

Transportation Management in SAP S/4HANA vs. LE-TRA



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Comparing processes of LE-TRA and basic Transportation Management

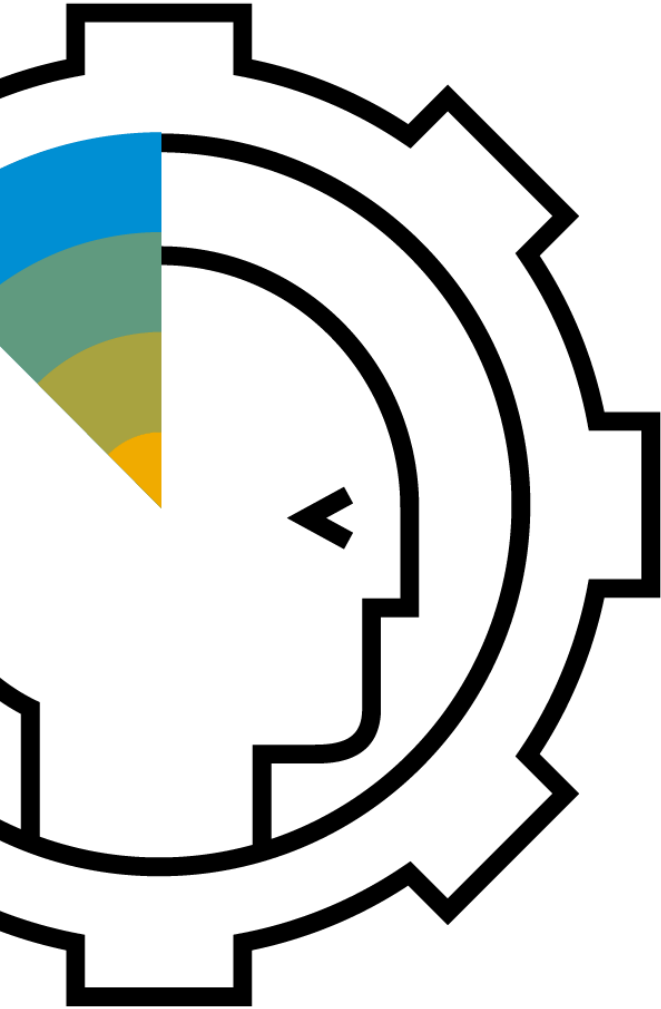
How do LE-TRA processes work in basic Transportation Management?



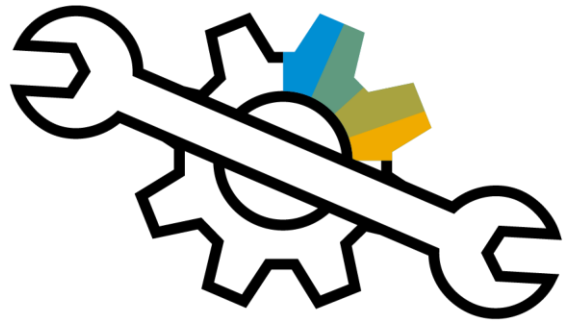
Legend

- **LE-TRA** stands for the transportation component in Logistic Execution module
- **basic Transportation Management** stands for the basic functionalities within SAP S/4HANA Transportation Management module
- **The words in yellow** means planning only - subject to change.
- **The words in blue** means that **basic Transportation Management** has the **advantages** over **LE-TRA**.

Overview of the processes



- Basic Settings
- Transportation Planning
- Shipment Execution
- Monitoring Shipments
- Shipment Cost Processing
- Interfaces
- Miscellaneous

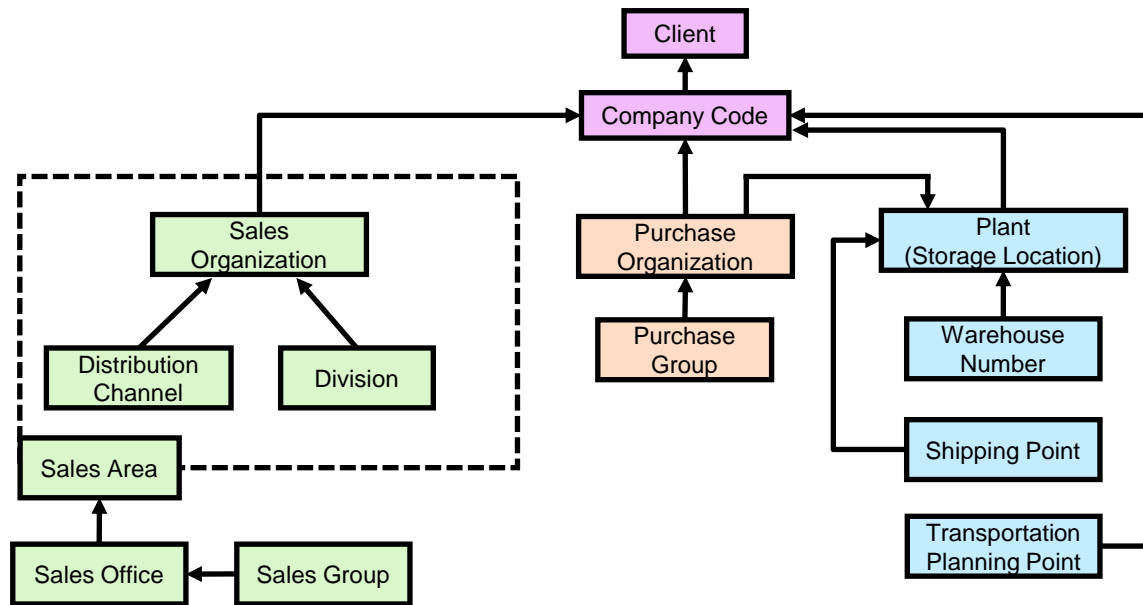


Basic Settings



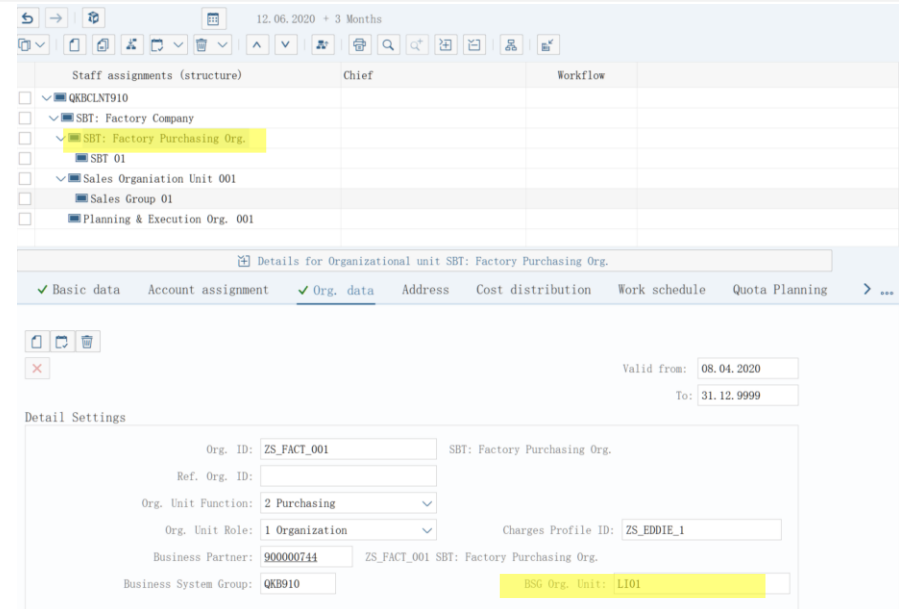
Enterprise Structure

LE-TRA



- A Company Code is a legal entity & independent accounting unit.
- Sales Organization distributes goods & services.
- Purchase Organization is responsible for external procurement.
- Warehouse Number, Shipping Point and Transportation Planning Point are organizational units in Logistics Execution.

basic Transportation Management



- In S/4 TM, the organizational structure can be based on the structure of a connected S/4 ERP system:
 - Corporate Organization
 - Company Organization
 - Sales Organization, Office and Group
 - Purchase Organization and Group
 - Planning and Execution Organization and Group
- S/4 TM maps its own Org. Units with S/4 ERP Org. Units through the field “BSG Org. Unit.”
- Plant and Shipping Point are created as Locations in S/4 TM

Transportation Planning Point

LE-TRA

Processing Identification Shipment Cst Cal Control Administr.

Shipment Type: 0002 Collect. Shpmt - Road TransportPlanPt: 0001 City 1

Overall Status: 7 Shipment end Tender Status: Not offered to forwarding agent

FwdAgent: []

Shipment Route: 000001 Northern Route

Shipping Type: 01 Truck

Service Level: 3 Groupage

Container ID: []

AlwdTotWgt: [] KR

Route Schedule: []

Shp. Cond.: []

Spec. Process.: []

External ID 1: []

Deadl.	Further Dates	Stages	Partner	Texts	Duration and Distance	Status	Tender	Addit. Data	Dng. Goods	Cont.
		Planning								
		Execution								
		Check-In:			28.07.2015 13:40	✓		Planning		
		Loading Start:			28.07.2015 15:32	✓		Check-In		
		Loading End:			28.07.2015 15:32	✓		Loading Start		
		Shpmt Complet.:						Loading End		
		Shipment Start:						Shpmt Completion		
		Shipment End:			28.07.2015 15:35	✓		Shipment Start		

- The transportation planning point is an organizational unit, which consists of a group of employees responsible for organizing transportation activities.

basic Transportation Management

Edit Refresh Copy Multiple Copies Check Follow Up Scheduling Subcontracting Create Service Order Display Settings

General Information

Document Type: ZRFO Road Freight Order

Description: Road Freight Order

Transportation Mode: 01 Road

Schedule:

Carrier: 2713 LO_CA... SCAC: []

Executing Carrier: [] SCAC: []

Communication Party: []

Service Level - Carrier: []

Total Distance: [] KM

Gross Duration/Total Net Durati...: 91:00

Organizational Data

Procuring Company Code: AG01 AG01 Germany Co...

Purchasing Organization: AG01 Central Purchasing E

Purchasing Group: []

Execution Organization: 50001851 Transportation and Logistics

Planning and Execution Group: []

Person Responsible: []

Account Number with Carrier: []

First Activity: 18.06.2020 00:00:00 FLKLDN

Last Activity: 22.06.2020 00:00:00 CET

Number of Visits: 2

Loading Stops: 1

Unloading Stops: 1

Source

Location: SP_0001 Dietmar-Hopp-Allee 16 / 69190 ...

Destination

Location: FA01 Hochstrasse 9 / 66440 Blieskastel

- Planning and Execution Organization is responsible for transportation planning.
- Purchasing Organization is responsible for procuring the necessary services from the carriers.
- Derived from Purchasing Organization, Company Code is enabled on Freight Documents relevant for subcontracting (in release 2020).

Transportation Relevance

LE-TRA

Change View "Transportation Relevance for Delivery Type": Overview

DivTy	Description	ShpmtBlReason	Rel. transport
<input type="checkbox"/> AFL2	Outbound Delivery		<input checked="" type="checkbox"/>
<input type="checkbox"/> AFLP	Outbound Delivery		<input checked="" type="checkbox"/>
<input type="checkbox"/> AFLR	Returns Delivery		<input type="checkbox"/>
<input type="checkbox"/> AFR2	Returns Del		<input type="checkbox"/>
<input type="checkbox"/> BV	Cash Sales		<input type="checkbox"/>

Change View "Transport relevance of item categories": Overview

ItCa	Description	Rel. for transport
<input type="checkbox"/> ACJE	ACJE: Make to order	<input checked="" type="checkbox"/>
<input type="checkbox"/> ACJL	ACJL: Make to stock	<input checked="" type="checkbox"/>
<input type="checkbox"/> ACKE	ACKE: Make to order	<input type="checkbox"/>
<input type="checkbox"/> ACKL	ACKL: Make to stock	<input type="checkbox"/>
<input type="checkbox"/> ACS1	eCATT_ACS1	<input type="checkbox"/>

Change View "Routes": Overview

Route	Description	Rel. for transport
<input type="checkbox"/> 000002	Southern Route	<input checked="" type="checkbox"/>
<input type="checkbox"/> 000003	Eastern Route	<input checked="" type="checkbox"/>
<input type="checkbox"/> 000004	Western Route	<input checked="" type="checkbox"/>
<input type="checkbox"/> 000012	North-south Route	<input checked="" type="checkbox"/>
<input type="checkbox"/> 000021	South-north Route	<input checked="" type="checkbox"/>

- Shipments do not need to be planned for all deliveries.
- The delivery type, the delivery item category, and the route in the delivery uses transportation relevance to control whether a shipment can be created or not.

basic Transportation Management

Change View "Delivery Document Integration": Overview

Ship Point	Del. type	Shp. Cond.	Control Key	TM No.	Log. Int. Profile	Control Key Description
<input type="checkbox"/> 0001	LF		9222		DHP2	
<input type="checkbox"/> 0001	LF02	01	0053		Q001	Integrate Outbound Delivery
<input type="checkbox"/> 0001	MTLF		0053		DHPO	Integrate Outbound Delivery
<input type="checkbox"/> 0001	NL		FL_0			Outbound Delivery to TM
<input type="checkbox"/> 0001	OMD1		0053		OMS1	Integrate Outbound Delivery
<input type="checkbox"/> 0001	OMD3		0053		OMS3	Integrate Outbound Delivery
<input type="checkbox"/> 0001	OMIP		0056		OMP1	Integrate Inbound Delivery
<input type="checkbox"/> 0001	OMP1		0053		OMPU	Integrate Outbound Delivery
<input type="checkbox"/> 0001	OMP3		0053		OMPU	Integrate Outbound Delivery

- Activation of S/4 TM integration for deliveries is controlled by the combination of Shipping Point, Delivery type and Shipping Condition.

Non-stock Material

LE-TRA

- Delivery with non-stock material can be planned in the LE-TRA Shipment.

basic Transportation Management

- Freight Unit will not be created for the non-stock material in the standard system.
- Use BAdI /SCMTMS/BADI_LOGINT_CHG_TTRQ to change the standard logic and set transportation relevance for non-stock items.

Information Relevant for Transportation

LE-TRA

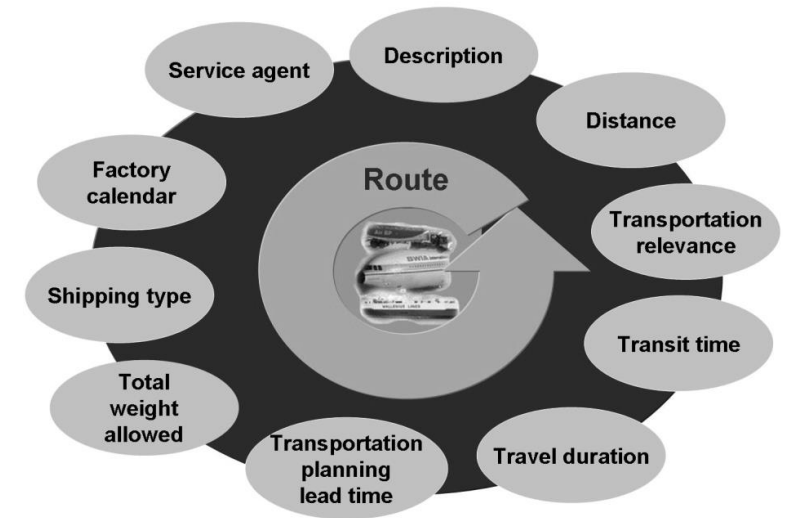
- Mode of Transport
- Shipping Type
- Transportation Connection Point
- Shipping Conditions
- Transportation Groups
- Route and Route Determination by Transportation Zone / Shipping Condition / Transportation Group / Weight Group
- Route Schedule
- Material Freight Groups
- Freight Code Sets and Freight Codes

basic Transportation Management

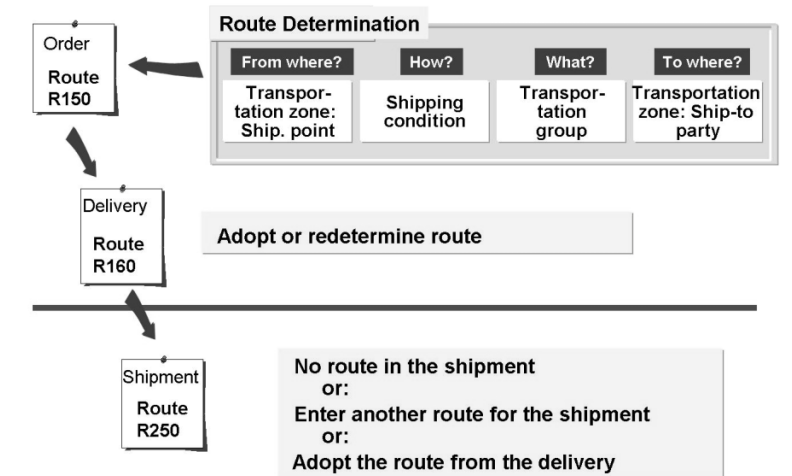
- Transportation Mode (TM specific)
- Transportation Mode Category
- Location
- Shipping Conditions
- Transportation Groups
- No specific Route object, route definition via Transportation Lane, Default Route
- Road Carrier Schedule
- Material freight groups / Product Freight Groups(SCM Basis)
- Freight Code Sets and Freight Codes (SCM Basis)

LE-TRA: Route

- A route is the journey to be covered between a departure point and a destination point. A route can be defined in great detail and consists of individual stages, but it can also be a quite general description or even simple a destination area.
- A route can contain many pieces of information that are important for the shipment, such as distance, transportation lead time, travel duration, shipping type, service agent, and so on.
- Route determination:
 - The system determines the route for each order item.
 - The route can be adopted from the order item or redetermined in the outbound delivery.
 - In the shipment, a different route can be entered. This route does not have to be identical to one of the routes in the deliveries. It is also possible to transfer the route from the deliveries to the shipment (if it is the same for all deliveries).



