

Functional Documentation - TIERS report

1.0 Overview

This section provides an overview of the application

Business Context and Application Overview

Transportation in supply chain refers to the movement of products from one location to another, which begins at the start of the supply chain as materials make their way to the warehouse and continues all the way to the end user with the customer's order delivered at the doorstep.

Transport Integrated & Enhanced Reporting Solution also known as 'Tiers' is the new common reporting solution dedicated to Transportation at Solvay group for both Legacy processes and SAP ERP Systems (PF1 and RCS), offering consolidated view capabilities at Group level.

Transportation plays a central role in seamless supply chain operations, moving inbound materials from supply sites to manufacturing facilities, repositioning inventory among different plants and distribution centers, and delivering finished products to customers.

Application User Profile

Key Users:

The key users for this existing application are:

- Supply Chain Operational
- Supply Chain Managers
- Supply Chain Excellence
- Customer Managers
- Logistics

Target Users:

Around 300 users, worldwide with daily update

VERSION	DATE	MODIFIED BY	DESCRIPTION
0.01	18.10.2023	Karen Opping	Initial draft

2.0 Business Process

This section captures provides more information about the background of the application, the benefits and the business process that the application supports .

Application Type

Data Product Type	<input type="checkbox"/> Dashboard <input checked="" type="checkbox"/> Report <input type="checkbox"/> Advanced analytics <input type="checkbox"/> AI <input type="checkbox"/> Others <specify which one>
Technologies	<input checked="" type="checkbox"/> BW <input type="checkbox"/> Tableau <input checked="" type="checkbox"/> QlikSense <input type="checkbox"/> Talend <input type="checkbox"/> Dataiku <input type="checkbox"/> Others <specify which one>
Data Sources <i>Note: list of all applications and various environment</i>	<input checked="" type="checkbox"/> SAP PF1 (Production environment) <input type="checkbox"/> SAP WP1 <input type="checkbox"/> SAP PI1 <input type="checkbox"/> BW (versions) <input type="checkbox"/> iCare CRM <input type="checkbox"/> CORE CRM <input checked="" type="checkbox"/> Rhodia <input type="checkbox"/> Others <specify the name of the source>

2.1. Introduction

The Transportation Costs analysis was developed in 2007 to attend the Rhodia users of Logistic processes. The solution had usage several DSO's and just one cube with many detailed information. The number of tickets about inconsistency of data and bad performance some of triggers to develop a new application, in this case much more robust and covering also the Solvay data and its users.

The TIERS project was started in the begin of 2015, using a remodelling by layers Layered Scalable Architecture (LSA), in our case: propagation, business, reporting and virtual layers. The current transportation datasources from Rhodia were reused with low change and all datasources from Solvay were activated with low enhancements. Some additional master data were created to avoid duplication of data in different providers, like shipment document, shipment cost item and delivery item. The development of project was request by the logistic areas in April/2015 and was deployed in December/2015.

2.2. Objective of application

The objectives of this application is as follows:

- To create One unique, common and consolidated reporting space and solution for the Solvay group
 - The rationalization of the "live" solutions and reduction of evolutions requested
 - To have a solution which is maintainable and sustainable.
 - To streamline and Enable productivity actions on Shipment costs
 - To implement a Drillable solution which allows the possibility to detect and analyse problems by showing the link from aggregated figures down to document in SAP.
 - Few "core" queries/workbooks design for application (=> Use BW analysis functionalities and not just as extractor).
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2.3. Benefits

The benefits of creating this solution was

- To create revamped BW reporting solution based on **RCS (WBP-TR002)** but built on old historical architecture (no project on this application for years) - mainly designed for cost reporting.
 - **To have only aggregated monthly data available on PF1.**
 - To have a specific solution (cross legacies) built for CO2 footprint with activation of some standard extractors on PQ1.
 - To help maintain queries in an effective way.
 - Some previous experiences of common transversal reporting tools : WISE (working cap.) and SPRINT (Purchasing and Procurement).
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2.4. Core Business Processes??

The key associated business processes

The TIERS project consists in implementing a simplified global reporting solution for transport process, from planning to invoice to meet the requirements from GBU's users, SBS users and transport buyers, including processes from both companies (Solvay & Rhodia).

This solution will provide:

- **automatic & consolidated BW reports on shipment costs**
 - based on data coming from the ERPs from both legacies (Solvay – PF1, Rhodia – RCS)
 - enabling to drill-down to the ECC object at the origin of the detailed figures
 - updated on daily basis
-

2.5. Accessing Queries

To access the queries follow the below steps

1. Go to BW Analysis
2. Select WBP
3. Select Role (Tiers)
4. Select Query

1. Input relevant prompts
2. Wait for data to load

3.0 Application Feature Overview

This section contains Information about the existing Workbooks and the respective BW queries.

