

**Beas Tutorials** 



## **Beas Manufacturing**

Beas Manufacturing is the global solution for small to mid-sized discrete and process manufacturing businesses. Offering functionality from the planning phase through to control, implementation and fulfilment, Beas Manufacturing ensures efficiency and flexibility for manufactures.

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## 1 Analyze and execute pre-calculations

Product costing is a complex process used to value the internal cost of materials and production for profitability and management accounting. This tutorial gives and overview of product costing, its importance and practical uses in the business process.

Throughout a given period, actual expenses are recorded in SAP as purchases are made, payroll is processed, bills are paid, and production occurs. At month-end, Work in Process, Variance, and Settlement are calculated. The variance between actual costs and standard costs can result in changes to product costing for the next period or year. Costs are settled, and the posting period is closed at the end of the month.

Product cost planning is a concept where the business can plan costs for materials or finished goods, set prices for materials and other cost accounting objects without references to orders. Analyzing product costs provides answers to questions such as:

- What is the added value of a particular step in the production process?
- What proportion of the added value can be attributed to a particular organization unit?
- What are the material, production, and overhead costs?
- How can production efficiency be improved?
- Can the product be sold at a competitive price?

Beas offers the Precalculation functionality where product cost is planned. This function simulates the planned cost based on the information from the item master data (BOM and routing). This function also allows to check the structure of an item based on its cost structure. This tutorial explains how to run the Precalculation functionality, explains the main fields at the Precalculation screen used for product cost planning. It details the master data affecting the Precalculation results, to understand material and operational cost calculation results and set material pricing parameter to calculate material cost.

## 1.1 Process interactions

The Beas Precalculation function interacts with the following processes:

Process	Function
Engineering	Planned item cost
	Batch calculation
Production	Planned work order cost
Sales	Precalculation for sales order items

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## 1.2 Process

In Beas, there are 3 cost calculation functionalities. Some of these estimates planned cost and others analyze actual costs.

Precalculation calculates planned cost and post-calculation calculates the actual cost of the item from a work order.



Pre-calculation gathers information from the item master data, material quantities required to produce from the bill of materials, and time required from the routing steps. An option allows to run the pre-calculation directly from the master data to view the planned cost of a produced item.

Post-calculation uses the information of the work order to calculate the actual cost. The system not only estimates the planned cost of the work order based on its BOM and routing defined, but also calculates the actual cost based on material consumption and time reporting.

The pre-calculation function might be used at a sales order to customize an *Order Related* item, or it can be run in bulk, using several items, to create an SAP price lists. This type of execution is performed by the *Batch Calculation* functionality. For more information, please refer to *Batch Calculation* functionality.

While creating item structures, there is an option to run the pre-calculation functionality in the master data to review the cost of the item and to ensure that the structure is correct.

#### 1.2.1 Assigning a Calculation Schema to an item

After some calculation schemas are defined in the database, they need to be assigned to the produced items. If an item has no assigned calculation schema assigned, Beas uses the default calculation schema defined in the Configuration Wizard.

The calculation schema can be assigned to an item in the item master data, the Calculation tab.

Inventory > Item Structure > Double Click an item > Calculation tab

The item structure screen of Beas displays a list of all items created.

Link the required calculation schema in the Calculation schema field. The drop-down displays all defined calculation schemas to chose from.

tem master data	for FG001												
Master Data	Bill of Mater	ials	Routing	Configu	irator	Qual	ity control						
Item number	FG0	01		I-Ve	rsion 📫		▼ 🗉	Warehouse	e item 🔽				
Description	Fini	shed Good 01 -	Storage R	elated				Sales Item	e item 🗹 V part V				
Desc. in foreign lang	g.							Purchased	part 🗸				
Item type	Iten	1		-				Fixed asset					
Item group	Iten	15		<ul> <li>Barc</li> </ul>	ode		۲						
UoM Group	Mar	ual											
General Pure	chasing data	Sales data	Inver	tory data	Batch		Planning data	Calculation	n Properties	Remarks	Attachments	Variant	
				Last Calcu	lation	Detail	Chart MargCos	sts Cha	rt Full Costs A	ll Results			
Calculation schema Lot size / calculation		<b>~</b>		Last Calculat	ion	6	/30/2017 00:45:58			1			^
Calculation price		246.24		Calculation		⇒1		ation - FG001		1			
calculation price				Туре		V	aluation			-			
Last Purchase Price		3.25	\$	Description						1			
Last movement	06/3	0/17		Schema		s	td	One step		]			
Last valuated Price		0.00								-			
Last Valuation													
Average price		0.00					Marginal Cos	st	Full Cost				
				Direct Mater	ial Costs		0.0	)2	0.0	2			
				L+M costs			225.1	12	225.1	2			
				Production	Price		231.9	90	234.1	5			
													~

IMPORTANT: This tab only appears when the mode of procurement is set to Produce. For more information about mode of procurement, refer to the Item Master Data tutorial.

