CNV-1054 EWM Bin Sorting

Status	Approved
Owner	HASSAN-ext, Shamir
Stakeholders	

Purpose

Bin Sorting is a **new functionality in SAP S/4HANA EWM** that determines the order in which bins are processed for warehouse activities such as picking, replenishment, and inventory. Sorting can be created manually, uploaded from a template, or generated automatically by the system using standard transaction `/SCWM/SBST`. This document defines the conversion approach for setting up bin sorting records, either via automated generation or manual upload of business-provided sequences.

Conversion Scope

This section clarifies the boundaries of the bin sorting conversion.

Included:

- Creation of bin sorting records where business provides a template with manual sort logic.
- Upload of bin sorting sequences through upload transaction or via conversion load.
- Standard generation of bin sorting via `/SCWM/SBST` where no business template is provided.

Excluded:

- Creation of bin master data (bins must exist prior to sorting).
- Creation of customizing/master data for activity types, activity areas, storage types, or storage sections.
- Any process re-design not related to sequencing.

Target System and Approximate Volumes:

- SAP S/4HANA EWM: **TBD**

Additional Information

- **Multi-language:** Not applicable.
- **Document Management:** Per program governance.
- **Legal Requirements:** None identified for sequencing.
- **Special Requirements:** Sorting must align with business-defined pick paths and operational constraints in each activity area.

Summary paragraph: If business requires custom sorting beyond the system-generated sequence from `/SCWM/SBST`, this will be captured in the upload template and loaded as part of the migration effort.

Target Design

The bin sorting entries are stored in EWM and reference bin, warehouse, and operational structures. Only target-relevant fields are listed below; any additional DCT fields used for governance or filtering (e.g., Company Code) are staging-only and **not** loaded.

Target Table: `/SCWM/LAGPS`

Table	Field	Data Element (if known)	Field Description	Data Type	Length	Requirement	Allowed Values / Reference	Notes
/SCWM /LAGPS	LGNUM	LGNUM	Warehouse Number	CHAR	4	Required	Existing warehouses	Must exist in target customizing
/SCWM /LAGPS	LGPLA	LGPLA	Storage Bin	CHAR	18	Required	Must exist in `/SCWM/LAGP (Field : LAGPLA )`	Key bin reference
/SCWM /LAGPS	ACT_TYPE	ACT_TYPE	Activity	CHAR	4	Required	`/SCWM/TACTTY-ACT_TYPE`	Activity relevant for the bin
/SCWM /LAGPS	AAREA	AAREA	Activity Area	CHAR	4	Required	`/SCWM/TAAREA(Field :AAREA)`	Grouping of bins for activities
/SCWM /LAGPS	LGTYP	LGTYP	Storage Type	CHAR	4	Required	`/SCWM/T331 (Field: LGTYP)`	Spatial area within warehouse

/SCWM /LAGPS	LGBER	LGBER	Storage Section	CHAR	4	Required	/SCWM/T302 (Field : LGBER)	Section within storage type
/SCWM /LAGPS	AISLE	AISLE	Bin Aisle	CHAR	18	Optional	N/A	Business-provided aisle identifier
/SCWM /LAGPS	SRT_NR	SRT_NR	Sort Number	DEC	10	Required	N/A	Sorting sequence number
/SCWM /LAGPS	RANK	RANK	Sequence Number	NUMC	5	Required	N/A	Secondary/order-inside tie-breaker

Template Upload Fields:

- Warehouse Number (LGNUM)
- Storage Bin (LGPLA)
- Activity (ACT_TYPE)
- Sequence Number (SRT_NR)
- Activity Area (AAREA)
- Storage Type (LGTYP)
- Storage Section (LGBER)
- Sort Sequence

Summary paragraph: /SCWM/LAGPS holds bin sorting information. If no manual template is uploaded, /SCWM/SBST will generate records automatically using available bins.

