

A photograph of a large, ornate dome, likely a state capitol building, illuminated at night against a clear blue sky. The dome is the central focus of the upper half of the page.

Engineering Workflow and Document Management Systems for Public Sector

Public sector organizations need a system to secure assets and the integrity of their related data. Unlike privately owned companies, governments are required to meet higher security standards, such as those outlined by the National Institute of Standards and Technology (NIST). Regulatory compliance is also a common concern for these organizations, as they need a means of managing their documents securely per the most current guidelines and regulations.

Maintaining complete control over files and documents can be difficult, which is why ImageSite serves as a centralized document repository, equipped with “best practice” security features and robust access control functionality. Additionally, due to the sheer number of files and documents public sector organizations manage, the system is equipped with configurable version control capabilities that government organizations can use to manage their files and documents efficiently and effectively.

Document Management System (DMS) Use Cases

Facilities Management

A document control system permits government entities to better manage their facility's documents and maintain the strict compliance requirements of regulatory organizations. As “owner” organizations, government agencies use building floor plans, equipment information, and other infrastructure documents in the ongoing maintenance of their facilities, including space planning utilization and renovations. Making these documents easily available to everyone who needs them is a big challenge for most government facilities management departments. In addition, government agencies who outsource their design and construction projects to external AEC vendors can use the system to maintain control of key files and ensure all parties are using the most current version. They can also use a document control system to review and approve the work performed by external contractors.

Permit Approvals

Construction projects for city and local governments require detailed permit approvals – often by multiple departments within these agencies. ImageSite offers easy-to-use vendor-oriented document submittal and processing capabilities. The configurable schedule-driven workflows can automate a wide variety of review and approval processes. With ImageSite, users can automatically manage older versions of documents and allay fears of working with incorrect, outdated versions. At the same time, ImageSite improves inefficient workflows and ensures important document-centric work processes are completed and reported on time.

Project Collaboration and Workflow Administration

Automation is a fundamental agent for increasing efficiency, which is why ImageSite comes equipped with powerful workflow automation capabilities. Employees using traditional document management methods are not only prone to errors but also spend countless hours each week filing documents and performing other manual document actions like searching, publishing, and archiving documents.

Public sector organizations can benefit from automated workflows, as they reduce the legwork from manual document management. Using ImageSite's Workflow Plus module, companies can easily control large cross-functional projects without needing to create and interpret convoluted graphical workflow maps. Instead, the system administrator is responsible for creating the graphical map and defining the relationships between workflow steps. The workflows can be used repeatedly, and can even adjust user permissions as a document moves between steps to maintain the highest level of security.

Workflow + can be used to automate document actions, such as moving, copying, archiving, publishing, and deleting, and can even launch transmittals automatically throughout a workflow. As a document is reviewed and approved, the system can automatically change a document's metadata to appropriately categorize the file (e.g., submitted, in-review, released, obsolete).

Workflows are easier to manage with automated notifications, overdue alerts, use of only the most current file versions, and redlines and comments carry forward. Reports on workflow status can be viewed by all workflow participants (e.g., project managers, supervisors, technicians, document controllers, etc.) ensuring all project members know the project progress and if there are outstanding tasks to be performed. Automation of manual tasks, such as copying, emailing, and archiving gives project members more time to accomplish important tasks and ensures integrity in file management.

Document Management System vs. Local Devices

The use of PCs and laptops to execute and manage engineering workflows has become the norm for organizations. The majority of these workflows are document-centric (i.e., require or include documents that a key for decision-making, construction, or standard operating procedures). The digital files have been maintained and employed on user local machines for years, using decentralized software applications (e.g., Excel, Acrobat, and Windows File Manager). Centralized document management systems now provide a better way to maintain, distribute, and manage these files. The major differences are:

Document Management Systems:

- Automatic versioning of files based on preferred versioning schemes
- Full-text search and advanced search filters using conditional operators
- Automated document actions based on workflow configuration
- Secure communications with vendors and contractors
- Collaboration tools such as markups, (redlining), internal/external notifications, RFIs, and more.

Local Systems:

- Basic version control
- Organizations are subject to data loss by misplacing files or overwriting
- No automation
- Simplistic searching
- Little to no file sharing
- Unsecured communications via email
- No collaboration tools.