#### 1.2.2 Executing a pre-calculation from the item master data

A pre-calculation can be run for a specific item from its item master data. This calculation only displays the results and cannot be saved.

1. Go to the item master data, Calculation tab.

Master Data	Dill of t	1aterials	Routing	Configu		Quality	/ control					
			Routing									
Item number		FP_S			rsion 😐	<u>&gt;</u>	- 3	Warehouse	item 🗹			
Description		Finished Product /	Normal / Mak	e to Stoc	k			Sales Item	item 🗹 Sart 🗹			
Google Search								Purchased p	part 🗹			
Item type		Item	-					Fixed assets				
Item group		Items	-	Barc	ode		(3)					
UoM Group		Manual		]								
General Pur	chasing d	ata Sales data	Inventor	y data	Planni	ing data	Calculation	Properties	Remarks	Attachments	Variant	
				last Calcu	lation	Detail	Chart MargCo	osts Char	t Full Costs	All Results		
Calculation schema		Std 🔻										
Lot Size / Calculatio	n	0										
Calculation price		0.00										
Last Purchase Price		0.00										
Last movement												
Last valuated Price		0.00										
Last Valuation												
Average price		0.00										
Price List	Calculati	on										
The clot	Concollati											

- 2. Link a calculation schema to the item, if it is not already done.
- 3. Click the **Calculation** button to open the attached calculation schema on the item.

Calculation FP_S			
Calculation schema	⇔ Std	-	
Lot Size		0	
Material valuation	Item valuation method	-	
Material valuation 2	(1) Price List 01	-	
One step			
Display per	Display per piece	-	
I-Version		- 3	
Variant		-	
Product configuration		-	
Start C	ancel		Γ.

4. Click **Start** to execute the calculation. For an explanation on the available fields, see

#### Calculation field guide in the Beas online help.

5. The result screen opens.

Processing	View	Functions	]								
2			٩	•	ot	6	æ	×			
Edit	Insert item	New Assembly	New Material	Create Operation	Cut	Сору	Insert	Delete	Calculate		
t Size: 1	Ma	argCosts	Description			Quantity Use	Co	st DM	IC T/Min	LMC	
F	P_S		Finished Product	Normal / Make to	Stock	1.0000 Pcs	0.0	0 24.	08 0.500000	7.0000	
🍅 10	RM		Raw Material / No	rmal		1.0000 Pcs	1.000	0 1.00	00 0.00	0.00	
<u>à</u> 20	RM_N		Raw Material / No	rmal / Negative BC	DM -1.0	000000 Pcs	0.0	0 0.	00 0.00	0.00	
<u>á</u> 30	RM_QC		Raw Material / No	rmal / With QC		1.0000 Pcs	0.99000	0.9900	00 0.00	0.00	0.9
á 40	RM_V		Raw Material / No	rmal / Version		1.0000 Pcs	1.000	0 1.00	00 0.00	0.00	
õ 50	RM_V_N		Raw Material / No	rmal / Version / Ne	gative BC -1.	000000 Pcs	0.0	0 0.	00 0.00	0.00	
õ 60	RM_B		Raw Material / Ba	ich		1.0000 Pcs	1.000	0 1.00	00.00	0.00	
ŏ 70	RM_B_N		Raw Material / Ba	ch / Negative BO	M -1.0	000000 Pcs	0.0	0 0.	00 0.00	0.00	
<b>a</b> 80	RM_B_QC		Raw Material / Ba	ah / OC		1.0000 Pcs	1.090	0 1.09	00.00	0.00	

## 1.2.3 Analyzing a pre-calculation result

After the pre-calculation is executed, a new screen is opened. The results are displayed in the following structure:

Processin	g View	Functions				_	_							
2	C Insert item	New	() New	Çreate	ot	6		æ	×	C	1			
Edit		Assembly	Material	Operation	Cut	Сору		Insert	Delete	Calcu	late			
t size: 1	Ma	rgCosts	Description			Quantity Use	2	Co	st	DMC	T/Min	LMC	COGS	Drawing number
	FG001		Finished Good 01	- Storage Related		1.0000 Piece		0.	00	118.93	67.03	215.12	334.05	
10	SF001		Semi-finished 01			3.0000 Piece				116.93	7.0000	35.00	151.93	
20	PK003		Package Item 03			1.0000 Piece		2.00	00	2.0000	0.00	0.00	2.0000	
10	Blist1		Operation 01				1.0			0.00	30.00	60.00	60.00	
20	Pack01		Operation 02				1.0			0.00	30.03	120.12	120.12	
Materia	I Costs by Bill of Ma	aterials								118.91				
	al processing		0.023							0.022500				
	Material Costs									118.93				
	t Material Costs		0.0%							0.00				
L+M co												215.12		
Indirect	t Production Costs		3.0%									6.4538		
Costs	of goods sold												340.51	
Shippin	g cost												0.00	
Sales a	and Administration		3.0%										10.22	
Cost o	f Sales												350.72	
Profit I	/largin												0.00	
Net Sa	les Price												350.72	
Discou	nt		3.0%										10.85	I
large s	ales price												361.57	
Sales F	Price												389.43	I

The item structure can be expanded in the upper side of the screen, marked in red.