Route Information



Route Determination

basic Transportation Management: Default Route

- A default route defines a location sequence for a given source and destination, which can be locations or zones.
- For a transport from a source to a destination, the default route serves as a template guiding the transportation through the network. For example, for the intermodal transports, default routes can predefine the sequence of transshipment locations.
- In the default route, you can specify the transportation mode, carrier, and so on, for each transportation stage.
- During freight unit building, freight unit stages can be automatically generated based on a default route. Then the freight unit stages are created according to the default route's location sequence.

S.	Location	Location Type	UN/LOCODE	Location Address	Transpo... Mode	Stage Type	Schedule	Carrier	Transit Duration (Days)	Transit Duration (Hours)	Transit Duration (Minut...)	Length of Stay (Days)	Length of Stay (Hours)	Length of Stay (Minutes)
10	SP_STR1	1003		Shipping Point ST1 / Hauptst...	01	02 (Pre-Carriage)		Q-CAR03	0	6	1	0	0	0
20	QPORTHAM	1100		22112 Hamburg	03	03 (Main Carriage)	Q-OCEANCARRIE	Q-CAR01	4	10	39	0	0	0
30	QPORTSH	1100		201023 Shanghai	01	04 (On-Carriage)		Q-CAR05	0	2	30	0	0	0
40	ST-CUST002	1021		Customer 002 / 366 East Na...										

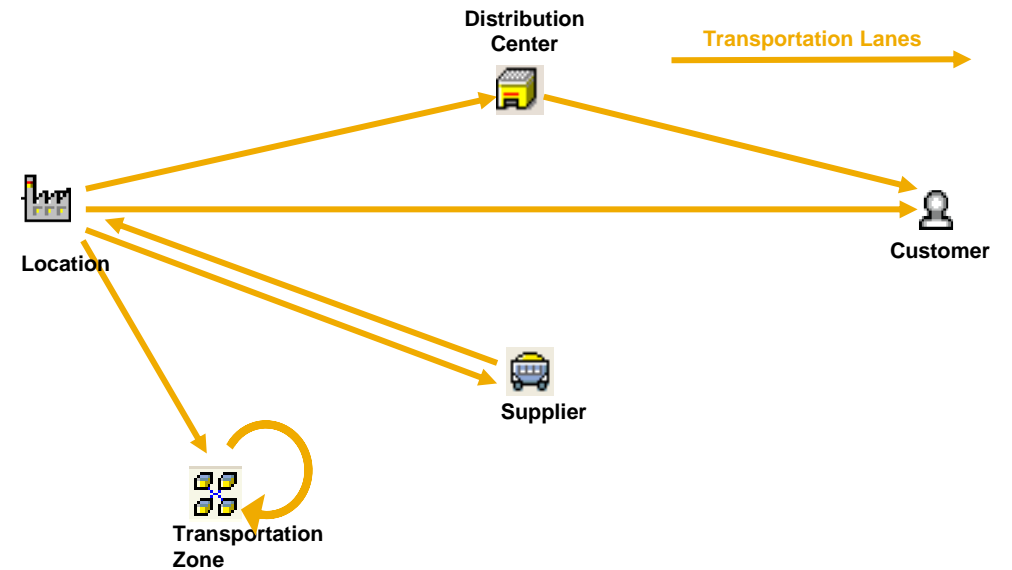
Default Route defined in S/4 TM

Stage Description	Stage Type	Mode of Trans...	Source Location	UN/LO... (Source)	IATA Code (Source)	City (Source)	Requested Pick-Up Date	Reque... Pick-Up Time	Reque... Pick-Up Time Z...	Departure Date	Depar... Time	Depar... Time Zone	Destination Location
Stage 1	02 (Pre-Carriage)	01	SP_STR1			Walldorf	24.06.2020	00:00:00	CET	00:00:00	CET	QPORTHAM	
Stage 2	03 (Main Carriage)	03	QPORTHAM			Hamburg		00:00:00	CET	00:00:00	CET	QPORTSH	
Stage 3	04 (On-Carriage)	01	QPORTSH			Shanghai		00:00:00	UTC+8	00:00:00	UTC+8	ST-CUST002	

Default Route applied in the Freight Unit

basic Transportation Management: Transportation Lanes

- Transportation lanes describe the reachability of locations within the transportation network. A valid transportation lane indicates that the destination can be directly reached from the source with certain means of transport and certain carriers.
- A transportation lane can be maintained between:
 - Two locations
 - A location and a transportation zone
 - Two transportation zones
 - A transportation zone itself
- Information assigned to a transportation Lane:
 - Start location and destination location
 - Means of transport
 - Carrier per means of transport



SAP Change Q-ZONE-CUST -> Q-ZONE-CUST

Display <-> Change Carrier Set Start Date Set End Date More ▾

Means of Transport

Means of Trans.	Start date	End Date	Fix Duratn	Trsp. Dur.	Fix Dist.	Trsp. Dist.	Unit	Prec
<input type="checkbox"/> 0001	01.06.2020	31.12.2020	<input type="checkbox"/>	6:30	<input type="checkbox"/>	60.000	KM	
<input checked="" type="checkbox"/> Q-TRUCK	01.11.2019	31.12.2020	<input type="checkbox"/>	6:00	<input type="checkbox"/>	60.000	KM	

Carrier

Business Partner: Q-CAR05

Q Carrier 05 / 201206 Shanghai

Validity

Means of Transport: Q-TRUCK

Start Date: 01.11.2019

End Date: 31.12.2020

Internal Costs

Transportation Costs: 0.00 per:

0.000 per: KM

Strategy

Priority: 0

Continuous Move

Arrival Window From: Hours

Carrier For Multiple Means of Transportation

Partner	Business Partner Name	MTr	Start date	End Date	Carr Costs	Unit	BUn	Tr
<input type="checkbox"/> Q-CAR01	Q Carrier 01 / 201203 Shanghai	0001	01.06.2020	31.12.2020	0.000	KM		
<input type="checkbox"/> Q-CAR05	Q Carrier 05 / 201206 Shanghai	Q-TRUCK	01.11.2019	31.12.2020	0.000	KM		

Partner Determination

LE-TRA

Partner Functions in Procedure

<input type="checkbox"/>	Part. Det. Proc	Partn. Funct.	Name	Not Modifiable	Mandat. Funct
<input type="checkbox"/>	TR	CR	Forwarding Agent	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	TR	TF	Freight service agt	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	TR	TL	Loading supervisor	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	TR	TR	Cleaning firm (T.)	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	TR				

Partner Determination Procedure Assignment

<input type="checkbox"/>	ShipmentType	Name	Part...	Name
<input type="checkbox"/>	0001	Indiv. Shipmt - Road	TR	Shipment header gen.
<input type="checkbox"/>	0002	Collct. Shipmt - Road	TR	Shipment header gen.
<input type="checkbox"/>	0003	Collective Shipment	TR	Shipment header gen.
<input type="checkbox"/>	0004	Prelim. leg by road	TR	Shipment header gen.
<input type="checkbox"/>	0005	Main leg by sea	TR	Shipment header gen.
<input type="checkbox"/>	0006	Subseq. leg by road	TR	Shipment header gen.

- To define the rules that should be used to perform automatic partner determination.

basic Transportation Management

Part. Det. Prof.: CSI1

Description: Partner Determination Profile

Assign Partner Functions

<input type="checkbox"/>	Function	Name	Sequence	Edit Level	Srcce Type	Source PF	Name
<input type="checkbox"/>	SP	Sold-To Party		Choose from List	Partner Function		
<input type="checkbox"/>	DR	Driver		Choose from List	Partner Function		
<input type="checkbox"/>	PE	Payee		Choose from List	Partner Function		
<input type="checkbox"/>	BP	Bill-to party		Choose from List	Partner Function		
<input type="checkbox"/>	PY	Payer		Choose from List	Partner Function		
<input type="checkbox"/>	PI	Invoicing Party		Choose from List	Partner Function		
<input type="checkbox"/>	T5	Addnl. Notify Party		Choose from List	Partner Function		
<input type="checkbox"/>	T6	Resold Agent Party		Choose from List	Partner Function		
<input type="checkbox"/>	T7	Partner-Related Settings					

Partner Determination Profile: CSI1

Default Carrier Selection Settings:

Carrier Selection Condition:

- To enable the system to automatically determine the business partners in different business document types.

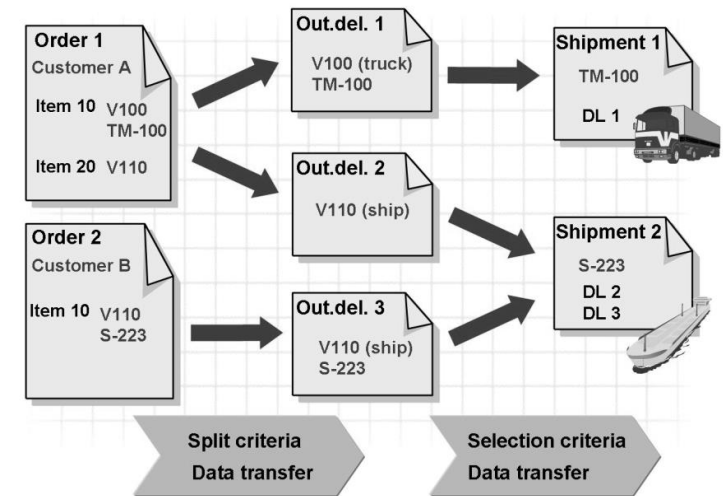


Transportation Planning

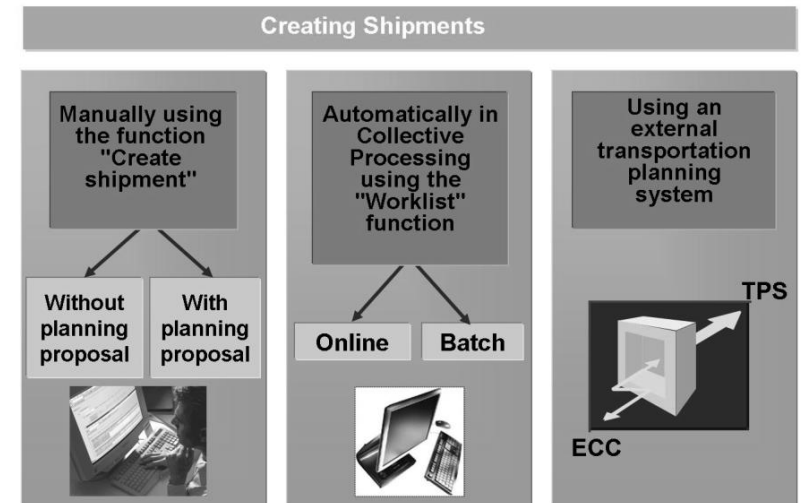


LE-TRA: Creating Shipments

- Shipments are collections of inbound or outbound deliveries that are shipped together, according to different grouping criteria.
- Transportation-relevant information is stored for each order item, as agreements made with the customer regarding the shipment. The same data can be defined in the header of the delivery document.
- The transportation-relevant information is copied from the order to the outbound delivery header, and thus provides the split criteria for outbound deliveries.
- The transportation-relevant information can be used as selection criteria when creating shipments. The information can also be copied from the outbound deliveries to the shipment, if it is unique.
- System contains different options for creating shipments:
 - Manual creation using the “create shipment” function (TA: VT01N)
 - Use a collective processing run to create shipments automatically
 - If the shipments are created and optimized by an external transportation planning system, you can link this to the ERP system with an interface.



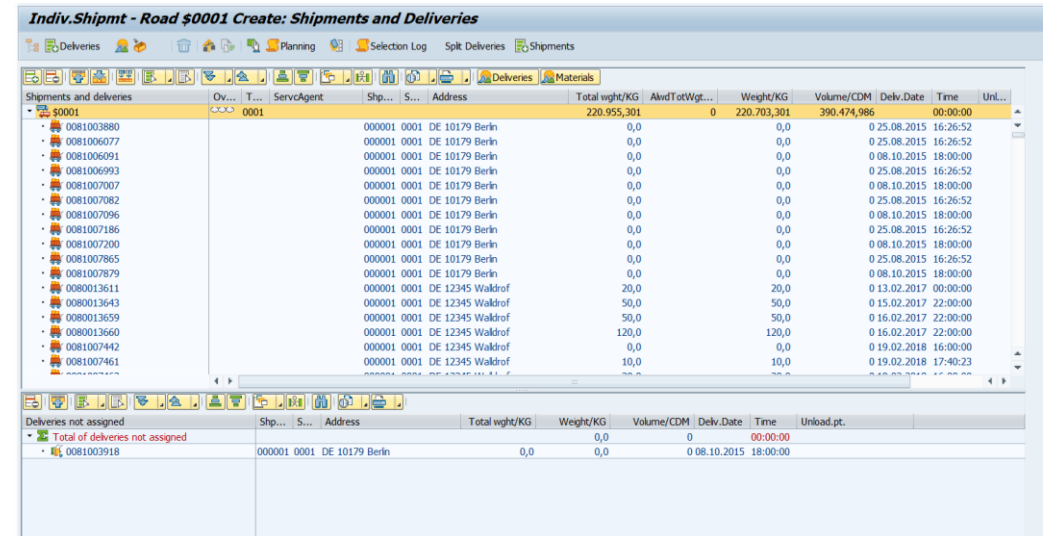
Copying Transportation-Relevant Information



Options for Creating Shipments

LE-TRA: Manual Planning

- Create shipments by combining outbound or inbound deliveries
- Manually plan deliveries that are chosen using different selection criteria. Define selection variants to simplify the selection procedure
- Selected delivery documents are listed in the shipment screen. Manually assign shipments.
- Manual shipment creation with planning proposal:
 - Select deliveries due for transportation manually
 - Combine selected deliveries in shipments
 - Change or edit the created shipments manually before saving



The screenshot displays the SAP LE-TRA 'Indiv. Shipment - Road #0001 Create: Shipments and Deliveries' interface. It features a table with columns for shipment ID, service agent, address, total weight, and delivery date. The table lists various shipments, including those for Berlin and Waldhof, with their respective weights and delivery times. A summary row at the bottom indicates 'Total of deliveries not assigned' with a weight of 0.0 and a volume of 0.0.

Shipments and deliveries	Over...	T...	Service Agent	Shp...	S...	Address	Total wght/KG	AwdTotWgt...	Weight/KG	Volume/CDM	Delv.Date	Time	Unl...
0001			0001				220.955,301	0	220.703,301	390.474,986	08.10.2015	18:00:00	
0081003880			000001	0001	DE	10179 Berlin	0,0	0,0	0,0	0	25.08.2015	16:26:52	
0081006077			000001	0001	DE	10179 Berlin	0,0	0,0	0,0	0	25.08.2015	16:26:52	
0081006091			000001	0001	DE	10179 Berlin	0,0	0,0	0,0	0	08.10.2015	18:00:00	
0081006993			000001	0001	DE	10179 Berlin	0,0	0,0	0,0	0	25.08.2015	16:26:52	
0081007007			000001	0001	DE	10179 Berlin	0,0	0,0	0,0	0	08.10.2015	18:00:00	
0081007082			000001	0001	DE	10179 Berlin	0,0	0,0	0,0	0	25.08.2015	16:26:52	
0081007096			000001	0001	DE	10179 Berlin	0,0	0,0	0,0	0	08.10.2015	18:00:00	
0081007186			000001	0001	DE	10179 Berlin	0,0	0,0	0,0	0	25.08.2015	16:26:52	
0081007200			000001	0001	DE	10179 Berlin	0,0	0,0	0,0	0	08.10.2015	18:00:00	
0081007865			000001	0001	DE	10179 Berlin	0,0	0,0	0,0	0	25.08.2015	16:26:52	
0081007879			000001	0001	DE	10179 Berlin	0,0	0,0	0,0	0	08.10.2015	18:00:00	
0080013611			000001	0001	DE	12345 Waldhof	20,0	20,0	20,0	0	13.02.2017	00:00:00	
0080013643			000001	0001	DE	12345 Waldhof	50,0	50,0	50,0	0	15.02.2017	22:00:00	
0080013659			000001	0001	DE	12345 Waldhof	50,0	50,0	50,0	0	16.02.2017	22:00:00	
0080013660			000001	0001	DE	12345 Waldhof	120,0	120,0	120,0	0	16.02.2017	22:00:00	
0081007442			000001	0001	DE	12345 Waldhof	0,0	0,0	0,0	0	19.02.2018	16:00:00	
0081007461			000001	0001	DE	12345 Waldhof	10,0	10,0	10,0	0	19.02.2018	17:40:23	
Deliveries not assigned													
Total of deliveries not assigned													
0081003918			000001	0001	DE	10179 Berlin	0,0	0,0	0,0	0	08.10.2015	18:00:00	

LE-TRA shipment screen

basic Transportation Management: Freight Order Creation

- Plan a Freight Order by assigning Freight Units. Freight Unit can either be derived from outbound or inbound deliveries. (No combined inbound and outbound delivery.)
- Manually plan via personal worklists (*POWL*).
- System default Freight Order type will be applied.
- Choose selection criteria via query

The screenshot displays the SAP Freight Units - Worklist interface. The main table lists freight units with columns for Document, Location, Source Location Address, Destination Location, and Destination. A dropdown menu is open over the table, showing three options: "Create One for Multiple Requirement Documents" (highlighted with a red box), "Create One for Consecutive Stages", and "Create One per Stage". The right sidebar contains various filters and settings, including "General Data", "Planning Information", "Organizational Data", "Business Partner", and "Locations and Dates/Times".

