

Whitepaper

Managing CAD files with SharePoint

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Microsoft SharePoint is a powerful platform for document management and project collaboration. Many project-driven engineering companies that intensively share and exchange documents with internal and external project partners are looking into SharePoint as a solution for their engineering document management needs. However, to provide a comprehensive solution, SharePoint needs to be able to store and manage CAD files in addition to providing typical engineering document management functionality.

SharePoint out-of-the-box does not provide integration with CAD applications. SharePoint lacks typical engineering document management functionality, including a viewer in which the user can view, mark-up, and redline CAD files without the native CAD application. It also lacks the functionality for document distribution and tracking (transmittal management), extranet collaboration, and the support for automating typical engineering business processes.

For some CAD applications, integration with SharePoint is available. For others, the related Product Data Management (PDM) solution integrates with SharePoint, but there is no single solution that provides the integration of CAD applications from different vendors with SharePoint. As a result, project organizations that work with multiple or complex CAD systems are facing a serious challenge whenever they need to collaborate on and share documents with SharePoint.

The best way to benefit from SharePoint as an engineering document management solution is to focus on the best way to manage CAD files. If integration between the CAD application and SharePoint is available, SharePoint can be used to manage both the work in progress as well as the released CAD files for sharing and collaboration. If integration is not available, SharePoint can be used to manage the released CAD files for sharing and collaboration. In this case, CAD files are best managed within their CAD application or related PDM system and published to SharePoint once they are released.

Furthermore, it is important that proper functionality is provided to efficiently manage and control engineering documents in SharePoint, including a viewer, transmittal management, extranet collaboration, and engineering workflow management. Efficient engineering document management functionality is crucial for the different users to work efficiently with documents, supporting them in their daily work and responsibilities.

The Cadac Organice Suite enriches SharePoint with CAD and PDM integration as well as typical functionality for engineering document management and control, making SharePoint work for project-driven engineering companies.

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1. Introduction

This white paper describes the possibilities and limitations for SharePoint in managing the CAD files and integrating with CAD applications. It also explains how SharePoint can be used as an engineering document management and control solution to store, manage, and share design information across multi-disciplinary organizations and project teams.

Microsoft SharePoint is a platform for enterprise content management and collaboration. SharePoint allows you to centrally store, manage, and access documents across the enterprise and to make them available and accessible to external partners like vendors, suppliers, and customers, etc.

SharePoint is perfectly suited for text-based document formats such as Word, Excel, PowerPoint, or PDF. However, due to the complexity of CAD files and models in their native formats and in some cases their sheer file size, an engineering document management solution solely relying on the capabilities of SharePoint will mean significant cutbacks for CAD-related features and functions.

Engineering companies use many different CAD applications, both for 2D and for 3D modelling, but they also use CAD applications for specific design purposes, like architectural, mechanical, or electrical design. All these applications use their own proprietary file formats to provide enhanced features for their end users. This turns managing these files and fully integrating with these applications into a complex issue. If you want to avoid limiting functional richness on either side, then a more comprehensive approach is needed to combine the enhanced features of native CAD applications with the collaboration and process modelling capabilities of SharePoint.

"Microsoft SharePoint is a platform for enterprise content management and collaboration. SharePoint allows you to centrally store, manage, and access documents across the enterprise and to make them available and accessible to external partners like vendors, suppliers, and customers, etc."

Collaboration on CAD level between CAD users should be managed on drives shared by the CAD users in a CAD management tool ideally provided by the same vendor as the CAD application. This ensures that CAD departments can make use of most recent functionality of their CAD application.

Once created by the CAD engineers, CAD drawings are then often reviewed and used by internal and external non-CAD users who need to work efficiently with these CAD drawings.