The calculation schema objects are displayed at the bottom of the screen, marked in blue. These can be hidden by setting the *Hide calculation schema* parameter in the calculation schema setup. For more information about this setting, refer to the Calculation Schema tutorial.

The user can hide selected objects from the calculation schema in the pre-calculation screen. For more information about this, refer to the *Default* field in the *Overhead Cost* objects in the Calculation Schema tutorial.

The columns display the input and results of the calculation.

Proces	ssing View	Functions												
Edit	insert item	New Assembly	New Material	Create Operation	्ह Cut	Сору		Insert Delete	Calc					
ot size:	:1 M	argCosts	Description			Quantity Us	9	Cost	DMC	T/Min	LMC	COGS	Drawing number	
	FG001		Finished Good 01	- Storage Related		1.0000 Piece		0.00	118.93	67.03	215.12	334.05		
10	SF001		Semi-finished 01			3.0000 Piece			116.93	7.0000	35.00	151.93		
20	PK003		Package Item 03			1.0000 Piece		2.0000	2.0000	0.00	0.00	2.0000		
a 10	Blist1		Operation 01				1.0		0.00	30.00	60.00	60.00		
20	Pack01		Operation 02				1.0		0.00	30.03	120.12	120.12		
	terial Costs by Bill of I	Materials							118.91					
Ext	ernal processing		0.023						0.022500					
Dire	ect Material Costs								118.93					
🕳 Indi	irect Material Costs		0.0%						0.00					
📕 L+N	/ costs										215.12			
a Indi	irect Production Costs		3.0%								6.4536			
Cos	sts of goods sold											340.51		
n Shi	pping cost											0.00		
📻 Sak	es and Administration		3.0%									10.22		
Cos	st of Sales											350.72		
e Pro	fit Margin											0.00		
Ref	t Sales Price											350.72		1
e Dis	count		3.0%									10.85		
arg larg	e sales price											361.57		
Mat Ext Dire Ind Ind Cos Shi Cos Pro Net E Ing Sal	es Price											389.43		
													>	1

*Description*: The description of each item and routing from the item structure. This is used to display details of the surcharge from the calculation schema, like percentage or fixed value.

#### Quantity Use:

- For a bill of material positions (raw material and subassemblies): Quantity of the material required to produce
- For a finished good: Quantity to be produced
- For a routing position Time needed to perform the task from the routing

Quantities are summarized according to a specific unit of measure, which is defined in the Configuration Wizard.

*Cost*: The material price determined by Material Valuation or Material Valuation 2 defined for the pre-calculation execution.

**DMC**: Acronym for Direct Material Cost. The direct material cost per material (quantity \* cost) in the item structure and, summarized in the Direct Material Costs calculation schema object and the finished good item (BOM material cost + external operation cost defined in the calculation schema). For more information about Calculation Schema, please refer to <u>Calculation Schema</u> tutorial.

**Example**: For the item FG001, there is a subassembly and a raw material as part of the bill of material. Beas calculates the DMC for each position which is the quantity \* cost. For PK003 – Package Item  $03 = 2 \in * 1$  piece =  $2 \in * 1$ 

Lot	size: 1	MargCosts	Description	Quantity Us	e	Cost	DMC	T/Min	LMC	COGS
E	1	FG001	Finished Good 01 - Storage Related	1.0000 Piece		0.00	118.93	67.03	1,165.12	1,284.05
C	10	SF001	Semi-finished 01	3.0000 Piece			116.93	7.0000	35.00	151.93
T.		RM001	Raw Material 01	9.0000 Gr		0.250000	2.2500	0.00	0.00	2.2500
	🙆 20	RM002	Raw Material 02	18.00 ml		3.4500	62.10	0.00	0.00	62.10
	歯 30	RM003	Raw Material 03	3.0000 ml		1.7200	5.1600	0.00	0.00	5.1600
	歯 40	RM004	Raw Material 04	150.00 ml		0.150000	22.50	0.00	0.00	22.50
	歯 50	RM005	Raw Material 05	30.00 ml		0.830000	24.90	0.00	0.00	24.90
	🙇 10	Mix	Operation 01		1.0	5.0000	0.00	7.0000	35.00	35.00
	🙀 15	ENC1	Operation 02							
	20	ENCAP	External Operation	Piece	1.0	0.022500	0.022500	0.00	0.00	0.022500
	20	PK003	Package Item 03	1.0000 Piece		2.0000	2.0000	0.00	0.00	2.0000
÷	<b>a</b> 10	Blist1	Operation 01		1.0		0.00	30.00	1,010.00	1,010.00
ļ	20	Pack01	Operation 02		1.0		0.00	30.03	120.12	120.12
	Materia	I Costs by Bill of Materials					118.91			
	Externa	al processing	0.023				0.022500			
		Material Costs					118.93			
		t Material Costs	0.0%				0.00			