Document	Location	Source Location Address	Destination Location	Destination
4100008108	CMR1	SP_0001	Dietmar-Hopp-Allee 16 / D-69123 Heidelberg	X03TM_CUS1
4100008109	CMR1	SP_0001	Dietmar-Hopp-Allee 16 / D-69123 Heidelberg	X03TM_CUS1
4100012882	CMR1	X03TM_CUS1	hauptstr. 20 / D-69123 Heidelberg	SP_0001
4100004171	DFM1	SP_0001	Dietmar-Hopp-Allee 16 / D-69123 Heidelberg	X03TM_CUS1
4100010807	CMR1	SP_0001	Dietmar-Hopp-Allee 16 / D-69123 Heidelberg	X03TM_CUS1
4100010814	CMR1	SP_0001	Dietmar-Hopp-Allee 16 / D-69123 Heidelberg	X03TM_CUS1
4100010818	CMR1	SP_0001	Dietmar-Hopp-Allee 16 / D-69123 Heidelberg	X03TM_CUS1

basic Transportation Management: Planning

Planning only
Subject to change

- Pre-defined Layout (Minimized Working Interface) of Freight Unit and Freight Order view only

The screenshot displays the SAP Transportation Management Planning interface. The top navigation bar includes the SAP logo and the title 'Standard Layout'. Below the navigation bar, there are several tabs and buttons: 'Refresh', 'Undo', 'Redo', 'Assign Selected Items', 'Explanation', 'Settings', and a help icon. The main content area is divided into two panels. The left panel, titled 'Freight Unit Stages (500)', contains a toolbar with buttons for 'Standard', 'Split/Merge', 'Stages', and 'Create Capacity Document'. Below the toolbar is a table with columns for 'I.', 'Freight...', 'S.', 'P.', 'Loading...', 'Unloadi...', 'Earliest...', 'Earli...', 'T...', 'Latest R...', 'Late...', and 'T...'. The right panel, titled 'Freight Orders/Freight Bookings (500)', contains a toolbar with buttons for 'Standard', 'New', 'Remove Vehicle', 'Mass Change', 'Check', 'Fix', 'Unfix', 'Scheduling', 'Carrier Selection', 'Tendering', and 'Calculate Charges'. Below the toolbar is a search bar and a table with columns for 'Mode...', 'Document', 'Status', 'Maxi...', 'Source Location', 'Destination Location', and 'Departu...'. The tables in both panels contain data rows with various values, including dates, times, and alphanumeric codes.

Insert additional Capacity Document into Planning Screen

Planning only
Subject to change

LE-TRA

Collect.Shipmt - Road \$0001 Create: Shipments and Deliveries

Shipments and ...	OverallSta	TraspP...	ServAgent	ShpmtRoute	Ship ...	Address	Total wght/KG	AlwdTotW...	Weight/KG	Volume/CDM
✓ \$0001	ooo	TP01					2.000.000	0	2.000	
0080043526				TR200	TSPA	DE 40191 Duesseldorf	1.600		1.600	
0080043397				TR200	TSPA	DE 52074 Aachen	300		300	
0080043395				TR200	TSPA	DE 40191 Duesseldorf	100		100	
✓ \$0002	ooo	TP01					1.400.000	0	1.400	
0080043525				TR200	TSPA	DE 52074 Aachen	1.200		1.200	
0080043396				TR200	TSPB	DE 50679 Koeln	200		200	
✓ \$0003	ooo	TP01					1.000.000	0	1.000	
0080043524				TR200	TSPB	DE 50679 Koeln	1.000		1.000	

Deliveries not assigned

Σ Total of deliveries not assigned

- Insert additional shipment into shipment delivery planning screen
 - Button 'Shipments' (Ctrl+F7) can select and add further shipments into the screen
 - Button 'New Shipment' can create a new shipment document

basic Transportation Management

Freight Orders/Freight Bookings (5) Road Freight Order Hierarchy (2)

Standard * [New] [Insert] [Remove Vehicle] [Mass Change] [Check] [Fix] [Unfix] [Calculate Charges] [Tendering]

Search:

Actions	Mod...	Docu...	axi...	Source Location	Destination Locat...	Depart...	Depart...	D.	Planne...	P
		6100		QPL001	QPORTSH	03.12.2019	07:00:00	U...	03.12.2019	0
		6100		QPORTHAM	QCUS001	29.11.2019	00:00:00	C...	29.11.2019	0
		6100030305		QPORTSH	QPORTHAM	21.11.2019	00:00:00	U...	29.11.2019	0
		6100031003		QPORTHAM	QPORTSH	30.11.2019	09:00:00	C...	06.12.2019	1
		6100031903		QPORTHAM	QPORTSH	30.11.2019	09:00:00	C...	06.12.2019	1

- In a Minimized Working Interface
 - 'Insert' button can add additional Freight Orders / Freight Bookings
 - 'New' button can create new Freight Orders / Freight Bookings. Freight Order type is defaulted as the definition in the Planning Profile and can be manually overwritten.

Move Deliveries

LE-TRA

Shipments and deliveries	OverallSta	TrspP...	ServAgent	ShpmtRoute	Ship ...	Address
✓ \$0001	ooo	TP01				
0080043526				TR200	TSPA	DE 40191 Duesseldorf
0080043397				TR200	TSPA	DE 52074 Aachen
0080043395				TR200	TSPA	DE 40191 Duesseldorf
✓ \$0002	ooo	TP01				
0080043525				TR200	TSPA	DE 52074 Aachen
0080043396				TR200	TSPB	DE 50679 Koeln
✓ \$0003	ooo	TP01				
0080043524				TR200	TSPB	DE 50679 Koeln

- Move deliveries from one shipment to another via:
 - Drag and drop
 - Using functions in TA VT01 / VT02
 - Re-sort functionality

Planning only
Subject to change

basic Transportation Management

Actions	A...	S.	M.	Source Location	Destination Locat...	Plann...	Plan...	Dep...
✓	0%			SP_0001_02	QPORTHAM	29.11.2019	00:00:00	CET
✓							00:00:00	CET
✓							00:00:00	CET
✓	0%			QPORTSH	TCUST106	12.12.2019	00:00:00	UTC+8
✓							00:00:00	CET
✓							00:00:00	CET
✓	0%			SP_0001_02	QPORTHAM	05.12.2019	16:45:00	CET
✓							00:00:00	CET

- Freight units can be moved from one freight order to another in a **Minimized Working Interface** via:
 - Drag Freight Units to another Freight Order
 - Drag Freight Order to another Freight Order
 - Select Freight Units and Freight Order, then choose 'Reassign' button

Remove Deliveries from a Shipment

LE-TRA

The screenshot shows the LE-TRA SAP interface. The top part displays a shipment overview table with columns for Shipment ID, Overall Status, Transport Point, Service Agent, Shipment Route, Ship To, Address, Total weight/KG, and Allowed Total Weight/KG. The bottom part shows a table for 'Deliveries not assigned' with columns for Shipment Route, Ship To, and Address.

Shipment ID	OverallSta	TrspP...	ServcAgent	ShpmtRoute	Ship ...	Address	Total wght/KG	AlwdTotWgt/KG
00001	ooo	TP01					4.000,000	
0080043526				TR200	TSPA	DE 40191 Duesseldorf	1.600	
0080043525				TR200	TSPA	DE 52074 Aachen	1.200	
0080043396				TR200	TSPB	DE 50679 Koeln	200	
0080043524				TR200	TSPB	DE 50679 Koeln	1.000	

Deliveries not assigned	ShpmtRoute	Ship ...	Address
Total of deliveries not assigned			
0080043395	TR200	TSPA	DE 40191 Duesseldorf

- To remove a delivery from a shipment:
 - Drag and drop
 - Use button 'Remove delivery from shipment'

basic Transportation Management

The screenshot shows the SAP basic Transportation Management interface for a freight order. It displays a table of items with columns for Item Hierarchy, Item Type, Item Type (Description), Quantity, Unit of Measure, Gross Weight, Gross Weight Unit of Measure, Gross Volume, Gross Volume Unit of Measure, and Outer Volume. The 'Q Freight Unit 4100052151' item is selected and highlighted.

Item Hierarchy	Item Type	Item Type (Description)	Qua...	Qua... UoM	Gross Wei...	Gross Wei... UoM	Gross Volu...	Gross Volu... UoM	Outer Volu...	O V U
Active Vehicle 1000000			10	EA	800	KG	8	M3		
FWO01 1100002221			10	EA	800	KG	8	M3		
Q Freight Unit 4100052151			10	EA	800	KG	8	M3		
Package 10 Apple			10	EA	800	KG	8	M3		

- Delete the Freight Units from the Freight Order

Subsequent Delivery Split in Shipments

LE-TRA

Subsequent Outbound-Delivery Split

Char	Object Key	Ship-To	Loadg Date	GI Date	TrpPlanDt	Res.	Item	HU/material	LS	Split quantity UM	Unpacked quantity UM	Total Weight WUn	Total Volume VUn
			22.01.2020	22.01.2020	22.01.2020					0 EA	16 EA	1.600 KG	8 M3

- The split can be carried out in outbound deliveries
- The delivery split could also take place during loading or transportation planning. The system automatically generates further outbound deliveries for the split quantities when saving the shipment

basic Transportation Management

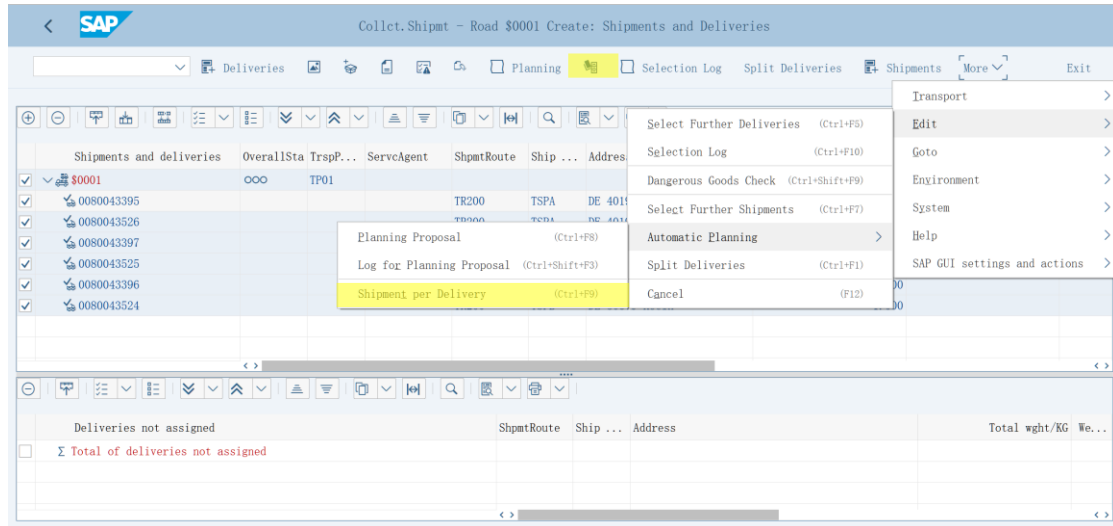
General Information

Freight Unit	Planning Status (Description)	Cargo Receipt St... (Description)	Fixing Status... Freight...	Freight Unit Quanti...	Source	Target	Equipm. Group
Q Freight Unit 4100053006 (Outbound Delivery 80042852) - Material OC	Planned		Freight		<input type="checkbox"/>	<input type="checkbox"/>	
Q Freight Unit 4100064179 (Outbound Delivery 80042852) - Material OC	Not Planned		Freight		<input checked="" type="checkbox"/>	<input type="checkbox"/>	

- The delivery split can be done in S/4 ERP and trigger the required changes in S/4 TM
- The delivery split and update can also be triggered by S/4 TM based on planning changes. Partial quantities of the Freight Unit items can be manually split to create new Freight Unit. If Freight Units of a delivery are planned on different Freight Orders with respect to their first or last stage, an automatic delivery split will be triggered in S/4 ERP after relevance check.

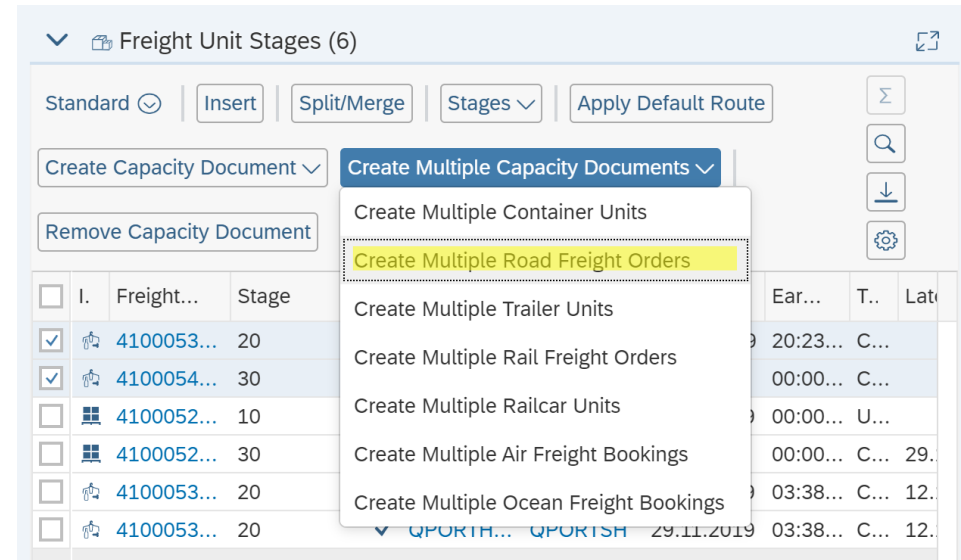
Creating Shipment Documents for Individual Deliveries

LE-TRA



- To create one shipment document for each delivery

basic Transportation Management



- Set up the freight building rule to ensure 1 v.s. 1 relationship between delivery and Freight Unit
- Create multiple Freight Orders for the selected Freight Units

LE-TRA: Planning with collective processing

- From shipment screen select deliveries and create desired shipments based on specific rules
- Specify rules determine:
 - type of shipments
 - selection of deliveries
 - creation of the shipments: grouping deliveries, data and options etc.
- Determine sort order of the deliveries within the shipments and consequently the itinerary (sort order through leg determination)
- Within collective processing, you can also define a transportation chain consisting of multiple shipments to be created. For example, all selected deliveries are grouped together into main leg, preliminary and subsequent leg shipments.

The screenshot displays the SAP 'Create shipments in collective proc.' interface. It features several sections: 'Default settings' with radio buttons for 'Create incoming shipments' and 'Create outgoing shipments'; 'Select deliveries' with a 'Selection variant' field and a 'Maintn' button; 'Rules' with 'Grouping criteria' and 'Data and options' fields and 'Maintn' buttons; 'Save created shipments' with radio buttons for 'Do not save if warning/error', 'Do not save if error', and 'Simulation (do not save)'; and 'Log' with radio buttons for 'Do not save log', 'Normal log', 'Detailed', and 'Very detailed'. A 'Create transportat.chain' button is also visible.

The second screenshot shows the 'Create shipments in collective proc.' screen with a transportation chain configuration. The top bar includes the SAP logo and navigation options. Below, there is a 'Do not create transportat.chain' button. The main area is titled 'Create shipments for transportat.chain' and lists four runs:

- 1st run (e.g., create main leg shipments): Grouping criteria: TCUST300-GRP, T customer CN Grp.; Data and options: T300-M-DOPT, T300 Main Carriage.
- 2nd run (e.g., create preliminary shipments): Grouping criteria: TCUST300-GRP, T customer CN Grp.; Data and options: T300-P-DOPT, T300 Pre Carriage.
- 3rd run (e.g., create subsequent leg shipments): Grouping criteria: TCUST300-GRP, T customer CN Grp.; Data and options: T300-S-DOPT, T300 On Carriage.
- 4th run

LE-TRA: Manual Shipment Creation with Planning Proposal

- The process is that first select the deliveries manually, then choose the planning proposal, which engages the system to automatically combine the selected deliveries in the shipment and complete them with data.
- Unlike Collective Processing, you can change or edit the created shipments manually before saving.
- The planning proposal arises from a planning profile saved in Customizing.
- The profile variants is shared for planning profile and collective processing, as the planning profile is regarded in technical terms as a variant of Collective Processing for creating shipments.

The screenshot shows the 'Specifications for Planning Proposal' dialog box in SAP. The left sidebar displays a list of 'Shipments and deliveries' with checkboxes and icons. The main area is divided into several sections: 'Basic data' (TransportPlanPt: TP01, Walldorf, Shipment type: ZT02 Collect.Shipmt - Road), 'Planning profile' (Planning prof.: TCUST200, T customer: 201 ~ 206), 'Default data' (Combining deliveries (combination profile) with Comb. crit.: TCUST200-GRP), 'Data for shipments to be created (data profile)' (Data profile: TCUST200-DATA), and 'Processing data (from data profile)' (Service Agent, Shipment Route, Shipping Type: 01 Truck) and 'Plan dates (from data profile)' (PlanCheckInDate, PlanLoadStart, PlanLoadingEnd, all set to 00:00). The bottom right corner has 'Save' and 'Cancel' buttons.

basic Transportation Management: Automatic Planning

Currently no solution available

- To create the report to adopt standard methods for the creation of Freight Orders/Freight Bookings after defining the rules how deliveries (Freight Units) are to be grouped together (either in the foreground or background). Need two options: save directly after the report run, and have an intermediate result display so that user can edit and save manually.