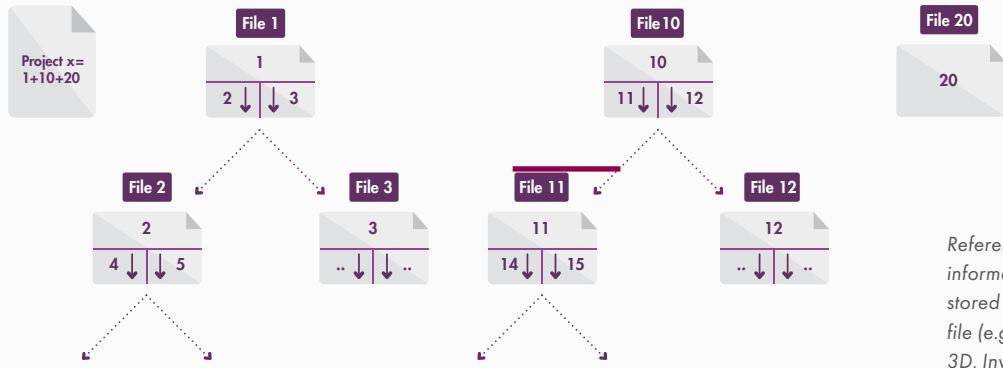
This is why an integration with SharePoint is needed – not to manage the file relations between the CAD files themselves, but to maintain connection between the revisions of a CAD file, its associated rendered files, and an associated controlled environment when they are issued to non-CAD users for review and approval across disciplines or even corporate boundaries. This integration must maintain a two-way connection between the CAD file and its rendered revisions. The metadata (such as title block properties or document status) needs to be kept consistent so that, ideally, the CAD user can access review feedback directly from the CAD system where the integration displays the feedback collection in the controlled document environment.

2. Engineering Document Management

Engineering companies are responsible for the development and production of products, but also for the design and construction of projects. They need to manage both their office documents and their design information. Design information is typically created by CAD engineers, but reviewed and used by other project stakeholders. CAD engineers create drawings and detailed designs that are required to manufacture products and equipment, or to erect buildings, infrastructure, plants, and installations. When this design information is released, the people who actually manufacture the products or erect the buildings use it. Those may be planners, production employees, and construction workers. But purchasers also use the design information first for inquiry and then to buy necessary parts and materials.

In project-driven engineering industries – such as the Architecture, Engineering & Construction; Manufacturing; and Process, Power & Marine industries – people collaborate in project teams. These project teams consist of people from different disciplines and with different expertise. They may join from different departments, offices, or even companies. To collaborate efficiently, these project members need to easily share and exchange information, like CAD drawings and other engineering documents.

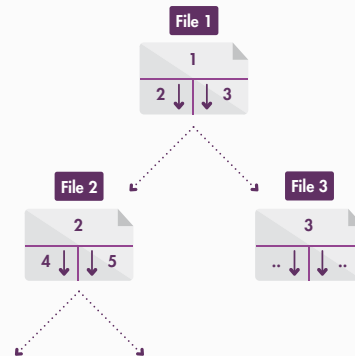
Engineering companies typically use a variety of different CAD applications for different needs or projects. All of these applications have their own proprietary file formats and integration interfaces. This complicates the task of trying to provide a maximum of CAD functionality, integrating with the different CAD files and applications in just one management system.



Reference file information is stored in a project file (e.g. ADT, Civil 3D, Inventor)

In practice, we see that each CAD application vendor has developed its own Engineering Document Management (EDM) or Product Data Management (PDM) system. We even see that vendors providing multiple CAD applications have developed separate solutions for each application, without a proper integration between them.

As a result, there is no EDM or PDM system on the market today that offers a deep level of integration with different CAD systems from multiple vendors.



Reference file information is stored in the CAD file (e.g. AutoCAD, MicroStation)

"In particular, organizations and project teams that work with multiple CAD systems are facing a serious challenge: they lack a flexible and user-friendly solution for engineering document management with rich CAD capability and document control functionality."

In particular, organizations and project teams that work with multiple CAD systems are facing a serious challenge: they lack a flexible and user-friendly solution for engineering document management with rich CAD capability and document control functionality.

