

# KDD085 - Document Management in the SyWay Solution

|              |                                                                                                                                   |
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| Status       | Approved                                                                                                                          |
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## Issue

Many business process steps involve the handling of documents by an enterprise system, be it via the generation of output documents, the ingestion of documents from business partners or other sources, or by using externally-maintained documents in transactions. Documents are typically seen as unstructured or semi-structured information and consume significantly more storage than transactional data inside the ERP system's database. Both of these characteristics make management inside the ERP database an unwise choice, especially when running on HANA which is relatively expensive on a per-gigabyte basis. It is thus advisable to use a document management system that is separate to the database of the ERP system. Due to the different use patterns involved, a single solution or system will likely be insufficient to support all. Hence this document will recommend a document management solution for each based on a qualitative analysis of the most feasible options in the market.

## Recommendation

The overarching recommendation is to use the native SAP BTP-based Forms Service for document generation, and the OpenText suite of products for document management. Different OpenText products are recommended for different document management patterns:

| Number | Pattern                                        | Recommended solution                                          |
|--------|------------------------------------------------|---------------------------------------------------------------|
| 1      | Generation of output documents                 | SAP BTP Forms Service by Adobe                                |
| 2      | Archival storage of output documents           | SAP Archiving and Document Access by OpenText                 |
| 3      | Ingestion and processing of external documents | SAP Invoice Management by OpenText                            |
| 4      | Referencing external documents in transactions | SAP Extended Enterprise Content Management (xECM) by OpenText |

For document generation, the BTP Forms Service is the sole future-proof solution offered by SAP following the planned obsolescence of NetWeaver ADS (Adobe Document Services) in 2027. Several technically viable options exist for each of the other use patterns, including some native SAP offerings, but no single solution is able to address all of them well. Recommending the OpenText suite of products thus minimises overall complexity by limiting the number of vendors involved, and reducing technical complexity via reuse and integration of some technical components common to multiple OpenText products. As SAP's preferred partner in the document management space, OpenText is not only on SAP's price list, but also operationally integrated into RISE, with SAP able to support the required connectors and add-ons within the scope of RISE technical managed services.

While OpenText may not represent an ideal strategic partner, it remains a mature and proven solution with a track record across many SAP implementations and a significant pool of experienced consultants. In contrast, SAP's BTP-native services in this space are still emerging, offer often limited functionality, and a roadmap that is not overly deep. Given the need for stability in document management, and the relatively low strategic business value impact of this area for Syensqo, the pragmatic course is to continue with OpenText in the near term. This approach balances reliability with the flexibility to revisit BTP-native options as they mature, ensuring that implementation risk is addressed without diverting focus from the higher-value transformation priorities of SyWay.

## Background & Context

Document Management is a broad topic with a large set of different use cases that could conceivably be included in the discussion. To provide focus and ground the discussion in the requirements specific to the SyWay solution, the following four use case patterns have been developed. Each of these represent a different way in which the SyWay solution will interact with documents, and each may have a different recommended solution:

| Pattern                              | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1:<br>Generation of output documents | <p>Generation of output documents, in the format of a PDF file, from data inside the database of S/4HANA. This covers both printing to document (e.g. delivery documents, invoices), as well as generation of PDF for digital distribution (e.g. to send purchase orders to suppliers via email, or to attach PDF documents to electronic invoices lodged with relevant government authorities).</p> <p>Label printing is treated separately and is the subject of <a href="#">KDD043</a>. Generation of Safety Data Sheets from data inside SAP EHS or Product Compliance is assumed to continue to require SAP WWI (Windows Wordprocessor Integration) due to the incomplete implementation of SDS authoring capabilities in S/4HANA Product Compliance, and significant existing base (400,000+ templates) of SDS templates. See also <a href="#">KDD037</a>.</p> |

|                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2: Archival storage of output documents           | Documents generated by a process inside S/4HANA and associated with a business transaction or records inside S/4HANA may need to be stored for some time to meet regulatory or audit requirements. Due to their size and static nature, storage inside the HANA database must be avoided.                                                                                                                                             |
| 3: Ingestion and processing of external documents | Documents are generated externally by business partners of Syensqo in a format that is not under the control of Syensqo, and are received as an input into a process being executed inside an SAP product. These documents may need to have information extracted from them, e.g. OCR performed on an invoice which is received as an arbitrary PDF or image.                                                                         |
| 4: Referencing external documents in transactions | Documents that are stored and maintained in an external document management system, and referenced in a specific SAP transaction. Unlike the archival pattern, documents have a lifecycle independent of that of the associated SAP transaction and are maintained, approved, and updated independently of any one SAP transaction. Service manuals referenced by a Plant Maintenance work order is a common example of this pattern. |

The following additional requirements are imposed on a solution for any of the above patterns:

- Single Sign-On or principal propagation from S/4HANA must be provided for any document access in order to ensure end to end authorisation control.
- Integration with S/4HANA must occur via SAP-standard APIs (e.g. [CMIS](#), [ArchiveLink](#)), rather than vendor-proprietary APIs.
- Where documents are stored in SaaS products or on infrastructure not under the control of Syensqo, the solution must support customer-managed encryption keys and a choice of storage location in line with regulatory requirements that Syensqo is exposed to.
- Vendor lock-in must be minimised. Any product must offer proven mechanisms for data take-out so that documents, which remain the property of Syensqo, can be migrated to another storage solution if required.

