

Multi-level surcharge-based Product Cost Controlling (CO-PC II)

This case study describes an integrated process in product cost controlling. Using the underlying SAP functionalities (including overhead costing), the costs for multi-level products are calculated.

Product

S/4HANA 2022 Global Bike

Fiori 3.0

Level

Bachelor Master Advanced

Focus

Product cost calculation

Authors

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Version

4.2

Last change

August 2023



MOTIVATION

In the case study Product Cost Controlling (CO-PC I) you got to know a single-stage product cost calculation on the basis of already existing material master data, parts lists and routings for a bicycle from Global Bike.

In this advanced case study, you are now asked to determine the costs of two different bicycle computers on the basis of a multilevel product structure and with a stored overhead calculation scheme. On the one hand, you use materials that have already been created. On the other hand, you create another material yourself and calculate both an assembly, two semi-finished products and the two variants of the final product.

Finally, you calculate the cost of goods manufactured and the cost of goods sold of the end products on the basis of a cost estimate with quantity structure, using the BOM's of the products.

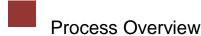
PREREQUISITES

In order to carry out this CO case study successfully, it is recommended to work through the case study Product Cost Controlling (CO-PC I) beforehand. However, it is not necessary.

NOTES

This case study uses the model company Global Bike, which was developed exclusively for SAP UA Curricula.





Learning Objective To understand and apply an integrated process in product cost controlling based on a multi-level product structure. Practical execution of an overhead costing for standard production costs known from the basics of cost accounting.

Time ~245 Min. + 60 Min. Optional

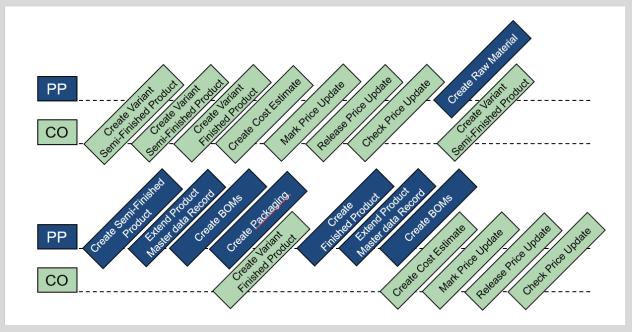
Scenario To carry out the complete process of multi-level overhead costing, you will take on different roles in the Global Bike company. You will start in production controlling with an existing product, before you create further master data in materials management and production in order to be able to carry out a new sample and material cost estimate with quantity structure.

Employees involved Jermain Kumins (Production Floor Worker 1)

Jamie Shamblin (Controller)

Shuyuan Chen (Head of Accounting)

You start the multi-stage product cost calculation process with an already existing product, the mountain bike bicycle computer. Before you carry out the material costing, you use the sample costing to estimate the costs in advance. You then create further raw materials, a semi-finished product and a final product for another bicycle computer, add to the structure of the product with the help of bills of materials and can thus carry out a cost estimate with quantity structure for the final product, which you then update in the material master. Between the steps, you create sample cost estimates again to determine the costs of the new products before they are even created. The following graphic shows the complete process chain.



The multi-level product structure of the end products *Off Road Bike computer (ORBC1###)* and *Touring Bike computer (TRBC1###)* can be found in the following figure. Please note that the components of the touring bike computer are not created in the system in advance.