SharePoint was introduced by Microsoft as a powerful platform for enterprise content management and collaboration across boundaries. It easily integrates with the IT infrastructure of any company and provides a central and secured environment for teams to share and exchange documents. However, to provide a better solution for engineering document management and to improve SharePoint's limited capability to manage complex CAD structures, it must be connected with the different CAD systems in order for them to store and manage design information effectively, while at the same time processing and exchanging CAD-born deliverables is managed in SharePoint.

3. Managing CAD Files

For engineering document management, SharePoint must integrate with different CAD applications and CAD management systems to maintain the relationship between the CAD file itself (which remains in the CAD application) and its renditions that are published as revisions into a secure collaborative area. The integrations must be light-weight from a CAD perspective and only generate common rendition formats, but also keep the metadata of the files consistent for providing bidirectional title block mapping. This will increase the flexibility and effectiveness of the overall solution and ensure that SharePoint as the document control and collaboration part of the solution can connect to more CAD applications managing their proprietary CAD structures most efficiently.

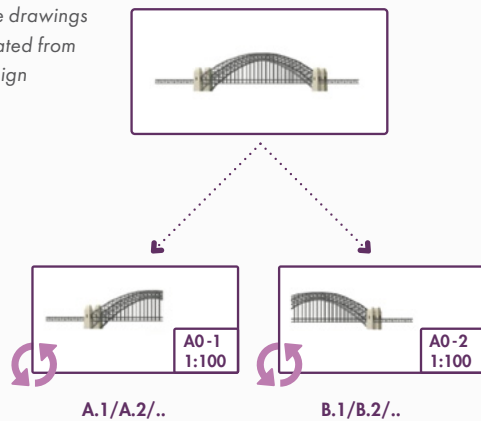
In order to choose the correct solution, it's useful to understand the basics of how CAD files relate to each other and how they are shared among participants in large-scale projects.

3.1 CAD Files

3.1.1 Reference Files

CAD files are compound files with references to other files, blocks, or images, etc. It is important that not only the CAD file but also these references are properly managed. Often multiple people are working simultaneously on the same CAD file and its references. Therefore, when files are updated, the references also need to be updated.

Multiple drawings are created from one design



The relationship between a CAD file and its references is stored within the CAD file (e.g. AutoCAD, MicroStation), and sometimes additional references are stored in an external file (e.g. project file) or database (e.g. ADT, Civil 3D, Inventor). This means that an engineering document management system will only manage CAD files properly if it is able to “read” the reference information and if it is integrated deeply with the CAD application used to create and edit the CAD files.

Furthermore, an engineering document management system needs to be able to “read” reference information from a project file or database.

3.1.2 Layouts

CAD designs can be very large, especially when the object has extreme dimensions, like bridges, skyscrapers, roads, or railways, etc. As a result, it is not always possible to fit the design in one (paper-sized) document. This situation is especially true when the design is created to a certain scale and that scale must be maintained. In these cases, often multiple drawings are created.

Views of a design are mostly used to “translate” the design to a drawing on physical paper with its own versioning logic. This means that one design could contain multiple drawings, each with a different version. An engineering document management system should be able to manage the relationship between the design and the different versions of the drawings derived from the design.

3.1.3 Title Block Linking

A CAD drawing includes a title block area with information about the drawing, like drawing number, project number, description, revision number, etc. Parts of the title block information are used as metadata and need to be kept up-to-date. When the metadata of the drawing or title block information changes, both should automatically be synchronized. An engineering document management system should be able to derive title block information from a drawing and map it to the metadata.

3.1.4 Viewing CAD Files

CAD engineers create the drawings and designs, while others are using these drawings in their work. CAD applications are not exactly easy to use, and the cost to provide access to CAD applications for everyone are high. To avoid these costs for users who do not change the CAD information, renditions of the CAD files should be created from the CAD application for viewing and collaboration. These renditions can then be opened using common software or an integrated viewer that provides extensive redlining and mark-up functionality. An engineering document management system should therefore include a viewer to allow users to open, view, and mark-up renditions of CAD files.

