

CNV-2029 Materials - International Trade Views

Status	Approved
Owner	LIU-ext, Ekawati
Stakeholders	

Purpose

The purpose of this document is to define the conversion approach to create Materials - International Trade Views in S/4 HANA and GTS.

The **International Trade view** in SAP S/4HANA is designed to support companies in managing all regulatory and compliance requirements related to cross-border trade. It replaces the classic "Foreign Trade" views from SAP ECC and centralizes key data needed for customs, export, and import processes.

Conversion Scope

The scope of this document covers the approach for converting active Materials - International Trade Views from Legacy Source Systems into S/4HANA Material International Trade data and GTS following the Materials - International Trade Views Master Data Design Standard: DD-FUN-050 Master Data Standard_2029-Materials - International Trade Views.

This is to meet the Legal and Regulatory requirements for Plants with Plant Country Brazil and India.

For Brazil:

Control Code: Stores the NCM (Mercosur Common Nomenclature) code used for customs classification, tax determination, and fiscal reporting. This field is mandatory for all materials involved in taxable transactions in Brazil. This requirement is applicable to all material types for Brazil.

CFOP Category: Defines the CFOP category (Fiscal Operation Code) associated with the material. The CFOP determines the nature of the transaction (such as sale, return, import, or transfer) and is required for proper tax calculation and electronic fiscal document (NF-e) generation in Brazil. This requirement is applicable to all material types for Brazil.

For India:

Control Code: Store HSN (Harmonized System Nomenclature) used for GST determination, Tax access sequence and supports statutory reporting requirements like GSTR-1 and GSTR-3B, where HSN-wise tax summaries are needed.

From the current system landscape, Materials - International Trade Views exist in both legacy systems - PF2 and WP2 (Foreign Trade: Export Data and Foreign Trade: Import Data). Harmonization and validation are required to ensure the accurate and consolidated data in S/4HANA and GTS. While PF2 and WP2 serve as source systems, a mapping and transformation logic will be necessary to produce properly formatted load templates in line with the target design.

The data from legacy system includes:

1. Material Basic Data View is migrated as per CNV-2019 Materials - Basic Data View.
2. The Plant for Materials - International Trade Views has country = BR (Brazil) or IN (India) and is within the scope of S/4HANA.
3. No flag for deletion at Plant level (MARC-LVORM)

20260227-Eka: [Refer to CR0279 - Update Conversion Specs to remove mention of CUI System](#)

List of source systems and approximate number of records

Source	Scope	Source Approx No. of Records	Target System	Target Approx No. of Records
PF2	Materials - International trade views	2,000	S/4HANA ROW/ China/ CUI	2,000
WP2	Materials - International trade views	20,000	S/4HANA ROW/ China/ CUI	20,000

Additional Information

Multi-language Requirement

N/A

Document Management

N/A

Legal Requirement

Material CFOP category: is used to determine the proper CFOP. The CFOP determines the nature of the transaction (such as sale, purchase, return, import, or transfer) and is required for proper tax calculation and electronic fiscal document (NF-e) generation in Brazil.

Control Code - BR: NCM codes are required for materials used in company codes to comply with tax and legal reporting. The NCM code determines applicable federal taxes (e.g., IPI, PIS, COFINS) and is printed on the nota fiscal.

Control Code - IN: HSN codes are required for materials used in India company codes to comply with GST tax determination and legal reporting.

Special Requirements

Due to compliance requirement, there will be one SAP instance for Rest of the World (ROW) and one for China ~~and one for CUI~~. For Materials - International Trade Views, the same data will be created in all 2 SAP instances as it is Tier 1 object with central data governance and maintenance rule.

For Material Control Code records, it will also be migrated to GTS.

After Go-Live, this Material Control Code would come from GTS through an enhancement, as GTS is responsible for populating and maintaining the control code to ensure compliance with international trade regulations. This is a field commonly used in S/4 for tax determination but also leveraged in GTS for customs controls, embargo checks, and legal regulation alignment.

Target Design

Materials - International Trade Views Data strictly adheres to the Master Data Standard. The complete information of the key fields that hold the Materials - International Trade Views information follows the Master Data Standard document.

The technical design of the target for this conversion approach.