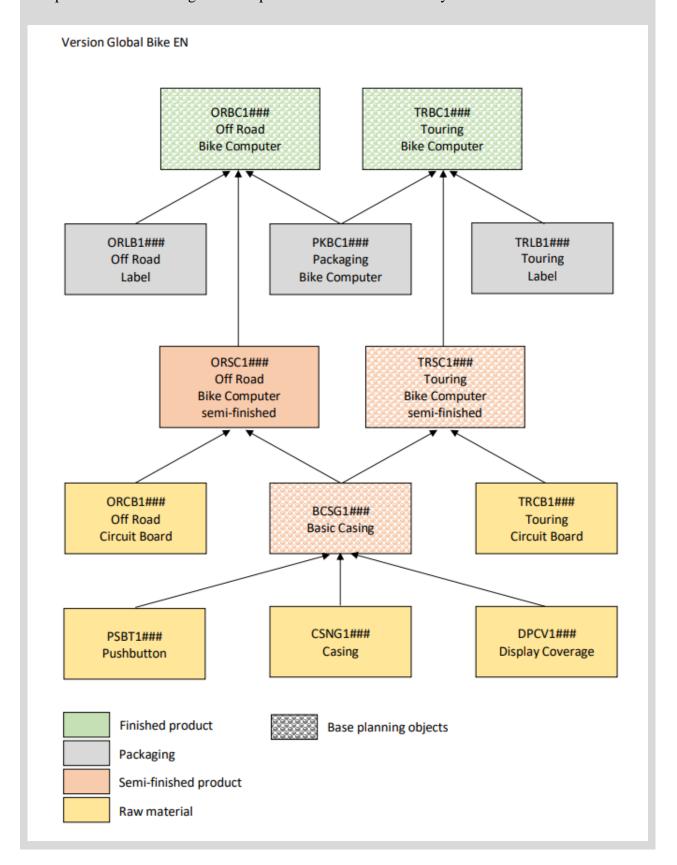


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[Optional] Manual calculation of manufacturing costs

Task Calculate the manufacturing costs for the mountain bike cycle computers and the touring cycle computers manually.

Time 60 Min.

Short description Calculate the manufacturing costs for 1000 Bike computers each. To calculate, use a spreadsheet such as Microsoft Excel. For the sake of simplicity, assume that the packaging units in the purchase department can be divided into any number of parts. The following Bills of Materials (BOMs) form the basis for the calculation.

Name (position) Shuyuan Chen (Accounting Manager)

BOMs of the semi-finished product Basic Casing (Per piece)

Material	Quantity per Basic Casing	Packaging unit in purchase	Price per packaging unit		
Pushbuttons	4 pcs.	carton à 500 pcs.	100,00 € per carton		
Casing	1 pcs.	carton à 100 pcs.	580,00 € per carton		
Display coverage	1 pcs.	carton à 100 pcs.	400,00 € per carton		

BOMs of the semi-finished product Off Road Bike Computer (Per piece)

Material	Quantity per Basic Casing	Packaging unit in purchase	Price per packaging unit
Semi-finished basic casing	1 pcs.	carton à 100 pcs.	
Off Road circuit board	1 pcs.	carton à 100 pcs.	2.000,00 € per carton

BOMs of the semi-finished product Touring Bike Computer (Per piece)

Material	Quantity per Basic Casing	Packaging unit in purchase	Price per packaging unit
Semi-finished basic casing	1 pcs.	carton à 100 pcs.	
Off Road circuit board	1 pcs.	carton à 100 pcs.	2.500,00 € per carton

BOMs of the product Off Road Bike computer (Per PU - 1000 pcs.)

Material	Quantity	Packaging unit in purchasing / reference size	Price per packaging unit
Semi finished mountain bike bike comp.	mountain bike		
Packaging bike comp.	1000 pcs.	Pallet à 1000 pcs.	150,00 € per pallet
Deluxe" sticker	1 · · ·		50,00 € per carton
Machine hours	360 min.	1 hour	62,00 € per hour
Working hours	720 min.	1 hour	32,00 € per hour

BOMs of the product Touring Bike Computer (Pro $PU-1000\ pcs.)$

Material	Quantity	Packaging unit in purchasing / reference size	Price per packaging unit
Semi finished mountain bike bike comp.	mountain bike 1000 pcs.		
Packaging bike comp.	1000 pcs.	Palette à 1000 St.	150,00 € per pallet
Deluxe" sticker"	1000 pcs.	carton à 1000 St.	50,00 € pro carton
Machine hours	360 min	1 hour	62,00 € per hour
Arbeitszeit	720 Min.	1 Stunde	32,00 € pro Stunde

Result 1000 Off Road Bike computer:	
Result 1000 Off Road Bike computer:	



Step 1: Create Variant Semi-finished Product

Task Carry out the sample costing for the semi-finished product Basic Casing.

Time 15 Min.

Short description Carry out a sample calculation for the Basic Casing Bike Computer. You will calculate the manufacturing costs for the Basic Casing. The basic Casing is part of the existing Off Road Bike Computer and the new touring bike computer.