Automatic Leg Determination according to the Itinerary

Leg Determination Category 1

LE-TRA

Shipments an...	OverallSta	Trs...	ServA...	ShpmtRoute	Ship Point	Address	Total wght/KG	AlwdTotWgt/KG	Weight/KG	Volume/CDM	Deliv. Date	Time
00002	ooo	TP01					600,000	0	600	3,000		00:00:00
0080043397				TR200	TSPA	DE 52074 Aachen	300		300	1,500	24.01.2020	00:00:00
0080043396				TR200	TSPB	DE 50679 Koeln	200		200	1,000	24.01.2020	00:00:00
0080043395				TR200	TSPA	DE 40191 Duesseldorf	100		100	500	24.01.2020	00:00:00

Deatl.	Further Dates	Stages	Partner	Texts	Duration and Distance	Status	Tender	Addit. Data	Dng. Goods	Continuous Move
S...	Departure point	Destination	FwdAgent	Forw. agent	S.. Shippin...	D... D...	L.. Leg indicat...	I... I		
	Waldorf/69190/DE/Shipping Point B	Wiesloch/69168/DE/Shipping Point A			01 Truck		1 Preliminary l.			
	Wiesloch/69168/DE/Shipping Point A	Aachen/52074/DE/Customer 206			01 Truck		2 Main leg			
	Aachen/52074/DE/Customer 206	Koeln/50679/DE/Customer 205			01 Truck		3 Subsequent leg			
	Koeln/50679/DE/Customer 205	Duesseldorf/40191/DE/T Customer 201			01 Truck		3 Subsequent leg			

- The goods are sequentially picked up at the shipping points and sequentially delivered to the ship-to parties.
 - The itinerary is derived from the sort sequence of the deliveries in the shipment document
 - The sequence can be changed in a dialog box
 - No intelligent route determination with geographic optimization

basic Transportation Management

SAP Create Q Freight Order 6100034872

General Data Business Partner Items Stages Utilization Subcontracting Document Flow Charges Execution Notes Attachments Statuses

Stage	Source Location	Source Location Address	Destination Location	Destination Location Address	Handl... Execut... Status	Distance Unit of Measure	Net Duration	Depart... Fixed	Planned Departure Date	Plann Depai Time
1	SP_TSPA	Waldstraße 55 / 69168 Wiesloch	SP_TSPB	Kantstraße 31 / 69190 Walldorf	◆	50 KM	1:00	Not Fi	27.01.2020	00:00
2	SP_TSPB	Kantstraße 31 / 69190 Walldorf	TCUST205	Customer 205 / Muelheim 111 / 5067...	◆	350 KM	4:00	Not Fi	27.01.2020	18:29
3	TCUST205	Customer 205 / Muelheim 111 / 50679 Koeln	TCUST206	Customer 206 / Kullenhofstrasse 66 / ...	◆	50 KM	1:30	Not Fi		00:00
4	TCUST206	Customer 206 / Kullenhofstrasse 66 / 52074 Aachen	TCUST201	T Customer 201 / Henkelstrasse 66 / ...	◆	50 KM	1:30	Not Fi		00:00

Overview

Details	Activity	Activity (Descr...)	Maxim... Utiliza...	Document	Load Plan Status	Load ... Status (Descr...)	Unload Plan Status	Unloa... Status (Descr...)	Handli... Execut... Status	Handli... Execut... Status	Start of Activity	End of Activity
	Active Vehicle	1000000	0%	6100034872							27.01.2020 00:00:00 ...	27.01.2020 23:59:55
	SP_TSPA	(Waldstraße 55 / 69168 Wiesloch)	0%	SP_TSPA	◆	Not PL...	◆	Not Lo...			27.01.2020 00:00:00 ...	27.01.2020 00:00:00

- Sequence of Freight order stages is “Defined and Linear”
 - By default, stop sequence are automatically determined according to the shortest route (via heuristic ABAP program).

Automatic Leg Determination for preliminary and subsequent leg

Leg Determination Category 2 & 3

Currently no solution available

LE-TRA

Deadl.	Further Dates	Stages	Partner	Texts	Duration and Distance	Status	Tender	> ..
S...	Departure point	Destination	FwdA...	Forw.agent	S..	Shippin...	Distan	
<input type="checkbox"/>	Wiesloch/69168/DE/Shipping Point A	Duesseldorf/40191/DE/T Customer 201			01	Truck		
<input type="checkbox"/>	Wiesloch/69168/DE/Shipping Point A	Aachen/52074/DE/Customer 206			01	Truck		
<input type="checkbox"/>	Walldorf/69190/DE/Shipping Point B	Koeln/50679/DE/Customer 205			01	Truck		

basic Transportation Management

- Non-linear stage FO cannot be created via planning (manual and automatic)

- Leg determination 2 & 3: Preliminary leg per loading point, subsequent leg per ship-to party.
- When there are several points of departure, a preliminary leg is created for each point of departure, which links the point of departure to the beginning of the main leg.
- Similarly when there are several destination points

Transportation Chain in a single shipment

Leg Determination Category 2, 3, 4

Currently no solution available

LE-TRA

Shipment Route: TR300 from DE to CN

Shipping Type: Sea

Service Level:

Container ID:

AlwdTotWgt: KG

Route Schedule:

Shp. Cond.:

Spec. Process.:

External ID 1:

Deadl. Further Dates **Stages** Partner Texts Duration and Distance Status Tender Addi... >

S...	Departure point	Destination	FwdAgent	Forw. ag...	S..	Shippin...	Distance
<input type="checkbox"/>	Wiesloch/69168/DE/Shipping Point A	Hamburg/33221/DE/Hamburg Port			01	Truck	
<input type="checkbox"/>	Walldorf/69190/DE/Shipping Point B	Hamburg/33221/DE/Hamburg Port			01	Truck	
<input type="checkbox"/>	Hamburg/33221/DE/Hamburg Port	Shanghai/202001/CN/Shanghai Port	Q-CAR06	Q Carrier 0	04	Sea	1.600,000
<input type="checkbox"/>	Shanghai/202001/CN/Shanghai Port	Shanghai/201203/CN/Customer 301			01	Truck	
<input type="checkbox"/>	Shanghai/202001/CN/Shanghai Port	Beijing/100081/CN/Customer 302			01	Truck	

basic Transportation Management

SAP Edit Q Freight Unit 4100062612

General Data Business Partner **Stages** Document Flow Notes Attachments Direct Shipment Options Statures Administrative Data Execution Customs

Stage Des...	Stage Type	Mode of Transport	Document	Source Location	City (Sou...	Requested Pick-Up Date	Reque... Pick-Up Time	Reque... Pick-Up Time Z...	Departure Date	Depart... Time	Depart... Time Zone	Destination Location
<input type="checkbox"/>	Stage 1	02 (Pre-Carriage)	01	Freight Order with Subcontracting 6100034796	ST-VEN001	Shanghai	05.05.2020	00:00:00 UTC+8	05.05.2020	00:00:00	UTC+8	QPORTSH
<input checked="" type="checkbox"/>	Stage 2	03 (Main Carriage)	03	Ocean Booking 6100034795	QPORTSH	Shanghai	06.05.2020	00:00:00 UTC+8	06.05.2020	00:00:00	UTC+8	QPORTHAM
<input type="checkbox"/>	Stage 3	04 (On-Carriage)	01	Freight Order with Subcontracting 6100034797	QPORTHAM	Hamburg	12.05.2020	00:00:00 CET	12.05.2020	00:00:00	CET	SP_STR1

Stage 2

Ordered Data **Planning/Execution Data** Assigned Requirements

General Data

Carrier/SCAC:

Transportation Mode: Sea

Means of Transport: Ship

Statuses/Blocks of Execution Document

Execution Status: Execution Block:

Planning Status: Planning Block:

Subcontracting Status:

- Leg determination categories 2,3,4 can form a transportation chain to be illustrated in a single shipment.
- Limitation that the outputs (also the shipping units, texts, dates, etc.) must be defined for the whole shipment.
- Recommend to use several shipments of the separate legs to form a transportation chain.

Different objects of Freight Orders / Freight Bookings for varied transportation mode, e.g. road, rail, air and ocean.

We have different modelling concept: need to create a set of FOs / FBs to represent the transportation chain, that's how S/4 TM model the multi-modal transportation.

For automatic creation of the set of documents, please refer to [slide 35](#).

Create Transportation Stages manually

LE-TRA

S...	Departure point	Destination	FwdAgent	Forw. agent	Shp. . .	Shipping
<input checked="" type="checkbox"/>	Wiesloch/69168/DE/Shipping Point A	Walldorf/66166/DE/T Customer 001			01	Truck

- Entering stages manually in the shipment document
 - Leg
 - Load transfer point
 - Border crossing point

basic Transportation Management

Stage	Source	Destination Location	Destination Location Address	Handli... Execut... Status	Distance	Distance Unit of Measure	Net Duration
<input checked="" type="checkbox"/>	1	SP...	22112 Hamburg	◆	291,652	KM	3:38

- Freight Order stages can be maintained manually
 - Insert new stages
 - Merge the existing stages
 - Remove stages

Assignment of Deliveries to Stages

LE-TRA

The screenshot shows a window titled 'Deliveries at Stage 0001'. It displays a table of deliveries in a specific stage. The table has columns for Delivery ID, Shipment, Leg, Release, Warehouse, Destination, Name, Unit, City, Country, Release Date, and Status. Below the table, there are buttons for 'All' and 'Selected' to filter the view.

Delivery	Sh...	L...	Re...	W...	D...	Name	U...	City	C...	R...	S...
<input type="checkbox"/> 80043396	TSPB	TPLB				Customer 205		Koeln	DE	05	01

Deliveries not in stage:

Delivery	Sh...	L...	Re...	W...	D...	Name	U...	City	R...	C...	S...
<input type="checkbox"/> 80043397	TSPA	TPLA				Customer 206		Aachen	05	DE	01
<input type="checkbox"/> 80043395	TSPA	TPLA				T Customer 201		Duesseldorf	05	DE	01

- The deliveries in a shipment may only to be assigned to a few rather than all stages of the shipment
 - The system analyzes the point of departure and destination for each delivery, one after the other.
 - The system then looks for the legs that connect these two locations.

basic Transportation Management

The screenshot shows a table with columns for Item, Item Description, Product, Package ID, Weight, Volume, and Loading/Unloading Locations. The 'Assigned Requirements' tab is active, showing a list of items and their associated requirements.

Item	Item Descrip...	Product	Package ID	G... W...	G... W...	G... V...	G... V...	Loading Locat...	Unloading Lo...
1	SP_0001_02	Dietmar-Hopp-Allee 1...	QPORTHAM	22112 Hamburg	291,652	KM	3:38		

All Items:

Item Hierarchy	Item	Item Descrip...	Product	Package ID	G... W...	G... W...	G... V...	G... V...	Loading Locat...	Unloading Lo...
Outbound Delivery 80042933										
Q Freight Unit 4100053022					300	KG	0,6	M3	SP_0001_02	QPORTHAM
Product 10 Material 001	10	Material 001	TMAT001		300	KG	0,6	M3	SP_0001_02	QPORTHAM

- The assignment is automatically determined in the stage details of the Freight Order.

Scheduling

LE-TRA

- The system determines the LE-TRA Route for each order item
- The LE-TRA Route can be re-determined in the outbound delivery. The shipment can adopt the route from the delivery or a route can be manually entered.
- Scheduling is based on LE-TRA Route (through customizing in LE-SHIP)
- System can propose planned deadlines for individual shipment activities. They are copied from the outbound deliveries belonging to the shipment via copy routine

basic Transportation Management

- The Freight Unit contains the start location derived from plant and destination location derived from consignee
- The Freight Unit contains delivery date
- **During scheduling, the system considers a set of constraints**, to adjust the departure and arrival dates/times in the Freight Order and determines the loading/unloading dates/times for the related Freight Units
- ABAP scheduler can be used for Freight Order scheduling in basic Transportation Management(release version 2020 onwards)

Assigning Service Agents in the Shipment Document

LE-TRA

Shipment Type: ZT02 Collect. Shpmt - Road TransportPlanPt: TP01

Overall Status: 0 Planned Tender Status: Not off

FwdAgent: Q-CAR01 Q Carrier 01 / East Nanjing Road / CN - 201203 Shanghai

Shipment Route:

Shipping Type: 01 Route Schedule:

Service Level: 3 Groupage Shp. Cond.:

Container ID: Spec. Process.:

AlwdTotWgt: KG External ID 1:

Deadl.	Further Dates	Stages	Partner	Texts	Duration and Distance	Status	Tender	A... >
S...	Departure point	Destination	FwdAgent	Forw. agent	S.. Shippin...	Dist		
<input type="checkbox"/>	Walldorf/69190/DE/Shipping P.	Wiesloch/69168/DE/Shipping Point A	Q-CAR01	Q Carrier 01	01 Truck			
<input type="checkbox"/>	Wiesloch/69168/DE/Shipping P.	Duesseldorf/40191/DE/T Customer 2.	Q-CAR01	Q Carrier 01	01 Truck			
<input type="checkbox"/>	Duesseldorf/40191/DE/T Custo.	Aachen/52074/DE/Customer 206	Q-CAR01	Q Carrier 01	01 Truck			
<input type="checkbox"/>	Aachen/52074/DE/Customer 206	Koeln/50679/DE/Customer 205	Q-CAR01	Q Carrier 01	01 Truck			

- Service Agents can be maintained in the shipment:
 - At header level
 - At stage level

basic Transportation Management

Edit Refresh Copy Multiple Copies Check Follow Up Scheduling Display Settings

Total Weight: 300 KG

Transportation

Carrier: Q-CAR01 Q Ca... SCAC:

Executing Carrier: SCAC:

Communication Party:

Service Level - Carrier:

Total Distance: 291.652 KM

Gross Duration/Total N... : 3:38 3:38

First Activity: 05.12.2019 16:45:00 CET

Last Activity: 05.12.2019 20:23:44 CET

Number of Visits: 2

Loading Stops: 1

Unloading Stops: 1

General Information

Document Type: Q005 Q Freight Order

Description: Q Freight Order

Transportation Mode: 01 Road

Schedule:

Organizational Data

Purchasing Organization:

Purchasing Group:

Execution Organization:

Planning and Executio... :

Person Responsible:

Account Number with ... :

- Carrier can only be maintained at the header level of the Freight Order.
- Different Executing Carriers can be maintained at the stage level in rail Freight Order, but not possible in other types of Freight Orders. It is not a gap due to different modelling concept in S/4 TM.

Tendering for Service Agents

LE-TRA

Overall Status: **0 Planned** Tender Status: **Not offered to forwarding agent**

FwdAgent: Q-CAR01 Address: Q Carrier 01 / East Nanjing Road / CN - 201203 Shanghai

Shipment Route:

Shipping Type: **01** Truck Route Schedule:

Service Level: **3 Groupage** Shp. Cond.:

Container ID: Spec. Process.:

AlwdTotWgt: **KG** External ID 1:

Deadl. Further Dates Stages Partner Texts Duration and Distance Status **Tender** Addit. Data Dng.Goods Contin... >

Tender Status: **Not offered to forwarding agent** Date: 26.02.2020 03:06

Quotation

Valid to: <input type="text"/> 00:00	EarlyPickupDate: <input type="text"/> 00:00
LgthLoadingPit: <input type="text"/>	Latest Pickup: <input type="text"/> 00:00
Maximum Price: <input type="text"/>	Earl. Del. Date: <input type="text"/> 00:00
<input type="button" value="Shipment Cost Estimate"/>	
Latest Del. Date: <input type="text"/> 00:00	

Reply

AccCnd/RjetRsn:

Tender Text:

- A created shipment can be subcontracted and offered to a service agent.
- Shippers and service agents communicate for the shipments acceptance, rejection and further information if necessary.

basic Transportation Management

Edit Refresh Copy Multiple Copies Check Follow Up Scheduling **Subcontracting** Create Service Order

General Data Business Partner Items Stages Utilization **Subcontracting** Execution Notes

Subcontracting Data

Carrier: Q-CAR01 Q Carrier 01 /201203 Shanghai

Continuous Move ID:

Partner Reference Number:

Road Bill of Lading Number: Not Drawn

Tendering Overview Carrier Ranking Continuous Move Documents

Tendering Execution

Standard **Award Quotation**

Tendering/Step/Freight RFQ/...	Carrier	Carrier Description	Proposed FQ Review Required	Tenderin... (Descript...)	Respons... (Descript...)	Rejection... Code (D...)	Evaluatio... (Descript...)	Award St... (Descript...)
No data available								

- To use direct tendering process to send a road Freight Order directly to a specific carrier without creating a freight RFQ.

Automatic Assignment of the Service Agent

LE-TRA

Processing Identification Shipment Cst Cal Control Administr.

Shipment Type: ZT01 Indiv. Shpmt - Road TransportPlanPt: TP01 Walldorf

Overall Status: 1 Planning completed Tender Status: Not offered to forwarding age.

FwdAgent: Q-CAR03 Address: Q Carrier 03 // CN - 201206 Shanghai

Shipment Route: TR002 Route from DE to CN via Sea

Shipping Type: 01 Truck Route Schedule:

Service Level: 1 Load Shp. Cond.:

Container ID: Spec. Process.:

AlwdTotWgt: KG External ID 1:

Deadl. Further Dates Stages Partner Texts Duration and Distance Status Tender Addit. Data Dng. Goods C...

Planning		Execution		
Check-In:	00:00	11.05.2020	17:32	✓ Planning
Loading Start:	00:00		00:00	Check-In
Loading End:	00:00		00:00	Loading Start

- Route can be transferred from the deliveries to the shipment (if it is the same for all deliveries). When the status is set to “planned” in the shipment document, the route and some other information, e.g. service agent, are copied.

basic Transportation Management

SAP Edit Q Freight Unit 4100063722

Edit Refresh Follow Up Check Direct Shipment Split/Merge Unassign Default Route Remove Unplanned Stages Fixing Display Settings

General Data Business Partner Stages Document Flow Notes Attachments Direct Shipment Options Statures Administrative Data Execution Customs

Stage Description	Stage Type	Mode of Transp...	Source Location	UN/LO... (Source)	IATA Code (Source)	City (Source)	Requested Pick-Up Date	Reque... Pick-Up Time	Reque... Pick-Up Time Z...	Departure Date	Depart... Time	Depart... Time Zone	Destination Location
Stage 1	03 (Main Carriage)	01	SP_STR1			Walldorf	28.05.2020	00:00:00	CET		00:00:00	CET	ST-CUST001

Stage 1

Ordered Data Assigned Requirements

General Data

Carrier/SCAC: Q-CAR06 Q Carrier 06 /201203 ...

Schedule: ST-DR002

Transportation Mode: 01 Road

Means of Transport:

All 2 5

- Q Freight Unit 4100063722 assigned to Q Freight Order 6100034695
- Carrier taken over from predecessor document
- Carrier has been assigned to 1 business documents
- Scheduling successful; 2 documents updated
- Messages for Freight Order 6100034695 :

- Via the default route, the carrier can be determined to the Freight Unit stage, and taken over to the Freight Order after Freight Units assignment in the freight order.
- S/4 TM randomly chooses one if there are multiple applicable default routes. Implicit enhancement can be done in the method VSR_ROUTE_DEF_POST of class /SCMTMS/CL_SCH_PLN to include decision parameters such as zones, shipping condition, transportation group and weight.

Mass changes

LE-TRA

The screenshot shows the SAP LE-TRA interface for 'Collective Change Shpmt'. It features a table with columns for shipment details. A red box highlights the 'Refer.' column, indicating a selection or reference action.