Data Cleansing

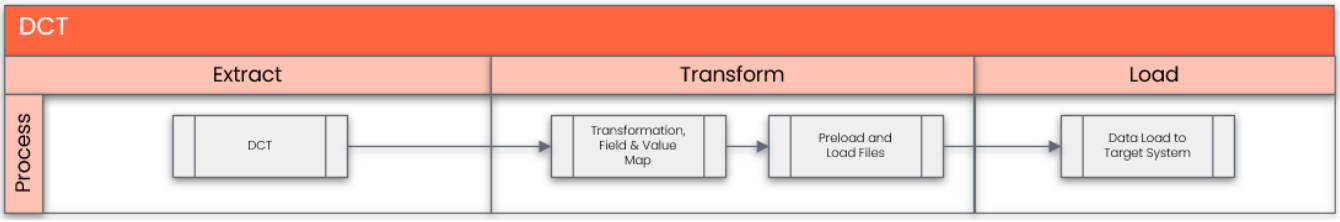
Data cleansing ensures only valid, load-ready records proceed.

ID	Criticality	Error Message	Description	Rule Output	Source
1	High	Bin does not exist	LGPLA must exist in /SCWM/LAGP	Reject record	DCT
2	High	Invalid activity	ACT_TYPE must exist in /SCWM/TACTTY	Reject record	DCT
3	High	Invalid activity area	AAREA must exist in /SCWM/TAAREA	Reject record	DCT
4	High	Invalid storage type	LGTYP must exist in /SCWM/T331	Reject record	DCT
5	High	Invalid storage section	LGBER must exist in /SCWM/T302	Reject record	DCT
6	Medium	Duplicate key	Duplicate across (LGNUM, AAREA, ACT_TYPE, LGPLA)	Reject or dedupe per rule	DCT
7	Medium	Sort out of range	SRT_NR not numeric/too large	Correct & reload	DCT
8	Low	Rank out of range	RANK not NUMC(5)	Pad or correct	DCT

Summary paragraph: For manual uploads, data integrity checks prevent duplicates, invalid references, or non-numeric sequences. For /SCWM/SBST, the system inherently generates valid data.

Conversion Process

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



High-level sequence for moving data from source to target.

1. Where business provides input, collect bin sorting sequences in upload template.
2. Validate key references (bin, activity type, activity area, storage type/section).
3. Apply transformation rules and mappings.

4. Prepare target load file
5. Execute load or run `/SCWM/SBST` if no manual input provided.

Summary paragraph: The process supports both automated (system-generated) and manual (template-driven) sorting, ensuring warehouse flexibility while maintaining system integrity.

Data Privacy and Sensitivity

Extraction

Extraction obtains the raw/bin-level sequencing data.

Method(s):

- Manual **DCT** maintained by business where manual sorting is required.

Extraction Run Sheet

Req #	Requirement Description	Team Responsible
1	Distribute and collect signed-off DCT (if applicable)	Business
2	Validate DCT structure vs. template	Data Migration
3	Validate bin and reference master existence	Data Migration

Extraction Dependencies

Item #	Step Description	Team Responsible
1	Confirm bins exist (LAGP)	Functional / Business
2	Ensure reference masters exist (TACTTY, TAAREA, T331, T302)	Functional
3	Confirm template fields match agreed design	Data Migration / MDO

Summary paragraph: Manual templates are required only when specific sequences are demanded by business; otherwise, `/SCWM/SBST` auto-generates sorting data.

Data Collection Template (DCT)

The DCT defines required columns, formats, and validation rules.

DCT Rules

Field Name	Field Description	Rule	DCT Column	Help Guide
LGNUM	Warehouse Number	Copy	A	**Warehouse Number** Identifies which warehouse the bin sorting rules apply to.
LGPLA	Storage Bin	Copy	B	**Storage Bin** The bin whose sequence or order you are defining.
ACT_TYPE	Activity	Copy	C	**Act Type (Activity Type)** Specifies the warehouse activity (e.g., picking) for which this sort order applies.
AAREA	Activity Area	Copy	E	**AArea (Activity Area)** Logical grouping of bins used to define pick paths or activity-based sorting.
LGTYP	Storage Type	Copy	F	**Storage Type** The warehouse area where the bin is physically located.
LGBER	Storage Section	Copy	G	**Storage Section** A sub-area within a storage type used for grouping similar products or locations.