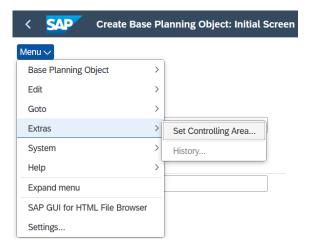
Name (position) Jamie Shamblin (Controller)

In the *Controlling* area on the *Multilevel Product Cost Controlling* page in the *Controller* role, use the app *Create Base Planning Objects* to create a base planning object.

Create Base Planning Objects



Create Base Planning Object: Initial screen appears. At the beginning, select Menu → Extras → Set Controlling Area...



Change the controlling area from NA00 to **EU00** and confirm the change with \bigcirc (*Copy*).

EU00

In the *Base Planning Object* field, enter **BCSG1**### (replace ### with your three-digit number) for the base case.

BCSG1###



Press Enter. The Create Base Planning Object: Master Data screen appears. Enter **PC** (pieces) as the Base Unit of Measure and **5004000** (expenses for semi-finished products) as the Cost Element. Then select the Company Code **DE00** (Global Bike Germany GmbH) and the Plant **HD00** (Heidelberg). Use **PP-PC1** (PP-PC standard) as the Costing Sheet.

PC 5004000 DE00 HD00 PP-PC1

Enter ### (your three-digit number) as the *Sort Field*. The latter allows you to display sorted calculations. Finally, enter **Basic Casing** ### as *Name* and **Basic Casing Bike Computer** as *Description*.

###
Basic Casing ###
Basic Casing Bike
Computer

Create Base	Planning Object: Master Dat	a	Search In: "/
Menu ✓ 🔄 🖫			
Base Planning Object:	BCSG1400	Controlling Area: EU00)
General Data			
* Base Unit of Measure:	PC	Cost Element: 5004	1000
Company Code:	DE00	Base Object Group:	7
Plant:	HD00	Sort Field: 400	
Profit Center:			
Costing Sheet:	PP-PC1	Overhead key:	
Texts			
* Name:	Basic Casing 400		
Description:	Basic Casing Bike Computer		
Cost estimate			
Total Value (LocCur):	0.00	EUR	
Lot Size:	0	PC	
Price:	0.00	EUR	
Status			
Released			
Deletion Flag			
hen click on 🔳 (Cre	ate Cost Estimate) to	create the calculation. The	. Creat

PG 1000

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Cost estimate window appears. Enter the Costing Variant PG (Base Planning

Object) and the lot size 1000.



Note The item category identifies the costing items with regard to their origin or cost origin. Examples are M (material), B (base planning object), S (total), E (internal activity) or G (overhead). The Resource column indicates which information is read by the system, depending on the item category.

In the *Category* column, enter **M** for *Material* in the first three lines and **S** for *Total* in the fourth line. Then, in the *Resource* column, in the first three lines, enter **PSBT1**### for Pushbutton, **CSNG1**### for Casing and **DPCV1**### for Display Coverage.

Then enter **HD00** in the first three lines in the *Plant/Performance* column.

In the *Quantity* column, enter **4000** in the Pushbutton line (*PSBT1###*) and **1000** each for the Casing (*CSNG1###*) and Display Coverage (*DPCV1###*).

Costing Items - Basic View



Press Enter. The system automatically adds more information, also the prices for the materials are entered and the total sum of the basic housing is determined.



The overhead rates are only added after saving and are not yet visible in the screen.

M S PSBT1### CSNG1### DPCV1###

HD00

4000 1000

Click on Save your calculation. Optional Compare the calculation with your manual invoice for the semifinished basic housing. You will be redirected to the master data view and receive the following message in the status bar. Cost estimate saved temporarily View Details In the Cost Estimate area, both the total value of the specified batch size and the unit price were determined. Here, the total value differs from the previous sum because the overhead surcharges have now been taken into account. Cost estimate Total Value (LocCur): 12,720.00 **EUR** Lot Size: 1,000 PC Price: 12.72 **EUR** Click on (Process Cost Estimate Further) to display the cost estimate again. The system has automatically added a line for overhead to your cost estimate. Select to return to the Create Base Planning: Master Data screen. Click on Save to save your calculation. ✓ Base planning object EU00 BCSG1400 was saved Click on to return to the SAP Fiori Launchpad. Confirm any browser warnings that may appear with



Step 2: Create Variant Semi-finished Product

Task Carry out the sample calculation for the semi-finished product of the Off Road Bike Computer.