Table	Field	Data Element	Field Description	Data Type	Length	Requirement
MARC	MATNR	MATNR	Material	CHAR	40	Mandatory
MARC	WERKS	WERKS_D	Plant	CHAR	4	Mandatory
MARC	INDUS	J_1BINDUS3	Material CFOP category	CHAR	2	Mandatory for Brazil only
MARC	STEUC	STEUC	Control code for consumption taxes in foreign trade	CHAR	16	Mandatory

Data Cleansing

All data cleansing should take place in the data source system as defined in this document, unless system limitations prevent it.

Materials - International Trade Views

ALL Data Cleansing should be after Relevancy Rule

20260212-Eka: as per discussed with Filipe, remove 3 cleansing reports.

ID	Criticality	Error Message/Report Description	Rule	Output	Source System
2029-001	C1	Material no flag for deletion at Plant level and have records in Control Code but CNV 2019 Materials - Basic Data View not migrated	Material for Plant in scope and plant country = BR or IN, where Control Code (MARC-STEUC) = NOT Blank but not included in CNV 2019 Materials - Basic Data View	Source System/ Material No./ Material Description/ Plant/ Plant Name/ Plant Country/ Control Code/ Control Code Description/ GBU as per Sales Organization	PF2/ WP2

2029-002	C1	Material no flag for deletion at Plant level and have records in CFOP Category but CNV 2019 Materials Basic Data View not migrated	Material for Plant in scope and plant country = BR, where CFOP Category (MARC-INDUS) = NOT Blank but not included in CNV 2019 Materials Basic Data View	Source System/ Material No./ Material Description/ Plant/ Plant Name/ Plant Country/ CFOP Category/ CFOP Category Description/ GBU as per Sales Organization	PF2/ WP2
2029-003	C1	Material with Control Code = Blank	Material for Plant in scope and plant country = BR or IN, where the Control Code (MARC-STEUC) = Blank	Source System/ Material No./ Material Description/ Plant/ Plant Name/ Plant Country/ Control Code/ Control Code Description/ GBU as per Sales Organization	PF2/ WP2
2029-004	C1	Material with CFOP Category = Blank	Material for Plant in scope and plant country = BR, where the CFOP Category (MARC-INDUS) = Blank	Source System/ Material No./ Material Description/ Plant/ Plant Name/ Plant Country/ CFOP Category/ CFOP Category Description/ GBU as per Sales Organization	PF2/ WP2
2029-005	C1	Same Material, multiple plant in the same country should have the same Control Code	Material with multiple Plant in-scope and plant country = BR, where the Control Code (MARC-STEUC) is not the same. Material with multiple Plant in-scope and plant country = IN, where the Control Code (MARC-STEUC) is not the same. Display material in all plant for the same country.	Source System/ Material No./ Material Description/ Plant/ Plant Name/ Plant Country/ Control Code/ Control Code Description/ GBU as per Sales Organization	PF2/ WP2
2029-006	C1	Same Material, multiple plant in the same country should have the same CFOP Category	Material with multiple Plant in-scope and plant country = BR, where the CFOP Category (MARC-INDUS) is not the same. Display material in all plant for the same country.	Source System/ Material No./ Material Description/ Plant/ Plant Name/ Plant Country/ CFOP Category/ CFOP Category Description/ GBU as per Sales Organization	PF2/ WP2

Conversion Process

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

The ETL (Extract, Transform, Load) process is a structured approach to data migration and management, ensuring high-quality data is seamlessly transferred across systems. Here's a breakdown of its key components:

1. Extraction

The process begins with extracting metadata and raw data from source systems, such as Syensqo ECC system WP2 and PF2. The extracted data is then staged for transformation.