3.1 Query Overview

The below lists the Query/Workbooks for this application

Reports	Definition	Prompts	BW Workbook Query	Query Technical Name
CO2 Emissions	Tool for CO2 footprint reporting	<p>Mandatory:</p> <p>None</p> <p>Optional:</p> <ul style="list-style-type: none"> • Company • Source system • Group Activity • BFC Business • Site of the Plant • Departure Country • Destination Country • Transport Mode • Plant • Departure Geo Zone • Destination Geo Zone • Transportation Planning Point • Shipment number • Shipment Condition • Shipment Type • Shipment Bulk Pack • Leg Indicator • Overall Transp Status • Auth Scope on Company Code • BFC GBU • Company Consolidation Method • Ship Forward Agent 	?	BW_QRY_MVSD TR01_0013
Shipment events	<p>This is used for haulier evaluation</p> <p>Advanced functionalities on process performances (lead-times not available through shipment standard events)</p> <p>Technical analysis on connectivity tools: nb of shipment with slot booking performed, date we received vessel departure information...</p>	<p>Mandatory:</p> <p>None</p> <p>Optional:</p> <ul style="list-style-type: none"> • Company • Source system • Group Activity • BFC Business • Site of the Plant • Departure Country • Destination Country • Forward Agent • Event Type • Event Reason • Plant • Transport Mode • Departure Geo Zone • Destination Geo Zone • Transportation 	?	BW_QRY_MVSD TR002_0001

Shipment status and events	Aggregated indicators on other key figures than costs: number of shipments, number of deliveries, average lead-time, average transit time...	Mandatory: Optional:	DSO_TR001	BW_QRY_MVSD TR01_0012
Shipment costs vs invoices	Also Known as Accrual cost vs invoiced value Query for analyses at shipment level that are not relevant at delivery item level. Comparison between accrual and invoiced value.	Mandatory: • UoM for Qty conversion • Local currency Optional:	TR002_0011	BW_QRY_MVSD TR01_0011
Shipment costs detailed analysis	Provide detailed information, allowing benchmarks, identification of productivity levers : detailed transportation costs (accruals) by material, customer, nature of costs, haulier	Mandatory: • UoM for Qty conversion • Local currency Optional:	TR002_0010	BW_QRY_MVSD TR01_0010

4.0 Functional Specification

This section approaches the concepts/definitions used in all the reports and required to understand the data from the reports.

4.1 General Data

The below describes lower level detail of each query.

1 - Shipment cost details analysis

- Propose a detailed analysis of shipment cost accruals, detailed by materials. Make shipment costs accruals understandable.
- Allows benchmarking between materials, between customers.
- Gives some possibilities of drill down to get details on a macro figure.
- Public: sites log managers / GBU log process teams, base for Qlikview reportings

Source System	Purchasing Site	Ship Dest Country		Accrual, Net value shipment (CP)	Gross W. dels. (PU)	Net W. dels. (PU)	Cost per Unit (Net)	Cost per Unit (Gross)	Extra-costs accrual (CP)	Standard costs accrual (CP)
				EUR	TO	TO			EUR	EUR
PF1_020	ALEXANDRIA	EG	EGYPT	974,70	837,0	836,8	1,16 EUR / TO	1,16 EUR / TO		974,70
				974,70	837,0	836,8	1,16 EUR / TO	1,16 EUR / TO	974,70	
	ALORTON(M), IL	US	USA	102.343,22	712,5	709,4	144,26 EUR / TO	143,64 EUR / TO		102.343,22
				102.343,22	712,5	709,4	144,26 EUR / TO	143,64 EUR / TO	102.343,22	
	ALPHARETTA, GA	CN	CHINA	167,09	0,2	0,2	954,78 EUR / TO	900,74 EUR / TO		167,09
		JP	JAPAN		0,1	0,1				
		KR	SOUTH KOREA		0,0	0,0				
		US	USA	82,97	0,2	0,2	384,11 EUR / TO	351,32 EUR / TO		82,97
				250,05	0,6	0,5	477,02 EUR / TO	448,54 EUR / TO	250,05	
	AR STO/ADM SITE	AR	ARGENTINA	151.541,36	5.598,9	5.579,7	27,16 EUR / TO	27,07 EUR / TO		151.541,36
				151.541,36	5.598,9	5.579,7	27,16 EUR / TO	27,07 EUR / TO	151.541,36	
	AUGUSTA, GA	JP	JAPAN		0,1	0,1				
		US	USA	23.841,25	173,0	164,0	145,42 EUR / TO	137,83 EUR / TO		23.841,25
				23.841,25	173,0	164,0	145,37 EUR / TO	137,79 EUR / TO	23.841,25	
	BAD HOENN. GUET	AT	AUSTRIA	910,40	49,1	48,0	18,97 EUR / TO	18,53 EUR / TO		910,40
		BE	BELGIUM	24.787,27	967,9	946,3	26,19 EUR / TO	25,61 EUR / TO		24.787,27
		CZ	CZECH REPUBLIC	3.046,43	120,2	117,6	25,91 EUR / TO	25,34 EUR / TO		3.046,43
		DE	GERMANY	9.716,91	700,1	689,5	14,09 EUR / TO	13,88 EUR / TO		9.716,91