## Assumptions

- Storage of static PDF documents inside the HANA database must be avoided whenever possible due to the high cost of HANA storage.
- Certain documents stored in the solution may be considered CUI. The system used to store and process these documents must thus adhere to all of the certifications and accreditations inherent to systems processing CUI, e.g. [DFARS 252.204-7012](#)
- The ability for Syensqo to manage the keys used to encrypt documents at-rest is essential for complying with certain regulatory requirements.
- SAP BTP Forms Service by Adobe will be available in China in late 2025 or early 2026 as planned by SAP.
- Investment in document management should remain proportionate to its relative business value. Higher-cost solutions are less justifiable unless they materially reduce compliance or implementation risk, or operational complexity.
- In the evaluation, stability and a proven track record were weighted more heavily than adopting emerging, unproven technologies or aligning perfectly to SAP's product strategy.
- OpenText is assumed to remain SAP's partner of choice for document archiving and content management, for at least the medium term.
- Syensqo's existing OpenText xECM licenses can be leveraged for the SyWay implementation.
- Syensqo will, during the course of 2026, migrate to the Microsoft365 ecosystem for collaboration and workplace tooling. SharePoint is an inextricable part of the M365 technology stack and will always be used for collaboration and team-level document storage. However this is not one of the use patterns covered by this document, and thus out of scope of this KDD.
- The use of SAP's WWI (Windows Wordprocessor Integration) for the generation of Safety Data Sheets from data inside SAP EHS or Product Compliance cannot be avoided due to the incomplete implementation of SDS authoring capabilities in S/4HANA Product Compliance, and significant existing base (400,000+ templates) of SDS templates. See also [KDD037](#).

## Constraints

- This document does not consider in its scope *data* archiving, i.e. the reduction of the size of database tables by removing records from them and storing them as files in the file system, in a format which can later be re-imported into the database in case of an audit request. Although this is important in order to control database growth after go-live, native SAP archiving programs (transaction SARA) are basically the only option for this as the execution of archiving requires detailed knowledge of the underlying data model to ensure referential integrity is not violated.
- SAP's BTP Document Management Service (DMS) and Document Information Extraction services currently lack feature parity with OpenText, and have a relatively bare roadmap (e.g. [DMS roadmap](#)), limiting their attractiveness for SyWay.

## Impacts

- OpenText xECM can be implemented using a SaaS approach (i.e. hosted by OpenText), or in an IaaS model (with both virtual machines and the OpenText application maintained by Syensqo). A future KDD will be required to decide on the most appropriate hosting mechanism that takes into account applicable regulatory requirements and other design documents (e.g. [KDD057 - Business System Location](#)). Depending on the approach chosen, a migration of documents and workspaces might be necessary, which could entail effort on the part of the Data migration team around go-live.

# Business Rules

- Any process which requires documents or files to be uploaded into S/4HANA must be configured to push these attachments to the document archiving solution and avoid persistence in the database.

## Options considered

This section considers each pattern separately, as different products target each of the different use cases.

### Pattern 1: Generation of output documents

This pattern covers the generation of output documents, in the format of a PDF file, from data inside the database of S/4HANA. This pattern covers both printing to general office printers (e.g. delivery documents, invoices), as well as generation of PDF for digital distribution (e.g. to send purchase orders to suppliers via email, or to attach PDF documents to electronic invoices lodged with relevant government authorities).



The generation of labels during the manufacturing or logistics processes is treated separately due to the highly specialised nature of these outputs, including the highly variable formats of the labels themselves, and tight integration into manufacturing processes and MES systems. Generation and output of labels is treated separately in [KDD043 - Approach to Labelling](#).

SAP's WWI (Windows Wordprocessor Integration) for the generation of Safety Data Sheets from data in SAP EHS or Product Compliance cannot be avoided due to the incomplete implementation of SDS authoring capabilities in S/4HANA Product Compliance, and significant existing base (400,000+ templates) of SDS templates. See also [KDD037](#).

### Option 1A: SAP NetWeaver Adobe Document Services (ADS)

SAP NetWeaver Adobe Document Services (ADS) is the on-premises form-processing engine embedded into SAP NetWeaver Java. It enables the design and rendering of both interactive and static PDF forms directly from ABAP-based applications, and providing its output to the SAP spool system or as a PDF file. Generation of static PDFs does not attract any additional licensing fees. As of 2025, this technology is in productive use at Syensqo, however its reliance on the NetWeaver Java stack, which is due to exit mainstream maintenance in December 2027, limits its usefulness for the greenfield SyWay program.

### Option 1B: SAP BTP Forms Service by Adobe

SAP BTP Forms Service by Adobe is the cloud-hosted counterpart to NetWeaver ADS, running on SAP Business Technology Platform. Templates for both static and interactive forms are created using the same LifeCycle Designer tool also used for ADS, but are uploaded into a BTP service hosted by SAP. SAP S/4HANA or other systems then interact with APIs provided by the BTP service to invoke a rendering service that turns data, provided in the API call, into rendered PDF documents without the need to maintain any additional servers. Generation of documents attracts usage fees on a per-document basis however these costs are minimal (€9.80 per 1000 invocations). RISE also includes 200,000 invocations per month at no additional charge.