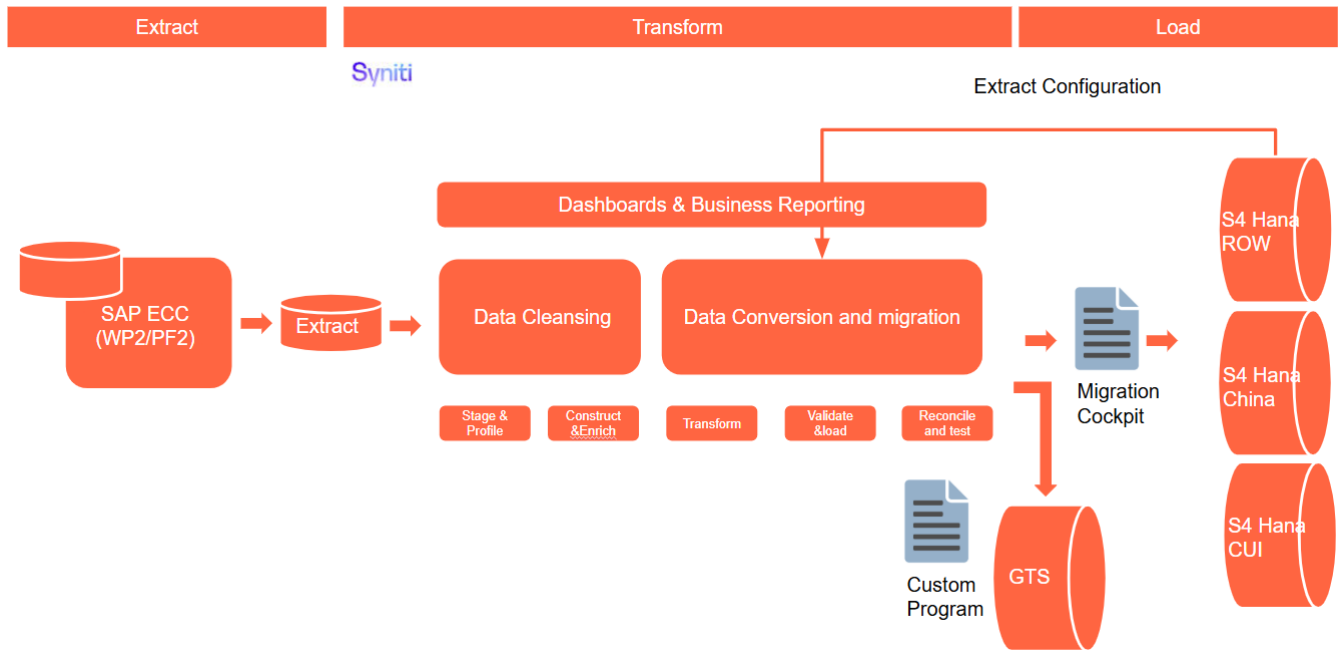
2. Transformation

Once extracted, the data undergoes cleansing, consolidation, and governance. This step ensures data integrity, consistency, and compliance with business rules. The transformation process includes:

- Data validation to remove inconsistencies.
- Standardization to align formats across datasets.
- Business rule application to refine data for operational use.

3. Loading

The transformed data is then loaded into the target S/4HANA system.



Data Privacy and Sensitivity

N/A

Extraction

Extract data from a source into Syniti Migrate for SAP ROW and SAP China relevant entities. There are 2 possibilities:

1. The data exists. Syniti Migrate connects to the source and loads the data into Syniti Migrate. 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 Syniti Migrate; 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 Syniti Migrate. This is to be conducted using DCT (Data Collection Template) in Syniti Migrate.

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
2029-001	- Identify the source systems and databases involved. - Define the data objects (tables, fields and records) to be extracted. - Establish business rules for data selection.	L2C Data team
2029-002	- Specify the extraction approach (full, incremental, or delta extraction). - Determine the tools and technologies used. - Define data filtering criteria to exclude irrelevant records.	Syniti
2029-003	- Establish execution timelines and batch processing schedules. - Assign responsibilities for extraction monitoring. - Document dependencies on other migration tasks.	Syniti
2029-004	- Define error handling mechanisms for extraction failures.	Syniti

Selection Screen

Selection Ref Screen	Parameter Name	Selection Type	Requirement	Value to be entered/set
	Plant	Multiple	Valid Plant for extraction	In-scope Plant and Plant Country = Brazil or India

Data Collection Template (DCT)

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

Materials - International Trade Views

DCT for when data not available in ECC, e.g. service material master data (table: ASMD), service material for WP2/ PF2 billing via Finance to S/4 billing via SD, new plant in scope with legacy system non-ECC, etc.
Business to manually fill-up/ update all required fields.

Note: all rules specified below should be documented as a tooltip in the DC Page.