2 - Shipment cost vs invoice analysis

- Propose advanced cost analysis functionalities including invoice / accrual comparison and other ratios that can't be available at material level.
- Detect / evaluate unbilled payables.
- Audit tarif calculation
- Public: finance / controlling, sites & GBU logistics managers, data log and support teams

Source System	Purchasing Site	Ship Dest Country		Accrual, Net	Gross W, dels. (PU)	Net W, dels. (PU)	Cost per Unit (Net)	Cost per Unit (Gross)	Extra-costs	Standard costs
				value shipment (CP)					accrual (CP)	accrual (CP)
				EUR	TO	TO			EUR	EUR
PF1_020	ALEXANDRIA	EG	EGYPT	974,70	837,0	836,8	1,16 EUR / TO	1,16 EUR / TO		974,70
		Result		974,70	837,0	836,8	1,16 EUR / TO	1,16 EUR / TO		974,70
	ALORTON(M), IL	US	USA	102.343,22	712,5	709,4	144,26 EUR / TO	143,64 EUR / TO		102.343,22
		Result		102.343,22	712,5	709,4	144,26 EUR / TO	143,64 EUR / TO		102.343,22
	ALPHARETTA, GA	CN	CHINA	167,09	0,2	0,2	954,78 EUR / TO	900,74 EUR / TO		167,09
		JP	JAPAN		0,1	0,1				
		KR	SOUTH KOREA		0,0	0,0				
		US	USA	82,97	0,2	0,2	384,11 EUR / TO	351,32 EUR / TO		82,97
		Result		250,05	0,6	0,5	477,02 EUR / TO	448,54 EUR / TO		250,05
	AR_STO/ADM SITE	AR	ARGENTINA	151.541,36	5.598,9	5.579,7	27,16 EUR / TO	27,07 EUR / TO		151.541,36
		Result		151.541,36	5.598,9	5.579,7	27,16 EUR / TO	27,07 EUR / TO		151.541,36
	AUGUSTA, GA	JP	JAPAN		0,1	0,1				
		US	USA	23.841,25	173,0	164,0	145,42 EUR / TO	137,83 EUR / TO		23.841,25
		Result		23.841,25	173,0	164,0	145,37 EUR / TO	137,79 EUR / TO		23.841,25
	BAD HOENN. GUET	AT	AUSTRIA	910,40	49,1	48,0	18,97 EUR / TO	18,53 EUR / TO		910,40
		BE	BELGIUM	24.787,27	967,9	946,3	26,19 EUR / TO	25,61 EUR / TO		24.787,27
		CZ	CZECH REPUBLIC	3.046,43	120,2	117,6	25,91 EUR / TO	25,34 EUR / TO		3.046,43
		DE	GERMANY	9.716,91	700,1	689,5	14,09 EUR / TO	13,88 EUR / TO		9.716,91

3 - Shipment status and events

- Propose tracking of events on shipments. without cost considerations.
- Propose a reporting on volumetry : number of files (delivery or shipment) per flow, average value on some indicators...
- Load plan of shipping points
- Public: LOG data and support teams, GBU's sites log managers and sites operations supervisors, Transport managers

Source System	Purchasing Site	Ship Dest Country		Accrual, Net	Gross W, dels. (PU)	Net W, dels. (PU)	Cost per Unit (Net)	Cost per Unit (Gross)	Extra-costs	Standard costs
				value shipment (CP)					accrual (CP)	accrual (CP)
				EUR	TO	TO			EUR	EUR
PF1_020	ALEXANDRIA	EG	EGYPT	974,70	837,0	836,8	1,16 EUR / TO	1,16 EUR / TO		974,70
		Result		974,70	837,0	836,8	1,16 EUR / TO	1,16 EUR / TO		974,70
	ALORTON(M), IL	US	USA	102.343,22	712,5	709,4	144,26 EUR / TO	143,64 EUR / TO		102.343,22
		Result		102.343,22	712,5	709,4	144,26 EUR / TO	143,64 EUR / TO		102.343,22
	ALPHARETTA, GA	CN	CHINA	167,09	0,2	0,2	954,78 EUR / TO	900,74 EUR / TO		167,09
		JP	JAPAN		0,1	0,1				
		KR	SOUTH KOREA		0,0	0,0				
		US	USA	82,97	0,2	0,2	384,11 EUR / TO	351,32 EUR / TO		82,97
		Result		250,05	0,6	0,5	477,02 EUR / TO	448,54 EUR / TO		250,05
	AR_STO/ADM SITE	AR	ARGENTINA	151.541,36	5.598,9	5.579,7	27,16 EUR / TO	27,07 EUR / TO		151.541,36
		Result		151.541,36	5.598,9	5.579,7	27,16 EUR / TO	27,07 EUR / TO		151.541,36
	AUGUSTA, GA	JP	JAPAN		0,1	0,1				
		US	USA	23.841,25	173,0	164,0	145,42 EUR / TO	137,83 EUR / TO		23.841,25
		Result		23.841,25	173,0	164,0	145,37 EUR / TO	137,79 EUR / TO		23.841,25
	BAD HOENN. GUET	AT	AUSTRIA	910,40	49,1	48,0	18,97 EUR / TO	18,53 EUR / TO		910,40
		BE	BELGIUM	24.787,27	967,9	946,3	26,19 EUR / TO	25,61 EUR / TO		24.787,27
		CZ	CZECH REPUBLIC	3.046,43	120,2	117,6	25,91 EUR / TO	25,34 EUR / TO		3.046,43
		DE	GERMANY	9.716,91	700,1	689,5	14,09 EUR / TO	13,88 EUR / TO		9.716,91