### Pattern 2: Archival storage of output documents

This pattern covers documents that are generated by a process inside an SAP system (as per Pattern 1), and which thus are associated with a business transaction inside an SAP system, may need to be stored for some time to meet regulatory or audit requirements. Due to their size and static nature, storage inside the HANA database must be avoided. As a result only options which store the document outside of the HANA database are considered here.

### Option 2A: SAP BTP Document Management Service

The BTP Document Management Service is SAP's first-party, cloud-native document repository supporting versioning, metadata tagging, and access control, and storing documents in SAP-managed infrastructure. BTP DMS is a primarily "headless" application with only a rudimentary user interface; the application is primarily designed to be used via APIs from custom-developed applications. BTP DMS uses the CMIS protocol for integration; like its predecessor ArchiveLink, this provides for durable links between transactions and database records inside an S/4HANA system, and the associated documents stored in BTP DMS. Documents stored in BTP DMS can technically be accessed directly, provided that the document ID is known. However BTP DMS does not provide fine-grained authorisation controls and instead primarily relies on the authorisations of the S/4HANA system: The system design assumes that only users authorised to access a particular record in S/4HANA (e.g. a specific purchase order) are able to retrieve the document IDs associated to that record, and thus are able to retrieve the documents from BTP DMS.

### Option 2B: SAP Archiving and Document Access by OpenText

SAP Archiving and Document Access by OpenText ("SAP ADA") is a hybrid solution composed of an add-on inside S/4HANA and a cloud component hosted by OpenText. It builds on the ArchiveLink interface to create durable links between transactions and records inside an S/4HANA system, and the associated documents stored in the OpenText cloud. ArchiveLink has been in place for decades and thus provides more than 200 integration points into core SAP functionality and transactions, meaning that a broad range of application functions can access this service to store and retrieve documents in a manner that is transparent to the user. The storage system supports automated lifecycle policies, and full-text indexing for fast search (provided that Business Object metadata is synced to ADA). Traditional ArchiveLink products (e.g. OpenText Archive Server) are "headless" and thus offer no mechanism for users to securely access documents without first opening the SAP object (such as a delivery) that generated the document. SAP ADA provides its own user interface inside S/4HANA which allows users to centrally access documents they are authorised to see, without first having to find and open the record which generated the document.

## Option 2C: Arcana Cloud Archive

Arcana provides a cloud-native document storage and archiving service compatible with both SAP ArchiveLink and SAP's new CMIS protocol, and is tightly integrated into Azure. Arcana's solution is deployed using a serverless architecture directly into the customer's Azure Subscription and thus allows documents to be stored inside the customer's in-cloud security boundary, using customer-controlled encryption keys. It is designed for highly-regulated environments which place a premium on data residency and control of encryption, and ensures that only the customer can decrypt documents stored using its solution. Arcana is a "headless" application which does not provide a user interface. The design of the integration assumes that only users authorised to access a particular record in S/4HANA (e.g. a specific purchase order) are able to retrieve the document IDs associated to that record, and thus are able to retrieve the documents via the CMIS API from Arcana.

## Options not considered in detail

SAP Information Lifecycle Management (ILM) is SAP's tool for the central governance of data retention, archival, and secure deletion of documents for highly regulated companies. It can enforce legally compliant retention rules, automate disposition processes, and record detailed audit logs on access, modification, and deletion. Based on NetWeaver, it will exit mainstream maintenance in December 2027 and is thus not a suitable option for Syensqo.

SAP Content Server is an on-premises repository server which stores files in a file system rather than a database. It is tightly integrated with the SAP ArchiveLink API which allows the SAP S/4HANA application to maintain a tight link between a transactional record in the SAP database tables, and associated documents stored in Content Server. As of 2025, this is pre-existing technology at Syensqo, however the product is somewhat dated and has not been actively developed by SAP for some time. When associated with S/4HANA, Content Server is theoretically supported until 2040, but Syensqo IT plan to deprecate it in 2026 due to its age.

## Pattern 3: Ingestion and processing of external documents

This pattern covers scenarios where documents are generated externally by business partners of Syensqo in a format not under the control of Syensqo, and are received as an input into a process being executed inside an SAP product. These documents may need to have information extracted from them, e.g. OCR performed on an invoice which is received as an arbitrary PDF or image. Regardless of processing, they must be stored as immutable attachments to the transaction inside the SAP system (e.g. attached to an AP invoice).

## Option 3A: OpenText Information Capture Core

OpenText Information Capture Core is the cloud-based OCR and document-recognition service used by Vendor Invoice Management (the [preferred](#) invoice management application). However the service is not exclusive to processing invoices and can be configured to process any other kind of document by parsing it, extracting recognisable tokens which match a pre-configured pattern (e.g. a SKU), and creating machine-processable content from documents. It provides a level of machine learning to continuously refine detection and parsing rules, and avoid the creation of fixed-format parsing rules. SAP's Invoice Management solution provides a large number of pre-defined processing rules which would not otherwise be available for documents other than invoices, such as purchase orders received from customers. However using the service and some custom logic inside S/4HANA, it would be possible to build a bespoke solution that reuses components of the Invoice Management framework.

