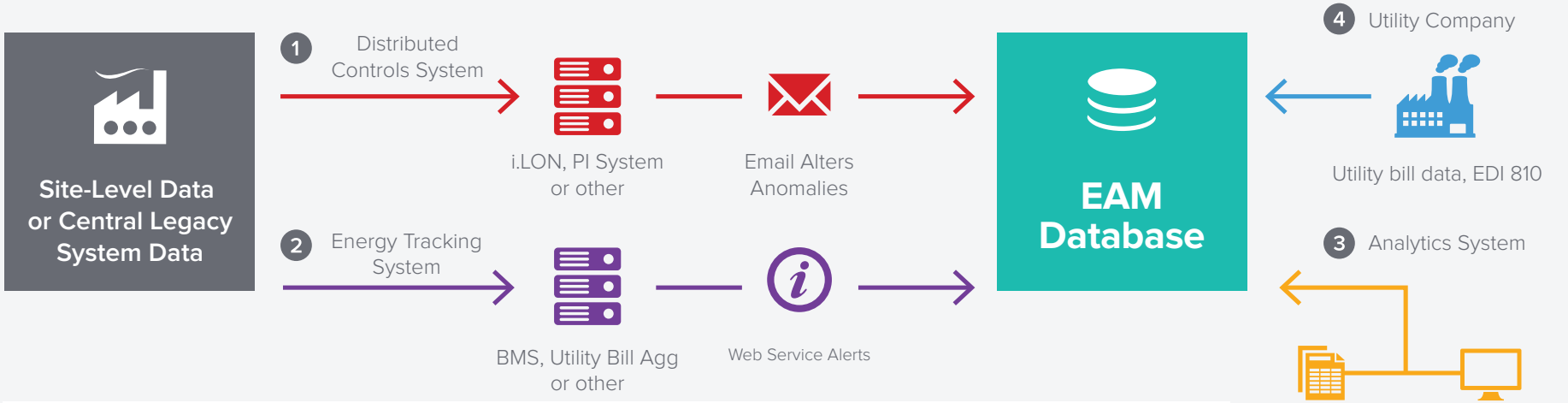
The advantage of holistic EAM operations

By embracing a robust, systematic EAM solution that incorporates mobility and analytics, you can leave behind the higher costs, risks, and resource requirements associated with an ageing infrastructure.

More specifically, you can establish a modern technology framework that:

- Enables easy access to all the data you need to accurately assess and report on both historical and current performance, costs, and environmental impacts. So there's no need for the error-prone manual collection of data from multiple spreadsheets and systems.
- Allows your EAM systems to easily communicate with your distributed controls, energy tracking, and business intelligence systems. This eliminates the need for workarounds to integrate data.
- Provides full visibility into what's happening in your facility by also enabling seamless access to all related (O&M) data.
- Drives optimized equipment and facility performance through proactive, condition-based monitoring.

Through this holistic approach, you'll make it possible for every employee to work more productively and compliantly, while providing higher levels of service responsiveness in pursuit of your triple bottom-line goals.



In a holistic EAM environment, you can capture metered data, distributed data, and billing data related to individual assets within a single system—and then analyze it against set KPIs. The system automatically alerts operators if maintenance is required or performance falls outside of acceptable parameters.

Sustaining energy excellence: A case in point

The City of Des Moines and Des Moines Water Works are actively pursuing U.S. Department of Energy Superior Energy Performance (SEP) certification to gain recognition for their energy management excellence and sustained energy savings. Being able to drill down into the use and costs of individual assets has played an important role in achieving these results.

"Our Infor Enterprise Asset Management (EAM) Energy Performance Management application has an asset-specific structure. It not only manages each asset as either an individual item (like a motor), or as a group (like a pumping system) but incorporates the ability to capture the energy consumption and cost within the asset structure. An energy efficiency program needs this asset-specific approach to capture the energy design basis to identifying those assets and system non-conformity [issues] that need to be addressed. Clearly, the energy convergence with Infor EAM is the best application space for systematically managing this process. It is no longer a viable asset management strategy to simply manage one's assets for optimal performance. Today, the moral mandate is to manage one's assets for optimal performance at the least energy cost."

Bill Miller
Risk and Reliability Manager
City of Des Moines Wastewater Reclamation

Benefiting from integrated EAM and mobility

"Our employees in the field can save substantial time by being able to download assignments from the Infor EAM Enterprise database by accessing and updating data from their mobile device regardless of wherever they are. As well as identifying assets for maintenance, they can identify the location of work orders. As a result, employees will be able to make better and quicker decisions in the field, resulting in improved efficiency and performance of their field tasks."

Cor Bon
Application Manager
Waterschap Branbantse Delta

Waterschap Brabantse Delta takes care of water management in West Brabant and is one of the 24 water boards in the Netherlands. It is responsible for ensuring the level and quality of surface water, purifying sewerage water, overseeing swimming water quality and groundwater management.

The organization employs Infor EAM, which is integrated seamlessly with other systems, including a standard dual link with the Geographic Information System (GIS) from ESRI for water authorities, whereby work orders can be generated directly from the GIS display, improving workforce efficiency and lowering costs by pinpointing assets.

Waterschap Brabantse Delta has also benefited by implementing Infor EAM mobile solutions–giving mobile workers the ability to ask a colleague for assistance via Facetime and Skype–saving 1.5 hours per person per day in the process.

Succeed with Infor

We understand your utility's commitment to excellent performance. Through our comprehensive asset management solutions, you'll be able to realize the multiple benefits of EAM by optimizing and improving:

- Infrastructure and equipment asset investment decisions for repairs and replacements
- Environmental results, regulatory compliance, and energy demand management
- Operations for asset utilization, labor productivity, and materials inventory management
- Service quality, customer service, and the balance of reactive and planned maintenance efforts
- Productivity by applying the latest technology for workplace collaboration, mobility, and data analytics
- Asset reliability, resiliency, and sustainability
- Risk management

Why Infor?

- Helping customers understand the connection between asset performance and top-line growth for 20+ years
- More than 10,000 private and public sector organizations worldwide using Infor EAM
- Typical customer benefits of 20% or more in energy reductions, 20% increase in labor productivity, and 30% reduction in inventory carrying levels, among other improvements

Contact us today at **800-260-2640**
Or email us at **eam@infor.com**

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