4 - CO² Emissions

- The propose is to show the calculations about quantity of carbonic gas that is released in atmosphere considering all the shipments by zone
- Public: users that manage the environment effects and reports to governments

Source System	Stage Transportation Mode	Tonnes of CO ²
PF1_020	AIR	88,7
	BARGE	0,3
	INTERMODAL	22,5
	MAIL	0,0
	OCEAN	217,2
	RAIL	311,6
	ROAD	792,1
	Result	1.432,3
WP1_400	AIR	0,1
	BARGE	376,7
	OCEAN	219,8
	RAIL	56,7
	ROAD	846,9
	Result	1.500,1
Overall Result		2.932,4

5 - Shipment Events

- The propose is to show the events (problems) involving the hauliers that happened during the logistic process
- Public: GBUs sites log managers and sites operations supervisors, transport managers

Source System	Purchasing Site	Ship Dest Country		Accrual, Net value shipment (CP)	Gross W, dels. (PU)	Net W, dels. (PU)	Cost per Unit (Net)	Cost per Unit (Gross)	Extra-costs accrual (CP)	Standard costs accrual (CP)
				EUR	TO	TO			EUR	EUR
PF1_020	ALEXANDRIA	EG	EGYPT	974,70	837,0	836,8	1,16 EUR / TO	1,16 EUR / TO		974,70
	Result			974,70	837,0	836,8	1,16 EUR / TO	1,16 EUR / TO		974,70
	ALORTON(M), IL	US	USA	102.343,22	712,5	709,4	144,26 EUR / TO	143,64 EUR / TO		102.343,22
	Result			102.343,22	712,5	709,4	144,26 EUR / TO	143,64 EUR / TO		102.343,22
	ALPHARETTA, GA	CN	CHINA	167,09	0,2	0,2	954,78 EUR / TO	900,74 EUR / TO		167,09
		JP	JAPAN		0,1	0,1				
		KR	SOUTH KOREA		0,0	0,0				
		US	USA	82,97	0,2	0,2	384,11 EUR / TO	351,32 EUR / TO		82,97
	Result			250,05	0,6	0,5	477,02 EUR / TO	448,54 EUR / TO		250,05
	AR STO/ADM SITE	AR	ARGENTINA	151.541,36	5.598,9	5.579,7	27,16 EUR / TO	27,07 EUR / TO		151.541,36
	AUGUSTA, GA	JP	JAPAN		0,1	0,1				
		US	USA	23.841,25	173,0	164,0	145,42 EUR / TO	137,83 EUR / TO		23.841,25
Result			23.841,25	173,0	164,0	145,37 EUR / TO	137,79 EUR / TO		23.841,25	
	BAD HOENN. GUET	AT	AUSTRIA	910,40	49,1	48,0	18,97 EUR / TO	18,53 EUR / TO		910,40
		BE	BELGIUM	24.787,27	967,9	946,3	26,19 EUR / TO	25,61 EUR / TO		24.787,27
		CZ	CZECH REPUBLIC	3.046,43	120,2	117,6	25,91 EUR / TO	25,34 EUR / TO		3.046,43
		DE	GERMANY	9.716,91	700,1	689,5	14,09 EUR / TO	13,88 EUR / TO		9.716,91

4.1.2. Perimeter

Currently the WBP Tiers Application contains data coming from the PF1 and WP1 ERP server.

4.1.3. Access

Access to the Tiers Application has to be requested (See [Getting an account](#)). Access is managed at company level, which you will need to precise when requesting the access

4.2 Process Detail

This section represents the process with detail information for the application. Can include specific or special cases, complex logics , calculations, flows, among others.

Domain	Supply Chain
Application	SAP BW
Provider	MVSDTR01 MVSDTR02
Existing Documentation	<insert link>

4.2.1. Reporting Requirements by user profile

Targeted users have been grouped in 3 user profiles depending on the reporting activities they will handle.