## Option 3B: SAP BTP Document Information Extraction Service

The SAP BTP Document Information Extraction Service is a first-party offering build by SAP and hosted inside BTP. It supports processing of unstructured and semi-structured documents to extract certain elements, attributes, and structured data such as rows from a table, into machine-processable formats using both template-based and AI-driven extraction processes. SAP delivers a handful of pre-trained models for common document types (invoices, delivery notes, purchase orders), though anecdotal experience suggests these are best seen as examples demonstrating product capability, than production-ready components.

## Option 3C: Azure AI Document Intelligence

Azure AI Document Intelligence is a native Azure service that applies machine learning to identify and extract structured data like text, key-value pairs, or rows in a table, from documents and forms. It offers pre-built models for common document types (invoices, receipts, etc.), and supports the creation of custom models that can be refined using provided form layouts in order to better recognise formats commonly used by important business partners of Syensqo. Information extracted from input documents is presented in a machine-processable JSON format that includes confidence scores to support exception management, such as when information can only be parsed incompletely. Rather than a complete application which can be integrated out-of-box with SAP S/4HANA, this should be regarded as a foundational building block which, together with Azure functions, Logic Apps, and other Azure components, can be assembled into a functional system using development effort.

## Options not considered in detail

Due to [KDD056 - Invoice Management with S/4HANA](#) recommending the use of SAP Invoice Management by OpenText over competitor products like ReadSoft Process Director, the evaluation here did not consider enterprise application vendors other than OpenText as viable options due to the duplication and likely commercial disadvantages.

Hyperscalers such as Google Cloud Platform and AWS also offer document ingestion services comparable to Azure AI Document Intelligence (e.g. Amazon Textract, AWS Intelligent Document Processing, GCP Document AI), but these were excluded due to low perceived differentiating factors as compared to Azure's service, and Syensqo's overall direction towards greater use of Azure services.

## Pattern 4: Referencing external documents in transactions

This pattern covers scenarios in which one or more documents are stored or maintained in an external document management system, and those documents must be referenced from specific SAP transactions. Unlike the archival pattern (Pattern 2), the documents in this scenario have independent lifecycles - they are not generated by the S/4HANA transaction, nor do updates cease when the associated transaction in S/4HANA is completed. Instead, they are authored, versioned, and managed externally, but must have a specific version of them associated with a particular transaction or master data object in SAP for operational or compliance purposes. A typical example are service manuals, technical specifications, or standard operating procedures that must be referenced within Plant Maintenance work orders, Quality Notifications, or Production Orders. In this pattern, direct end user interaction with the documents is as important as the user's interaction with the associated S/4HANA transaction.

### Option 4A: OpenText Extended Content Management (xECM)

OpenText Extended ECM (xECM) for SAP provides bi-directional integration between S/4HANA and OpenText's content management platform, so that business objects in S/4HANA are linked to workspaces and folders in the OpenText repository, enabling contextual access to documents and metadata both from within SAP transactions and from the OpenText web UI. Documents stored in OpenText follow their own lifecycle, including version control, review and approval workflows, and retention schedules. Configuration can be template-based and remains independent from the associated SAP records. xECM includes a Business Workspace model that maps SAP business objects to document containers, enabling end users to access relevant documentation from within the S/4HANA UI without embedding the documents in the HANA database. Workspaces can be programmatically created from configuration templates based on events inside S/4HANA, facilitated by an add-on installed into S/4HANA. xECM supports hybrid and cloud-native deployment models and OpenText remains a key partner of SAP, with xECM being re-sold by SAP on its price list, and certified for deployment inside RISE.

### Option 4B: Microsoft SharePoint Online

Microsoft SharePoint Online offers a cloud-based document management platform with solid capabilities for version control, access permissions, co-authoring, and metadata tagging. While SharePoint is not natively integrated into SAP transactions in the same way as OpenText xECM, integration to SharePoint's REST API via custom integration or partner solutions such as [AQI Pro](#), would allow S/4HANA applications to programmatically create and access documents and metadata, or attach reference links to the relevant records inside S/4HANA. Documents remain fully managed within SharePoint, following independent lifecycles, workflows, and permissions. SharePoint supports document IDs which are independent of the name or location of a document, thus ensuring durable links to the associated SAP transaction can be maintained. Versioning, access control, and lifecycle policies are handled by SharePoint's permission model, and if needed, documents can be surfaced contextually inside Fiori screens using lightweight UI enhancements. This solution is compatible with SAP's clean core principles, leverages tooling which Syensqo will anyways move towards in the future, but does not provide the deeply embedded and mature experience of xECM. Custom logic to ensure consistency of links and metadata between systems will doubtless be required.

### Option 4C: RegDOX Secure Data Rooms

RegDOX Secure Data Room is a cloud-based secure document repository designed for organizations handling export-controlled, classified, or otherwise highly sensitive information already in active use by Syensqo's Composite Materials business unit. Similarly to SharePoint, no native first-party integration exists, but RegDOX APIs could be used to build providing programmatic means to store, retrieve, and reference documents from S/4HANA transactions. RegDOX supports immutable document identifiers which remain constant even when the name or location of a file is changed, thus providing a durable reference point from S/4HANA transactions. All document lifecycle management - including version control, approval workflows, access rights, watermarking, and audit logs - is managed within RegDOX in accordance with its compliance-driven architecture. While RegDOX does not currently offer an SAP-certified connector equivalent to xECM, its strong emphasis on compliance and secure storage, and its existing presence inside Syensqo, resulted in its inclusion in this evaluation.

