

CNV-9046 Purchase Order attachments (DO NOT USE)

In Progress

Status	In Progress
Owner	SICONOLFI-ext, Michael
Stakeholders	

Team Involved	Area
Metawat Sawasdee	Business
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Purpose

The purpose of this document is to define the conversion approach to create and migrate Purchase Order Attachments in S/4 HANA.

Attachment Functionality in SAP ECC

- Storage Method: Attachments are typically stored using Generic Object Services (GOS), which allow users to link files to purchase order documents (via transaction codes like [ME21N](#), [ME22N](#), [ME23N](#)).
- Technical Reference: The attachments are managed via the Business Object Repository (BOR) object. The Business Object Repository (BOR) in SAP is a central access point for SAP business object types and their corresponding Business Application Programming Interfaces (BAPIs). It provides an object-oriented view of data and processes within an SAP system and is crucial for integrating SAP with external applications. The BOR also plays a role in SAP Business Workflow, ArchiveLink, and output control.

Key tables for Attachments are:

Object types can be checked in SAP table: **TOJTB**

The SAP Table **SRGBTBREL** (Relationship Table for GOS Objects): This table links the GOS Object (like a vendor) to the actual attached document, storing the object type, instance ID, and document details.

Purchase Order tables **EKKO**, **EKPO**. The GOS information can be linked to the table.

SapOffice table :**SOOD** table in SAPoffice that stores metadata and attribute information for documents and SAP office objects

The following list includes the objects most likely applicable to vendor attachment documents. There could be more that are applicable

- BUS2009 - Purchase Requisition Item
- BUS2010 - Vendor Quotation Request
- BUS2011 - Vendor Quotation
- BUS2012 - Purchase Order
- BUS2013 - Purchase Scheduling Agreement
- BUS2014 - Purchase Contract
- BUS2015 - Inbound Delivery
- BUS2020 - Vendor Document
- BUS2025 - Purchasing Contract
- BUS2052 - Purchase Outline Agreement
- BUS2105 - Purchase Requisition

Changes in SAP S/4HANA

- Attachments are linked using the Attachment List Service (also used in Fiori apps).
- Technically embedded in the Business Object Processing Framework (BOPF) or handled by Object Page Layout for Fiori views
- User Experience Enhancements: Drag-and-drop uploads via Fiori.

Attachment Types

Any type of document can be an attachment, and can be attached when the user creates a PO from the shopping cart.

In most cases this is a PDF type attachment, and includes Invoices, Specs, Emails....

Conversion Scope

The scope of this document covers the approach for converting active Attachments for Open Purchase Orders from Legacy Source Systems into S/4HANA following the S2P Master Data Design Standard.

The data from legacy system includes:

1. The basis of this object's legacy data is Open Purchase Orders that cannot be closed, and must be migrated. This is handled in CNV-9045 Open Purchase Orders
2. That the purchase order in point 1 has an attachment maintained.

The data from legacy system excludes:

1. Attachments for closed Purchase orders, or where the PO is not in scope for various reasons.

List of source systems and approximate number of records

Source	Scope	Source Approx No. of Records	Target System	Target Approx No. of Records
WP2	Attachment for Open Purchase orders		S4 Hana ROW	
PF2	Attachment for Open Purchase orders		S4 Hana ROW	
WP2	Attachment for Open Purchase orders		S4 Hana China	
PF2	Attachment for Open Purchase orders		S4 Hana China	
WP2	Attachment for Open Purchase orders		S4 Hana CUI	
PF2	Attachment for Open Purchase orders		S4 Hana CUI	

Additional Information

Multi-language Requirement

Document Management

Generic Object Services (GOS) is a functionality that allows users to attach documents, notes, and other objects to business objects like purchase orders. It provides a standard way to manage and access these attachments within various SAP transactions, including those related to purchase orders.

The following are the key concepts for POs.

Attachment Management:

GOS enables users to add attachments (like PDFs, Word documents, etc.) to purchase orders, either directly within the transaction or through a separate DMS (Document Management System) if configured.

Viewing Attachments:

GOS also allows users to view the attachments associated with a specific purchase order.

Object Relationships:

GOS can also show relationships between the purchase order and other objects, like IDocs, workflows, or other related documents.

Toolbar/Button:

The GOS functionality is typically accessed through a toolbar button or a menu option within the purchase order transaction (e.g., ME21N, ME22N, ME23N).

Customization:

In some cases, the GOS button or functionality might need to be activated for specific transactions or user roles using customizing settings.