Cost analysis needs :

- Detailed mapping of calculated costs (accruals)
 - By haulier
 - By site / plant
 - By ship_to (customers)
 - By shipment or shipment attribute like shipment departure point / destination point / mode / type)
 - By delivery or delivery attribute like shipping condition, shipping point...
- Accrual versus invoiced value
 - By shipment or shipment attributes.
 - By haulier
- Time analyses
 - By month of shipment completion (planned / actual)
 - By shipment cost posting date
- Detailed accrual analysis by nature of cost
 - Accrual net value by shipment cost item category
 - Valuated condition by cost condition
- Ratio calculation
 - Value per ton
 - Value per KM
 - Value per To/KM
 - Value per container
 - Value per shipment

Operation reporting needs:

- Volumetry (number of shipment & number of deliveries)
 - Per GBU/plant
 - Per Shipment Departure point/Shipment Destination point
 - Per date (Year / Year-Month)
 - Average payload per shipment
- Volumetry (number of containers)
 - Per GBU/plant
 - Per Shipment Departure point/Shipment Destination point
 - Per date (Year / Year-Month)
 - Average payload per container
- Haulier evaluation
 - % OTS shipment (planned completion = actual completion)
 - % OTD shipments (planned shipment end = actual shipment end)
 - Number of event / Type of event / Number of shipment
- Leadtime analyses
 - % of shipments with calculable transit time
 - % of shipments with calculable queue time
 - % of shipments with calculable "on site time"
 - Average Actual transit time (shipment end - shipment completion)
 - Average "queue time" (loading start - check in)
 - Average "on-site" time (completion - check in)
 - Average booking leadtime (shipment start - planification date)

C02 Footprint :

- Tons and Distances by mode
- CO2 emission (by mode, by GBU...)

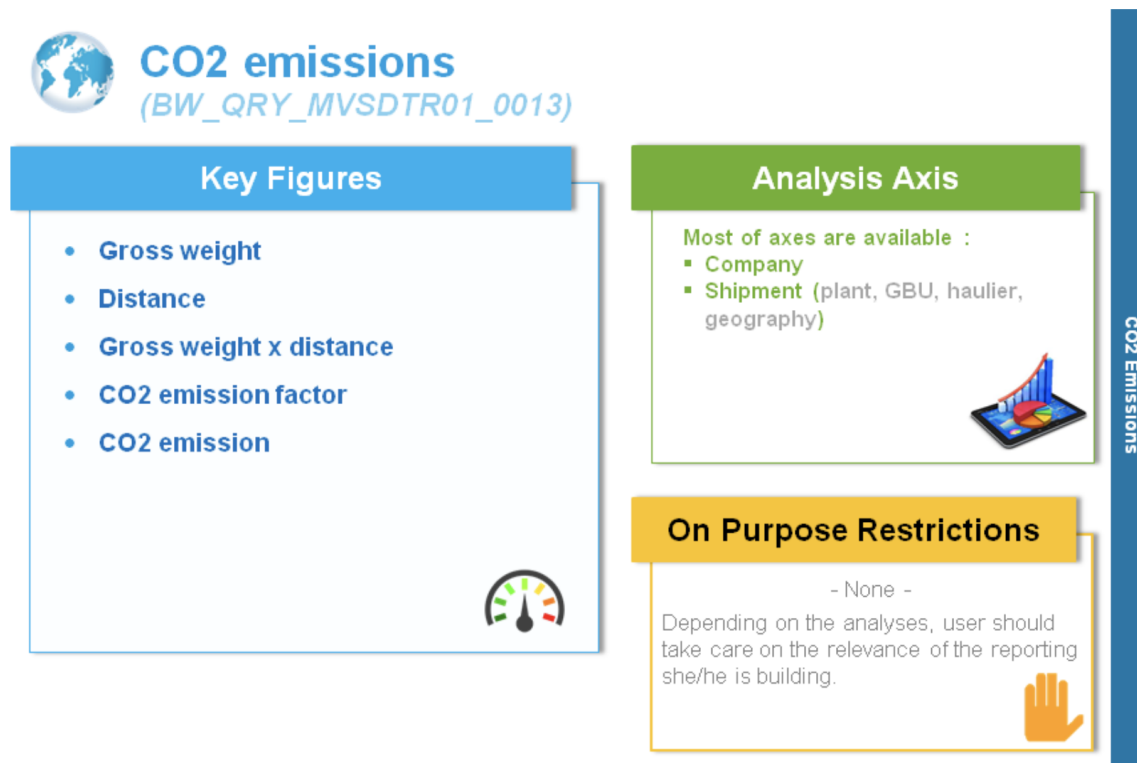
4.2.2. Calculations

The below illustrates the key figures required for each query and the respective figures required to how they are calculated

- **CO2 Footprint:**

For CO2 Footprint calculations, the required figures are

- Gross Weight Distance
 - This figure refers to a formula or calculation used to estimate or calculate the carbon dioxide (CO2) emissions associated with transporting goods based on the weight of the cargo and the distance it travels.
- Gross weight x distance
 - This figure refers to a formula used to estimate or calculate the carbon dioxide (CO2) emissions associated with the transportation of goods. This formula takes into account the gross weight of the cargo (the total weight of the goods and their packaging) and the distance the goods are transported.
- CO2 emission factor
 - This figure represents the amount of carbon dioxide (CO2) emissions generated per unit of a specific activity or resource. It is used to estimate the CO2 emissions associated with various processes, transportation modes, or energy sources.
- CO2 emission
 - This figure involves measuring or estimating the actual CO2 emissions produced from various activities within the supply chain.