Time 15 Min.

Short Description Carry out a sample calculation for the semi-finished product of the Off Road Bike Computer. Use it to determine the manufacturing costs for this semi-finished product.

Name (position) Jamie Shamblin (Controller)

In the Controlling area on the Multilevel Product Cost Controlling page in the Create Base Planning Objects Controller role, use the Create Base Planning Objects app to create a base planning object. Create Base Planning Objects Cost Objects Change the Controlling area from NA00 to EU00 and confirm the change EU00 with \checkmark (Copy). Enter ORSC1### (Off Road Bike Computer semi-finished) in the Base ORSC1### Planing Object field and enter the Base Planning Object BCSG1### you have BCSG1### just created as a template. * Base Planning Object: ORSC1400 Copy from Base Planning Object: BCSG1400 Press Enter. The Create Base Planning: Master Data screen appears. Change the Name to Off Road Semi ###. Enter Off Road Bike Computer Off Road Comp Semi **semi-finished** as the new *Description*. Off Road Bike Computer semi-finished **Texts** * Name: Off Road Semi 400

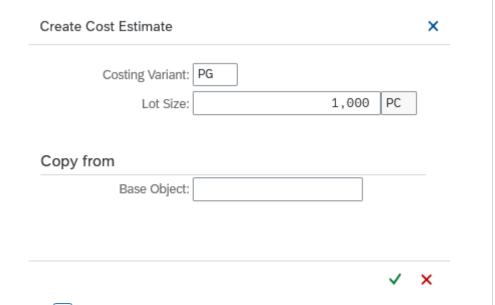
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Description: Off Road Bike Computer semi-finished

Then click on (Create Cost Estimate) to create the calculation. The Create Cost Estimate window appears. Enter the Costing Variant PG (Base Planning Object) and the Lot Size 1000 can be taken over, but remove BCSG1### as a template.

PG 1000 BCSG1###



Click on \checkmark (*Continue: enter*) to proceed. Sie sehen nun den Bildschirm: *Create Unit Cost Estimate : List Screen* -1.

In the *Category* column, enter **B** for *Base Planning Object* in the first row, **M** for *Material* in the second row and **S** for *Total* in the third row. Then enter the previously created base planning object **BCSG1**### in the first line of the *Resource* column and **ORCB1**### for the Off Road Circuit Board in the second line.

B M S BCSG1### ORCB1###

Then enter **HD00** in the second line in the column *Plant/Performance* and **1000** in the first and second line in the column *Quantity*.

HD00 1000

Costing Items - Basic View

Ę	Ò	Ma It	em	Category	Resource	Plant/	Pur	Quantity	Un
			1	В	BCSG1400			1000	
			2	M	ORCB1400	HD00		1000	
			3	S					

Press Enter. The system automatically adds further information, and also enters the prices for the materials and calculates the total sum of the semi-finished products.

Costing Items - Basic View

Ma	Item	Category	Resource	Plant/	Pur	Quantity	Un	Lot	Value - Total
	1	В	BCSG1400			1,000	PC		12,720.00
	2	M	ORCB1400	HD00		1,000	PC		20,000.00
	3	S							32,720.00

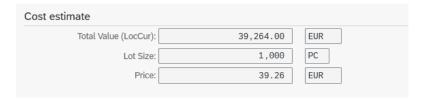
Click on Save to save your calculation.

Optional Compare the calculation with your manual invoice for the semi-finished product Off Road Bike Computer.

You will be redirected to the master data view and receive the following message in the status bar.

Cost estimate saved temporarily View Details

In the *Cost estimate* area, both the total value of the specified batch size and the unit price were determined. Here, the total value differs from the previous sum because the overhead surcharges have now been taken into account.



Click on (Process Cost Estimate Further) to display the cost estimate again. The system has automatically added a line for overhead to your cost estimate.



Select to return to the *Create Base Planning: Master Data screen*.

Click on Save to save your calculation.

Click on to return to the SAP Fiori Launchpad.

Confirm any browser warnings that may appear with ______.