Other:

GOS also allows for other functions like adding private notes, sending the object to another user, or viewing related workflows.

The Business Object Repository (BOR) in SAP is a central access point for SAP business object types and their corresponding Business Application Programming Interfaces (BAPIs). It provides an object-oriented view of data and processes within an SAP system and is crucial for integrating SAP with external applications. The BOR also plays a role in SAP Business Workflow, ArchiveLink, and output control.

Key aspects of the BOR and Purchase Orders:

Centralized Access:

The BOR acts as a single point of access for all business objects and their associated BAPIs.

Object-Oriented View:

It provides an object-oriented perspective of business processes, allowing for modular and reusable components.

Purchase Order Object:

The purchase order business object (type BUS2012) is a key object within the BOR, representing purchase order data and operations.

BAPIs and Methods:

BAPIs, which are remote-enabled ABAP function modules, are used to implement the methods of business objects. For example, a BAPI might be used to change a purchase order item or retrieve purchase order details.

Attributes and Parameters:

Business objects have attributes that store object properties (e.g., purchase order number, vendor) and methods use import/export parameters to pass data between different parts of the system.

BOR Browser:

The Business Object Repository Browser (transaction code SWO1) allows users to browse, display, and maintain business objects and their components.

Integration:

The BOR facilitates the integration of SAP with other systems, such as through middleware.

Workflow and Other Services:

The BOR is used in SAP Business Workflow, ArchiveLink, output control, and other generic object services.

The DMS approach is elaborated in KDD "[Document Management in the SyWay Solution](#)".

Legal Requirement

CMMC 2.0 is a mandatory DoD cybersecurity certification for contractors handling Controlled Unclassified Information (CUI) and Federal Contract Information (FCI). CUI includes sensitive technical data (e.g., design specs, system info) related to U.S. military and space applications. The Composites Business handles CUI and is therefore within CMMC scope. Without certification, the business risks disqualification from existing and future DoD programs.

It is mandatory to implement CMMC-compliant systems and processes to for all the organizations that are dealing with CUI.

Therefore, there will be one SAP instance specifically for CUI related entities. The migration for CUI related entities will be covered by US based data consultant using separate tools.

Special Requirements

Different SAP Instance Migration Approach

Due to compliance requirement, there will be one SAP instance for Rest of the World, one for China and one for CUI.

1. For entities in China, the data will be loaded into SAP China instance while the entire migration process will remain the same as rest of the world.
2. For entities which will reside in CUI, the migration will be handled by US based data consultant.

Please refer to the link for the entity mapping for each instance. **In case the data object is applicable for multiples instances, what business rule to follow?**

Target Design

The technical design of the target for this conversion approach.

Table	Field	Data Element	Field Description	Data Type	Length	Requirement
SRGBTBREL	CLIENT		Client	C	3	Internal
SRGBTBREL	BRELGUID		GUID	X	16	Internal
SRGBTBREL	RELTYPE		Relationship type	C	10	Mandatory
SRGBTBREL	INSTID_A		Instance ID	C	70	Mandatory
SRGBTBREL	TYPEID_A		Object Type	C	32	Mandatory
SRGBTBREL	CATID_A		Object Category	C	2	Mandatory
SRGBTBREL	INSTID_B		Instance ID	C	70	Internal
SRGBTBREL	TYPEID_B		Object Type	C	32	Internal
SRGBTBREL	CATID_B		Object Category	C	2	Internal
SRGBTBREL	LOGSYS_A		Logical System	C	10	Not in use
SRGBTBREL	ARCH_A		Object Archived	C	1	Not in use
SRGBTBREL	LOGSYS_B		Logical System	C	10	Not in use
SRGBTBREL	ARCH_B		Object Archived	C	1	Not in use
SRGBTBREL	UTCTIME		Short Time Stamp	P	8	Internal
SRGBTBREL	HOMESYS		Logical System	C	10	Not in use

Data Cleansing

ID	Criticality	Error Message/Report Description	Rule	Output	Source System
		Review and remove the obsolete attachments from the load.			