### Options not considered in detail

SAP Build Work Zone, advanced edition, can act as a UI front-end for SAP BTP Document Management Service or Microsoft SharePoint. Work Zone advanced edition provides a basic UI for interaction with the underlying document storage service, to which it integrates via APIs. Although well-aligned with SAP clean-core principles, the use of the Advanced Edition of Work Zone does not align with the recommendations of [KDD036](#), requires Syensqo-managed integration of a complexity comparable to the "direct" integration with SharePoint of Option 4B without many obvious benefits over the native SharePoint UI. It was thus seen as unnecessarily complex and not investigated in further detail.

## Evaluation

### Pattern 1: Generation of output documents

Option 1B - **SAP BTP Forms Service by Adobe** - is the clear preference based on the analysis below.

|                           | Option 1A<br>SAP NetWeaver Adobe Document Services (ADS)                                                                                         | Option 1B<br>SAP BTP Forms Service by Adobe                                                                                                                                        |
|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Maturity                  | ➕ Mature; the solution has been in widespread use for decades                                                                                    | ➕ Mature; although newer, the solution has been successfully implemented for several years by customers                                                                            |
| Functionality             | Both options support the generation of static and interactive PDF documents and thus provide all of the features expected to be needed.          |                                                                                                                                                                                    |
| Future-proof solution     | ➖ Depends on the NetWeaver Java runtime which exits mainstream maintenance in December 2027.                                                     | ➕ SAP's sole investment focus for products supporting the generation of PDFs.                                                                                                      |
| Implementation complexity | ➖ Although not complicated to install, it does require a NetWeaver Java environment along with suitable HA/DR solution.                          | ➕ Simple turn-key PaaS service hosted by SAP, with built-in reliability metrics and SLAs.                                                                                          |
| Operational complexity    | ➖ Requires regular updates to the operating system, NetWeaver layer, and database.                                                               | ➕ Simple to operate, and very little to configure                                                                                                                                  |
| Cost                      | ➕ No license cost for generation of static output documents. Interactive PDFs do incur a licensing fee, but are not planned to be used by SyWay. | ⚪ Although not free, the likely cost is minimal. A RISE subscription includes 200,000 invocations per month at no extra charge; excess is charged at less than €0.01 per document. |

## Pattern 2: Archival storage of output documents

Option 2B - **OpenText Archiving and Document Access** - is the recommended solution due to its functional richness, its end-user interface that can be used to directly access and navigate the archive store, and overall maturity.

|                           | Option 2A<br>SAP BTP Document Management Service                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Option 2B<br>SAP Archiving and Document Access by OpenText                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Option 2C<br>Arcana Cloud Archive                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Maturity                  | ➕ Available in BTP since 2020.<br>⚪ Very limited innovations and changes delivered in the past 2 years.<br>➖ At the time of writing, the <a href="#">product roadmap</a> contained only one item addressing functionality (enabling AI grounding). This does not telegraph significant investment from SAP.                                                                                                                                                                                                                  | ➕ Based on mature and widely-deployed OpenText Archive Server and SAP ArchiveLink protocol.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | ➖ Start-up company with a customer base mostly in the German-speaking parts of Europe                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Functionality             | ➖ Extremely limited functionality.<br>➖ BTP DMS is a "headless" document storage service which provides no significant administration UI, and no user-facing interface. Access to documents is possible only via the application which originally stored the document.<br>➖ Documents are stored in cloud storage (e.g. Azure blob) owned and managed by SAP, thus complicating compliance and limiting portability.<br>➕ Encryption is performed by keys managed by Syensqo, ensuring that data cannot be inspected by SAP. | ➕ Supports complex configurations including logical associations between different document types, complex access controls, and storage performance tiers.<br>➕ Besides "headless" access patterns, OpenText ADA provides an UI through which end users can directly access documents stored in the archive without navigating via S/4HANA, while still having authorisations enforced.<br>⚪ Documents are stored in cloud infrastructure operated by OpenText, meaning that termination of the relationship will necessitate data migration.<br>➕ Encryption is performed by keys managed by Syensqo, ensuring that data cannot be inspected by OpenText or SAP. | ⚪ Simple functionality compared to OpenText ADA, but a richer administration interface than BTP DMS, and much better encryption capabilities.<br>➖ Arcana is a "headless" service which provides no user-facing interface. Access to documents is possible only via the application which originally stored the document.<br>➕ Documents are stored in Azure blob storage owned and managed by Syensqo. This avoids data processing by a third party and ensures that Syensqo will always have access to the documents even if the relationship with Arcana is terminated.<br>➕ Encryption is performed by keys managed by Syensqo, ensuring that data cannot be inspected by Arcana. |
| Implementation complexity | ➕ Simple to implement with S/4HANA due to use of SAP's CMIS API.                                                                                                                                                                                                                                                                                                                                                                                                                                                             | ➕ Implemented using well-known archiving configuration in S/4HANA, and a connector provided by RISE.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | ⚪ Requires use of BTP DMS Integration option as an adapter layer to SAP's CMIS protocol, thus adding some complexity<br>➕ Fully cloud-native and serverless.<br>➖ Very limited documentation necessitates heavy reliance on vendor support.                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Operational complexity    | ➕ Simple to operate once configured. All components are operated and maintained by SAP, with only the API connection from S/4HANA requiring maintenance by Syensqo.                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | ➕ Simple to operate once configured. Updates to Azure logic apps can be deployed using Azure portal; all other components are SAP-provided PaaS APIs or stable Azure primitives such as Blob store.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