T...	Shipment Nu...	Shpme...	FwdAgent	Service...	Ship...	PL S...	SL S...	Ship...	Tran...	Ship...	Process...	Shpm...	De...	Leg ...	Ov...	H Spe...
	1050	000001		3	01			0001	0002	3	1	1	4	7		
	1051	000001	EM_VENDOR1	3	01			0001	0002	3	1	1	4	1		
	1090	000001	MMV_PM102	3	01			T001	0002	3	1	1	4	7	<input checked="" type="checkbox"/>	
	1151	000001	AF_ZULI	1	01			0001	0011	1	2	1	4	0		
	1152	000001	AF_ZULI	1	01			0001	0011	1	2	1	4	0		
	1153	000001	AF_ZULI	1	01			0001	0011	1	2	1	4	2		

- Mass changes enables to change the data in several shipment documents at once
- Select the shipments required according to certain criteria and make the changes at header level

basic Transportation Management

The screenshot shows the SAP Freight Orders - Worklist interface with a 'Change Data of Multiple Documents' dialog box open. The dialog is divided into 'Transportation Data' and 'Carrier Data' sections, each with input fields and checkboxes for various attributes.

Transportation Data	Carrier Data
Means of Transport: <input type="text"/>	Carrier: <input type="text"/>
Vehicle Group: <input type="text"/>	SCAC: <input type="text"/>
Vehicle Type: <input type="text"/>	Executing Carrier: <input type="text"/>
Resource: <input type="text"/>	SCAC of Executing Carrier: <input type="text"/>
Source Location: <input type="text"/>	Destination Location: <input type="text"/>
Source UN/LOCODE: <input type="text"/>	Destination UN/LOCODE: <input type="text"/>

- Select multiple Freight Orders from the POWL and apply Mass Change

Packing in the Shipment Document

LE-TRA

Processing of Handling Units for Shipment 0000001050

Pack Material Pack HUs Pack. Proposal Single Entry Ttl Content Gen. Header Data

All Existing HUs (Available for Packing)

Handling Unit	I. Packaging Materials	Total Weight	Loading Weight	All. Loading Wt	Tare Weight	W...	Total Volume
<input type="checkbox"/> 1000016803	E RN LEIH_0003			250	30	KG	180

Material to Be Packed

Material	Partial Qty	Total Q
<input type="checkbox"/> F-06	2	2

- The packing hierarchy, which is setup in the delivery, is continued in the shipment document.
- Delivery items packed into crates and loaded on pallets can be packed into containers and loaded on trucks in the shipment document.
- Cross delivery handling units is supported.

basic Transportation Management

Edit Freight Order for PB Test 6100031101

General Data Business Partner Items Stages Utilization Subcontracting Document Flow Charges Execution Notes Attachments

All Items

Standard Change Hierarchy: All Items Insert: (Choose Item Type) Create Service Order Adjust Subitems

Forwarding Order Build Packages Remove Packages Create Package Units Cancel Package Units and Merge

Item Hierarchy	Item Type	Item Type (Descripti...)	Qua...	Qua... UoM	Gross Weight	Gross Weight UoM	Gross Volu...	Gross Volu... UoM	Outer Volu...	Outer Volu... UoM	Product	Package ID
<input type="checkbox"/> Active Vehicle STSA_TRUCK_01 1000000			2	PAL	8.640	KG	1.52448	M3				
<input type="checkbox"/> Package Unit for PB Test 500007522			1	PAL	300	KG	0,347	M3	0,52224	M3		
<input type="checkbox"/> Package 30 Euro Pallet	PKG	Package	1	PAL	300	KG	0,347	M3	0,52224	M3	STSA_TM_PACK01	
<input type="checkbox"/> Freight Unit for PB Test 4100053226			6	EA	280	KG	0,347	M3				
<input type="checkbox"/> Product 10 Something technical			5	EA	250	KG	0,32	M3			STSA_TM_MAT01	
<input type="checkbox"/> Product 20 Something more technical			1	EA	30	KG	0,027	M3			STSA_TM_MAT02	
<input type="checkbox"/> Package Unit for PB Test 500007523			1	PAL	740	KG	0,648	M3	1,00224	M3		
<input type="checkbox"/> Package 40 Euro Pallet	PKG	Package	1	PAL	740	KG	0,648	M3	1,00224	M3	STSA_TM_PACK01	
<input type="checkbox"/> Freight Unit for PB Test 4100053226			24	EA	720	KG	0,648	M3				
<input type="checkbox"/> Product 50 Something more technical			24	EA	720	KG	0,648	M3			STSA_TM_MAT02	

- S/4 handling units can be integrated to create the packaging information in S/4 TM (as package items).
- Further package items can be created in Freight Unit, Freight Order.
- Cross delivery package items can be supported manually.

Delivery Item Generation in the Shipment

LE-TRA

- Packaging material are mostly cost items and are managed as stock. For goods receipt from supplier and goods issue to customers, it is important to generate delivery items for the packaging materials so that these can be seen in the delivery note, posted in stock, and then invoiced as required.
- System can automatically generate separate delivery items for packaging materials that are only yet in planning for the shipment.
- Some information:
 - Delivery items generated from packaging materials are not updated if there is a change to the handling unit(plant, weight , and son on).
 - Generated delivery items are deleted only if the handling unit is deleted
 - The generation of packing materials in deliveries already posted for goods issue is not possible.
 - Any change in the HU content does not affect the generated item, even if the new contents do not have any reference to this delivery.
 - For technical reasons, the delivery update can only be called up during the update of the shipment. Issuing a log is no longer possible at this point.

basic Transportation Management

- If an ASN is received with the packaging material, it is possible to automatically create the packaging material in the freight unit and in the corresponding LE inbound delivery (when the customizing is done).

Maintaining Texts in the Shipment Document

LE-TRA

Overall Status: 0 Planned | Tender Status: Not offered

Shipping Type: 01 Truck | Service Level: 3 Groupage

Texts Tab:

Txt ty.	Lang.
Header note	

Caution, do not tilt!
Load 1 must be delivered before 11:30 to customer 1, dock door 2.

- Texts are maintained manually at header level in the shipment document.

basic Transportation Management

SAP Edit Q Freight Order 6100031095

Texts Table:

Text Type	Language	Content	Created By
Loading Instruction	English	Please do not tilt!	
Carrier's Note in Subc		Load 1 must be delivered before 11:30 to customer 1, dock door 2.	

Overview Section:

Activity	Activity (Descr...)	Maxim... Utiliza...	Document	Load Plan Status	Load ... Status (Descr...)	Unload Plan Status	U S (f)

- Texts are maintained on the Notes tab page in the Freight Order.

Output Control

LE-TRA

The screenshot shows the SAP LE-TRA interface for 'Indiv.Shipmt - Road: Output'. The main window displays a table with the following columns: St..., Outp..., Description, Medium, Fu..., Partner, La..., and C... The first row contains the following data: a yellow triangle icon, 'ZEMR', 'P2EWM', 'EDI', 'LS', 'QEXEWM910', and 'EN'. Below the table, there are navigation and action buttons.

- The Logistics Execution application uses output control for printing and interfaces.

basic Transportation Management

The screenshot shows the SAP basic Transportation Management interface for 'Edit Freight Order with Subcontracting 6100016777'. The main window displays a table with the following columns: Action Status, Processing Type, Document Number, Deactivate, Partner Dependent, Language, Print, Fax, E-mail, and Printer. The first row contains the following data: a green checkmark icon, 'Successfully Processed', 'Shipping Manifest', 'External Communication', a checkbox, a checkbox, 'DE', a checkbox, a checkbox, a checkbox, and a checkbox. Below the table, there are navigation and action buttons.

- S/4 TM uses output management to print, fax, email documents and sending information via EDI.

Dangerous Goods Check

LE-TRA

Shipping Type: Truck

Service Level: Groupage

Container ID:

AlwdTotWgt: KG

Route Schedule:

Shp. Cond.:

Spec. Process.:

External ID 1:

< >

< Status Tender Addit. Data **Dng. Goods** Continuous Move

DG Mgmt Profile:

Selection Date:

Dangerous Goods: Shp. does not contain dng. goods

Lock Indicator: No blocking ind. set for dang. goods

- The dangerous goods check applied is part of the standard dangerous goods management package in the SAP System.
- The check happens automatically or can be initiated manually.

basic Transportation Management

Edit Refresh Copy Multiple Copies **Check** Follow Up Scheduling Subcontracting ... Display Settings

General Data Business Partner Item Contracting Document Flow Charges Execution Notes

Standard	Insert	Merge	Set to	Duration
<input checked="" type="checkbox"/>	Stage	Source Location	Source Loc Address	Destination Location Address
<input checked="" type="checkbox"/>	1	SP_0001_02	Dietmar-H	2112 Hamburg

Stage Details Dates/Times Assigned Requirements Utilization **Transit Countries** Document References

Sequence Number	* Country	Country (Description)	Region
<input type="checkbox"/>	00	DE	Germany
			02

- The system checks dangerous goods in different ways and at different process steps to ensure safety precautions are observed.
- The system also prints the required dangerous goods information if required settings is made.

Completing Transportation Planning

LE-TRA

Processing Identification Shipment Cst Cal Control Administr.

Shipment Type: ZT02 Collect. Shpmt - Road TransportPlanPt: TP01 Walldorf
 Overall Status: 1 Planning completed Tender Status: Not offered to forwarding a
 FwdAgent: Q-CAR01
 Shipment Route:
 Shipping Type: 01 Truck Route Schedule:
 Service Level: 3 Groupage Shp. Cond.:
 Container ID: Spec. Process.:
 AlwdTotWgt: KG External ID 1:

Deadl. Further Dates Stages Partner Texts Duration and Distance Status Tender Addit. Data Dng. Goods

	Planning	Execution	
Check-In:	22.01.2020 14:00	22.02.2020 02:55 ✓	Planning
Loading Start:	22.01.2020 14:00	00:00	Check-In
Loading End:	22.01.2020 18:00	00:00	Loading Start
Shpmt Complet.:	22.01.2020 18:00	00:00	Loading End
Shipment Start:	22.01.2020 18:00	00:00	Shpmt Completion
Shipment End:	24.01.2020 00:00	00:00	Shipment Start
			Shipment End

- You can set the Planned status in the shipment header after completing all the necessary planning activities.
- The shipment document is then ready for shipment completion.

basic Transportation Management

SAP Edit Q Freight Order 6100031095

Edit Refresh Copy Multiple Copies Check Follow Up Scheduling Subcontracting Display Settings

Attachments Statures Blocking Information Administrative Data Terms and Co

General

Life Cycle Status: In Process Changed By: LIQ10
 Fixing Status: Fixing Status of Requirement ... :
 Subcontracting

Subcontracting Status: Carrier Assigned
 Confirmation Status: No Confirmation Yet
 Invoicing Status: Not Invoiced
 Dispute Case Status: No Dispute

Planning

Load Plan Status (Packaging): Not Planned
 Load Plan Status (Load Plann...): Not Planned
 Load Plan Status (Stop): SP_0001_02 () Not Planned

Set to Ready for Transportation Execution

Set to Not Ready for Transportation Execution

Set to In Execution

Set to Not Started

Set to Departed

Set to Arrived

Set to Loaded

Set to Not Loaded

Set to Unloaded

Set to Not Unloaded

Cost Distribution

07:39:59 CET

07:39:59 CET

07:39:58 CET

Packaging: Not Finalized Items: 0

Load Planning: Unplanned Ite...: 1

- The status 'Ready for Transportation Execution' can be manually set in the Freight Order.
- The system runs condition check of readiness for starting transportation execution.



Shipment Execution



Activity Profiles

LE-TRA

- With the activity profile, when you set the status of a shipment document, the system executes activities and check for certain data automatically.
- Possible activities include:
 - Add to the data in the dialog box for completion
 - Post goods issue for the deliveries
 - Calculate the shipping costs
 - Create invoices for the deliveries in the shipment
 - Print certain outputs

basic Transportation Management

Planning only
Subject to change

- Status 'Ready for Execution' can be checked via condition.
- Goods movement (GI / GR) of deliveries can be automatically triggered when a customizable expected event is set in the Freight Order.
- Automatic charge calculation can be enabled when saving the Freight Order.
- Print documents via PPF output profile with condition check.
- Might be technical feasible to check fields completion, billing creation with PPF methods.

Setting a Status

LE-TRA

The screenshot shows the SAP LE-TRA interface for 'Indiv. Shipment - Road 1142 Change: Overview'. It includes fields for Shipment Type (Indiv. Shpmt - Road), Overall Status (Loading start), TransportPlanPt (0001 City 1), and Tender Status (Not offered to forwarding ag...). Below these are tabs for Deadl., Further Dates, Stages, Partner, Texts, Duration and Distance, Status, Tender, Addit. Data, Dng. Goods, and Continuous Move. The main area contains two tables: 'Planning' and 'Execution'. The 'Execution' table shows dates and times for activities like Check-In, Loading Start, and Loading End, with green checkmarks indicating completion. A 'Status' dropdown menu is visible on the right side of the execution table.

Planning			Execution		
Check-In	23.05.2018	00:00	24.05.2018	14:09	✓
Loading Start	24.05.2018	00:00	24.05.2018	14:11	✓
Loading End		00:00		00:00	
Shpmt. Compl.		00:00		00:00	
Shipment Start		00:00		00:00	
Shipment End		00:00		00:00	

- When transportation activities such as planning, checking in, and loading are finished, you can set a status

basic Transportation Management

The screenshot shows the SAP basic Transportation Management interface for 'Edit Freight Order with Subcontracting 6100016777'. It includes a menu bar with options like Cancel, Edit, Refresh, Copy, Multiple Copies, Check, Follow Up, Scheduling, Subcontracting, Create Service Order, Schedule, Set Status, and Settings. The main area displays various status fields such as Life Cycle Status (In Process), Fixing Status, Subcontracting Status (No Subcontracting Result), Confirmation Status (No Confirmation Yet), Invoicing Status (Not Invoiced), Dispute Case Status (No Dispute), Load Plan Status (SP_0001 () Not Planned), Execution Status (Not Started), Logistical Execution Status (SP_0001 Not Loaded), Transmission-to-EWM Status (SP_0001 () Not Sent), and Manifest Status (Manifest Not Created). A 'Set Status' dropdown menu is open, showing options like 'Set to Ready for Transportation Execution', 'Set to Not Ready for Transportation Execution', 'Set to In Execution', 'Set to Departed', 'Set to Arrived', 'Set to Loaded', 'Set to Not Loaded', 'Set to Unloaded', and 'Set to Not Unloaded'.

- When transportation activities such as planning, departure/arrival, and loading/unloading are finished, you can set a status

Tracking Events

LE-TRA

The screenshot shows the SAP LE-TRA interface for 'Indiv. Shpmt - Road 1142 Change: Overview'. It includes fields for Shipment Type, Overall Status, Fwd. Agent, Shipment Route, Driver, Vehicle, and Trailer. Below these are tabs for 'Planning' and 'Execution' with corresponding date and time fields and buttons for 'Planning', 'Check-In', 'Loading Start', 'Loading End', 'Shpmt. Completion', 'Shipment Start', and 'Shipment End'.

- Recording planned and actual deadlines for planning, checking, loading, shipment start, shipment end at header level of shipment
- Planned data taken from deliveries
- Actual dates are executed manually or coming from Eventhandler

basic Transportation Management

The screenshot shows the SAP basic Transportation Management interface for 'Edit Freight Order with Subcontracting 6100016777'. It features a table with columns for Status, Event, Planned Date, Actual Event Date, Actual Event Time, Time Zone, Location, Description, Estimated Event Date, Referenced Event, and Source of Exec. Information. Below the table are fields for 'Event: Loading Begin', 'Event Reason:', and 'Event Reason Code:'. A notification bar at the bottom indicates 'Event "Loading End" reported'.

- Events and actual event dates are executed manually in the Freight Order Execution tab.
- When Freight Order Execution Status is set, the related event will also be derived automatically.

Posting Goods Issues for Shipments

LE-TRA

- The system can automatically select all the deliveries belong to the shipment and then posts goods issue for them.

basic Transportation Management

Stat...	Event	Planned Date	Actual Event ...	Actual Event Time	Time Zone	Location	Description
<input type="checkbox"/>	Loading End		08.06.2020	05:59:36	CET	SP_STR1 -- Shipping f	Shipping Point ST1
<input checked="" type="checkbox"/>	Departure		08.06.2020	05:59:57	CET	SP_STR1 -- Shipping f	Shipping Point ST1

- Trigger goods movement (GI / GR) of deliveries when expected event is set in the Freight Order.