Conversion Process

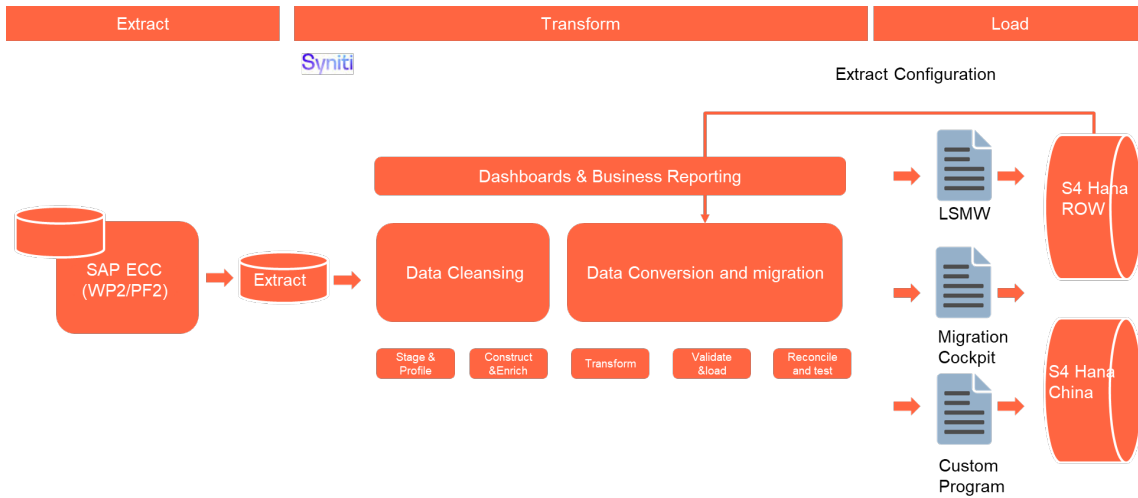
SAP's document migration process involve three parts:

1. Moving the documents to a storage area.
2. Creating the entries in the S4 HANA system, such as purchase orders, etc
3. Linking the attachments to the purchase documents.

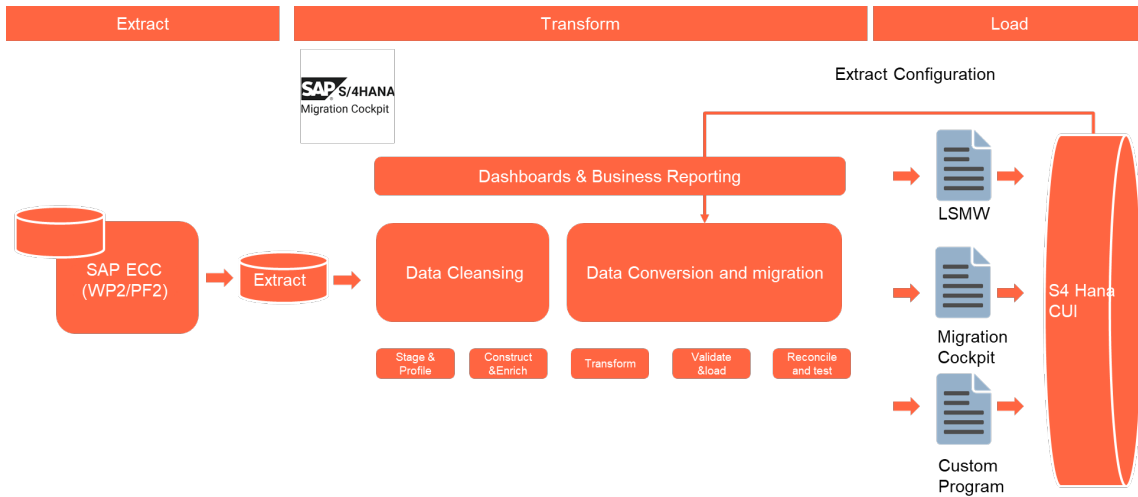
Various tools are used in the migration process.

The high-level process is represented by the diagram below:

The Rest of the World and China follows the process below, using Syniti ADMM.



For CUI instance, the ETL process will be similar, but it will not use Syniti tool.



Data Privacy and Sensitivity

For SAP CUI instances, the data will be processed by US Based consultants.