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|------|-------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
| Cost | Cost competitive but marginally higher cost compared to Arcana due to SAP's very high mark-up on the cost of the underlying Azure blob storage layer. | Pricing is more complex due to a use of both ingestion-based and storage-based pricing. Storage fees use a significantly lower mark-up than BTP DMS. | Very cost competitive; cheapest of the three options due to lower mark-up of underlying Azure blob storage. |
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## Pattern 3: Ingestion and processing of external documents

Option 3A - **OpenText Information Capture Core** - is the recommended tool for ingestion and recognition of externally-generated documents such as invoices in the SyWay solution. Although document recognition is rapidly becoming commoditised via solutions from the major hyperscalers as well as SAP, these are largely generic document recognition services which lack the integration to S/4HANA and user UIs. Considering that document recognition is not a strategically important function of the SyWay solution, this KDD recommends retaining the commonly-deployed and well-known OpenText solution rather than venture into a potentially more modern but more risky third-party solution.

|                           | Option 3A<br>OpenText Information Capture Core                                                                                                                                                                                                                                                                                                                       | Option 3B<br>SAP BTP Document Information Extraction Service                                                                                                                                                                                                                                          | Option 3C<br>Azure AI Document Intelligence                                                                                                                                                                                                                                                                                                                                                                                                            |
|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Maturity                  | Very mature product which has been the de-facto standard for processing of invoices and other inbound documents for 15+ years (see also <a href="#">KDD056</a> ).                                                                                                                                                                                                    | Available for over 5 years in BTP but adoption in larger enterprises has been limited.                                                                                                                                                                                                                | Relatively new service with few known production deployments in the context of SAP invoice processing.                                                                                                                                                                                                                                                                                                                                                 |
| Functionality             | Pre-delivered templates for ingestion of common document types used in enterprise scenarios and SAP S/4HANA deployments.<br>Native first-party integration to the <a href="#">Vendor Invoice Management workflow</a> inside S/4HANA.<br>End-user and administration interfaces to supervise ingestion and recognition process, tune/enhance recognition models, etc. | Foundational "building block" service. Integration from <a href="#">Vendor Invoice Management workflow</a> would be the responsibility of Syensqo to implement.<br>Completely "headless" service without an end user UI to manage document ingestion, correct errors, or train the recognition model. | Pre-delivered document templates are very simplistic and apparently designed with proofs of concepts, rather than production deployments, in mind.<br>Integration from <a href="#">Vendor Invoice Management workflow</a> would be the responsibility of Syensqo to implement.<br>More credible AI capabilities due to Microsoft's track record of innovation in this space, and larger pool of non-SAP use cases to drive evolution of functionality. |
|                           | Ability to support custom document types and templates beyond invoices, e.g. to support recognition of purchase orders, delivery confirmations, or other types of documents.                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Implementation complexity | Complex to implement, however experienced consultants with multiple implementation experiences are readily available in the market.                                                                                                                                                                                                                                  | Experience from one customer in Australia who sought to replace OpenText ICC provides a cautionary example of the significant effort required to get production-ready functionality working. After budget and schedule overruns, the final solution achieved lower no-touch rates than VIM.           | Although simple to build a proof of concept, developing a reliable, production-ready solution is made more complex due to the immaturity of the product and partly non-deterministic nature of the employed text recognition and pattern matching.                                                                                                                                                                                                     |
| Operational complexity    | Vendor support from OpenText and SAP (for the integration of S/4HANA from RISE, including the connector servers).                                                                                                                                                                                                                                                    | This is a foundational "building block" service rather than a fully functioning application, hence SAP's support will be limited to base technical functionality. All application and functional support would need to be performed by Syensqo.                                                       | This is a foundational "building block" service rather than a fully functioning application, hence Microsoft's support will be limited to base technical functionality. All application and functional support would need to be performed by Syensqo.                                                                                                                                                                                                  |
| Cost                      | Competitive pricing at approx. €0.22 per invoice.<br>Document-based, rather than page-based, pricing is a good fit to Syensqo's use cases.                                                                                                                                                                                                                           | The most expensive of the alternatives at approx. €0.40 per document.<br>Document-based, rather than page-based, pricing is a good fit to Syensqo's use cases.                                                                                                                                        | The lowest-cost option of the alternatives; potentially as low as €0.05 per invoice.<br>Page-based pricing is less suitable to processing invoices which can contain addendums without business value.                                                                                                                                                                                                                                                 |

## Pattern 4: Referencing external documents in transactions

Option 4A – **OpenText Extended ECM (xECM)** – is the recommended solution for referencing externally managed documents from S/4HANA. Although SharePoint and RegDOX both offer valuable capabilities (lightweight integration and strong compliance features respectively), neither matches xECM's depth of SAP-certified, bi-directional linkage, built-in lifecycle workflows, and depth of implementation experience in the market. Given that document referencing is important for operational efficiency and governance in Plant Maintenance, Project and Portfolio Management, and other modules, this evaluation favours the proven, low-risk path of OpenText xECM over less integrated and more risky alternatives.