Field Name	Field Description	Data Type	Length	Requirements	Rule
MATNR	Material	CHAR	40	Mandatory	Material number as per uploaded via CNV-2019 Materials - Basic Data Views
WERKS	Plant	CHAR	4	Mandatory	List from Plant in-scope
INDUS	Material CFOP category	CHAR	2	Mandatory for Brazil only	Only applicable for Plant country = BR - Brazil The CFOP category is used to determine the proper CFOP. The CFOP determines the nature of the transaction (such as sale, purchase, return, import, or transfer) and is required for proper tax calculation and electronic fiscal document (NF-e) generation in Brazil. Must be validated against the CFOP table maintained by the Tax team. Any change requires approval from Indirect Tax.
STEUC	Control code for consumption taxes in foreign trade	CHAR	16	Mandatory	Plant country = Brazil NCM codes are required for materials used in company codes to comply with tax and legal reporting. The NCM code determines applicable federal taxes (e.g., IPI, PIS, COFINS) and is printed on the nota fiscal. Must be aligned with the official NCM codes published by Receita Federal (Brazilian Federal Revenue) Plant country = India HSN codes are required for materials used in India company codes to comply with GST tax determination and legal reporting.

Extraction Dependencies

Item #	Step Description	Team Responsible
1	Source System Availability - Ensure that the source database or application is accessible. - Confirm that necessary credentials and permissions are granted	Syensqo IT
2	Data Structure Identify relationships between tables, views, and stored procedures.	Syniti
3	Referential Integrity Ensure dependent records are extracted together.	Syniti

Data Extraction Logic for Materials - International Trade Views

1. Process by Source System

Perform the extraction steps from source system, i.e. WP2 and PF2.

2. Extract Materials - Foreign Trade Views - Data and transform it to be uploaded to Materials - International Trade Views - Data

Extract Materials - Foreign Trade Views from table - MARC (Plant Data for Material) with the following filters:

Plant (WERKS): include only records for in-scope Plants and Plant Country = BR - Brazil or IN - India as provided in the parameter list .

Material CFOP Category (MARC-INDUS) only required for Plant Country = BR - Brazil

Include records only if the corresponding migrated target value exists in the target system.

20260212-Eka: as per feedback from Filipe, updated the transformation logic for MARC-INDUS.

2029-001	WP2/ PF2	MARC	MATNR	Material	S/4HANA	MARC	MATNR	Material	MAP_MATNR	Mapping
2029-002	WP2/ PF2	MARC	WERKS	Plant	S/4HANA	MARC	WERKS	Plant	MAP_WERKS	Mapping
2029-003	WP2/ PF2	MARC	INDUS	Material CFOP category	S/4HANA	MARC	INDUS	Material CFOP category		Copy For any Brazil material that is empty or does not have a standard value for the MARC-INDUS field, it should be defaulted to 0
2029-004	WP2/ PF2	MARC	STEUC	Control code for consumption taxes in foreign trade	S/4HANA	MARC	STEUC	Control code for consumption taxes in foreign trade		Copy
2029-005	WP2/ PF2	MARC	MATNR	Material	GTS	/SAPSL /PNTPR	PRVSY	Material	MAP_MATNR	Mapping
2029-006	WP2/ PF2	MARC	WERKS	Plant	GTS	BUT100	PARTNER	Plant (Legal Unit)		NOT USED in GTS Filter by Role SLLSIT (RLTYP) Product classification in GTS is primarily country specific and assigned at the material level only, not directly to a plant so NO need the plant object for GTS here (is a standalone object from this topic).
2029-007	WP2/ PF2	MARC	STEUC	Control code for consumption taxes in foreign trade	GTS	/SAPSL /CTSNUM	CCNGN	Control Code (Commodity Code)		IF the Material exist in multiple PF2 and WP2 Plants with the same Plant Country; for GTS, only transform into 1 line and take the first entry. There is cleansing report for the Business to make sure that the records in all the Plants are the same. Logic to upload in GTS: (part1) The GUID_PR of /SAPSL /PNTPR (PRVSY) is the link between /SAPSL/PRCTS-(GUID_CTSNUM) and /SAPSL/CTSNUM, where product-classification is stored. (part 2) Filter by STCTS (numbering scheme) assigned for BR and IN (e.g HTSBR, HTSIN)