Extraction

Extract data from a source into . There are 2 possibilities:

1. The data exists. connects to the source and loads the data into . There are 3 methods:
 - a. Perform full data extraction from relevant tables in the source system(s).
 - b. Perform extraction through the application layer.
 - c. Only if ; cannot connect to the source, data is loaded to the repository from the provided source system extract/report.
2. The data does not exist (or cannot be converted from its current state). The data is manually collected by the business directly in . This is to be conducted using DCT (Data Collection Template) in

The agreed Relevancy criteria is applied to the extracted records to identify the records that are applicable for the Target loads

Extraction Run Sheet

Req #	Requirement Description	Team Responsible
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Extraction Scope Definition	- Identify the source systems and databases involved. - Define the data objects (tables, fields, records) to be extracted. - Establish business rules for data selection.	Syniti / US Based Consultant for SAP CUI instance Syniti / LTC Data team
Extraction Methodology	- Specify the extraction approach (full, incremental, or delta extraction). - Determine the tools and technologies used. - Define data filtering criteria to exclude irrelevant records.	Syniti / US Based Consultant for SAP CUI instance
Extraction Execution Plan	- Establish execution timelines and batch processing schedules. - Assign responsibilities for extraction monitoring. - Document dependencies on other migration tasks.	Syniti / US Based Consultant for SAP CUI instance
Data Quality and Validation	- Define error handling mechanisms for extraction failures.	Syniti / US Based Consultant for SAP CUI instance

Selection Screen

Selection Ref Screen	Parameter Name	Selection Type	Requirement	Value to be entered/set
n/a				

Data Collection Template (DCT)

Target Ready Data Collection Template will be created for data with exception of some fields which require transformation as mentioned in the transformation rule.

DCT Rules

Field Name	Field Description	Rule
n/a		

Extraction Dependencies

Item #	Step Description	Team Responsible
1	Source System Availability <ul style="list-style-type: none"> Ensure that the source database or application is accessible. Confirm that necessary credentials and permissions are granted 	Syensqo IT
2	Data Structure <ul style="list-style-type: none"> Identify relationships between tables, views, and stored procedures. 	Syniti / US Based Consultant for SAP CUI instance
3	Referential Integrity <ul style="list-style-type: none"> Ensure dependent records are extracted together. 	Syniti / US Based Consultant for SAP CUI instance

4	Extraction Methodology <ul style="list-style-type: none"> Define whether extraction is full, incremental, or delta-based. Establish batch processing schedules for large datasets. 	Syniti / US Based Consultant for SAP CUI instance
5	Performance and Scalability Considerations <ul style="list-style-type: none"> Optimize extraction queries to prevent system overload. Ensure network bandwidth supports data transfer volumes. 	Syniti / US Based Consultant for SAP CUI instance
6	Security and Compliance <ul style="list-style-type: none"> Adhere to regulatory standards for sensitive information if applicable 	Syniti / US Based Consultant for SAP CUI instance

Transformation

The Target fields are mapped to the applicable Legacy field that will be its source, this is a 3-way activity involving the Business, Functional team and Data team. This identifies the transformation activity required to allow to make the data Target ready:

- Perform value mapping and data transformation rules.
 - Legacy values are mapped to the to-be values (this could include a default value)
 - Values are transformed according to the rules defined in
- Prepare target-ready data in the structure and format that is required for loading via prescribed Load Tool. This step also produces the load data ready for business to perform Pre-load Data Validation

Transformation Run Sheet

Item #	Step Description	Team Responsible
1	Transformation Scope Definition - Identify the source and target data structures. - Define business rules for data standardization. - Establish data cleansing requirements to remove inconsistencies.	Data Team
2	Data Mapping and Standardization - Align source fields with target fields. - Ensure unit consistency (e.g., currency, measurement units)	Data Team
3	Business Rule Application - Implement data enrichment/collection if applicable - Apply conditional transformations based on predefined logic/business rules	Data Team
4	Transformation Execution Plan - Define batch processing schedules. - Assign responsibilities for monitoring execution. - Establish error-handling mechanisms	Syniti / US Based Consultant for SAP CUI instance

Transformation Rules

Rule #	Source system	Source Table	Source Field	Source Description		Target System	Target Table	Target Field	Target Description	Transformation Logic
1	WP2/PF2	SRGBTBR EL	CLIENT	Client	Internal - mandatory	S4 Hana	SRGBTBR EL	CLIENT	Client	System generated
2	WP2/PF3	SRGBTBR EL	BRELGUID	GUID	Internal - mandatory	S4 Hana	SRGBTBR EL	BRELGUID	GUID	System generated
3	WP2/PF4	SRGBTBR EL	RELTYPE	Relationship type	Mandatory	S4 Hana	SRGBTBR EL	RELTYPE	Relationship type	Copy (Default - ATTA)
4	WP2/PF5	SRGBTBR EL	INSTID_A	Instance ID	Mandatory	S4 Hana	SRGBTBR EL	INSTID_A	Instance ID	Copy/XREF - Map ECC sales document number to S4 sales document number