Monitoring Shipments



Shipment Information in List Form

LE-TRA

SAP Shipment List: Planning

List level: 1 Entries: 135 View: 1

Shipment	ShTy	TPPr	C	S	ST	PL	SL	L	SC	Route	Container ID	External ID 1	External ID 2	Description	S	ServAgent
1051	0002	0001	1	3	01				4	000001					1	EM_VENDOR1
1060	0010	0001	2	1	01				4				20150803_01		0	AF_ZULI
1080	0002	0001	1	3	01				4						0	
1081	0002	0001	1	3	01				4						0	
1082	0002	T001	1	3	01				4						0	
1083	0002	T002	1	3	01				4						0	
1084	0002	0001	1	3	01				4						0	
1085	0002	T001	1	3	01				4						0	
1100	0010	0001	2	1	01				4						0	
1120	0011	0001	2	1	01				4			testastrid1	testastrid1		0	AN_BP_0001
1121	0001	0001	1	1	01				4						0	AN_BP_0001
1150	0003	0001	1	3	05	01	01	01	01	DG01					0	HENGLIS
1151	0011	0001	2	1	01				4	000001		AF_0000004	AF_0000004		0	AF_ZULI

- Different list types for shipment processing:
 - Transportation planning list
 - Utilization list
 - Free capacity list
 - Tendering status list
 - Check-in list
 - Shipment completion list
 - Change list

basic Transportation Management

Active Queries

Freight Orders All Road Freight Orders (20)

Parcel Freight Orders All Parcel Freight Orders (0)

Rail Freight Orders All Rail Freight Orders (28)

Freight Orders - All Road Freight Orders

Show Quick Criteria Maintenance

View: * [Standard View] [New] [Multiple Copies] [Edit] [Follow Up] [Create Deliveries] [Scheduling] [Set Status] [Load Plan Status] [Execution Status]

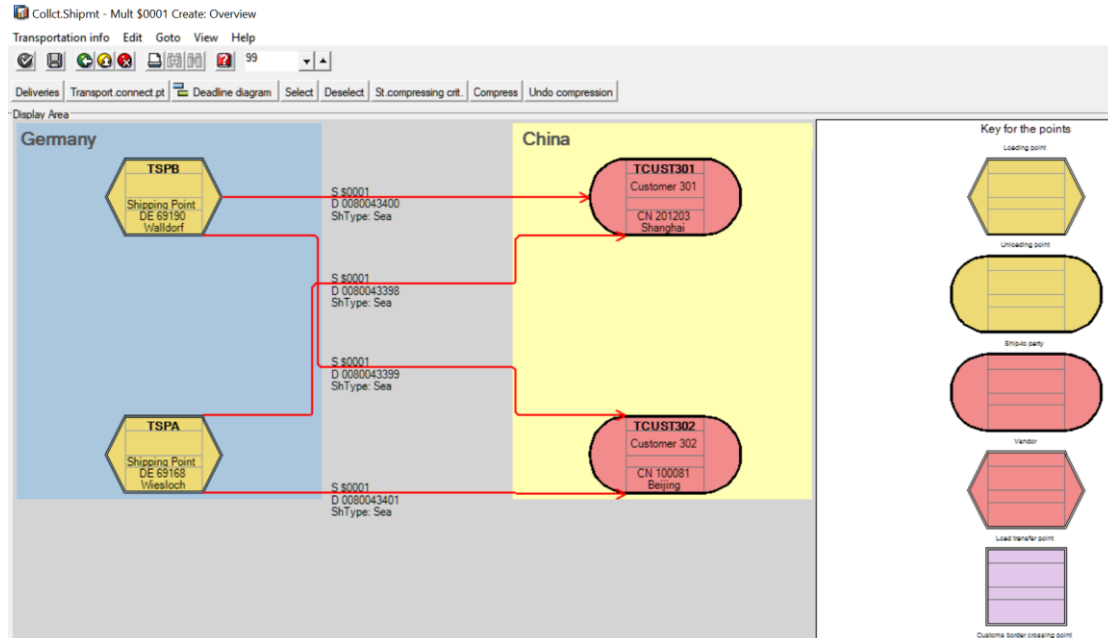
[Remove Manual Block] [Subcontracting] [Assign Driver] [Create Freight Settlement Document] [Calculate Charges] [Customs] [Cancel Document] [Mass Output] [Mass Change]

Document	Docum...	Carrier	SC...	Source Location Description	Source Location Address	First Activity	Destination Location ...
<input type="checkbox"/>	6100031095	Q005	Q Carrier 01 /201203 Sha...	Shipping Point 0001 1234567...	Dietmar-Hopp-Allee 16 / 6...	05.12.2019 16:45:00 CET	Hamburg Port
<input type="checkbox"/>	6100030303	Q005	Q Carrier 01 /201203 Sha...	Plant 001	1001 Chenhui Road / 201...	03.12.2019 07:00:00 UTC+8	Shanghai Port
<input type="checkbox"/>	6100030304	Q005	Q Carrier 05 /201206 Sha...	Hamburg Port	22112 Hamburg	29.11.2019 00:00:00 CET	Customer 001
<input type="checkbox"/>	6100028078	Q005	Q Carrier 10 /201203 Sha...	Q Shipper 100	201203 Shanghai	09.07.2019 00:00:00 UTC+8	Q Consignee 01
<input type="checkbox"/>	6100028077	Q005	Q Carrier 01 /201203 Sha...	Q Shipper 100	201203 Shanghai	09.07.2019 00:00:00 UTC+8	Q Warehouse Shanghai
<input type="checkbox"/>	6100028075	Q005		Q Warehouse Shanghai	201203 Shanghai	09.07.2019 00:00:00 UTC+8	Q CFS Shanghai
<input type="checkbox"/>	6100028076	Q005	Q Carrier 03 /201206 Sha...	Q CFS Shanghai	201203 Shanghai	10.07.2019 10:37:07 UTC+8	Q Consignee 01
<input type="checkbox"/>	6100026680	Q005	Q Carrier 04 /100086 Beijing	Q Customer 01	666 Jinke Road / 201023 ...	01.06.2019 09:00:00 UTC+8	Q Customer 02
<input type="checkbox"/>	6100026679	Q005	Q Carrier 03 /201206 Sha...	Q Customer 01	666 Jinke Road / 201023 ...	01.06.2019 09:00:00 UTC+8	Q Customer 02
<input type="checkbox"/>	6100026678	Q005	Q Carrier 01 /201203 Sha...	Q Customer 01	666 Jinke Road / 201023 ...	01.06.2019 09:00:00 UTC+8	Q Customer 02
<input type="checkbox"/>	6100026677	Q005	Q Carrier 04 /100086 Beijing	Q Customer 01	666 Jinke Road / 201023 ...	01.06.2019 09:00:00 UTC+8	Q Customer 02

- Query, filtering and personalizing the Freight Orders Worklist
- Tendering Worklist
- Freight Orders can be queried via administration data of 'Changed By' and 'Changed On'.

Graphical Shipment Information

LE-TRA



- The information of the itinerary or the transportation network for the shipment can be displayed graphically or in the list form.
- Further details can be shown for selected objects.
- This information can be called up from within the order, the delivery or the shipment.

basic Transportation Management

Predecessor Documents

Document	Description	Last Activity	Delivery Address	Total Dist...	Dist... UoM	Maxi... Utili...	Carrier	Plan. and Exec. (Desc.)
6100031004	Freight Order with Sub...	29.11.2019 03:38:44 ...	22112 Hamburg	291,652	KM	0	Q Carrier 01 /201203 ...	

Successor Documents

Document	Description	First Activity	Pick-Up Location Address	Total Dist...	Dist... UoM	Maxi... Utili...	Carrier	Plan. and Exec. (Desc.)
6100031005	Freight Order with Sub...	12.12.2019 00:00:00 ...	201023 Shanghai	241,934	KM	0	Q Carrier 03 /201206 ...	

- Predecessor and successor documents are displayed in the tab 'Transportation Dependencies' of the Freight Order.
- The list of stops for a Freight Order is displayed in the tab 'Overview'.
- 'Cross-Document Time Conflicts' can be checked in the Freight Order.

Transport Execution Monitor

LE-TRA

Overall Shipment Status Monitor 24.02.2020

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Set status:	Total Due	00:00	02:00	04:00	06:00	08:00	10:00	12:00	14:00	16:00	18:00	20:00	22:00
Planned (Total)	135												
Check-in													
Loading start	1						1						
Loading end													
Shipment completion													
Shipment start													
Shipment end													

- To monitor the processing status of shipment documents for a specified time span.
- To provides an overview of how much potential work is required based on the number of shipment documents.

basic Transportation Management

Freight Orders - All Road Freight Orders

Show Quick Criteria Maintenance Change Query Define New Query Personalize

View: * Basic View 3 New Multiple Copies Edit Follow Up Create Deliveries Scheduling Set Status Load Plan Status Execution Status Set Manual Block Export

Remove Manual Block Subcontracting Assign Driver Create Freight Settlement Document Calculate Charges Customs Cancel Document Mass Output Mass Change Refresh

Execution Status	Document	Document...	Life Cycle Status	Logistical Execution Status	Document ...	Carrier	SCAC	Source Location Description	So
∨ (500)									
∨ Not Started (459)									
∨ In Execution (28)									
∨ Executed (10)									
	6100034672	ST15	In Process	ST-CUST002 Unloaded 08.05.2020 ...		Q Carrier 01 /201203 Sha...		Shipping Point ST1	Hai
	6100034397	QULH	Completed	FLB1_01 Arrived 01.05.2020 12:32:0...		carrier ss /25252 ca		Shipping Point 0001 1234567...	Die
	6100034389	QULH	Completed	FLB1_01 Arrived 30.04.2020 13:59:1...		STSA Forwarding Agency /...		Shipping Point 0001 1234567...	Die
	6100034135	ST05	In Process	SP_STR1 Unloaded 23.04.2020 07:2...		Q Carrier 01 /201203 Sha...		Vendor 001	20:
	6100034133	ST05	In Process	SP_STR1 Unloaded 23.04.2020 09:0...		Q Carrier 01 /201203 Sha...		Vendor 001	20:
	6100034129	ST05	In Process	SP_ZPRH Unloaded 22.04.2020 17:...		Q Carrier 01 /201203 Sha...		Vendor 001	20:
	6100033755	1000	In Process	SP_TM01 Unloaded 09.04.2020 11:3...		USCARRIER01 /55443 US...		BP Newcastle 1	42:
	6100033751	LZFO	Completed	LZ_CUST001 Unloaded 27.03.2020 ...		USCARRIER01 /55443 US...		Painesville SP	Pai
	6100033668	LZFO	In Process	LZ_CUST001 Arrived 27.03.2020 09:...		USCARRIER01 /55443 US...		Painesville SP	Pai
	6100033628	LZFO	Completed	LZ_CUST001 Arrived 16.03.2020 00:...		USCARRIER01 /55443 US...		Painesville SP	Pai
∨ Ready for Transportation Execution (1)									
	6300001665	ZPF1	In Process	SP_ZP01 Not Loaded		OP: 中港联承运商1 /9990...		OP: 长安工厂	5 #
∨ Not Ready for Transportation Execution (2)									
	6300001692	ZPF1	In Process	SP_ZP01 Not Determined		OP: 中港联承运商1 /9990...		OP: 长安工厂	5 #
	6300001667	ZPF1	In Process	SP_ZP01 Not Loaded		OP: 中港联承运商1 /9990...		OP: 长安工厂	5 #

Last Refresh 19.05.2020 18:27:05 UTC+8 Refresh

- Personalization settings in the Freight Orders Worklist

Shipment Tendering Status Monitor

LE-TRA

Shipment Tendering Status Monitor

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Tender status	Total
Rejected by forwarding agent	
Exception triggered by forwarding agent	
New offer from shipper expired	
Accepted by forwarding agent with condit	
Accepted by forwarding agent	
Offer canceled	
Not assigned to forwarding agent	29
New offer from shipper	
Confirmed today	

- To monitor the tendering status of shipment documents for one or more transportation planning points.

basic Transportation Management

SAP Tendering - Worklist

Display Settings ⚙️

Road Freight Orders - All Freight Orders

Show Quick Criteria Maintenance Change Query Define New Query Personalize

View: * Basic View 1 ✎️ Edit Tendering Transportation Cockpit Create Deliveries Create Freight Settlement Document Scheduling Set Life Cycle Export

Subcontracting Calculate Charges Cancel Document Refresh

Confirm. Status	Document	Description	Carrier	Subcontr. Status	Tendering Status	Tendering Mar
∨ (10,000)						
> No Confirmation Yet (9,862)						
∨ Rejected (1)						
	6100024734	Truck Shipment with Subcontracting	LBN_CAR002	Sent	Completed	Sabine Hamle
> Confirmed (101)						
∨ Confirmed with Changes (1)						
	500006811	Relvin's Freight order	RAJ_CAR001	Sent		
∨ Document Changed After Confirmation (35)						
	6100034041	Freight Order with Subcontracting	TM7_CAR001	Changed After Sending		
	6100024650	Truck Shipment with Subcontracting	LBN_CAR002	Changed After Sending		
	6100024597	Truck Shipment with Subcontracting	LBN_CAR002	Changed After Sending		
	6100024596	Truck Shipment with Subcontracting	LBN_CAR002	Changed After Sending		
	6100024595	Truck Shipment with Subcontracting	LBN_CAR002	Changed After Sending		
	6100024588	Freight Order with Subcontracting	LBN_CAR002	Changed After Sending		

- Personalization settings in the Tendering Worklist

Transportation Information System (TIS)

LE-TRA

Information Systems
MCUA – TIS: Shipment Analysis
MCUB – TIS: Shipment Analysis: Routes
MCUC – TIS: Shipment Analysis: Means of Transport
MCUD – TIS: Shipment Analysis: Shipping
MCUE – TIS: Shipment Analysis: Stages
MCUF – TIS: Shipment Analysis: Material

- Various analysis and statistics on shipments
 - General shipment characteristics
 - Shipment routes
 - Means of transport
 - Transportation shipping data
 - Stages of shipment
 - Transportation Material

basic Transportation Management

Freight Orders - All Road Freight Orders

Show Quick Criteria Maintenance Change Query Define New Query Personalize

View: * Basic View 1 New Multiple Copies Edit Follow Up Create Deliveries Scheduling Set Status Load Plan Status Execution Status Set Manual Block Export

Remove Manual Block Subcontracting Assign Driver Create Freight Settlement Document Calculate Charges Customs Cancel Document Mass Output Mass Change Refresh

Source Loc Country/Dest. Loc C...	Document	Doc...	Carrier	SCAC	Gross We...	Gr. Wt ...	Gross Vol...	Gross ...	Total Distance	Dista...	Source L...	Source Locatio...	First Activity
Source Loc Country CN (7)					23,700 KG		56.5 M3		95,662.489871 KM				
Source Loc Country CN (7)					10,950 KG		31.5 M3		63,378.279654 KM				
6100034776	ST05				1,000 KG		2.5 M3		8,396.232825 KM		Shanghai P...	201023 Shanghai	26.05.2020 21:02:50 UTC+
6100034775	ST05				600 KG		1.5 M3		8,396.232825 KM		Shanghai P...	201023 Shanghai	25.05.2020 21:02:50 UTC+
6100034774	ST05				400 KG		1 M3		8,396.232825 KM		Shanghai P...	201023 Shanghai	20.05.2020 21:02:50 UTC+
6100034773	ST05				200 KG		0.5 M3		8,396.232825 KM		Shanghai P...	201023 Shanghai	20.05.2020 21:02:50 UTC+
6100034135	ST05				4,250 KG		12.5 M3		8,894.621119 KM		Vendor 001	201203 Shanghai	25.04.2020 20:56:15 UTC+
6100034133	ST05				3,500 KG		11 M3		8,894.621119 KM		Vendor 001	201203 Shanghai	24.04.2020 20:56:15 UTC+
6100034130	ST05				1,000 KG		2.5 M3		12,204.106116 KM		Vendor 001	201203 Shanghai	

Source View: * Basic View 2 New Multiple Copies Edit Follow Up Create Deliveries Scheduling Set Status Load Plan Status Execution Status Set Manual Block Export

Remove Manual Block Subcontracting Assign Driver Create Freight Settlement Document Calculate Charges Customs Cancel Document Mass Output Mass Change Refresh

Means of Transport	Document	Doc...	Carrier	SCAC	Gross We...	Gr. Wt ...	Gross Vol...	Gross ...	Total Distance	Dista...	Source L...	Source Locatio...	First Activity
OUL_MTR_LH (7)					1,003,500 KG				8,722.642204 KM				
RAB_SMALL (1)					217 KG				752.339268 KM				
ST-TRUCK (4)					3,000 KG				18,786.506836 KM				
6100034686	ST15				600 KG		1.5 M3		500 KM		Shipping P...	Hauptstrasse 66 / ...	18.05.2020 00:00:00 CET
6100034673	ST15				1,000 KG		2.5 M3		8,893.253418 KM		Shipping P...	Hauptstrasse 66 / ...	02.06.2020 03:05:03 CET
6100034672	ST15				1,000 KG		2.5 M3		8,893.253418 KM		Shipping P...	Hauptstrasse 66 / ...	10.05.2020 02:48:59 CET
6100034670	ST15				400 KG		1 M3		500 KM		Shipping P...	Hauptstrasse 66 / ...	15.05.2020 00:00:00 CET
STE_ROAD (3)					10,280 KG				1,770 KM				
6100034582	STFO				4,930 KG		40.6 M3		590 KM		Shipping P...	Dietmar-Hopp-All...	30.06.2020 00:00:00 CET
6100034583	STFO				5,350 KG		60.8 M3		590 KM		Shipping P...	Dietmar-Hopp-All...	30.06.2020 06:00:00 CET
6100034571	STFO				KG		M3		590 KM		Shipping P...	Dietmar-Hopp-All...	30.06.2020 00:00:00 CET
STSA_TRUCK (2)					16,200 KG				304.188636 KM				
6100034761	FOPB				8,600 KG		0.995 M3		304.188636 KM		STI Distrib...	Distributionstr. 1 ...	14.05.2020 19:41:52 CET
6100032550	FODS				7,600 KG		M3		0 KM		TM Shippin...	Hauptstr. 101 / 66...	06.02.2020 09:13:27 CET
ZOP_TRK_DE (1)					KG				9,170.008552 KM				

Last Refresh 19.05.2020 17:15:30 UTC+8 Refresh

- Personalization settings in the Freight Orders Worklist

Displaying Transportation Change Documents

LE-TRA

Shipment number	Document Number	User	Date	Time	Transaction	Language Key		
Table Name	Table description	Field Name	Field description	Change Ind.	Old value	New value		
0000001381	20158181	LIQIO	24.02.2020	15:14:03	VT02N	EN	000	
VTTK	Shipment Header	AEZET	Time last change was made		U	15:12:02	15:14:03	
VTTK	Shipment Header	ALLOWED_TWGT	Allowed total weight of shipp.		U	1.000 KG	1.200 KG	
VTTK	Shipment Header	VSBED	Shipping Conditions		U	01		
0000001381	20158190	LIQIO	24.02.2020	15:14:14	VT02N	EN	000	
VTTK	Shipment Header	AEZET	Time last change was made		U	15:14:03	15:14:14	
VTTK	Stage of Shipment	AEZET	Time last change was made		U	15:12:02	15:14:14	
VTTK	Stage of Shipment	DISTZ	Distance		U			
0000001381	20158191	LIQIO	24.02.2020	15:17:04	VT02N	EN	000	
VTTK	Shipment Header	AEZET	Time last change was made		U	15:14:14	15:17:04	
VTTK	Shipment Header	DALBG	Current date for start of loa.		U	00.00.0000	24.02.2020	
VTTK	Shipment Header	SIGNI	Container ID		U	COS202002121112		
VTTK	Shipment Header	STLBG	Status for start of loading		U	X		
VTTK	Shipment Header	STTRG	Overall transportation status		U	2	3	
VTTK	Shipment Header	UALBG	Actual loading start time		U	00:00:00	15:16:00	
0000001381	20158184	LIQIO	24.02.2020	15:17:17	VT02N	EN	000	
VTTK	Shipment Header	AEZET	Time last change was made		U	15:17:04	15:17:17	
VTTK	Shipment Header	DALEN	Actual date for end of loading		U	00.00.0000	24.02.2020	
VTTK	Shipment Header	STLAD	Status for end of loading		U	X		
VTTK	Shipment Header	STTRG	Overall transportation status		U	3	4	
VTTK	Shipment Header	UALEN	Actual loading end time		U	00:00:00	15:17:00	

- If an existing shipment is changed, a change document is created when those changes are save.

basic Transportation Management

The screenshot shows the SAP S/4HANA interface for 'Edit Q Freight Order 6100031095'. The 'Change Documents' tab is active, displaying a table of changes. The table has columns for 'Change ...', 'Node Description', 'ID', 'Change Indicator', 'Description', 'New Value', 'Old Value', 'Changed By', 'Chang...', 'Cha...', and 'Time'. The table lists various changes to the freight order, including carrier information, goods value, currency, and registration numbers.