Transformation Rules DCT

Source Field	Source Description	Target System	Target Table	Target Field	Target Description	Mapping Table	Transformation Logic
MATNR	Material	S/4HANA	MARC	MATNR	Material		Direct Mapping DCT should get the material number once CNV-2019 uploaded
WERKS	Plant	S/4HANA	MARC	WERKS	Plant		Direct Mapping
INDUS	Material CFOP category	S/4HANA	MARC	INDUS	Material CFOP category		Direct Mapping
STEUC	Control code for consumption taxes in foreign trade	S/4HANA	MARC	STEUC	Control code for consumption taxes in foreign trade		Direct Mapping
MATNR	Material	GTS	/SAPSL /PNTPR	PRVSY	Material		Direct Mapping
WERKS	Plant	GTS	BUT100	PARTNER	Plant (Legal Unit)		NOT USED in GTS Filter by Role SLLSIT (RLTYP) Product classification in GTS is primarily country specific and assigned at the material level only, not directly to a plant so NO need the plant object for GTS here (is a standalone object from this topic).

STEUC	Control code for consumption taxes in foreign trade	GTS	/SAPSL /CTSNM	CCNGN	Control Code (Commodity Code)		IF the Material in DCT has multiple Plants with the same Plant Country; for GTS, only transform into 1 line and take the first entry. There is cleansing report for the Business to make sure that the records in all the Plants are the same. Logic to upload in GTS: (part1) The GUID_PR of /SAPSL/PNTPR (PRVSY) is the link between /SAPSL/PRCTS-(GUID_CTSNM) and /SAPSL/CTSNM, where product-classification is stored. (part 2) Filter by STCTS (numbering scheme) assigned for BR and IN (e.g HTSBR, HTSIN)
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List of Custom Target Reports for this object is maintained here: [Conversion Specification - Custom Reports Register](#).

Transformation Mapping

Mapping Table Name	Mapping Table Description
MAP_MATNR	ECC (PF2/ WP2) to S/4HANA Material No. Mapping Table
MAP_MATNR	ECC (PF2/ WP2) to GTS Material No. Mapping Table
MAP_WERKS	ECC (PF2/ WP2) to S/4HANA Plant Mapping Table

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
2	Referential Integrity - Ensure dependent records are transformed together or in advance	Syniti
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
5	Logging and Error Handling - Maintain detailed logs of transformation activities. - Define error-handling procedures for failed transformations	Syniti

Pre-Load Validation

Project Team

The following pre-load validations will be performed by the Project Team.

Completeness

Task	Action
Compare Data Counts	1. Verify row counts in the source 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	1. Check for duplicate or missing primary key values, i.e. if there is same sales organization, distribution channel and material 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	1. Compare field values across systems 2. Validate data formats and structures

Business

The following pre-load validations will be performed by the business.

Completeness

Task	Action
Compare Data Counts	1. Verify row counts in the source databases. 2. Identify missing or duplicated records.
Review populated templates for missing or incorrect values	Use checklists to verify completeness and correctness before submission.

Accuracy

Task	Action
Conversion Accuracy	Business Data Owner/s to verify that all the data in the load table/ file is accurate as per endorsed transformation/ mapping rules (and signed-off DCT data).

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	Confirm readiness of final approved data sets for each ECC source system WP2 and PF2	Business / Functional Team
2	Validate transformation rules and mappings in Syniti tool	Data Team (L2C-Data)
3	Generate target-ready load files based on S/4HANA material international trade view format	Data Team (Syniti)
4	Generate target-ready load files based on GTS material international trade view format	Data Team (Syniti)
5	Review and approve load files before execution	Business / Functional Team
6	Execute the upload program in the S/4HANA system	Data Load Team
7	Monitor load progress and capture load statistics (records loaded, errors, duplicates, etc.)	Data Team (Syniti) / Technical Team
8	Extract loaded data from S/4HANA for post-load validation	Data Team (Syniti)
9	Perform post-load data validation (compare target data with source/ approved files) for all loaded material sales view with sales long text	Data Team (L2C-Data)
10	Log and resolve any data load errors or mismatches identified during validation	Data Team (Syniti and L2C-Data) + Functional Team
11	Obtain business sign-off on successful load and validation	Business Team
12	Archive load logs, error reports, and validation results for audit/compliance	Data Team (L2C-Data) / Data Team (Syniti) / PMO

Load Phase and Dependencies

The Materials – International Trade Views will be loaded in the pre-cutover period.