3.1.5 Mark-up and Redlining

CAD drawings and designs are controlled documents that need to be approved before they are released for wider use. Approval processes associated to such a release are often parallel, multi-level processes where multiple engineers, managers, and sometimes external users need to review or approve documents. In these processes, it is crucial that users not only are able to view the content of CAD drawings and designs without the native application, but they should also be able to provide feedback through mark-up and redlining. Mark-up and redlining information from multiple users needs to be consolidated into one Engineering Change Note or Engineering Change Order (ECN/ECO), which the CAD engineer can use to update the drawing or design. An engineering document management system should include a viewer and support mark-up and redlining, and it should support the consolidation of comments to form a definite response to the originator.

3.1.6 Progress Monitoring

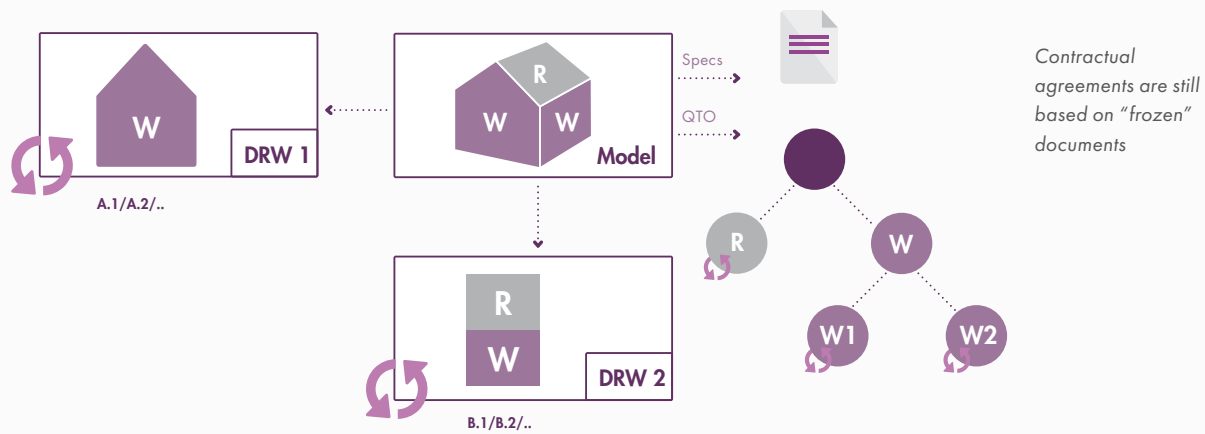
Controlled documents are usually planned and scheduled, including milestones such as initial document delivery and all reviews, approvals, and document states or subsequent revisions. This planning takes place to ensure that a CAD file is ready for a specific purpose when it is needed. All participants and, most importantly, management personnel must be able to clearly track the progress and state of a document to take appropriate actions to avoid project delays or cost overruns.

A comprehensive engineering document management solution should, therefore, provide the ability to track both the progress and the status of controlled documents, as well as provide drill-down functionality.

3.1.7 Traceability and Auditing

To help ensure timely actions or avoid potential delays, users should store proof of all actions performed on a document – especially for controlled documents that are exchanged with external stakeholders or participants.

A comprehensive engineering document management solution should, therefore, provide a comprehensive and permanent audit trail including drill-down functionality.



3.1.8 Building Information Modelling (BIM)

Nowadays, new projects often start in 3D CAD applications by creating a 3D model of a product or project. BIM is a process in which AEC companies collaborate in a 3D model. An example of a popular 3D CAD application for BIM is Autodesk Revit.

In a BIM project, a 3D model is created that will deliver the necessary data and input to all project members to perform their tasks. The ultimate goal of BIM is that every project member is able to work from the 3D model. Unfortunately due to technical or organisational reasons, this is not always possible for every member; certain tasks require 2D views or sections with additional details.

Furthermore, the dynamic nature of such a 3D model does not typically provide the legally sound foundation required for contracts and agreements. As a result, snapshots of the 3D model are generated and rendered into documents, like 2D drawings, specifications, and Quantity Take-Offs (QTO). These documents then serve as the basis for contractual agreements and can be used by the project members to perform their tasks.

