opentext™

GUIDE

5 ways to optimize asset information management

Best practices for achieving project and operational excellence in asset-intensive industries









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A retiring workforce

“With 50% of the utilities workforce set to retire over the next decade, the retirement wave will create a mass loss of field technicians, operators, engineers, managers, supervisors, and clerical and administrative staff resulting in utilities losing critical knowledge.”

– POWER Magazine[1]

Introduction

Asset-intensive industries, including oil and gas, utilities, chemicals, mining and other infrastructure, rely on the availability and accuracy of content and data to make informed decisions. Project, operations and maintenance teams depend on information to safely execute work tasks. Unfortunately, most organizations’ information is trapped in silos, running on legacy and on-premises applications—disconnected, hard to access and often far from accurate.

To thrive, these organizations must embrace an agile digital transformation that makes information easily accessible, yet secure and governed. With anytime access to content, streamlined internal and external project collaboration, intelligent insights and data control, organizations can quickly adapt to changing industry and project requirements. In the process, they’ll improve how people work and empower more proactive operational risk management.

Through digital transformation, organizations can get the information advantage to better control and easily access engineering and process information needed to maximize team efficiency and asset uptime revenue from capital project planning and execution through to constructing and maintaining assets on location.

1 POWER Magazine, *Addressing the Challenges Presented by a Retiring Utility Workforce*. (2022)



Why now?

Trillions of dollars are being spent worldwide to provide reliable, cost-effective and sustainable energy. New energy-producing assets are being constructed each year.

With volatile commodity prices and rising regulatory scrutiny, organizations must adopt asset information management solutions to keep projects on schedule and maximize production up-time revenues while avoiding expensive rework or environmental health and safety (EHS) risks.

Explore a solution specifically for the energy industry.



Benefits for capital projects

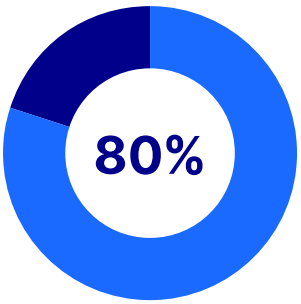
- Manage design, construction and commissioning of large infrastructure or revenue producing assets
- Control schedules, costs and EHS risks
- Reduce expensive rework and project delays
- Collaborate efficiently with engineering, procurement and construction contractors (EPCs)
- Review large volumes of information and provide feedback
- Hand over complete engineering, asset and procedure information to operations and maintenance



Benefits for operations and maintenance

- Operate and maintain equipment efficiently
- Maximize team productivity
- Minimize downtime and increase production uptime
- Control costs and EHS risks
- Ensure regulatory and operating compliance

Achieving operational excellence is challenging, but not impossible. Get started with these five tips to improve asset information management.



of employee time in the energy industry is spent searching for document information—more than 3 times the average across all industries.[2]

Quick tip
Give field personnel access to relevant content within a single click by integrating geographic information systems (GISs) and content management systems.

Explore a real-life example ›

1. Leverage deep integrations

Asset-intensive industries struggle with efficiency due to disparate systems and disconnected information. The resulting downtime, performance issues and system failures can halt daily operations, impacting productivity and revenue.

For example, many operations and maintenance teams rely on drawings, as well as engineering and procedural information to plan and execute work. When these documents and data are contained in multiple systems, it can take days or weeks to locate all the relevant files needed to act. This drastically slows maintenance and operations, potentially affecting productivity and increasing EHS risk.

Disparate systems also prevent access to relevant information across the entire lifecycle of an asset, including:

- Initial planning
- Design
- Construction
- Commissioning
- Operation
- Maintenance
- Refurbishing
- Decommissioning

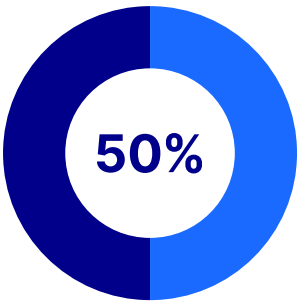
This leads to a lack of visibility and control as assets transition from capital projects teams to operations and maintenance teams.

To maintain productivity and reduce risk, organizations must provide immediate, controlled access to asset information. Content services and enterprise asset management (EAM) solutions with deep integrations break down silos and surface content when and where it is needed.