|                                                  | Option 4A<br>OpenText Extended Content Management (xECM)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Option 4B<br>Microsoft SharePoint Online                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Option 4C<br>RegDOX Secure Data Rooms                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Mat<br>urity                                     | <ul style="list-style-type: none"> <li>+ Mature product with many successful enterprise-level implementations, and usually seen as the default choice for this use case pattern.</li> <li>● Use of S/4HANA add-on introduces cross-dependencies between versions of S/4HANA and OpenText ECM.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <ul style="list-style-type: none"> <li>+ SharePoint itself is a widely-deployed, mature product, with a customer base that is much larger and deeper than that of OpenText.</li> <li>+ Potential to extend company-wide information management tooling and policies into S/4HANA document management, e.g. Purview, Information Protection, etc.</li> <li>- Integration with S/4HANA relies heavily on custom-developed or partner-developed solutions which may be less mature and robust.</li> </ul>                                                                                                                                                                                                                                                                           | <ul style="list-style-type: none"> <li>● Niche product with a specific focus on document-centric collaboration in highly regulated, compliance-heavy use cases.</li> <li>- No known reference implementations of integration with SAP S/4HANA.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Fun<br>ction<br>ality                            | <ul style="list-style-type: none"> <li>+ Bi-directional linking across a broad range of SAP transactions and functionality supported by durable document IDs that are independent of file name or folder location.</li> <li>+ Contextual UIs in both S/4HANA, including with Fiori apps, and in the OpenText web UI.</li> <li>+ Support for common enterprise requirements such as complex review and approval workflows, retention and deletion rules, templated workspaces with pre-defined folder structure, permissions, publishing rules, etc.</li> <li>+ Supports other SAP use cases on the same infrastructure, such as SuccessFactors Employee File Management</li> <li>- No in-place editing functionality, requiring documents to be downloaded for editing, and uploaded again as a new version.</li> </ul> | <ul style="list-style-type: none"> <li>+ Bi-directional linking possible to achieve with partner or custom solutions, and supported by durable document IDs that are independent of file name or folder location.</li> <li>- Fewer authoritative references for the design and development of this integration, such as joint Microsoft/SAP reference architectures and best practices.</li> <li>- Implementation of lifecycle and approval workflows can be complex and may require further partner products.</li> <li>+ Very good in-place content editing via tight integration with Microsoft365 editing tools, including browser-based editors.</li> </ul>                                                                                                                  | <ul style="list-style-type: none"> <li>+ Bi-directional linking possible to achieve with custom integration, and supported by durable document IDs that are independent of file name or folder location.</li> <li>+ Strong capabilities common to compliance-focused environments, such as watermarking, fine-grained access control permissions, logging and reporting, Data Loss Prevention features.</li> <li>- Security features such as Data Loss Prevention are possibly at odds with general direction of Syensqo towards SAP and Microsoft solutions, putting at risk the long term viability of this option.</li> <li>- No in-place editing functionality, requiring documents to be downloaded for editing, and uploaded again as a new version.</li> </ul> |
| Impl<br>eme<br>ntati<br>on<br>com<br>plexi<br>ty | <ul style="list-style-type: none"> <li>+ Installation of add-on and connector server is managed by the SAP RISE service.</li> <li>+ Supported by add-on products in S/4HANA such as the <a href="#">Blueworx application for Maintenance</a>.</li> <li>- Implementation tends to be complex, requiring specialised consulting skills and significant time to design and configure workspace templates, permissions, and workflows due to the high degree of flexibility in the product.</li> <li>- Poor performance of bulk operations, especially during initial data load operations, is a well-known problem.</li> </ul>                                                                                                                                                                                             | <ul style="list-style-type: none"> <li>+ Well-documented APIs with a huge number of productive customers and a deep partner ecosystem.</li> <li>+ SAP-certified connectors are available from partners (e.g. <a href="#">AQI Pro</a>, <a href="#">D. velop</a>, etc.)</li> <li>+ Opportunity exists to leverage the SharePoint migration work that Syensqo will undertake in 2026 as part of the transition from Google Suite to Microsoft365.</li> <li>- Little to no support can be expected from SAP or Microsoft for the integration between these products.</li> <li>- Achieving integration comparable to that offered by xECM will require significant development effort or partner-developed integration solutions, adding complexity and points of failure.</li> </ul> | <ul style="list-style-type: none"> <li>- Relatively unknown solution with few references to guide the integration with S/4HANA</li> <li>- Achieving integration with S/4HANA that is comparable to that offered by xECM will require significant development effort without public reference architectures or best practices to provide guidance. This will introduce significant risks in the implementation.</li> <li>+ Opportunity exists to leverage existing Syensqo licenses and environments.</li> </ul>                                                                                                                                                                                                                                                       |
| Ope<br>ratio<br>nal<br>com<br>plexi<br>ty        | <ul style="list-style-type: none"> <li>- Complex to manage in an IaaS deployment due to separate application, web, database, and storage components.</li> </ul> <div style="border: 1px solid #ccc; padding: 10px; margin: 10px 0;"> <p> Note: OpenText does offer a managed Cloud service that absolves customers from managing the application servers and infrastructure, but its suitability for Syensqo is yet to be determined.</p> </div> <ul style="list-style-type: none"> <li>● More recent versions of ECM support native IaaS storage primitives such as Azure Blob Store, rather than storing files in the filesystem of a server. However this is merely catching up to industry best-practice.</li> </ul>             | <ul style="list-style-type: none"> <li>+ Entirely delivered as a SaaS solution by Microsoft</li> <li>+ Well aligned to Syensqo's direction to migrate document storage and collaborative editing from Google Suite to Microsoft365.</li> <li>- Higher effort to maintain alignment of parallel authorisation models between SharePoint and S/4HANA.</li> <li>- Use of non-native integration could result in metadata misalignment due to integration problems.</li> </ul>                                                                                                                                                                                                                                                                                                       | <ul style="list-style-type: none"> <li>- Focus on compliance over collaboration and ease of use could impact perception of core SAP S/4HANA functionality that is widely used in the business (e.g. Plant Maintenance).</li> <li>- Higher effort to maintain alignment of parallel authorisation models between SharePoint and S/4HANA.</li> <li>- Use of non-native integration could result in metadata misalignment due to integration problems.</li> </ul>                                                                                                                                                                                                                                                                                                        |