Step 3: Create Variant Finished Product

Task Carry out the sample calculation for the Off Road Bike Computer.

Time 20 Min.

Short Description Determine the manufacturing costs for the finished product Off Road Bike computer.

Name (position) Jamie Shamblin (Controller)

In the *Controlling* area on the *Multilevel Product Cost Controlling* page in the *Controller* role, use the *Create Base Planning Objects* app to create a base planning object.

Create Base Planning Objects

Create Base Planning Objects Cost Objects



Change the *controlling* area from NA00 to **EU00** and confirm the change with \bigcirc (*Copy*).

EU00

The Create Base Planning Object: Initial Screen appears. Enter **ORBC1**### in the Base Planning Object field.

ORBC1###

* Base Planning Object: ORBC1400

Copy from

Base Planning Object:

Press Enter. The *Create Base Planning Object: Master Data* screen appears. Enter **PC** (*pieces*) as the *Base Unit of Measure* and **5002000** (*expenses for finished products*) as the *Cost Element*. Enter the *Company Code* **DE00** and the *Plant* **HD00**. The *Costing Sheet* is **PP-PC1** (*PP-PC standard*).

PC 5002000 DE00 HD00 PP-PC1

As *Sort Field* enter ### and as *Name* **Off Road Comp** ###. Finally, enter the *Description* **Off Road Bike Computer**.

Off Road Comp ###
Off Road Bike Computer

< SAP Create Base	Planning Object: Master D	Pata	Search In: "A	
Menu ✓ 🔄 😰 🟗				
Base Planning Object:	ORBC1400	Controlling	Area: EU00	
General Data				
* Base Unit of Measure:	PC	Cost Ele	ment: 5002000	
Company Code:	DE00	Base Object G	iroup:	
Plant:	HD00	Sort	Field: 400	
Profit Center:				
Costing Sheet:	PP-PC1	Overhead	d key:	
Texts				
* Name:	Off Road Comp 400			
Description:	Off Road Bike Computer			
Cost estimate				
Total Value (LocCur):	0.0	0 EUR		
Lot Size:	0.00	0		
Price:	0.0	0 EUR		
Click on (Process Create Cost Estimate Planning Object) and t	window appears. E			P(100
	eate Cost Estimate	×		
	Costing Variant: PG Lot Size:	1000 PC		
Co	opy from			
	Base Object:			
		✓ ×		
Click on (Continu Create Unit Cost Estin	•		en Bildschirm:	
In the <i>Category</i> column for <i>Material</i> in the secseventh rows. In the fit	cond and third rows	s, and S for <i>Total</i> in	the fourth and	ŗ
In the Resource colum	n, enter ORSC1 ##	# for the semi-finish	ed product Off	ORSC1##

Road Bike Computer in the first row. In the next two lines, add ORLB1###

for the Off Road label and PKBC1### for the Packaging Bike Computer. In

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ORLB1###

PKBC1### EUPR1000

the fifth and sixth lines, enter **EUPR1000**. *EUPR1000* stands for the cost center production cost that performs an activity.

In the *Plant/Activity* column, enter **HD00** in the second and third lines. In addition to the materials, the operations **MACH** (*machine hours*) and **WAGE** (*wage hours*) enter the cost estimate as activity types. Add these in the fifth and sixth row for the cost center *EUPR1000*.

In the *Quantity* column, enter **1000** in the first three rows. In the fifth row enter **360** and in the sixth row enter **720**.

Finally, in the *Unit of Measure* column, enter **MIN** (*minutes*) for machine hours time and wage hours.

Costing Items - Basic View



Press Enter. The system automatically adds more information, and also enters the prices for the materials and calculates the totals. On the one hand the total sum for the materials and then including the necessary services.



Click on Save to save your calculation.

Optional Compare the calculation with your manual invoice for the product Off Road Bike Computer.

You will be redirected to the master data view and receive the following message in the status bar.

Cost estimate saved temporarily View Details

In the *Cost estimate* area, both the total value of the specified lot size and the price per piece were calculated. Here, the total value deviates from the previous sum, as the overhead surcharges have now been taken into account.

HD00 MACH WAGE

> 1000 360 720

> > MIN



Click on (Process Cost estimate Further...) to display the cost estimate again. The system has automatically added a line for the overhead to your cost estimate. In contrast to the previous calculations, the overhead of the production wages has now been taken into account.