5 benefits of integrating content services with your EAM solution

1. **Boost productivity** by automating collaboration, exchange, review and markup processes to shorten feedback cycles and accelerate task completion.
2. **Speed maintenance planning and execution tasks** with immediate access to engineering and process documents directly from the assets, locations and workorders in EAM systems, such as SAP® EAM and IBM® Maximo®.
3. **Ensure content accuracy** with integrated viewing and markup for easy management of changes in the field, allowing documentation to evolve alongside physical assets.
4. **Increase efficiency and uptime revenue** by connecting the relevant controlled engineering and procedural information to the systems, processes and people that need it.
5. **Ensure high-speed secure remote access,** including to graphic-intensive applications such as ICS/SCADA and human machine interfaces (HMI) from any device to accommodate hybrid work.

2 Journal of Petroleum Technology, *Oil and Gas Has a Problem with Unstructured Data*. (2019)



of projects are delayed. Two of the top five causes are related to technical drawing exchange and collaboration.[3]

Did you know?
Capital projects present high-reward opportunities for automation.[4]

Real-life example:
"We were able to successfully load a million documents a month with about 10 document controllers and about 20 engineers."

Amber Croy,
Enterprise Information Manager, Freeport LNG Development

2. Uplift cross-team collaboration and process automation

Slowed document review cycles can cause extremely expensive capital project delays in asset-intensive industries. With quick, controlled access to project files, such as engineering drawings and technical specifications, distributed teams can work more efficiently and achieve milestones faster. Automating exchange, collaboration, review and markup processes allows organizations to shorten feedback cycles and accelerate task completion.

Squad checks that were once conducted in a conference room are now completely virtual. Integrating online collaboration solutions like Microsoft 365® and Microsoft Teams® into engineering information management applications ensures that controlled markups and files are easily accessible and can be reviewed and consolidated in real time to help keep projects on track. This is critical for enabling cross-team collaboration among project teams, field workers, operations, maintenance and even contractors.

Distributed teams that can better manage project information prevent expensive reworks and delays. Achieving that requires solutions that deliver the highest level of collaboration, control, validation and governance for the complex documents and data capital projects and operations teams manage daily. With the right balance of controlled access and automating manual tasks, collaboration between teams becomes frictionless, faster and more productive.

Key characteristics to look for in a solution include:

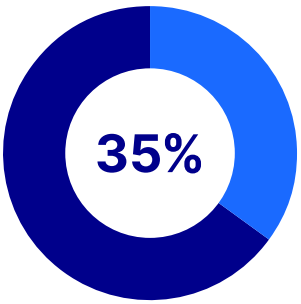
- **Integration with popular online collaboration tools** for exchanging large volumes of content for capital projects, handover, operations and maintenance to reduce time to milestones.
- **Automated capture, validation, markup and feedback** cycles for complex engineering information to keep projects on track.
- **Visibility and insight** to ensure project and operations governance, compliance, and accountability.
- **Controlled access and automated exchange, collaboration and review processes** to shorten feedback cycles and accelerate task completion.

With a small team of about 30 people and no real automation, Freeport LNG Development had to address collaboration and automation challenges to keep a $15-billion project on schedule.

Enterprise information manager at Freeport, Amber Croy, explains that with a new enterprise content management (ECM) solution, the team was able to address these challenges and achieve its milestones on time. "We were able to upload hundreds of documents with the metadata in just a few clicks within a few minutes. We were also able to create transmittals and then we had an electronic review process."

3 ProjectManagement.com, *Study on the Main Causes of Project Schedule Delays.* (2020)

4 Forrester, *Forrester Trend Report: Optimize Cross-Organizational Content- and Process-Risk Apps for Construction and Engineering Firms.* (2021)



Accurate digital twins can deliver a 35% increase in maintenance and operation efficiency.[5]

3. Enable progressive handovers

Handover from project to operations teams traditionally occurs following construction of large capital projects, when the design and operating procedural documentation is given to the owners or operators that commissioned the project. Operations and maintenance teams rely on these drawings and procedures to plan and execute their work.

With information spread throughout multiple systems, it can take teams weeks to find the files they need. These delays impede time to revenue for owners and operators and often result in higher costs due to inefficiencies and expensive rework. Making this documentation actionable by operations and maintenance teams can take years with traditional handovers. By enabling progressive handovers, organizations can eliminate many of these challenges with EAM structures and digital twins created as the asset is constructed.

A digital twin is a digital representation of a physical asset. These can be as simple as a 2D drawing, but today they often include 3D models with detailed BIM and material information identifying IoT sensors along with the real-time actionable output from them. With a progressive handover, operations and maintenance teams get immediate access to high-quality digital twins and the integrated source documentation needed to efficiently run and maintain assets at commissioning. Further integrating engineering and procedure data with enterprise content management (ECM) and EAM solutions before commissioning also ensures a safe and efficient startup.