As mentioned, the dynamic changes to a 3D model are captured as snapshots of that model at a certain moment and represent just one version of the model. Changes in the model result in new versions of drawings and documents rendered from the model. All project participants should be notified of these versions. Hence, an engineering document management system should be able to properly manage the relationship between the 3D model and the derived 2D drawings and documents, and should include mechanisms to make participants aware of new document versions resulting from changes in the 3d model.

3.2 CAD Integration

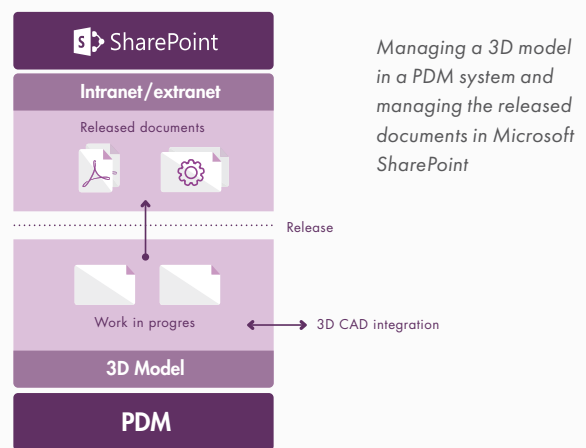
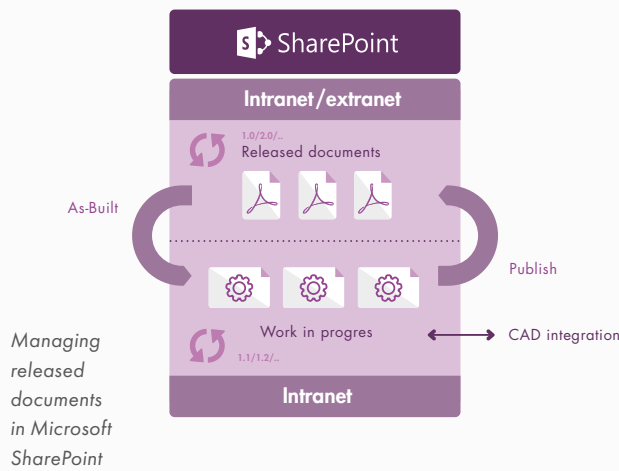
To manage CAD files, SharePoint needs to integrate with the CAD applications. However, SharePoint out-of-the-box does not provide any CAD integration capabilities.

3.2.1 CAD Integration Modules

To integrate SharePoint with CAD applications, different integration modules are needed for the different CAD applications. Microsoft does not provide any CAD integration modules for SharePoint, and they do not have the intention to do so since they lack the necessary knowledge and expertise. Therefore, CAD integration modules have to be developed by others.

As previously stated, there are many CAD applications, like 2D drawing, 3D modelling, and add-ons for specific design processes – architectural, mechanical, or electrical CAD, etc. These CAD applications are all very different, and they all have their own proprietary file format. Understanding all of these file formats and how to integrate with all of these CAD applications requires a huge effort, not only to develop the integration, but also to keep it up-to-date with new versions of the CAD applications and file formats. This makes it impossible for a single solution to provide a deep integration for SharePoint with all possible CAD applications, and at the same time support all the complex structures of the different formats.

Many CAD application solutions have been introduced that integrate these applications with SharePoint. However, the majority of these solutions providing deeper integration only focus on one (or very few) CAD application, which makes them less suitable for engineering companies or engineering project teams that use multiple or complex CAD applications. The majority of such modules provide a solution for CAD engineers to manage their CAD files in SharePoint, but then due to the limitations of SharePoint, they lack the engineering document management functionality required for users to work with these files and use CAD functionality efficiently. The enhanced functionality of a CAD application has to be melted down to a basic, limited amount of functionality to make the information digestible to a document management application like SharePoint.



3.2.2 PDM Integration

To manage CAD files properly, most CAD vendors have developed their own Product Data Management (PDM) solution. They know the structure and content of their CAD files best, and they are well equipped to develop a system to manage these files. Other (independent) suppliers are not able to develop a similar high level of integration because they lack this expertise.