- **Shipment costs detailed analysis:**

For Shipment costs detailed analysis calculations, the required figures are

- Net Value
 - Net value calculation involves a multi-level data aggregation process, data is initially collect from the "stored at shipment" stage, then "cost item x delivery item level" and then a summation or aggregation of this data is performed.
- Net/Gross Weight
 - Net/Gross weight calculation involves a two-step process. First, data is calculated at the "delivery item x shipment stage level," and then summed at the "delivery item x shipment" level, ***But not on shipment stages***, providing a higher-level view of the delivery process.

- Distance in KM
 - Distance in KM calculation involves a two-step data aggregation process. First, data is collected or stored at the "shipment stage" and "delivery item" levels. Then, the data is aggregated at two higher levels: "stages" and "shipments." **But not on delivery items nor deliveries.** The output is a higher-level summary that can offer insights into the performance or metrics associated with different stages and overall shipments within the delivery process.
- Detailed cost condition value
 - This calculation involves then "stores at delivery item x shipment stage x condition type". Then a summation of all data is performed.



Shipment costs detailed analysis

(BW_QRY_MVSDTR01_0010)

Key Figures

- **Net value***
Stored at shipment stage x cost item x delivery item level then summed
- **Net/Gross weight***
Stored at delivery item x shipment stage level then summed on delivery item x shipment but not on shipment stages.
- **Distance in Km**
Stored at shipment stage x delivery item level and summed on stages and shipments but not on delivery items nor deliveries.
- **Detailed cost condition value***
Stored at delivery item x shipment stage x condition type then summed



* in both document currency and prompt currency

Analysis Axis

- **Shipment** (plant, GBU, haulier, geography)
- **Delivery item** (3rd Party, Material...)
- **Nature of costs**
- ...



On Purpose Restrictions

No ratios that are not relevant with material or customer split (like invoiced value, number of containers...) due to the fact there can be several materials or several customers mixed in the same shipment.




• **Accrual costs vs invoice analysis:**

For Accrual costs vs invoice analysis calculations, the required figures are :

- Net Value
 - Net value calculation involves a multi-level data aggregation process, data is initially collect from the "stored at shipment" stage, then "cost item x delivery item level" and then a summation or aggregation of this data is performed.
- Invoiced Value
 - This figure involves adding up the data associated with all the purchase orders within each shipment. The calculation is "Shipment" x "Purchase Order" (PO) levels.
- Net/Gross weight
 - Net/Gross weight calculation involves a two-step process. First, data is calculated at the "delivery item x shipment stage level," and then summed at the "delivery item x shipment" level, **But not on shipment stages**, providing a higher-level view of the delivery process.
- Distance in Km
 - Distance in KM calculation involves a two-step data aggregation process. First, data is collected or stored at the "shipment stage" and "delivery item" levels. Then, the data is aggregated at two higher levels: "stages" and "shipments." **But not on delivery items nor deliveries.** The output is a higher-level summary that can offer insights into the performance or metrics associated with different stages and overall shipments within the delivery process.
- Detailed cost condition value
 - Data is calculated by adding "stored at delivery item" x "shipment stage", x "condition type", then perform a summation or aggregation of this data.
- Number of containers
 - Data for "stored at shipment level" is the aggregated data required for this key figure. This data relates to shipment-specific details such as shipment tracking information, delivery dates, quantities, contents.
- Number of Hus

- This figures aggregation "stored at shipment x delivery level but presented only at shipment level then summed" combines the data for each shipment. This means that all the data for individual delivery items within a shipment is summarized to provide a higher-level view of the entire shipment's data.




Accrual costs vs invoice analysis

(BW_QRY_MVSDTR01_0011)

Key Figures


- Net value ⁽¹⁾**
Stored at shipment stage x cost item x delivery item level then summed
- Invoiced value**
Stored at shipment x PO level then summed
- Net/Gross weight ⁽²⁾**
Stored at delivery item x shipment stage level then summed on delivery item x shipment but not on shipment stages.
- Distance in Km**
Stored at shipment stage x delivery item level and summed on stages and shipments but not on delivery items nor deliveries.
- Detailed cost condition value ⁽¹⁾**
Stored at delivery item x shipment stage x condition type then summed
- Number of containers**
Stored at shipment level
- Number of Hus**
Stored at shipment x delivery level but presented only at shipment level then summed.



(1) in both document currency and prompt currency
(2) in both document unit and prompt unit


Analysis Axis


- **Shipment** (plant, GBU, haulier, geography),
- **Nature of costs, ...**



On Purpose Restrictions

No analysis axis based on delivery / delivery item as we are not able to split some key figures proposed in that query among deliveries and items in one shipment.





• Shipment events

For **Shipment events** calculations, the required figures are :

- Counter on event
 - This figure is used to monitor and record the number of times a particular event or milestone occurs.
- Event duration
 - This figure is a measure of the time it takes for a specific event to be completed based on actual dates and time when registered.



Shipment events

(BW_QRY_MVSDTR002_0001)

Key Figures

- **Counter on event**
- **Event duration**
based on actual dates and time when registered



Analysis Axis

- **Shipment** (plant, haulier)
- **Event type**
- **Event detail** (reason for deviation).