Additional benefits to leveraging a solution that enables progressive handovers include:

- **Improved ROI** through accelerated exchange and collaboration.
- **Efficient capture and verification** of incoming engineering content and data to maximize value in operations and maintenance activities.
- **Reduced cost and complexity** for the transition and handover teams.
- **Increased efficiency** in operations and maintenance on day one.
- **Accelerated operations** with relevant data highlighted and engagement of owners and operators throughout the process.
- **Expedited maintenance planning and execution** as well as increased production with access to verified engineering content.

Real-life example: "Employees can tap on assets and immediately see all the information the company has on that asset."

Ron Schell,
Director of Enterprise Applications, Metropolitan Utilities District

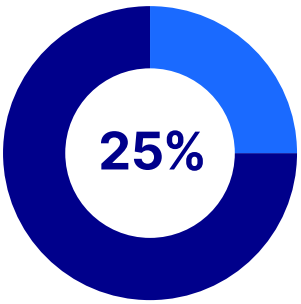
5 Construction Placements, *Digital twin: the Age of Aquarius in Construction and Real Estate.* (2021)

Ron Schell, director of enterprise applications at Metropolitan Utilities District, said, “As a utility, we need to specialize in many different domains, including finance, construction and engineering. Our deep institutional knowledge is crucial to keep the water running and gas flowing. So, we must provide our field service personnel with rapid access to schematics and plans to ensure safe and uninterrupted operation of our gas and water networks.”

With OpenText™ Content Management for SAP® Solutions, Metropolitan Utilities District gains document archiving and management, imaging, collaboration and records management capabilities from a single point of control. Tightly integrated with the company’s SAP business systems, the solution connects to operational data from the company’s geographic information system (GIS), ArcGIS.

By eliminating the need to store large amounts of paper records, Metropolitan Utilities District reduces the operational costs associated with maintaining a physical document archive and reclaims significant office floorspace. “Since decommissioning our paper archives, we are saving a total of $300,000 a year,” said Schell. “Moreover, space that used to be occupied by files can now be used more productively as workspace for our employees.”





of renewable energy companies, asset owners and asset operators will double investments in tools and technologies to accelerate intelligent operations and unlock revenue by 2024.[6]

Quick tip

Cloud-based solutions deliver improved security and content access enhanced with a constant stream of new features and improved user experiences.

4. Adopt advanced technologies

Digital strategies that connect ECM with critical business processes are forming the backbone of operations. This shift enables engineers to perform critical tasks in asset-intensive operating environments as businesses scale. Cloud-based information management systems also open new opportunities for enhanced processes using data science, machine learning (ML) and artificial intelligence (AI).

Without a cloud-first strategy, many organizations will miss out on harnessing the value of their stored data and may be unable to scale operations. Whether in the private, hybrid or public cloud, owner-operators benefit from safe and reliable Infrastructure-as-a-Service options.

Advanced capture, ML and AI can help organizations automate data extraction, enrich content, enable bulk loading and surface insights. Staff are empowered to make better business decisions, improve operational efficiency and simplify workflows. This can deliver major time savings to revenue-producing asset document migrations, divestitures and acquisitions.

The volume of incoming content is expected to grow by 4.5 times over the next two years, with nearly 60 percent of that content unstructured.[7] Assigning metadata to unstructured content has historically been a manual, time-consuming task. With AI, enriching content with structured metadata is automated and consistent. This brings structure to the information chaos caused by high volumes of unstructured content.

Organized findable content enables organizations to increase productivity, support legal and compliance initiatives and empower data-driven decision-making. By extracting actionable insights from the high volume of engineering information available, owners and operators can keep projects on track, as well as safeguard efficient operations and maintenance.

6 Gartner, *Competitive Landscape: Renewable Energy Management Systems.* (2022) GARTNER is a registered trademark and service mark of Gartner, Inc. and/or its affiliates in the U.S. and internationally and is used herein with permission. All rights reserved.

7 AIIM, *AIIM 2021 State of the Intelligent Information Management Industry: A Wake-Up Call for Organization Leaders.* (2021)

Quick tip

Expedite understanding and adoption of constantly evolving requirements by partnering with a vendor that has ECM and information governance experts.

5. Automate policy-driven processes

Regulatory compliance presents many obstacles for asset-intensive industries, including increasing pressure to analyze and monitor workplace safety risks and compliance obligations, such as OSHA CFR Part 1910. Adhering to standards reduces risks to the environment from unforeseen events and avoids equipment failure, downtime and delays. Failure to measure up can incur serious legal risks and reputational harm.

Audits and inspections are required to demonstrate compliance when operating, maintaining or replacing assets. Key compliance requirements include:

- Internal and external audits and inspections to meet policy or industry obligations for capital projects.
- Meeting EHS standards and industry practices.
- Governance and internal controls with auditable and trackable process safety procedures and documentation.