Beas calculates the DMC for the assembly SF001 by summing up all material costs and the external operation cost. This means: RM001 + RM002 + RM003 + RM004 + RM005 + ENCAP

DMC for SF001 = (9 \* 0.25€) + (18 \* 3.25€) + (3 \* 1.72€) + (150 \* 0.15€) + (20 \* 0.83€) + (0.225€)

= 116.93€

Lot si	ize: 1	MargCo	sts Description	Quantity Us	e	Cost	DMC	T/Min	LMC	COGS
	F	G001	Finished Good 01 - Storage Related	1.0000 Piece		0.00	118.93	67.03	1,165.12	1,284.05
	10	SF001	Semi-finished 01	3.0000 Piece			116.93	7.0000	35.00	151.93
	10	RM001	Raw Material 01	9.0000 Gr		0.250000	2.2500	0.00	0.00	2.2500
	20	RM002	Raw Material 02	18.00 ml		3.4500	62.10	0.00	0.00	62.10
	<u>ک</u> 30	RM003	Raw Material 03	3.0000 ml		1.7200	5.1600	0.00	0.00	5.1600
	<u>á</u> 40	RM004	Raw Material 04	150.00 ml		0.150000	22.50	0.00	0.00	22.50
(	50	RM005	Raw Material 05	30.00 ml		0.830000	24.90	0.00	0.00	24.90
	ž 10	Mix	Operation 01		1.0	5.0000	0.00	7.0000	35.00	35.00
	15	ENC1	Operation 02							
	20	ENCAP	External Operation	Piece	1.0	0.022500	0.022500	0.00	0.00	0.022500
	20	PK003	Package Item 03	1.0000 Piece		2.0000	2.0000	0.00	0.00	2.0000
. <u>é</u> '	10	Blist1	Operation 01		1.0		0.00	30.00	1,010.00	1,010.00
	20	Pack01	Operation 02		1.0		0.00	30.03	120.12	120.12
	Material	Costs by Bill of Material	5				118.91			
	External	processing	0.023				0.022500			
	Direct M	aterial Costs					118.93			
	Indirect	Material Costs	0.0%				0.00			

Beas then calculates the DMC for the finished good FG001 by summing the rest of the bill of material. This means: SF001 + PK003

DMC for FG001 = 116.93€ + 2€

= 118.93€

ot size:	1 MargCosts	Description	Quantity Use	Cost	DMC	T/Min	LMC	COGS
<b>.</b>	FG001	Finished Good 01 - Storage Related	1.0000 Piece	0.00	118.93	67.03	1,165.12	1,284.0
🗀 10	SF001	Semi-finished 01	3.0000 Piece		116.93	7.0000	35.00	151.9
🕥 1	0 RM001	Raw Material 01	9.0000 Gr	0.250000	2.2500	0.00	0.00	2.250
2	0 RM002	Raw Material 02	18.00 ml	3.4500	62.10	0.00	0.00	62.1
3	0 RM003	Raw Material 03	3.0000 ml	1.7200	5.1600	0.00	0.00	5.160
🙆 4	0 RM004	Raw Material 04	150.00 ml	0.150000	22.50	0.00	0.00	22.5
	0 RM005	Raw Material 05	30.00 ml	0.830000	24.90	0.00	0.00	24.5
	0 Mix	Operation 01	1.0	5.0000	0.00	7.0000	35.00	35.
🧟 1		Operation 02						
2	0 ENCAP	External Operation	Piece 1.0	0.022500	0.022500	0.00	0.00	0.0225
20	PK003	Package Item 03	1.0000 Piece	2.0000	2.0000	0.00	0.00	2.00
	Blist1	Operation 01	1.0		0.00	30.00	1,010.00	1,010.
20	Pack01	Operation 02	1.0		0.00	30.03	120.12	120.
📕 Mate	rial Costs by Bill of Materials				118.91			
	rnal processing	0.023			0.022500			
E Dire	ct Material Costs				118.93			
India	ect Material Costs	0.0%			0.00			

*T/Min*: The operation time duration, including setup time and processing time.