On Purpose Restrictions

- None -



Shipment status and events calculations

For Shipment status and events calculations, the required figures are :

- Nb "number" of shipments
 - This figure refers to the quantity or count of individual shipments
- Nb "number" of deliveries
 - This figure refers to the number or count of individual delivery actions.
- Nb "number" of shipment stage
 - This figure refers to the number or count

of these distinct stages within a specific shipment.

- Nb "number" of shipment relevant for transit time calculation
 - This figure refers to the number of shipments to calculate or analyze transit times.
- Transit time
 - This figure measures the duration or elapsed time that a shipment is in transit.
- On site time
 - This figure refers to the amount of time that a shipment or delivery vehicle spends at a specific location or destination during its journey.
- Queue time
 - This figure refers to the amount of time that a shipment spends in a queue or waiting area before it moves on to the next stage of its journey or is processed
- Booking lead-time
 - This figure refers to the amount of time between the booking or reservation of a shipment and the actual shipment's departure or execution
- **HOTD**
- **HOTS**



Shipment status and events

(BW_QRY_MVSDTR01_0012)

Key Figures

- Nb of shipments
- Nb of deliveries
- Nb of shipment stage
- Nb of shipment relevant for transit time calculation
- Transit time*
- On site time*
- Queue time*
- Booking lead-time*
- HOTD*
- HOTS*



Analysis Axis

- Shipment (plant, GBU, haulier, geography)
- Delivery
- Delivery item (3rd Party, ...)
- ...



On Purpose Restrictions

- None -

Depending on the analyses, user should take care on the relevance of the reporting she/he is building.



* Ratios on average values based on shipment relevant for the calculation are also available.

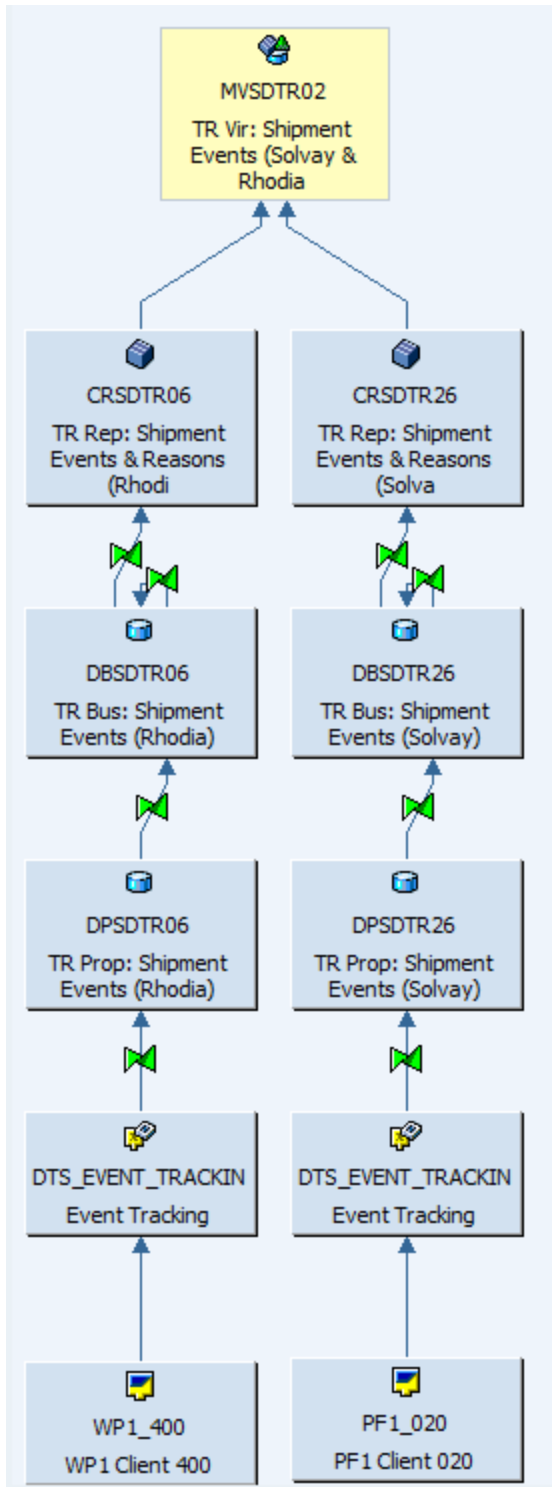
4.2.3. Data

The Main Data attributes associated with the TIERS platform are below

Master data :	Attributes :
TIERS Address	Designation, Type, Location (city), Country, TR zone, ZIP code, Geo zone (EU/NA/NAM/LAM)
Route	Designation, Factory calendar, Service agent, Main leg shipping type, preliminary leg shipping type, subsequent leg shipping type, standard transit time, standard lead-time
Shipment cost item	Reference document (PO/PO-Item), Partner, Partner role, Item category, Freight class, Tariff zones (departure/destination) Posting date, Date of pricing, service agent,... and several other information from shipment cost item.
Shipment number	All dates and times from shipment (deadl. Tab), Hazardous content flag, Identification (plates numbers, container numbers, Seals number, Route, Forw Agent, Transport mode, other information coming from shipment header, informations from "tender" tab.
Other master data available in TIERS are reused from other BW applications	