AISLE	Bin Aisle	Copy	H	**Bin Aisle** The aisle identifier used for organizing bin layouts and sort order.
SRT_NR	Sort Number	Copy	I	**SRT_NR (Sort Number)** The numeric value that determines the bin's sequence within the activity area.
RANK	Sequence Number	Copy	D	**Rank** Used to prioritize bins when multiple bins share the same sorting logic

Summary paragraph: The template is only applicable for manual upload. If no DCT is provided, bin sorting will be auto-generated in `/SCWM/SBST` with default logic.

Transformation

Transformation aligns source values with target requirements and formats.

Transformation Dependencies

Item #	Dependency	Description
1	Bin master (`/SCWM/LAGP`)	Must be loaded first
2	Activity type/area	Must exist in system
3	Storage structures	Must exist in system

Summary paragraph: Transformation is not required when `/SCWM/SBST` is used. For manual upload, values are validated and mapped to target definitions before loading.

Transformation Mapping

Purpose: Transformation mapping ensures that fields from the source template (DCT) are correctly aligned with the target table `/SCWM/LAGPS`. This mapping is key for Syniti or any ETL tooling.

Source Field (DCT) Description	Target Field	Transformation Rule	Notes
Warehouse Number	LGNUM	Direct mapping; must exist in customizing	Mandatory
Storage Bin	LGPLA	Direct mapping; validate against `/SCWM/LAGP`	Mandatory
Activity	ACT_TYPE	Direct mapping; validate against `/SCWM/TACTTY`	Mandatory
Activity Area	AAREA	Direct mapping; validate against `/SCWM/TAAREA`	Mandatory
Storage Type	LGTYP	Direct mapping; validate against `/SCWM/T331`	Mandatory
Storage Section	LGBER	Direct mapping; validate against `/SCWM/T302`	Mandatory
Sort Sequence	SRT_NR	Numeric check, enforce max length 10	Mandatory
Sequence Number	RANK	Zero-pad to NUMC(5)	Mandatory
Aisle (optional)	AISLE	Pass-through if provided	Optional

Summary paragraph: All fields map directly with validation dependencies on existing master/configuration objects. Syniti mapping will ensure governance, cleansing, and automation of the transformation layer.

Pre-Load Validation

Project Team
Ensures completeness and accuracy of the technical dataset.

Task	Description
Completeness	All fields in DCT are populated (if provided)
Accuracy	Validate codes against target system; no duplicates. Verify record counts are accurate

Business Team
Validates operational alignment of bin sequencing.

Task	Description
Completeness	All bins requiring manual sorting are included
Accuracy	Sorting order aligns with defined pick paths and business requirements. Validate relevant error reports.

Summary paragraph: If no manual sorting is provided, validation focuses on system auto-generated output from `/SCWM/SBST`. If manual template is used, validation covers both technical integrity and operational correctness.

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

Sample Load File :

Load Run Sheet

The load process includes the following steps:

1. **Prepare Load File:** Format and validate the DCT into the target layout.
2. **Execute Load:** Use manual upload process to load DCT template
3. **Post-Load Validation:** Run both technical (record counts, field validation) and business (functional sequencing validation) checks.

Summary paragraph: The run sheet provides step-by-step transparency. Data must be re-extracted after loading to confirm alignment with input files and business expectations.

Configuration

Configuration must be completed in the target system before the bin sorting load can commence.

Config Object	Description	System Table / Transaction	Responsible Team
Bins	All relevant bins must be created and active	`/SCWM/LAGP`	Functional Team
Activity Types	Activities relevant to bin sorting must exist	`/SCWM/TACTTY`	Functional Team
Activity Areas	Activity areas must be defined and linked to activities	`/SCWM/TAAREA`	Functional Team
Storage Types	Target storage types must exist	`/SCWM/T331`	Functional Team
Storage Sections	Sections within storage types must exist	`/SCWM/T302`	Functional Team

Summary paragraph: Without prerequisite configuration, bin sorting cannot be loaded. Dependencies include bin master creation and setup of activity areas and warehouse structures.