Times are summarized according to a specific unit of measure. This is defined in the Configuration Wizard.

*LMC*: Acronym for Labor and Machine Cost. Operation cost per routing position (Time \* resource cost rate) in the item structure and, summarized in the calculation schema object L + M Cost and the finished good item.

**COGS**: Acronym for Cost Of Goods Sold. The first draft of the product cost which includes DMC + LMC and additional surcharges related to materials and operations included in the calculation schema. For more information about Calculation Schema, please refer to <u>Calculation Schema</u> tutorial.

#### 1.2.4 Creating and executing a pre-calculation from the Precalculation screen

## Sales – A/R > Precalculation

This screen lists all pre-calculations that are saved in the system. Any of them can be opened or edited or a new calculation can be created.

To create a new calculation:

1. Click the **New** button.

#	Cal	culation	Reference no	Link	c orde	Link orde	Link order Name	Cust	tomer	Customer Name	Pr
1	⇔	244									
2	⇔	243	211					<b>-</b>	C4000	Earthshaker Corp.208 Holly	
3	⇔	242	207					<b>\$</b>	C4000	C40001	
4	⇔	241									
5	-	240									
6	⇔	239	200					-	C4000	C40001	
7	⇔	238						⇒ '	V6970	Atid Computers	PF
8	₽	236	199	⇔	105	Closed	Earthshaker Corp.	⇒ (	C4000	Earthshaker Corp.208 Holly	
9	⇔	235	197	⇔	104	Open	Mashina Corp.	<b>-</b>	C4000	Mashina Corp.	
10	⇔	234									
11	⇔	233	195	⇔	103	Open	Band & Lufel	<b>-</b>	C5000	C50008	
12	-	232	192					- <b>-</b>	C3000	Microchips908 Darby Rd19	
13	-	231									
14	⇔	230									
15	⇔	229	173					<b>⇒</b> (	C4000	Stone29 hillside38949 Wash	
		228	171	•	90	Open	ADA Technologies			ADA Technologies	
17	-	227								C40003	
		226	167							C40002	
19	->	225						<b>-</b>	C4000	C40003	
•	2										

2. Provide the calculation details. For an explanation on the available fields, see <u>Pre-</u>calculation field guide in the Beas online help.

Master Data	
Doc. no.	245 /
Item 📫	<b>•</b>
I-Version 📫	Revision 0
Variant ×	<b></b>
Configuration 📫	· 🗸
Project Valuation	
Bill of Materials 🛛 📫	
Routing 📫	
Description	New Calculation
Drawing number	
Project 📫	·
Task 📫	·
Customer 📫	·
Name, Address	
Customer drawing no.	
Customer Item No.	
Change reason	
Changed on	<b>▼</b>
Changed by	▼
Additional Information	
Planned Completion Branch	
	<b>▼</b>

- 3. Click the **Update** button to save the calculation under the document number provided in the Doc. no. field.
- 4. The pre-calculation result screen opens.

Processing	View	Functions									
2	Insert item	C New	() New	Çeate	ot	6		2	×		<b>f</b>
Edit	Insert tem	Assembly	Material	Operation	Cut	Cop	ру	Insert	Delete	Ca	lculate
Lot Size: 1	Ma	rgCosts	Description			Quantity	Use	Co	st	DMC	T/N
F	P_S		Finished Product	/ Normal / Make to	Stock	1.0000 Pcs	5	0.0	0	24.08	0.5000
10	RM		Raw Material / No	rmal		1.0000 Pcs		1.000	0	1.0000	0.
🚵 20	RM_N		Raw Material / No	rmal / Negative B	ом	-1.000000 Pcs		0.0	0	0.00	0.
🚵 30	RM_QC		Raw Material / No	rmal / With QC		1.0000 Pcs		0.99000	0 0.9	990000	0.
🙆 40	RM_V		Raw Material / No	rmal / Version		1.0000 Pcs	5	1.000	0	1.0000	0.
🙆 50	RM_V_N		Raw Material / No	rmal / Version / N	egative BC	-1.000000 Pcs		0.0	0	0.00	0
🙆 60	RM_B		Raw Material / Ba	tch		1.0000 Pcs	5	1.000	0	1.0000	0
👌 70	RM_B_N		Raw Material / Ba	tch / Negative BO	м	-1.000000 Pcs	5	0.0	0	0.00	0.
歯 80	RM_B_QC		Raw Material / Ba	tch / QC		1.0000 Pcs	5	1.090	0	1.0900	0.
🛉 90	RM_B_V		Raw Material / Ba	tch / Version		1.0000 Pcs	5	1.000	0	1.0000	0
📺 100	RM_B_V_N		Raw Material / Ba	tch / Version / Neg	gative BON	-1.000000 Pcs	5	0.0	0	0.00	0
📺 110	RM_S		Raw Material / Se	rial		1.0000 Pcs	5	1.000	0	1.0000	0
🍅 120	RM_S_QC		Raw Material / Se	rial / QC		1.0000 Pcs	5	1.000	0	1.0000	0
	RM_S_V		Raw Material / Se	rial / Version		1.0000 Pcs	5	1.000	0	1.0000	0
🍅 140	RM_S_N		Raw Material / Se	rial / Negative BO	М	-1.000000 Pcs	5	0.0	0	0.00	0.
🍅 150	RM_S_V_N		Raw Material / Se	rial / Version / Neg	gative BON	-1.000000 Pcs	5	0.0	0	0.00	0
😳 10	R-01-1T.STD.08	H (OP-IN.STD.	(Internal Operation	STND001 - Stand	lard (defau		1.0	14.0	0	0.00	0.2500
📮 20	R-EX (OP-EX)		External Operation	n		Pos	s 1.0	15.0	0	15.00	0.
🙀 30	R-01-1T.STD.24	H (OP-IN.STD.	(Internal Operation	With QC - Standa	ard (defaul		1.0	14.0	0	0.00	0.2500
Material	Costs by Bill of Ma	aterials								9.0800	
Contract of Contra	processing		15.000							15.00	
	laterial Costs									24.08	
Indirect	Material Costs		0.0%							0.00	