Before loading, it will have dependency on the configuration and 2019 - Materials-Basic View. The configuration needs to be transported into the respective system first, including the manual configuration such as the number range set up. And 2019 Materials-Basic View have to be uploaded into the respective system first.

Configuration

Item #	Configuration Item
1	Plant
2	NCM Codes
3	CFOP Codes
4	Nota Fiscal

Conversion Objects

Object #	Preceding Object Conversion Approach
2019	Materials - Basic View

Error Handling

Error Type	Error Description	Action Taken
Configuration/ Data Transformation	The value XXX for field XXX doesn't exist	1. Check the mapping/ conversion is done properly in the loading file 2. Validate the target value is configured/ transported in the target system 3. Reach out to functional team to validate the configuration
Configuration	There is mandatory field XXX missing	1. Validate MDS if the fields are set as mandatory 2. Validate if there is value in the pre-loading file 3. Validate if the configuration for the mandatory fields are done properly
Data Error	The Material Master were not defined	Validate the Material Master - Basic View were migrated.

Post-Load Validation

Project Team

The following post-load validations will be performed by the Project Team.

Completeness

Task	Action
Validate Record count	Validate all tables has the same records as the loading file
Perform Source-to-Target Comparisons	1. Validate that migrated data matches source records count. 2. Check for discrepancies in numerical values, text fields, and timestamps.

Accuracy

Task	Action
Execute Sample Queries and Reports	1. Run queries to validate business logic. 2. Generate reports to compare expected vs. actual results
Conduct Post-Migration Reconciliation	Generate reports comparing pre- and post-migration data.
Perform Manual Testing	Pick up a few random sample for each material type.

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
Perform Source-to-Target Comparisons	1. Validate that migrated data matches source records count. 2. Check for discrepancies in numerical values, text fields, and timestamps
Conduct Post-Migration Reconciliation	Go through post-load validation reports comparing pre- and post-migration data.

Accuracy

Task	Action
Perform Manual Testing	Conduct manual spot-checks for additional assurance.

Key Assumptions

- Materials - International Trade Views Master Data Standard is up to date as on the date of documenting this conversion approach and data load.
- Materials - International Trade Views is in scope based on data design and any exception requested by business.
- There will be 2 SAP instances, one for ROW and one for China ~~and one for CUI only~~.
- And 1 GTS instance.

See also

Change log

Version	Published	Changed By	Comment
CURRENT (v. 11)	Feb 27, 2026 08:08	LIU-ext, Ekawati	
v. 10	Feb 12, 2026 15:34	LIU-ext, Ekawati	
v. 9	Feb 12, 2026 14:14	LIU-ext, Ekawati	

v. 8	Dec 17, 2025 12:57	LIU-ext, Ekawati
v. 7	Dec 17, 2025 12:48	LIU-ext, Ekawati
v. 6	Dec 17, 2025 12:44	LIU-ext, Ekawati
v. 5	Dec 17, 2025 11:50	MENDES-ext, Tiago
v. 4	Dec 17, 2025 11:41	LIU-ext, Ekawati
v. 3	Dec 17, 2025 11:32	LIU-ext, Ekawati
v. 2	Dec 16, 2025 14:05	LIU-ext, Ekawati

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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.

Mar 09, 2026	Actor	Type	Activity	Version
Approved	 MCARDLE-ext, Edward	State	changed state to Approved at 3:12 pm	v11
Edited following Approval	 MCARDLE-ext, Edward	State	gave <i>Minor change</i> approval at 3:12 pm	
From Feb 12, 2026 to Feb 27, 2026				
	 LIU-ext, Ekawati	Edit	updated the page at 2:14 pm	
	 LIU-ext, Ekawati	State	changed state to Edited following Approval at 1:14 pm	v9
Jan 20, 2026				
Approved	 FARIA-ext, Joana	State	changed state to Approved at 3:33 pm	v8