|      |                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                  |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| Cost | <div> <div>  More expensive than SharePoint with a user-based licensing scheme that does not consider intensity of use. </div> <div>  Ability to reuse Syensqo's existing perpetual licenses for the server component, thus requiring only a cheaper license for the SAP add-on. </div> </div> | <div> <div>  User-based licenses are included in Syensqo's Microsoft365 licensing package. Storage costs are low, with a low mark-up over the cost of the underlying IaaS storage infrastructure. </div> <div>  Custom integration increases cost and introduces risk in an area that is not of strategic importance. </div> </div> | <div> <div>  Custom integration increases cost and introduces risk in an area that is not of strategic importance. </div> </div> |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|

See also

KDD056 - Invoice Management with S/4HANA

| File                                                                                  | Modified                              |
|---------------------------------------------------------------------------------------|---------------------------------------|
| PDF File Approval by Frank Bolata 2025-12-17.pdf                                      | Dec 18, 2025 by WENNINGER-ext, Sascha |
| PDF File Stakeholder review deemed acceptance SyWay KDD085 on Document Management.pdf | Dec 01, 2025 by WENNINGER-ext, Sascha |

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Change log

| Version         | Published           | Changed By            | Comment            |
|-----------------|---------------------|-----------------------|--------------------|
| CURRENT (v. 20) | Jan 14, 2026 12:57  | WENNINGER-ext, Sascha |                    |
| v. 19           | Nov 11, 2025 16:26  | WENNINGER-ext, Sascha |                    |
| v. 18           | Nov 11, 2025 16:24  | WENNINGER-ext, Sascha |                    |
| v. 17           | Nov 07, 2025 08:44  | WENNINGER-ext, Sascha |                    |
| v. 16           | Nov 06, 2025 11:51  | WENNINGER-ext, Sascha |                    |
| v. 15           | Nov 06, 2025 11:47  | WENNINGER-ext, Sascha | added stakeholders |
| v. 14           | Sept 10, 2025 13:00 | WENNINGER-ext, Sascha |                    |
| v. 13           | Sept 10, 2025 10:26 | WENNINGER-ext, Sascha |                    |
| v. 12           | Sept 03, 2025 16:32 | WENNINGER-ext, Sascha |                    |
| v. 11           | Sept 03, 2025 16:31 | WENNINGER-ext, Sascha |                    |

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Workflow history

This view shows the 5 most recent entries. The complete workflow log is available from the 'Document Activity' menu item.

| Jan 14, 2026 | Actor                 | Type  | Activity                              | Version |
|--------------|-----------------------|-------|---------------------------------------|---------|
| Approved     | WENNINGER-ext, Sascha | Edit  | updated the page at 12:57 pm          |         |
|              |                       | State | changed state to Approved at 11:57 am | v20     |

|                           |                       |       |                                                           |     |
|---------------------------|-----------------------|-------|-----------------------------------------------------------|-----|
| Edited following Approval | WENNINGER-ext, Sascha | State | gave <i>Minor change</i> approval at 11:57 am             |     |
|                           |                       |       | added numbering to the list of patterns                   |     |
|                           |                       | State | changed state to Edited following Approval at 11:57 am    | v20 |
| Dec 18, 2025              |                       |       |                                                           |     |
| Approved                  | WENNINGER-ext, Sascha | State | changed state to Approved at 2:53 am                      | v19 |
| Pending SteerCo Review    | WENNINGER-ext, Sascha | State | gave <i>Final Approval</i> approval at 2:53 am            |     |
|                           |                       |       | Approved by Frank Bolata. Email attached                  |     |
| Dec 01, 2025              |                       |       |                                                           |     |
|                           | WENNINGER-ext, Sascha | State | changed expiry date to '15 Dec, 2025 06:14 am' at 6:14 am |     |
|                           |                       | State | changed state to Pending SteerCo Review at 6:14 am        | v19 |