5	WP2/PF6	SRGBTBR EL	TYPEID_A	Object Type	Mandatory	S4 Hana	SRGBTBR EL	TYPEID_A	Object Type	Copy - It will include below object types. BUS2009 - Purchase Requisition Item BUS2010 - Vendor Quotation Request BUS2011 - Vendor Quotation BUS2012 - Purchase Order BUS2013 - Purchase Scheduling Agreement BUS2014 - Purchase Contract BUS2015 - Inbound Delivery BUS2020 - Vendor Document BUS2025 - Purchasing Contract BUS2052 - Purchase Outline Agreement BUS2105 - Purchase Requisition BUS2126 - Vendor Billing Document
6	WP2/PF7	SRGBTBR EL	CATID_A	Object Category	Mandatory	S4 Hana	SRGBTBR EL	CATID_A	Object Category	Copy - BO
7	WP2/PF8	SRGBTBR EL	INSTID_B	Instance ID	Internal - mandatory	S4 Hana	SRGBTBR EL	INSTID_B	Instance ID	Internal -
8	WP2/PF9	SRGBTBR EL	TYPEID_B	Object Type	Internal - mandatory	S4 Hana	SRGBTBR EL	TYPEID_B	Object Type	Copy - MESSAGE
9	WP2/PF10	SRGBTBR EL	CATID_B	Object Category	Internal - mandatory	S4 Hana	SRGBTBR EL	CATID_B	Object Category	Copy - BO
10	WP2/PF11	SRGBTBR EL	LOGSYS_A	Logical System		S4 Hana	SRGBTBR EL	LOGSYS_A	Logical System	Not in Use -
11	WP2/PF12	SRGBTBR EL	ARCH_A	Object Archived		S4 Hana	SRGBTBR EL	ARCH_A	Object Archived	Not in Use -
12	WP2/PF13	SRGBTBR EL	LOGSYS_B	Logical System		S4 Hana	SRGBTBR EL	LOGSYS_B	Logical System	Not in Use -
13	WP2/PF14	SRGBTBR EL	ARCH_B	Object Archived		S4 Hana	SRGBTBR EL	ARCH_B	Object Archived	Not in Use -
14	WP2/PF15	SRGBTBR EL	UTCTIME	Short Time Stamp	Internal - mandatory	S4 Hana	SRGBTBR EL	UTCTIME	Short Time Stamp	System generated
15	WP2/PF15	SRGBTBR EL	HOMESYS	Logical System		S4 Hana	SRGBTBR EL	HOMESYS	Logical System	Not in Use -

Transformation Mapping

Mapping Table Name	Mapping Table Description
XREF	Old Sales document number - New Sales Document

Transformation Dependencies

List the steps that need to occur before transformation can commence

Item #	Step Description	Team Responsible

1	Source Data Integrity - Ensure extracted data is complete, accurate, and consistent. - Validate that data types and formats align with transformation requirements.	Syniti / US Based Consultant for SAP CUI instance
2	Referential Integrity - Ensure dependent records are transformed together or in advance, such as CNV-3007 Business Partner General and DMS server migration	Syniti / US Based Consultant for SAP CUI instance
3	Transformation Logic and Mapping - Define data mapping rules between source and target schemas.	Data Team
4	Performance and Scalability Considerations - Optimize transformation processes for large datasets. - Ensure system resources can handle transformation workloads	Syniti / US Based Consultant for SAP CUI instance
5	Logging and Error Handling - Maintain detailed logs of transformation activities. - Define error-handling procedures for failed transformations	Syniti / US Based Consultant for SAP CUI instance

Pre-Load Validation

Project Team

Completeness

Task	Action
Compare Data Counts	<ol style="list-style-type: none"> 1. Verify row counts between source and target databases. 2. Identify missing or duplicated records.
Validate the mandatory fields	Validate there is value for all the mandatory fields
Validate Primary Keys and Unique Constraints	<ol style="list-style-type: none"> 1. Check for duplicate or missing primary key values, i.e., if there is same BP number. 2. Ensure unique constraints are maintained.
Test Referential Integrity	Confirm dependent records exist in related tables

Accuracy

Task	Action
Validate the transformation	Validate the fields which require transformation have the value after transformation instead of the original field value
Check Data Consistency	<ol style="list-style-type: none"> 1. Compare field values across systems 2. Validate data formats and structures

Business

Completeness

Task	Action
Count and Completeness check	All fields required as per mapping template rules must be completed. Validity reports checking each field in ADMM must be built to help check.