An increasing number of PDM vendors have noticed the benefits of SharePoint, when it comes to collaboration and sharing design information with other internal and external users. They are integrating their solutions with SharePoint and are able to publish CAD and design files to SharePoint.

The source CAD files and their relationships are still managed in the PDM system, but other non-PDM users can then find and retrieve the published files from SharePoint without having to use the PDM system. For this type of use, users still need engineering document management functionality to work efficiently with these CAD born files, which SharePoint does not provide out-of-the-box.

3.3 Microsoft SharePoint for Engineering Document Management and Control

Microsoft SharePoint provides a powerful platform for information sharing and collaboration across boundaries, and many project-driven engineering companies see it as the right platform to manage, share, and exchange project documentation. Unfortunately, SharePoint out-of-the-box is missing both integrations to different CAD applications and typical engineering document management and control functionality that would allow managing the engineering project documentation including the CAD files.

When you consider managing engineering documents in SharePoint, first find out if SharePoint is capable of integrating with the CAD applications that you currently use without limiting CAD functionality.

Following best practice recommendations of BS1192, an effective and BIM 2.0-compliant engineering document management environment should not attempt to manage everything in one single application. To make use of the key strengths of both worlds, a holistic approach should have

clear interfaces between the applications. An integrated solution between CAD and document control must solely maintain the relationship between the CAD model and the associated deliverables, which contain the published renditions, and must not try to integrate full CAD capabilities into a document control solution.

In an essence this means: use SharePoint to manage text-based documents for both work in progress and released documents, but only manage released documents for CAD data.

3.3.1 Managing Released Documents in Microsoft SharePoint

For CAD-based information, implement SharePoint as a project sharing and distribution environment for released documents. It is recommended to use the related PDM system(s) for your CAD application(s) to manage CAD files and any processes for work in progress. Alternatively you can store CAD work in progress in a common file share environment using the native applications.

When CAD files are ready to be released, then either manually publish them from the PDM system to SharePoint, or ideally use an integration that allows you to directly publish from the CAD application itself or from the CAD or PDM management system to make them accessible to non-CAD users.

In this situation, SharePoint provides a complementary document management and collaboration environment, where CAD engineers can publish their released CAD files and easily share and exchange them with others. Ideally, an integration of the CAD application should be utilized to maintain the relationship between the CAD file and the renderings published as revisions. The integration should also ensure consistency of metadata by synchronizing title blocks of the published files.

3.3.2 Engineering Document Management and Control Functionality

As mentioned above, CAD work in progress should happen in a CAD environment. One other essential part is publishing CAD information to the collaboration and sharing environment. Ideally the publishing is done from the native CAD application to ensure maximum accuracy of the

rendered document. Even if there are generic viewers that display a CAD file and then convert it into PDF, best results will be achieved if the CAD user published directly from the native application.

Another reason to publish from the CAD environment is that the CAD user can publish closed, read-only formats like PDF or DWF to ensure that the other participants see exactly the document the originator intends. Closed formats help to prevent unwanted changes and protect the originators' intellectual property, but are also suitable to serve as proof in case of legal liability.

Instead of reviewing native CAD format, the non-CAD users should review the published formats and use viewing tools that typically provide commenting and mark-up functionality to provide feedback on top of the published file instead of editing the native file. This helps users to easily review drawings and provide feedback in review and approval processes or to request changes in an as-built situation.

Particularly in cross-organization projects where people and organizations collaborate, each with their own role and task, a high level of traceability is required when project members receive documents with tasks and actions associated to them. At any point in time, it must be traceable, what information is sent to whom, for which reason and what action the recipient is expected to take. The entire process needs to be tracked, especially in case of document revisions and costs associated to the changes and with respect to legal liability.

Where multiple parties collaborate, we often see significant differences in the level of IT infrastructure and skills. Where one party is able to work fully digital, another party may still depend on paper (for legal or technical reasons). As a result, different ways of communicating between project partners should be supported.