Visibility, insight and control are critical. Without them, organizations cannot demonstrate compliance and operations and maintenance workers cannot comply with process safety procedures and documentation. This can create significant challenges for organizations, including:

- Increased downtime.
- Operational closures and lost production revenue.
- Distrust in the organization's ability to protect employees, the public and the environment.
- Increased risk of bodily harm due to inaccurate process safety procedures and documentation.

Organizations operating multiple legacy siloed systems often impede content capture, search and access, resulting in error-prone, inconsistent and non-compliant processes. To ensure uptime, protect production revenue, mitigate EHS risk and prevent operational closures, organizations must improve their operational risk management.



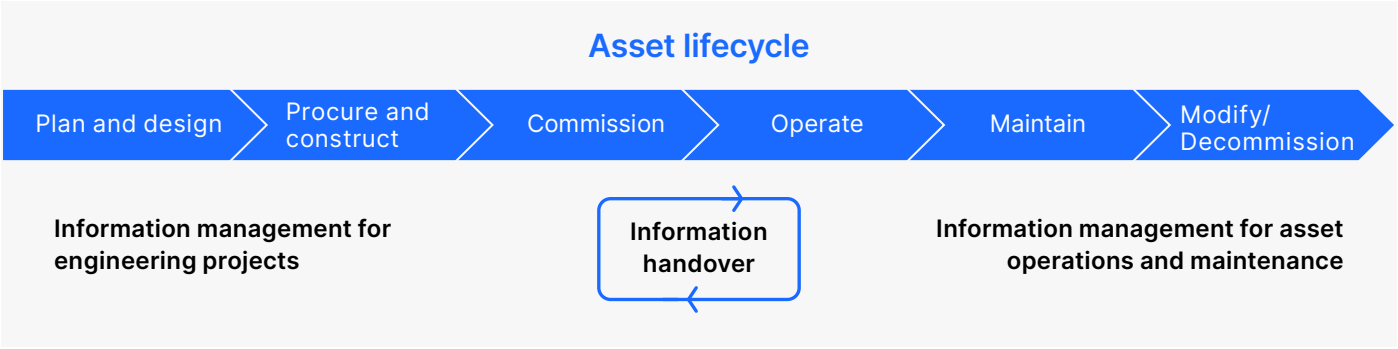
Checklist: Optimize risk management for asset-intensive operations

How can your organization harness optimized capital project and asset information management to improve operational risk management?

- ✓ Increase visibility, insight and control to improve governance and lower EHS risk incidents.
- ✓ Enhance litigation defenses with detailed audit reports that track who did what and when.
- ✓ Support sustainability and Environmental, Social and Governance (ESG) program objectives to promote employee safety and safe workplace practices and guidelines.
- ✓ Demonstrate compliance to build employee and customer trust.
- ✓ Enhance risk management across the lifecycle of assets, including meeting requirements for documentation and management of information, such as ISO 55001.
- ✓ Institute optimized processes and compliance best practices while allowing each team to implement unique requirements specific to their work.
- ✓ Ensure the highest degree of content security.

Intelligently connecting project and asset information

Efficiently control engineering and asset information, work processes and risk across the lifecycle of projects and operations to accelerate revenue and reduce costs



OpenText Content Management for Engineering					
• Intelligent bulk load	• Supplier collaboration	• Revision control	• CAD integration	• Viewing, redlining and markup	• GIS/Esri
• Transmittal management	• Review and approval	• Concurrent engineering	• Secure file transfer	• Asset relations	• EAM integration
• Reporting	• Persona dashboards	• Governance and insight	• Titleblock, Xrefs metadata	• Automatic document numbering	• Fast track configuration

Resources

Asset Information Management for Energy

Learn more ›

How Cloud accelerates the Energy race

Read the blog ›

OpenText Content Management for Engineering

Learn more ›

Master modern work

Work with a trusted partner to master modern work and achieve operational excellence

Successfully adopting solutions that enhance asset information management requires a trusted partner. Organizations must identify which improvements will drive their business goals, solve their unique process challenges and deliver the most impactful benefits.

Organizations gain an information advantage by consolidating their silos of trapped information into a single source of truth securely accessible from anywhere. Efficiently controlling engineering information, work processes, compliance and risk across project and operation lifecycles helps increase productivity and production uptime revenue.

Automated capital project collaboration and controlled document feedback lifecycles help ensure milestone dates. Integration with enterprise business solutions provides direct access to content needed to accelerate the task at hand, driving efficiencies and collaboration.

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