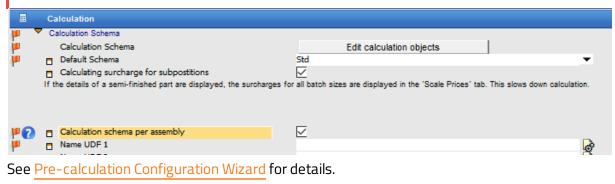
5. Click the **Update** button to save the calculation in the Precalculation list.

#### 1.2.5 Configuring pre-calculation per assembly

Beas offers extensive functionality for cost calculation. This calculation configuration differentiates the way the calculation schemas are evaluated and displayed in the pre-calculation function.

1. Enable this functionality in the Configuration Wizard by marking the *Calculating surcharge for subpositions* and *Calculation schema per assembly* parameters.

Administration > System Initialization > Configuration Wizard > Calculation > Calculation Schema



2. Enable the options in the calculation schema.

This makes the new Display tab available.

Administration > Setup > P	recalculation >	Calculation	Schema
----------------------------	-----------------	-------------	--------

Schema Tutorial				×
Master Data	Overhead Costs	Display		
Schema	Tutorial			
Description	Standard			
Description				
View Calculating surcharge Calculation schema p Automatically Calcula	er assembly			
Block changes Hide calculation sche				
No scale prices		Π		
Always Determine Cu	urrent Material Prices			
<u>o</u> k	Cancel De	lete		-
<u>-</u>				1

3. Define the cost elements and surcharges in the calculation schema.

Schema Tutorial					
Master Data Overhead Costs Display					
'ype Description	Material	Production	Manufacturing	Default	
Travel Expenses					
Material Costs by Bill of Materials					
External processing					
Direct Material Costs					
Indirect Material Costs					
L+M costs					
Indirect Production Costs					
Costs of goods sold					
Shipping cost					
Sales and Administration					
Cost of Sales					
Profit Margin					
Net Sales Price					
Gross sales price					
Frofit margin Profit margin %					
Profit margin per hour					
- ron margin per nour			•	¥.	
Edit <u>E</u> nd <u>N</u> ew					5

4. In the Display tab the calculation elements can be assigned to be aggregated in a customized way.

We use the values from the objects defined in the calculation schema.

Schem	na Tutorial					_ 🗆 🗙
Mas	ter Data 🛛 🤇	Overhead Costs	Display			
	Title	From O	bject		Value From Object	
1	× Material	Material	Costs by Bill of Mat	erial 🔻	Material Full Costs	-
2	× Labor	L+M co	sts	-	Production Full Costs	-
3	× Total	Sales an	d Administration	-	manufacturing Full Costs	-
4	×					
5	×					
6	×					
7	×					
8	×					
9	×					
10	×					
11	×					
12	×					
13	×					
14	×					
15	×					
16	×					
17	×					
18	×					
19	×					
20	×					
21	×					
	×					
-	<u>о</u> к	Cancel				53

5. Create a new pre-calculation with the schema that was set up and add sub-assemblies.

Sales – A/R > Precalculation

The standard pre-calulcation screen is shown. In our example, two items are added, two variants of an item where the raw material is at different cost.