- All changes made to a Freight Order can be viewed on the tab page "Change Documents"



Shipment Cost Processing



Shipment Cost Document

LE-TRA

SAP SHIPCOST Type 01 Change - Overview: Freight Cost Items

Shipmt Cost No.: 1010 Ship. cost type: Q001 SHIPCOST Type 01

Calculated: C Fully calculated
Assigned: B Account assignment partially completed
Transferred: A Not transferred

Item	ICat	Desc. ref.	Service agent	Net value	Tax amount	Curr...	T.. Transfer	C A T	Price Date	ExR...	Sett. date	Tax Ju
1	0002	0000001390	Q-CAR01	600,00	0,00	CNY		C C A	22.01.2020		22.01.2020	
2	0001	0000001390Wiesloch Duesseldorf	Q-CAR01	1.904,00	0,00	CNY		C A A	26.02.2020		26.02.2020	

- Shipment Cost Document
 - Create individually from front end
 - Collective processing online
 - Collective processing in Background

basic Transportation Management

SAP Edit Freight Settlement 8100000221

Gross Weight: 2.044,44 KG
Gross Volume: 4,07786855 M3
Quantity: 115,277777777777 CV

Charge Calc. Status: 02 Calculated Calculation Date: 29.11.2019 13:49:00 CET

Total Amount in Local Currency: 9.175,41 AUD
Total Amount in Document Curr...: 13.521,80 EUR
Rounded Total Amount in Docu...: 13.521,80 EUR
Rounded Amount Difference in ...: 0,00 EUR

Charge Hierarchy	Ac...	Ca...	M...	Charge Type	Charge Desc.	Com...	Co... Co... Type	Logistical...	Fixed In Settlem...	Rate ...	Rate Cu...	M.. Ignore R... Calculation A... Rule	Pri...	Uof Unit
BP Carrier TM WDF1 /2250 Cen					QUL Freight Order (1PU pe									
Base Charges				TM7-BASE	Base Charges					6,70	USD			1 KG
Basic freight charges				TM7-BASIC	Basic freight charges					100,00	USD			

- Freight Settlement Document
 - Create individually from Freight Order
 - Create from Freight Order worklist (multi-selection)
 - Create Freight Settlement documents via background processing

Shipment Cost Type and Item Category

LE-TRA

- Shipment Cost Type
 - Number ranges
 - Status requirements of the shipment document for creating a shipment cost document
- Shipment cost items
 - Refer to shipment header
 - Refer to shipment stage

basic Transportation Management

- Freight Settlement Document Type
 - Number ranges
 - Multiple FSDs can be created for one FO to split the charges.
- Charge calculation level
 - Calculation at header level
 - Calculation at stage level

Shipment Cost Calculation

LE-TRA

- Pricing procedure determination
- Pricing procedure
- Condition type
- Condition tables and condition records
- Scale
- Calculation base
- Multidimensional shipment rates (max. 3 scales)

basic Transportation Management

- Freight Agreement determination
- Calculation Sheet (TCCS)
- Charge Type
- Rate table
- Scale
- Calculation base & resolution base
- Rate table with up to 3 scales

Consistency Check for Freight Costs

LE-TRA

- Check certain settings in the price determination control for consistency. A warning message will be issued if an inconsistency found:
 - Check for all condition types: Do the access sequences and calculation base match? (Condition tables stored in the access sequence must not contain any fields that are not known for the calculation based used.)
 - Check for all pricing procedures: Is at least one condition type entered whose calculation base is not “”? (Otherwise, no shipment costs subitems can be created.)

basic Transportation Management

- Consistency check during charge master data maintenance.
- Consistency check and veto for freight agreement release.

Additional Functions in Shipment Cost Calculation (1)

LE-TRA

- Shipment Comparisons
- Break Weight
- Representing Geographical Aspects
 - Distances
 - Location and Zones (address data & tariff zone)
- Pricing date & Settlement Dates
- Tax Countries

basic Transportation Management

- Line item selection of “Compare High/Low Value”
- Break-Weight calculation method
- Different calculation bases
 - Actual Distance, Aerial Distance
 - Source/Destination Location, City, Region, Country, Postal Code, Transportation Zone, etc.
- Calculation date & Settlement date
- S/4 TM enables tax code determination and calculation in S/4 ERP via condition types for tax

Additional Functions in Shipment Cost Calculation (2)

Planning only
Subject to change

LE-TRA

- Bulky Goods and Minimum Weights for shipping units
- Bulkiness Factor
- Freight Codes and Freight Classes

basic Transportation Management

- Calculation rule with volume and minimum value, or with condition
- Dimensional weight profile and chargeable weight
- Product freight group; Commodity code

Freight Cost Estimate

LE-TRA

The screenshot shows the SAP LE-TRA interface for a freight order. The main window displays various shipment details such as Shipment Type (ZT02 Collect. Shpmt - Road), Transport Plan (TP01), and Overall Status (1 Planning completed). A 'Shipment Cost Information' dialog box is open, showing a 'Net value' of 8,568.00 CNY. Below the dialog, there are fields for 'Valid to', 'Early Pickup Date', 'Latest Pickup', 'Earl. Del. Date', and 'Latest Del. Date'. A 'Maximum Price' field is also visible, set to 8,568.00 CNY.

- The transportation planner can execute a freight cost estimate during shipment processing.

basic Transportation Management

The screenshot shows the SAP 'Charges' tab for a Freight Order (1PU per Packitem) 6100030971. The interface displays various data points such as Invoicing Status (04 Completely Invoiced), Charge Calc. Status (02 Calculated), and Total Amount in Local Currency (9,175.41 AUD). A dropdown menu is open, highlighting 'Calculate Charges'. Below this, a table lists the calculated charges:

Charge Hierarchy	Late Chang...	Ac...	C...	M...	Charg...	Charge ...	Com...	C...	Logistica...	Rate ...	Rate ...	M. Ignore	Pri...	U...	O...	Calculati...	Calc...	C...	Line	R...	R...						
BP Carrier TM WDF1 /2250 Central Coast																											
Base Charges										6,70	USD								1	KG	2,044 GROSS_WE	13 6...	USD	10	0	0	
Basic freight charges										100,00	USD												100,00	USD	20	0	0

- Charges are calculated in the Freight Order and displayed on the tab 'Charges'

Shipment Cost Document List: Calculation and Settlement

LE-TRA

Table 1: Calculation View Data

ShtpCstNo.	SCTy	Price	Date	Ext. ID 1	Ext. ID 2	C A T	Created by	Created on	Changed by	Changed on
1000	0001					C B A	KUEBLERJE	12.11.2018		
1000	1 0002	0,00	0,00	EUR		C B A		12.11.2018	0000001090	SDFC00 MMV_PM102 A 1090 0000001090 KUEBLERJE 12.11.2018
1000	2 0001	0,00	0,00	EUR		C A A		12.11.2018	0000001090	SDFC00 MMV_PM102 B 1090 000000109- KUEBLERJE 12.11.2018
1010	Q001					C B A	LIQ10	26.02.2020		
1010	1 0002	600,00	0,00	CNY		C C A		22.01.2020	0000001390	SDFC01 Q-CAR01 A 1390 0000001390 LIQ10 26.02.2020
1010	2 0001	1.904,00	0,00	CNY		C A A		26.02.2020	0000001390	SDFC00 Q-CAR01 B 1390 000000139- LIQ10 26.02.2020

Table 2: Settlement View Data

ShtpCstNo.	SCTy	Sett. date	C A T	Ext. ID 1	Ext. ID 2	Created by	Created on	Changed by	Changed on	
1000	0001					C B A	KUEBLERJE	12.11.2018		
1000	1 0002	F001	C B A					12.11.2018	0000001090	M101 M101 001 MMV_PM102 MMV_PM102 A 1090 000000109
1000	2 0001	F001	C A A					12.11.2018	0000001090	M101 M101 001 MMV_PM102 MMV_PM102 B 1090 000000109
1010	Q001					C B A	LIQ10	26.02.2020		
1010	1 0002	0001	C C A					22.01.2020	0000001390	0001 0001 001 Q-CAR01 Q-CAR01 A 1390 000000139
1010	2 0001	0001	C A A					26.02.2020	0000001390	0001 0001 001 Q-CAR01 Q-CAR01 B 1390 000000139

- Calculation list: shipment cost documents which have not yet been completely calculated or if you still have questions regarding calculation.
- Settlement list: shipment cost documents which have not yet been completely transferred.

basic Transportation Management

Table 3: Freight Settlement Documents

Freight SD	FSD	Invoice Date	Purchasing Org.	Puchas...	Invoicing Party ID	Invoicing Party	Payee ID	Pay...	Life Cycle Status	Net Amt L...	Curr...	Created By	Block Status	Consistency
<input type="checkbox"/>	2515	SON1	24.08.2018	ORG_FWH7	SON_CAR001	carrier ss /25252 ca			Ready for Accruals	259,80	EUR	RVARMA	Not Blocked	Consistent
<input type="checkbox"/>	2514	SON1	24.08.2018	ORG_FWH7	SON_CAR001	carrier ss /25252 ca			Ready for Accruals	259,80	EUR	RVARMA	Not Blocked	Consistent
<input checked="" type="checkbox"/>	2513	SON1	24.08.2018	ORG_FWH7	SON_CAR001	carrier ss /25252 ca			Ready for Accruals	259,80	EUR	RVARMA	Not Blocked	Consistent
<input checked="" type="checkbox"/>	2512	SON1	24.08.2018	ORG_FWH7	SON_CAR001	carrier ss /25252 ca			Ready for Accruals	259,80	EUR	RVARMA	Not Blocked	Consistent
<input type="checkbox"/>	2511	SON1	24.08.2018	ORG_FWH7	SON_CAR001	carrier ss /25252 ca			Ready for Accruals	259,80	EUR	RVARMA	Not Blocked	Consistent
<input type="checkbox"/>	2622	SON1	18.09.2018	ORG_FWH3	SON_CAR001	carrier ss /25252 ca			Accruals Posted	9,90	EUR	I065126	Not Blocked	Consistent
<input type="checkbox"/>	2692	SON1	01.10.2018	ORG_FWH3	SON_CAR001	carrier ss /25252 ca			Cancelled	40.286,00	EUR	SATISHKUM...	Not Blocked	Consistent
<input type="checkbox"/>	2693	SON1	01.10.2018	ORG_FWH3	SON_CAR001	carrier ss /25252 ca			Accruals Posted	40.286,00	EUR	SATISHKUM...	Not Blocked	Consistent
<input type="checkbox"/>	2694	SON1	01.10.2018	ORG_FWH3	SON_CAR001	carrier ss /25252 ca			Accruals Posted	406,00	USD	SATISHKUM...	Not Blocked	Consistent
<input type="checkbox"/>	2695	SON1	01.10.2018	ORG_FWH3	SON_CAR001	carrier ss /25252 ca			Accruals Posted	406,00	USD	SATISHKUM...	Not Blocked	Consistent
<input type="checkbox"/>	2696	SON1	01.10.2018	ORG_FWH3	SON_CAR001	carrier ss /25252 ca			Accruals Posted	406,00	USD	SATISHKUM...	Not Blocked	Consistent
<input type="checkbox"/>	2697	SON1	01.10.2018	ORG_FWH3	SON_CAR001	carrier ss /25252 ca			Accruals Posted	40.286,00	EUR	SATISHKUM...	Not Blocked	Consistent
<input type="checkbox"/>	2281	SON1	22.05.2018	ORG_FWH6	SON_CAR001	carrier ss /25252 ca			Accruals Posted	30.822,00	USD	DASPRAN	Not Blocked	Consistent
<input type="checkbox"/>	2284	SON1	23.05.2018	ORG_FWH7	SON_S4CAR1	EFFICIENT TRUCKLL...			Accruals Posted	15.606,00	USD	DASPRAN	Not Blocked	Consistent
<input type="checkbox"/>	2285	SON1	23.05.2018	ORG_FWH6	SON_S4CAR1	EFFICIENT TRUCKLL...			Ready for Accruals	15.488,00	USD	DASPRAN	Not Blocked	Consistent

- Freight Settlement worklist

Scales List

LE-TRA

Scale ID	Scale description	S	Ref.	SU	RRul	Rule	Unit	UM	RRul	per	SclValLgth	Min	Max	Created by	Created on	Time	Changed by	Changed On	TimeOfChng
1	GROSS WEIGHT	A	D	KG		D	1	KG		0				LIQIO	25.02.2020	07:01:11			00:00:00
2	DISTANCE	A	R	KM			0			0				LIQIO	25.02.2020	07:01:59			00:00:00
11	GROSS VOLUME	A	F	M3		F	1	M3		0				LIQIO	27.02.2020	09:20:59			00:00:00

- Gain an overview of which scales already exist for master data, in case these are needed.

basic Transportation Management

Scale	Description	Scale Type	Scale B...	Scale ...	Rounding P...	Reference Scale	Customizing Scale ...	Scale Tem...	Created By	Created...	Changed By	Change...
3033		Same Scale (=)	WEIGHT	TON	0011				SINGHANJA	14.11.2019	SINGHANJA	14.11.2019
2994		Base Scale (>=)	WEIGHT	KG		2992			SINGHANJA	06.11.2019	SINGHANJA	06.11.2019
AIR-MS-CR-TEST1	AIR Scale for Main Stage Carrier	Same Scale (=)	BP						ANSELMANN	29.08.2019	ANSELMANN	29.08.2019
Q_SCALE_WEIGHT	O Weight	Base Scale (>=)	WEIGHT	KG					LIQIO	20.06.2019	LIQIO	20.06.2019
KK_VOLUME_SCALE	KK_VOLUME_SCALE	Same Scale (=)	VOLUME	M3					KAMBOJK	19.06.2019	KAMBOJK	19.06.2019
OLR_TEST_SC_3	Test PWO Testfall 2/3	To Scale (<=)	QTY	PC					CS247755	18.06.2019	CS247755	18.06.2019
KK_SCALE_WEIGHT	KK_SCALE_WEIGHT	Base Scale (>=)	WEIGHT	KG	0002				KAMBOJK	11.06.2019	KAMBOJK	11.06.2019
OAF-SCALE-SOURC...	OAF - Source Locations	Same Scale (=)	LOC						KONIECZKA	06.06.2019	KONIECZKA	06.06.2019
OAF-SCALE-DEST-L...	OAF Destination Location	Same Scale (=)	LOC						KONIECZKA	06.06.2019	KONIECZKA	06.06.2019
AIR-MS-CR	AIR Scale for Main Stage Carrier	Same Scale (=)	BP			AIR-MS-WEIGHT			KONIECZKA	06.06.2019	KONIECZKA	06.06.2019
AIR-MS-AIRPORT-D...	AIR Destination Airport for Mai...	Same Scale (=)	CTY_CD						KONIECZKA	05.06.2019	KONIECZKA	05.06.2019
AIR-MS-AIRPORT-O...	AIR Origin Airport for Mainstage	Same Scale (=)	CTY_CD						KONIECZKA	05.06.2019	KONIECZKA	05.06.2019
AIR-MS-WEIGHT	AIR Weight Scale for Main Stage	Base Scale (>=)	WEIGHT	KG					KONIECZKA	05.06.2019	KONIECZKA	05.06.2019
AIR-MS-CHAR-WEIG...	AIR Weight Scale for Mainstag	Base Scale (>=)	WEIGHT	KG					KONIECZKA	05.06.2019	KONIECZKA	05.06.2019
AIR-CU-FU	AIR Pickup Scale for Customer	Same Scale (=)	WEIGHT	KG					KONIECZKA	05.06.2019	KONIECZKA	05.06.2019
OLR_TEST_SC_2	OLR_TEST_SC_2	Same Scale (=)	INCO						CS247755	05.06.2019	CS247755	06.06.2019
OLR_TEST		To Scale (<=)	WEIGHT	KG					CS247755	05.06.2019	CS247755	05.06.2019
2469	AQM CUSTOMIZING SCL TEM...	Same Scale (=)	LOC				AQM_SCLCLUST_LOC		SINGHANJA	14.05.2019	SINGHANJA	14.05.2019

- Scales worklist

Shipment Cost Settlement with Service Agent (1)

LE-TRA

- Account Assignment
 - G/L account determination in Financial Accounting
 - Assignment for Cost Accounting

basic Transportation Management

- Freight settlement integration with standard SAP S/4HANA Financial Accounting via objects mapping:
 - Assign freight settlement document information to purchasing information in MM, in order to create purchase order in purchasing
 - Assign charge type information to a service master record and an account assignment category used for posting in Financial Accounting
- Mapping for Cost Distribution:
 - Activate freight cost distribution to the order/delivery item
 - Assign charge types to condition types
 - Posting to SAP S/4HANA ERP using Settlement Management (earlier version Agency Business Document)

Shipment Cost Settlement with Service Agent (2)

LE-TRA

- Transfer to Financial Accounting
 - Purchase order determination
 - Creation of the service entry sheet
 - Accrual establishment
- Invoice creation
 - Credit memo procedure (ERS procedure)
 - Manual Invoice verification

basic Transportation Management

- Posting freight settlement document to S/4 ERP, freight settlement document is with status 'Accruals Posted' after S/4 ERP successfully created the PO and SES.
- Standard invoice creation in S/4 ERP
 - Self-billing (ERS procedure)
 - Manual Invoice verification

Shipment Cost as delivery cost

LE-TRA

- Delivery costs can be considered for both standard purchase orders and stock transfer orders.
- The determined shipment costs are not directly transferred to the accounting department, but are included in the MM goods receipt document and added to the respective material.

basic Transportation Management

- Perform cost distribution at the level of ERP item in the freight settlement document.
- In case of inbound transportation, use S/4 ERP customizing settings to specify the type of posting as material valuation for the distributed cost.
- The distributed freight cost will flow back to your material level for the purpose of material valuation.