SharePoint out-of-the-box does not provide functionality for engineering document management and control. So if you intend to use SharePoint in your organization for your engineering projects, you should not only integrate SharePoint with CAD applications or a PDM system to manage revisions of published files, but also extend SharePoint with functionality that allows users to manage and control engineering documents efficiently.

4. Conclusion

Microsoft SharePoint is a powerful platform for enterprise content management and collaboration. Many project-driven engineering companies that intensively share and exchange documents with internal and external project partners are looking into SharePoint as a solution for engineering document management and control. However, to provide a comprehensive solution, SharePoint needs to be able to connect with CAD applications and CAD management systems. Instead of attempting to manage CAD files inside of SharePoint, SharePoint needs to provide engineering document management and control functionality to handle CAD renditions published to deliverables.

"The best way for engineering companies to benefit from SharePoint as an engineering document management and control solution is to focus on the best way to manage CAD drawings and design documents."

For some CAD applications, integration with SharePoint is available, while for others the related PDM system integrates with SharePoint, but no solution provides integration for all CAD applications with SharePoint. As a result, it is not easy for a company to find the right solution that is capable of integrating SharePoint with all the CAD applications and add-ons that are being used. This is especially true for project-driven engineering companies that consistently work with multiple CAD applications or for companies that have to collaborate with their external project partners using their own CAD applications.

The best way for engineering companies to benefit from SharePoint as an engineering document management and control solution is to focus on the best way to manage CAD drawings and design documents. If integration between their CAD application and SharePoint is available, SharePoint should be used for the released CAD files for sharing and collaboration, while also maintaining metadata and the CAD file-to-renditions relationship.

If integration is not available, SharePoint should be used to manage released CAD files for sharing and collaboration. In this case, CAD files are best managed within the CAD application or related PDM system without integration to a SharePoint controlled environment. Once released, CAD files are converted into an independent file format like PDF or DWF and uploaded to SharePoint manually, where they can easily be shared and exchanged with internal and external users.

Furthermore, it is important that SharePoint includes the proper functionality to efficiently manage and control engineering documents. This functionality includes a viewer to review, mark-up, and approve CAD revisions; distribute and track (transmittal management) changes; and provide support to automate typical engineering business processes. All of this functionality is crucial for users within project-driven engineering industries to work efficiently with documents, supporting them in their daily work and responsibilities.

5. Cadac Organice Suite

Cadac Group has more than 30 years of experience in implementing CAD applications and PDM systems for project-driven engineering companies in the Architecture, Engineering and Construction; Manufacturing; and Process, Power and Marine industries. We have strategically chosen to leverage Microsoft SharePoint as the platform for enterprise content management and collaboration and to enrich SharePoint with functionality for engineering document management and control. We provide all the fundamental functionality on SharePoint that project-driven engineering organizations need in projects and in collaboration with external partners. Through a holistic approach, we follow the recommendations of BS 1192 for a BIM 2.0 compliant solution.

5.1 Project Document Control

The Cadac Organice Suite supports the document control process in project-driven engineering industries. It allows document controllers to plan document delivery from internal disciplines, external partners, and pre-populate document registers. It's highly configurable and utilizes document numbering functionality to automate e-document numbering, reserve document numbers, and ensure uniqueness of the number, which supports industry standard numbering schemes.

"The Cadac Organice Suite offers a document management environment in Microsoft SharePoint, optimized for project-driven engineering industries."

Tasks are issued to receive review feedback, approvals, and the requested documents on time. These tasks remain permanently connected to the associated documents. Document controllers and management personnel can monitor the progress of their project, or even across projects, because progress is driven by the individual tasks associated to every document. The system automatically provides drill-down capacity to identify problems. Automated aggregation of tasks based on a project hierarchy provides a quick overview on progress from a project management level. A separate database ensures that custom reports can be defined with any SQL reporting tool and that running reports will not have a negative influence on system performance. Metadata information can be retrieved from other connected business systems to ensure a maximum of metadata integrity and avoid manual.