Accuracy

Task	Action
Validate the transformation	Validate the fields which require transformation have the value after transformation instead of the original field value
Check Data Consistency	<ol style="list-style-type: none"> 1. Compare field values across systems 2. Validate data formats and structures

Load

The load process includes:

1. Execute the automated data load into target system using load tool or product the load file if the load must be done manually
2. Once the data is loaded to the target system, it will be extracted and prepared for Post Load Data Validation

Load Run Sheet

Item #	Step Description	Team Responsible
1	Load Scope Definition - Identify the target system and database structure. - Define data objects (tables, fields, records) to be loaded. - Establish business rules for data validation.	Data team
2	Load Methodology - Specify the loading tools and technologies (Migration Cockpit, LSMW, custom loading program).	Syniti / US Based Consultant for SAP CUI instance
3	Data Quality and Validation - Ensure data integrity checks (null values, duplicates, format validation). - Perform pre-load validations to verify completeness. - Define error handling mechanisms for load failures	Syniti / US Based Consultant for SAP CUI instance
4	Load Execution Plan - Establish execution timelines and batch processing schedules. - Assign responsibilities for monitoring execution. - Document dependencies on other migration tasks	Syniti / US Based Consultant for SAP CUI instance
5	Logging and Reporting - Maintain detailed logs of loading activities. - Generate summary reports on loaded data volume and quality. - Define escalation procedures for errors	Syniti / US Based Consultant for SAP CUI instance

Load Phase and Dependencies

The Attachment for customer master data will be loaded in the pre-cutover period.

Before loading, it will have dependency on the DMS server migration completion.

Configuration

Item #	Configuration Item
???	

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Conversion Objects

Object #	Preceding Object Conversion Approach
9045	Open Purchase Orders
1092	Service Price Condition
2016	Service Master Record
3026	Business Partner (FLVN01)

list the exact title of the conversion object of only the immediate predecessor – this will then confirm the DDD (Data Dependency Diagram)

Error Handling

Error Type	Error Description	Action Taken
Technical	There is error message when using the upload program	Raise ticket to the technical team

Post-Load Validation

Project Team

Completeness

Task	Action

Accuracy

Task	Action

Business

Post-load validation is a critical step in data migration, ensuring that transferred data is accurate, complete, and functional within the target system.

1. Ensuring Data Integrity

After migration, data must be consistent with its original structure. Post-load validation checks for missing records, incorrect mappings, and formatting errors to prevent discrepancies.

2. Business Continuity

Faulty data can disrupt operations, leading to financial losses and inefficiencies. Validating post-load data ensures that applications function as expected, preventing downtime.

3. Error Detection and Resolution

By validating data post-migration, businesses can detect anomalies early, reducing the cost and effort required for corrections

Completeness

Task	Action

Accuracy

Task	Action

Key Assumptions

- Master Data Standard is up to date as on the date of documenting this conversion approach and data load.
- is in scope based on data design and any exception requested by business.

See also

Change log

Version	Published	Changed By	Comment
CURRENT (v. 19)	Jan 28, 2026 14:01	SICONOLFI-ext, Michael	
v. 18	Sept 23, 2025 16:52	SICONOLFI-ext, Michael	
v. 17	Sept 23, 2025 16:41	SICONOLFI-ext, Michael	
v. 16	Sept 19, 2025 17:57	SICONOLFI-ext, Michael	
v. 15	Sept 19, 2025 16:57	SICONOLFI-ext, Michael	
v. 14	Sept 19, 2025 15:23	SICONOLFI-ext, Michael	
v. 13	Sept 18, 2025 15:34	SICONOLFI-ext, Michael	
v. 12	Aug 11, 2025 11:01	SICONOLFI-ext, Michael	
v. 11	Aug 11, 2025 10:58	SICONOLFI-ext, Michael	
v. 10	Jul 16, 2025 17:11	SICONOLFI-ext, Michael	

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Workflow history

Title	Last Updated By	Updated	Status
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There are no pages at the moment.

Workflow history

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

From Jul 16, 2025 to Jan 28, 2026	Actor	Type	Activity	Version
	SICONOLFI-ext, Michael	Edit	updated the page at 2:01 pm	
Jun 16, 2025				
	SICONOLFI-ext, Michael	Edit	created the page at 10:42 am	