Processing	View	Function	s								
2			٢	•	ot	6	2 ×	ſ	Ì		
Edit	Insert item	New Assembly	New Material	Create Operation	Cut	Сору	Insert Delete	Calc	ulate		
t Size: 1	M	argCosts	Description			Quantity Use	Cost	DMC	T/Min	LMC	
			New Calculation			1.0000	0.00	30.00	176.00	352.00	
5	781-A		Assemiby-1			1.0000 Pcs		10.00	88.00	176.00	
	F79344		O-Ring, M6 2367			1.0000 Pcs	10.00	10.00	0.00	0.00	
40	1600 (6)		Sawing			1.0	2.0000	0.00	88.00	176.00	
10	781-A		Assemiby-1			1.0000 Pcs		20.00	88.00	176.00	
	F79344		O-Ring, M6 2367			1.0000 Pcs	20.00	20.00	0.00	0.00	
á 40	1600 (6)		Sawing			1.0	2.0000	0.00	88.00	176.00	
Material C	osts by Bill of M	laterials						30.00			
	processing							0.00			

6. Open the View tab and click on the **View Extended** button.

#### **Beas Tutorials**

Precalculation	n No: -1			
Processing	View	Functions		
1	¢¢	\$	Ř	7
Expand	Minimize	Full Cost	View Extended	Inactive visible

The breakdown is shown according to the setup in the schema Display tab.

recalculation No: -1				_	_
Processing View	Functions				
₽ ţ‡	Ē	Y 🛃		æ,	e,
Expand Minimize			iew per View per tot Size 1	Expand	Reduce
ot Size: 1	Description	Quantit	y Material	Labor	Total
	New Calculation	1.0000	30.00	352.00	411.92
. 🛅 5 781-A	Assemiby-1	1.0000	Pcs 10.00	176.00	200.76
20 F79344	O-Ring, M6 2367	1.0000	Pos		
40 1600 (6)	) Sawing				
10 781-A	Assemiby-1	1.0000	Pcs 20.00	176.00	211.16
20 F79344	O-Ring, M6 2367	1.0000	Pcs		
40 1600 (6)	) Sawing				

7. Double-click on a position to open a screen with the Schema and the Result tabs.

The full schema is displayed for the selected assembly. The schema can be edited and the results for the calculation for this assembly are shown in the Result tab.

External processing       Indirect Material Costs       Indit Material Costs       Indirect Material Costs	Bill of Materials	Master Data	Scale Price	Schema	Result				
Direct Material CostsIndirect Materia	Description	n	iurcharge % MargCos	turcharge %	Full Cos	iurcharge Value MargCost	Surcharge Value Full Costs	s Surcharge per Unit MargO	Surc
Direct Material CostsImage: CostsImage	Material Costs by Bill of I	Materials							
L+M costs         Image: mark state stat	External processing								
Indirect Production Costs         3.00         4.00         0.00         0.00         0.00           Costs of goods sold         Image: Cost of goods sold goods sold         Image: Cost of goods sold goods	Direct Material Costs								
Costs of goods sold         Image: Costs of goods sold goods sold         Image: Costs of goods g	Indirect Material Costs								
Costs of goods sold         Image: Costs of goods sold sold         Image: Costs of goods sold sold         Image: Costs of goods sold sold sold sold sold sold sold	L+M costs								
Sales and Administration         3.00         4.00         0.00         0.00         0.00           Cost of Sales <td>Indirect Production Cos</td> <td>ts</td> <td>3.00</td> <td>0</td> <td>4.00</td> <td>0.00</td> <td>0.0</td> <td>0.00</td> <td></td>	Indirect Production Cos	ts	3.00	0	4.00	0.00	0.0	0.00	
Sales and Administration         3.00         4.00         0.00         0.00         0.00           Cost of Sales <td>Costs of goods sold</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	Costs of goods sold								
Cost of Sales         Image: Cost of S	Shipping cost		0.00	0	0.00	0.00	0.0	0.00	
Profit Margin         0.00         6.00         0.00	Sales and Administration		3.00	0	4.00	0.00	0.0	0.00	
Net Sales Price         Image: Constraint of the second of the secon	Cost of Sales								
Discount         3.00         0.00         0.00         0.00           Gross sales price	Profit Margin		0.00	0	6.00	0.00	0.0	0.00	
Gross sales price	Net Sales Price								
Gross sales price       Sales Price       Profit margin       Profit margin %	Discount		3.00	0	3.00	0.00	0.0	0.00	
Profit margin  Profit margin %	Gross sales price								
Profit margin %	Sales Price								
	Profit margin								
	Profit margin %								
Profit margin per hour	Profit margin per hour								

More tutorials are available on Calculation schema and Cost elements details.

## 1.3 Pre-calculation Configuration Wizard

#### **Calculation Schema**

A specific calculation schema can be set as default for pre-calculation runs.