5.2 Engineering Document Management

The Cadac Organice Suite offers a document management environment in Microsoft SharePoint, optimized for project-driven engineering industries. Based on more than 30 years of experience, we have developed best practices that reflect the document management needs and working methods of companies and project teams in the Architecture, Engineering and Construction; Manufacturing; and Process, Power and Marine industries.

Our solution includes all functionality to create, store, search, retrieve, view, check in, check out, edit, and revise engineering drawings and documents. It integrates with Microsoft Office, Outlook, and various CAD applications, as well as includes an internal viewer for viewing, comparing, mark-up, and redlining. A highly flexible review and approval workflows engine allows anything from highly structured formalized and automated review schemes to ad hoc reviews driven by engineering knowledge, but at the same time ensuring that all feedback is captured and recorded for traceability and reporting. Even complex engineering reviews are recorded and traceable.

As a project manager, you can now not only trace official document transmission to externals, but also the internal engineering processes where fundamental decisions are taken.

5.3 CAD Drawing Management

The Cadac Organice Suite offers basic integration with SharePoint for various leading CAD applications, including:

- AutoCAD
- Revit
- MicroStation

Through a toolbar in the CAD application, users can directly publish renditions into deliverables in SharePoint. The integration includes title block linking and permanently managing the relationship between the rendered sheet sets, sheets, or layouts and the native CAD file.

This will ensure that your CAD engineers can continue using state-of-the-art CAD functionality within their preferred application. They do not need to switch systems, or maybe even seats, but still you can keep track of the work results as soon as they are released from the CAD environment.

For users who do not have access to CAD applications and need to provide feedback on CAD-based deliverables, the Cadac Organice Suite has an integrated viewer that includes functionality for mark-up or redlining and that allows them to compare documents and document revisions.

5.4 Publish to Microsoft SharePoint (PDM integration)

Companies that use multiple or complex CAD applications are advised to manage 2D and 3D CAD drawings and models in the related PDM system. The Cadac Organice Suite provides integration tooling to publish released CAD

drawings from PDM to SharePoint. In SharePoint, these documents can easily be shared with internal and external users for review and approval processes or collaboration. CAD drawings can be published in different file formats and metadata information is mapped between the PDM system and SharePoint.

"The Cadac Organice Suite allows companies to collaborate efficiently with external partners in a secured SharePoint extranet site."

5.5 Publish to Microsoft SharePoint (CAD integration)

Companies that do not use a CAD management system provided by one of the CAD vendors can manage their native CAD data in the source application and on a file share. The CAD integration then allows them to directly publish the rendered revision into deliverables that the CAD engineer has connected. In SharePoint, these documents can easily be shared with internal and external users for review and approval processes or collaboration. CAD files can be published in different file formats, and metadata information is mapped between the CAD system and SharePoint.

5.6 Transmittal Management

The Cadac Organice Suite provides functionality to distribute multiple documents efficiently to multiple recipients at once and offers management information to document controllers who need to track transmittals. A transmittal definition specifies exactly which recipient needs to receive which documents and whether the recipient should receive the documents digitally or on paper. A transmittal tracking list in SharePoint records who received what and when. When documents are modified, the document controller is automatically notified by email of the need to retransmit the package.

5.7 Workflow Management

With the Cadac Organice Suite, you can build productive serial and parallel state workflows in SharePoint to automate business processes. Using the friendly graphical interface, users can simply drag and drop workflow states between the start and end points of the workflow and define routing from one state to another. Actions with activities will route the document or item to a next step in the workflow. Users or groups are assigned to actions, including roles and permissions. Workflows can be executed automatically or manually, while users receive visual feedback on workflow status and history.

5.8 Project Collaboration

The Cadac Organice Suite allows companies to collaborate efficiently with external partners in a secured SharePoint extranet site. Users are able to share documents and versions with other users based on contractual relationships captured in a communication matrix. They are notified by email with a transmittal coversheet that new documents are shared with them. Only users with whom a document is shared are able to see and access the document. The solution offers a full audit trail and allows project partners to seamlessly share documents, providing a single source of truth.

Find out more about
Cadac Organice



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for you too?**

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