4.2.4. Data Flows

The data flow below are from the service provider MVSDTR02 - TR Vir: Shipment Events (Solvay & Rhodia)



4.2.5. Service Provider - MVSDTR01

The below are the Calculated and Restricted key figures associated with [MVSDTR01](#)

Name	Description	Formula
BW_CKF_MVSDTR01_0001	No of Containers	
BW_CKF_MVSDTR01_0002	Distance (SUM ship)	

BW_CKF_MVSDTR01_0003	Gross W. dels. (SUM del item)	
BW_CKF_MVSDTR01_0004	Net W, dels. (SUM del item)	
BW_CKF_MVSDTR01_0005	Gross W, dels. (SUM delivery)	
BW_CKF_MVSDTR01_0006	Net W, dels. (SUM delivery)	
BW_CKF_MVSDTR01_0007	Gross W, dels. (SUM ship)	
BW_CKF_MVSDTR01_0008	Net W, dels. (SUM ship)	
BW_CKF_MVSDTR01_0010	No of handling units (MAX delitem)	
BW_CKF_MVSDTR01_0011	No of handling units	
BW_CKF_MVSDTR01_0014	Detailed Shpt. condition value	
BW_CKF_MVSDTR01_0015	Invoiced Value	
BW_CKF_MVSDTR01_0016	Accrual, Net value shipment	
BW_CKF_MVSDTR01_0017	# Ship Relevant for SADH below 30 min	
BW_CKF_MVSDTR01_0018	# Ship Relevant for SADH	
BW_CKF_MVSDTR01_0020	Distance (SUM stage)	
BW_CKF_MVSDTR01_0021	No of Shipments	
BW_CKF_MVSDTR01_0023	No of handling units (MAX stage)	
BW_CKF_MVSDTR01_0024	No of Stages (by detail)	
BW_CKF_MVSDTR01_0025	No of Stages (by Stage)	
BW_CKF_MVSDTR01_0026	No of Stages	
BW_CKF_MVSDTR01_0027	No of Delivery Items	
BW_CKF_MVSDTR01_0028	No of Deliveries	
BW_CKF_MVSDTR01_0032	CO ² Emission Factor	
BW_CKF_MVSDTR01_0040	#Ship Relevant for Loading duration	
BW_CKF_MVSDTR01_0041	#Ship Relevant for Queue time	
BW_CKF_MVSDTR01_0042	#Ship Relevant for On Site duration	
BW_CKF_MVSDTR01_0045	Number of HOTS	
BW_CKF_MVSDTR01_0046	#Ship Relevant for booking leadtime	
BW_CKF_MVSDTR01_0052	Net W. dels in VKG (SUM del item)	
BW_CKF_MVSDTR01_0053	Net W. dels in VKG (SUM delivery)	
BW_CKF_MVSDTR01_0054	Net W. dels in VKG (SUM ship)	
BW_CKF_MVSDTR01_0055	Net W. dels in VTN (SUM del item)	
BW_CKF_MVSDTR01_0056	Net W. dels in VTN (SUM delivery)	
BW_CKF_MVSDTR01_0057	Net W. dels in VTN (SUM ship)	
BW_CKF_MVSDTR01_0070	Gross W. dels. (MAX stage)	
BW_CKF_MVSDTR01_0071	Net W. dels. (MAX stage)	
BW_CKF_MVSDTR01_0072	Net W. dels in VKG (MAX stage)	
BW_CKF_MVSDTR01_0073	Net W. dels in VTN (MAX stage)	
BW_CKF_MVSDTR01_0081	Distance (max delivery)	
BW_CKF_MVSDTR01_0082	Distance (max delitem)	
BW_CKF_MVSDTR01_0090	Loading Duration (Days)	
BW_CKF_MVSDTR01_0091	Transit time (Days)	

BW_CKF_MVSDTR01_0092	Booking leadtime (Days)	
BW_CKF_MVSDTR01_0093	HOTD delay (in days)	
BW_CKF_MVSDTR01_0094	HOTS delay (in days)	
BW_CKF_MVSDTR01_0095	On site duration (Days)	
BW_CKF_MVSDTR01_0096	Queue time at plant (Days)	
BW_CKF_MVSDTR01_0097	Planned Transp Time (Days)	
BW_CKF_MVSDTR01_0098	SADH in min (by ship)	
BW_RKF_MVSDTR01_0001	Number of Legs	
BW_RKF_MVSDTR01_0002	Extra-costs accrual CP	

4.2.5. Currency Conversion

- The X rate considered is the Daily Month Average (M) rate (table managed by finance team, source ECB - European Central Bank) based on Document creation date.

5.0 Non-functional Descriptions

Please populate the relevant section and delete those that are not applicable.

5.8 Availability

5.9 Refresh of the Data

The data is **updated daily** around ~5 am Paris Time using delta process via process chain schedule.