Document Management System Applications

Organizations utilize engineering workflow and document management systems for a multitude of purposes, including:

- Project management
- Facilities and asset drawing management
- Project collaboration
- Workflow administration
- Document versioning
- In-field markup and photo attachments.

Project Management

Organizations can regain control over their engineering-based projects by using this type of system as a single source of truth across their organization. With a formal workflow and document management system, organizations can access project files and review their status as well as view stored files across multiple locations and departments. The same applies to facilities and asset drawing management, as facilities can track document actions, including version changes, and are provided with complete audit trails.

Document Versioning

A document management system provides public sector organizations with a single source of truth for managing reviews and approvals. Document versioning is facilitated by the system, ensuring the correct version of a document is being used or reviewed at all times. The system also includes the option to include redundancies, such as time stamps, digital signatures, and seals of approval, so that there is no question as to whether a document has been reviewed and is the current version.

Organizations can base version numbers on their preferred versioning schemes, which can be numerical, alphabetical, or alphanumeric, and can even change between vendors and projects. This allows companies to use their traditional versioning schemes, making it easy to train new users.

In-Field Markups and Photo Attachments

With ImageSite and EngineBox, workers can markup (redline) drawings from any location, making it easy to communicate changes upstream. Workers can indicate changes using images, text, audio, and even video, making it easy to communicate changes. Comments and Notes can be assigned with markups to show a string of changes and requirements. Additionally, markups allow organizations to create their library of symbols with variable text for engineering stamps or seals for approval and more.

GovCloud Option

Government entities that are looking to utilize Cloud-based applications more can use ImageSite, as it is also available on AWS's GovCloud. GovCloud provides the highest level of security including FEDRAMP, DFARS, ITAR, and SRG Impact Levels 2, 4, and 5.

Benefits of EDMS Software for Public Sector Companies

Public sector organizations require a vast number of documents to manage their facilities and assets. No matter the size of a project, organizations need a system to manage these documents, as they can quickly lose control over their version integrity and essential workflows. Fortunately, electronic document management systems ensure organizations are managing their documents by document management standards (including NIST and DFARS), and provide a slew of benefits for these organizations. Some noteworthy benefits include:

- Data security
- Efficient storage and business continuity
- Faster project turnaround
- Transparency for vendors and contractors.

Data Security

Government organizations face the ongoing threat of intellectual property theft. A document management system can mitigate or eliminate this threat by providing users with multiple levels of authentication and authorization. Features such as multi-factor authentication (MFA), IP blocking, and whitelisting can be used to ensure that only properly authenticated users have access to the system and its files. Additionally, once a permitted user enters the system, they will only be granted access to information pertinent to their role. This principle is known as “least privilege,” as outlined by The National Institute of Standards and Technology (NIST) in SP 800-171. Audit trails can be used to monitor and report on user usage to report on malicious activity or track down who and when errors were made.

Efficient Storage and Business Continuity

Companies can utilize this technology to preserve knowledge, as all system users are required to follow the same set of document management procedures. This ensures organizations don't lose files as workers leave or retire. This is a critical element of a document management system as organizations with high turnover, or a large number of employees often face these issues.

Faster Project Turnaround

Workers spend a large portion of their time searching for and handling documents, creating inefficiencies in workflows that can lead to project delays. ImageSite and EngineBox provide sophisticated and quick search capabilities using both metadata attributes and full-text search indexing. The systems also provide internal and external notifications to ensure the timeliness of projects, and accuracy of information. Users can also automate document actions, eliminating the time needed for manual handling of documents. Project managers can review workflow audit trails and analytically identify bottlenecks, inefficiencies, unneeded tasks, and general workflow velocity.

Transparency for Vendors and Contractors

With ImageSite and EngineBox, organizations can ensure their vendors have access to the files they need, when they need them, without granting them access to the network or unnecessary files. Additionally, the RFI/Submittal and Transmittal modules, ensure speedy communications between third parties, and complete control over project deadlines. It is the perfect solution, as it helps public sector organizations improve their collaboration and increase the overall efficiency of workflows.

eQuorum

eQuorum is an engineering document management software provider offering Cloud, on-premise, and hybrid solutions for companies with a large number of files, file types, or locations. Companies have been utilizing this software for more than 27 years, including some of the country's leading aerospace, energy, national defense, architecture, pharmaceuticals, and manufacturing companies.

For more information visit:
equorum.com