Transferring Shipment Costs to Accounting

LE-TRA

Shipmt Cost No.: Ship. cost type: SHIPCOST Type 01

Status Ref. doc. Admin.

Calculated: Fully calculated
Assigned: Account assignment partially completed
Transferred: Not transferred

All items

Item	ICat	Desc. ref.	Service agent	Net value	Tax amount	Curr...	T..	Transfer	C	A	T	Price Date	ExR..
<input type="checkbox"/>	1	0002	0000001390	Q-CAR01	600,00	0,00	CNY	<input checked="" type="checkbox"/>	C	C	A	22.01.2020	
<input type="checkbox"/>	2	0001	0000001390Wiesloch Duessel	Q-CAR01	1.904,00	0,00	CNY	<input type="checkbox"/>	C	A	A	26.02.2020	

- Select the Transfer indicator and save the shipment cost document.

basic Transportation Management

SAP Edit Pallabi's FSD type 2557

Edit Refresh Check Post Ready for Posting Follow Up Cleanup Posting Cancel Document Display Settings Page: Overview

Business Partner Organizational Data
Purchasing Organization: Forwarding house 1
Purchasing Group:

Bill-Fro... : carrier ss / 25252 ca
Payee:

Statuses
Life Cycle Status: Ready for Accruals
Confirmation Status: Not Posted

Settlement Data
Total Amount in Document Currency: USD
Total Amount in Local Currency: USD
Verified Invoice Amount:
Payment Terms:
Settlement Date:

Document	E	Document Category	Settlement Item Category	I.	Stage Description	Shipper	Ship-To Party	Source Location	Canc...	Destination Location	Net Amount in Document Currency	Ct
6100021720		P.. Freight Order	Freight Order					AMR4	<input type="checkbox"/>	AMR7	200,00	US

Details: 6100021720
Order Address Details Locations
Shipper: Source Location: AMR4 Trenton NJ 55116

- Posting to S/4 ERP from freight settlement document.
- Posting from freight settlement worklist.
- Transfer freight settlement documents via background processing.

Billing Shipment Costs to the Customer

LE-TRA

- To bill the customer for the actual shipment costs based on effective shipment cost calculation. The freight costs appear as additional entry in the customer billing document.
- Shipment costs that are calculated from the delivery items in the shipment cost document are assigned directly to their corresponding billing document items. Costs that are based on other factors, for example, the shipment cost items, are distributed among the billing document items according to the proportional weight of the delivery items.

basic Transportation Management

- Create the Freight Settlement document out of the Freight Order with active cost distribution to the delivery items.
- If the SD billing process is enabled for the delivery items, the system takes the distributed cost from S/4 TM into account when it creates the billing document for the deliveries in SD.
- Transportation costs are now part of the billing document and can be invoiced to the customer.

Shipment Costs in the Sales Process

LE-TRA

- To have a rough idea of the shipment costs when the sales order is created, in order to give customers relevant information or to compare different transportation options.
- As in normal situations no deliveries, shipments or shipment cost documents exist at this point, simulated version of them can be “created” in the background to enable to calculate shipment costs based on these documents.

basic Transportation Management

Currently no solution available



Interfaces

1. External Transportation Planning Systems
 2. Transportation Planning in Cooperation with Forwarding Agents
 3. Shipping Notification
 4. Using Express Delivery Companies
 5. Communication via Internet
-



External Transportation Planning Systems

LE-TRA

- Interface from LE-TRA to TPS
 - Transmission of location master data (IDoc TPSLOC01 or TPSDLS01)
 - Transfer of deliveries (IDoc TPSDLS01)
 - Transfer of status values for planned shipments (IDoc TPSSHT01)
- Interface from TPS to LE-TRA
 - Transfer of planned shipments (IDoc TPSSHT01)
 - An exchange of error status (IDoc SYSTAT01)

basic Transportation Management

- Architecture decision not to support IDoc any longer.
- S/4 TM Web Service for the Freight Units and Freight Orders
 - Exchange Transportation Demand (Freight Unit Out)
 - Receive Consolidated Load (Freight Order In)
 - The entire communication is based on the technical web service *TransportationOrderGenericRequest_Out/In*.
- For the master data transmission, Web Service planned for Internal ID / External ID mapping, and Standard ID registration.

Transportation Planning in Cooperation with Forwarding Agents

LE-TRA

- Forwarding agent can principally work like an external TPS. The shipper transfer the deliveries to the forwarding agent; the forwarding agent groups these deliveries in his own system and then transfer the planned shipments to the shipper's system.
- Shipper sends deliveries to the forwarding agent:
 - Plan/change/deallocate deliveries (IDoc TPSDLS01)
 - Add/change location master data (IDoc TPSLOC01)
 - Set transportation planning status (IDoc TPSSHT01)
 - Status information about errors (IDoc SYSTAT01)
- Forwarding agent transmits the planned/rejected shipments and changes back to the shipper:
 - Create/change/delete shipment (IDoc TPSSHT01)
 - Status information about errors (IDoc SYSTAT01)

basic Transportation Management

- Architecture decision not to support IDoc any longer.
- S/4 TM Web Service for the Freight Units and Freight Orders
 - Exchange Transportation Demand (Freight Unit Out)
 - Receive Consolidated Load (Freight Order In)
 - The communication is based on the web service *TransportationOrderGenericRequest_Out/In*.
- For the master data transmission, Web Service planned for Internal ID / External ID mapping, and Standard ID registration.

Shipping Notification

LE-TRA

- Notification by the vendor to the recipient regarding the pending arrival of goods shipped or about to be shipped. It contains the anticipated delivery date, quantities, and details of the material (or service).
- A shipping notification can be sent in the form of an EDI message.

basic Transportation Management

- Architecture decision not to support IDoc any longer.
- Advanced Shipping Notification interface
- The communication is based on the web service `TransportationOrderGenericRequest_Out/_In`.

Using Express Delivery Companies

LE-TRA

- To model the special requirements of express deliveries using express delivery companies, include:
 - Information specific to the service agent recorded in the delivery, refers to the entire delivery or to the individual parcels.
 - Printing out special labels with the required information.
 - Creating the manifest / delivery list (EDI using standard IDocs and day-end closing)
 - Parcel and status tracking (access information directly from the express delivery company via the Internet)

basic Transportation Management

Currently no solution available

- Scenario of Courier Express Parcel in S/4 TM.
- Web service needs to be further analyzed by scenarios for the communication with the Express companies (after external transportation planning)

Communication via Internet

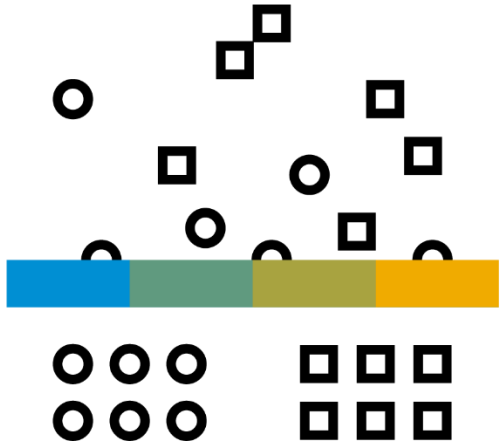
LE-TRA

- Tendering shipments for service agents
- Tracking information monitor
 - A simple tracking for monitoring the shipment status between the shipper and the forwarding agent
- Transportation planning by the forwarding agents through the Internet
 - Shipper offers deliveries to the forwarding agent through a Web interface
 - Forwarding agent receives a list of deliveries
 - Forwarding agent sets up shipments and transmit the planned shipments to shipper
 - Shipper decides whether to accept the planned shipments or to offer the deliveries to another forwarding agent

basic Transportation Management

The following features will be available in basic Transportation Management if they're used via Logistics Business Network (subscription license) :

- Shipment Tendering - Direct Tendering
- Carrier Response to spot bids via LBN Integration
- Carrier Invoice submission and Dispute Management via Integration with LBN
- Integration to Global Track & trace
- TM Supported Invoice Verification Transactions



Miscellaneous



Multi-level goods receipt (IS-A-GR)

LE-TRA

- Goods receipt is usually based on the inbound delivery or inbound shipment in the automotive industry, when the goods are not procured using the JIT process.
- The first step in the multi-level goods receipt goods receipt process is to compare the shipping documents with the data received by EDI and make any corrections or additions. The second step involves the comparison of the packages and quantities received with the delivery notes, making any corrections, and then posting goods receipt.

basic Transportation Management

Selected scenarios are currently available

- In Advanced Shipping and Receiving (delivery based FU only), you post goods movement at the warehouse unloading stop level in freight order. The system triggers goods receipt by the warehouse. After the warehouse has successfully processed the request, the system updates the goods movement status in freight order to Completely Processed. If the posting of goods movement by the warehouse is not successful, the system displays the goods movement processing status Posting/Cancellation Failed.

LE-TRA integration with EWM

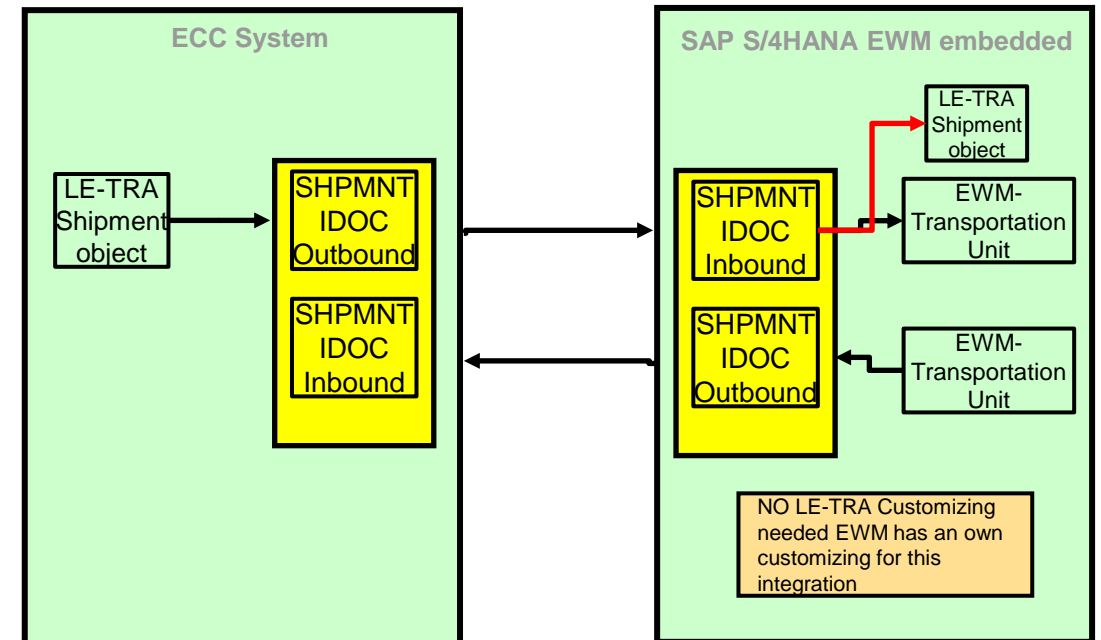
Planning only
Subject to change

LE-TRA

- LE-TRA can be integrated with SAP EWM:
 - IDoc communication between SAP ERP and EWM, sending and receiving SHPMNT05 and TPSSHT01
 - Mapping between ERP shipment number and EWM external TU or vehicle number

basic Transportation Management

- **Currently under investigation:**
It is planned to get an exception for EWM for the usage of SHPMNT05 for that specific IDOC communication.



System Modifications and Business Add-Ins

LE-TRA

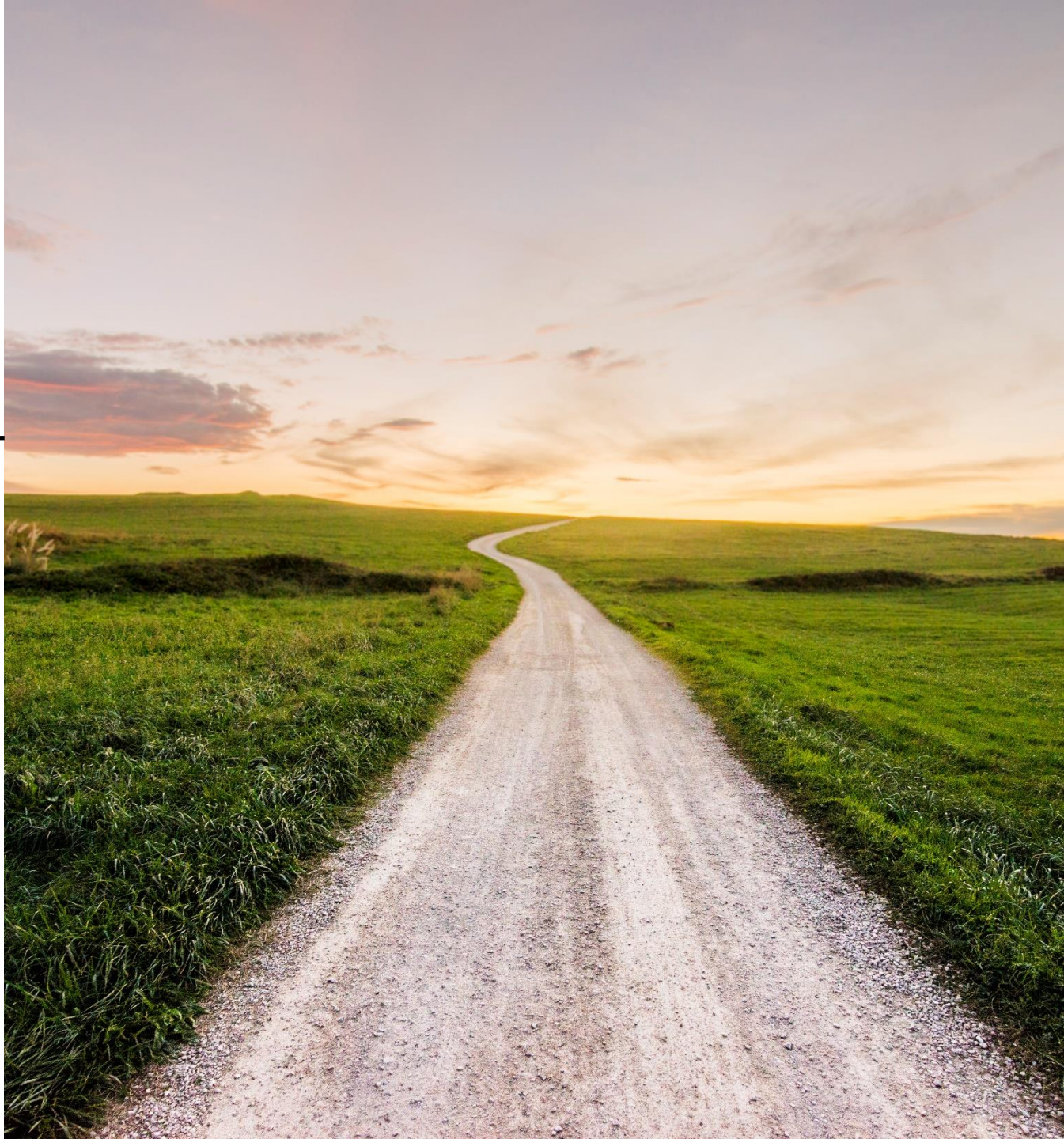
- Business Add-Ins in Transportation:
 - BADI for saving shipments
 - BADI for checks when creating a shipment cost document
 - BADI for creating a shipment cost document
 - BADI for shipment cost account assignment
 - BADI for checks during shipment cost processing
 - BADI for transferring shipment cost items
 - BADI for saving shipment cost documents
 - BADI for the purchase order item determination

basic Transportation Management

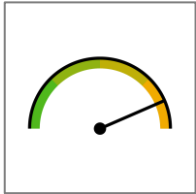
- There are more than 200 BADIs in different areas of S/4 TM version 2020:
 - Master Data
 - Basic Functions
 - **Freight Order Management**
 - Planning
 - **Settlement**
 - Integration



Business value of Transportation Management compared to LE-TRA



S/4HANA Supply Chain for Transportation Management – Value



Reduced Freight spend and improved service levels

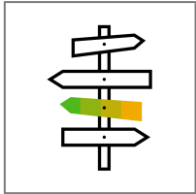
- **Cut down manual processes in planning** (fully automated planning, carrier selection, tendering), freight capacity procurement, freight status monitoring and freight invoice verification
- Optimized **transportation planning** ensuring cost and resource optimization meeting service levels and all transportation constraints – including load plan, freight consolidation and package building
- Optimized **carrier selection** ensures optimized carrier capacity utilization and lower costs
- Optimal **freight cost negotiation** and freight contracts with simulation and what-if analysis
- Reduction of **expedites and overheads** through real-time transportation status monitoring



E2E transportation **visibility** and **quicker data insights**

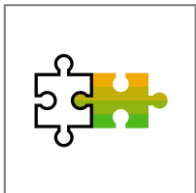
- Real-time shipment and order status visibility through **integrated freight execution tracking and event reporting, map-based tracking**
- Freight cost and order visibility through **extensive real-time analytics**

S/4HANA Supply Chain for Transportation Management – Value



Better **respond to changes**

- Through **real-time status visibility and alerting**
- **Dynamic re-planning capabilities**
- **Realtime integration with warehouse** enabling faster processing of orders



Improved **Usability** and Lower TCO

- Improved **user experience**, administration, and **advanced planning tools** (using map based planning, Gantt chart, load planning)

Thank you.



THE BEST RUN



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