Error Handling

The table below depicts some possible system errors for this data object during data load. All data load errors must be logged as defects and managed within the **Defect Management Process**.

Error Type	Error Description	Action Taken
Referential	Missing bin or invalid reference (e.g., `LGPLA` not in `/SCWM/LAGP`)	Reject; log defect; escalate to cleansing
Referential	Invalid Activity/Activity Area (`ACT_TYPE`, `AAREA`)	Reject; log defect; escalate to functional owner
Format	Sort number or rank invalid	Correct in DCT and reload; defect logged
Duplicate	Duplicate record across key fields	Remove/adjust; reload; defect tracked
System	Upload job failure	Investigate error log, correct, and resubmit

Summary paragraph: All errors must be systematically logged, triaged, and resolved via defect management tools. This ensures traceability and accountability across migration cycles.

Post-Load Validation

Project Team
Responsible for technical validation of the loaded dataset.

Validation Type	Task
Completeness	Confirm record count matches DCT (if applicable) or system generation outcome
Accuracy	Validate field values (LGNUM, LGPLA, ACT_TYPE, AAREA, LGTYP, LGBER, SRT_NR, RANK) match input

Business Team
Responsible for confirming operational validity.

Validation Type	Task
Completeness	Ensure all relevant activity areas and bins have sorting defined
Accuracy	Confirm picking path, replenishment, and activity execution align with expected bin order

Summary paragraph: Project team validates the technical integrity of loaded data, while the business team ensures operational accuracy and usability. Both dimensions must pass before sign-off.

Key Assumptions

- Bin master data exists in `/SCWM/LAGP` before bin sorting load.
- Activity types (`/SCWM/TACTTY`), Activity Areas (`/SCWM/TAAREA`), Storage Types (`/SCWM/T331`), and Storage Sections (`/SCWM/T302`) are fully configured before load.
- Business will provide manual template only if a specific sequence is required; otherwise, `/SCWM/SBST` will be used.
- Upload/load tools are available and tested prior to execution.
- Data validation rules and governance are agreed and signed off before load execution.

Summary paragraph: These assumptions form the basis of the conversion plan. Any deviation (e.g., missing master data or delayed template delivery) may impact load timelines.

See also

Change log

Version	Published	Changed By	Comment
CURRENT (v. 19)	**Dec 05, 2025 11:44**	**HASSAN-ext, Shamir**	
v. 18	Nov 12, 2025 10:58	**HASSAN-ext, Shamir**	
v. 17	Oct 02, 2025 18:05	**HASSAN-ext, Shamir**	
v. 16	Oct 02, 2025 17:31	**HASSAN-ext, Shamir**	
v. 15	Sept 08, 2025 06:03	**HASSAN-ext, Shamir**	
v. 14	Sept 05, 2025 06:23	**HASSAN-ext, Shamir**	
v. 13	Sept 05, 2025 06:21	**HASSAN-ext, Shamir**	
v. 12	Sept 02, 2025 06:43	**HASSAN-ext, Shamir**	

v. 11	Aug 27, 2025 19:41	**HASSAN-ext, Shamir**
v. 10	Aug 20, 2025 03:36	**HASSAN-ext, Shamir**

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Workflow history

Title	Last Updated By	Updated	Status
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.

May 08, 2026	Actor	Type	Activity	Version
Approved	MCARDLE-ext, Edward	State	changed state to Approved at 11:13 am	v19
Revision under Review	MCARDLE-ext, Edward	State	gave *Minor change* approval at 11:13 am	
		State	changed state to Revision under Review at 11:13 am	v19
Mar 18, 2026				
Revision in Progress	WENNINGER-ext, Sascha	State	changed state to Revision in Progress at 5:42 pm	v19
From Nov 12, 2025 to Dec 05, 2025				
Edited following Approval	HASSAN-ext, Shamir	Edit	updated the page at 10:58 am	
	HASSAN-ext, Shamir	State	changed state to Edited following Approval at 9:58 am	v18