Administration > System Initialization > Configuration Wizard > Calculation > Calculation Schema

Config	uration wizard						
8	Administration						
	Financials						
44	Business partner						
	Sales						
	Master Data						
19	Production						
	VE Quality control						
<b>-</b>	Materials management						
	Calculation						
P 5	Calculation Schema						
je 👘	Calculation Schema	Edit calculation objects					
10	Default Schema	Std	-				
	<ul> <li>Calculating surcharge for subpostitions</li> </ul>						
1	Name UDF 1		2				
	Name UDF 2		30 19 19 19 19 19 19 19 19 19 19 19 19 19				
	Name UDF 3		æ				
	Name UDF 4		æ				
1	Result field 1: Name						
۳	Result field 2: Name						
۳	<ul> <li>Result field 3: Name</li> </ul>						
۳	Result field 4: Name						
۳	Result field 5: Name						
P	<ul> <li>Result field 6: Name</li> </ul>						
	<ul> <li>Result field 7: Name</li> </ul>						
Defin	es which schema (calculation objects) should be u	sed by default.					

The default calculation schema can be set in the Default Schema field.

If there is nothing assigned as default, Beas to checks the item master data Calculation tab, Schema field.

Administration > System Initialization > Configuration Wizard > Calculation > Calculation Schema

	Calculation	
P 7	Calculation Schema	
P	Calculation Schema	Edit calculation objects
1	Default Schema	Std
	<ul> <li>Calculating surcharge for subpostitions</li> </ul>	$\overline{\checkmark}$
	If the details of a semi-finished part are displayed, the surcharge	es for all batch sizes are displayed in the 'Scale Prices' tab. This slows down calculation.
<b>P</b> 🕜	Calculation schema per assembly Name UDF 1	

**Calculating surcharge for subpositions**: Determines the calculation method in the precalculation view.

**Calculation schema per assembly**: Administrates calculation schema for extended view.

Administration > System Initialization > C Pricing	Configuration Wizard > Calculation > Precalculation >		
Configuration wizard			
<sup>₽</sup> ■ Administration			
🔮 Financials			
🐣 Business partner			
🕼 Sales			
🐫 Master Data			
Production			
🚰 Quality control			
ब्लू: Materials management			
Calculation			
Calculation Schema     Precalculation			
View	View per Piece		
	Minute		
Pricing			
Material pricing	(1) Price List 01		
Material pricing 2	No		
Consider special price list			
Blanket agreement consider	$\overline{\mathbf{v}}$		
Value Negative Quantity?	$\checkmark$		
Pricing negative Bill of Materials	Last Purchase Price 💌		
External production     Calculate purchased items			
UDF			
Post calculation			

*Material Pricing*: Configuration attribute to specify the pricing of the materials when valuating assemblies.

*Material Pricing 2*: Configuration attribute used to specify the pricing of the materials when valuating assemblies, it is used if there is no value defined for the Material Pricing attribute.

*Consider Special Price List*: Configuration attribute used to set whether to take into account the special price defined of a preferred vendor when valuating assemblies. This attribute has higher priority than Material Pricing option and relates only to pre-calculation and batch calculation.

*Blanket Agreement Consider*: Configuration attribute used to set whether to take into account a blanket agreement. If enabled, blanket agreements of type Specific are considered at pricing. If disabled, only the default pricing is used.

#### Precalcuation

Administration > System Initialization > Configuration Wizard > Calculation > Precalculation > View

Bus Bus Sale Mas Pro	Aministration nancials usiness partner ales aster Data roduction uality control aterials management		
Image: Second se	usiness partner ales aster Data roduction uality control aterials management		
Image: Sale	ales aster Data roduction uality control aterials management		
Mas Pro E	aster Data roduction uality control aterials management		
Pro	roduction uality control aterials management		
VE Qua	uality control aterials management		
	aterials management		
📑 Mat			
Cal	alculation		
👂 🔻 Prei	alculation Schema recalculation		
PO 🛛		fiew per Piece	
	Show Time by M Pricing	Inute	
	External production		
	Calculate purchased items		
	UDF		
👂 🕨 Pos	ost calculation		
🐴 Atte	tendance		
🔁 Sys	/stem		
Defines, w	efines, with which factor the quantity and price is displayed.		

*View*: This configuration attribute determines whether the values shown in the pre-calculation are:

- per unit
- per lot size
- per fixed amount

For a fixed amount, the amount (for example, 1000) can be specified in the next line. The view setting can be changed in the calculation.

Administration > System Initialization > Configuration Wizard > Calculation > Precalculation > Show Time by

*Show Time by*: This configuration attribute determines whether the times in the pre-calculation are displayed in hours or minutes.