Click on Save to save your calculation.

Click on to return to the SAP Fiori Launchpad.

Confirm any browser warnings that may appear with



Step 4: Create cost estimate with quantity structure

Task Create a cost estimate with quantity structure for the Off Road Bike Computer.

Time 15 Min.

Short Description After the manufacturing costs for the bike computer have been determined in advance using the base planning object, you will now create a cost estimate with quantity structure. This is done using the material cost estimate.

Name (position) Shuyuan Chen (Accounting Manager)

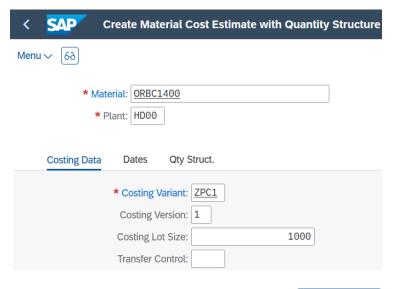
In the *Controlling* area on the *Multilevel Product Cost Controlling* page in the *Controller* role, use the *Create Material Cost Estimates* app to create a Material Cost Estimate.

Create Material Cost Estimates



The Create Material Cost Estimate with Quantity Structure screen appears. Enter **ORBC1**### (your finished product Off Road Bike Computer) in the Material field and **HD00** (Heidelberg) as the Plant. The Costing Variant is **ZPC1** (standard cost estimate Mat+OC), the Costing Version is 1 and you enter 1000 in the Costing lot size field.

ORBC1### HD00 ZPC1 1

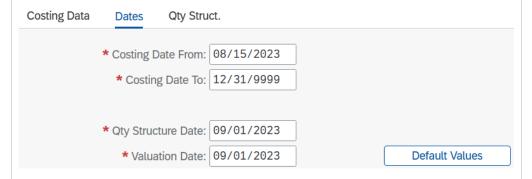


Now select the *Dates* tab. This is not prefilled, click on Default Values to create dates.

The costing dates *from* and *to* indicate the period of validity of the cost estimate. The explosion date determines the point in time at which the then valid quantity structure is used.

Based on the valuation date, the valid price and date data are selected. Change the date in the *Costing Date From* field to the **current date**.

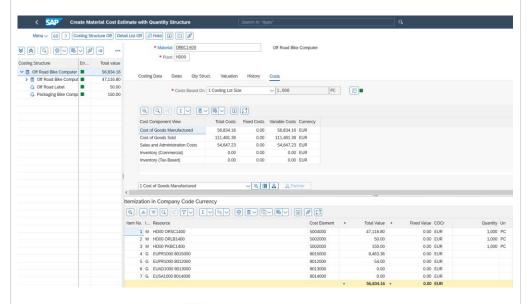
Current Date



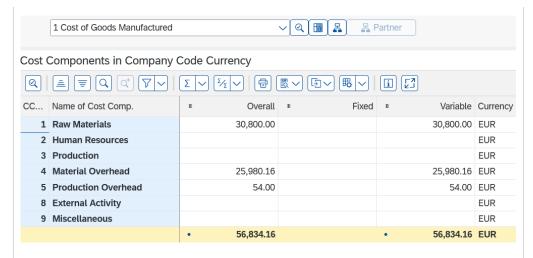
Now click on the *Quantity Structure* (*Qty Struct*.) tab and enter **1** in the *Usage* field. This indicates that the production BOM (Bills of Material) is to be used as the quantity structure for the cost estimate.



Press Enter. You will now see the calculation overview.

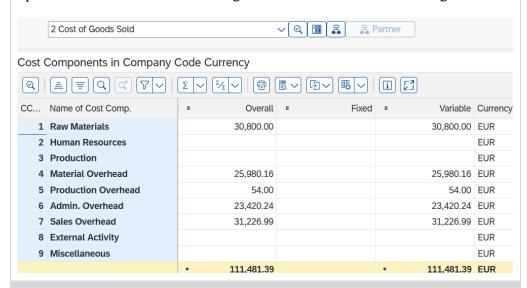


Scroll down and click on (Cost Comps) in about the middle of the screen to display the individual Cost Components.



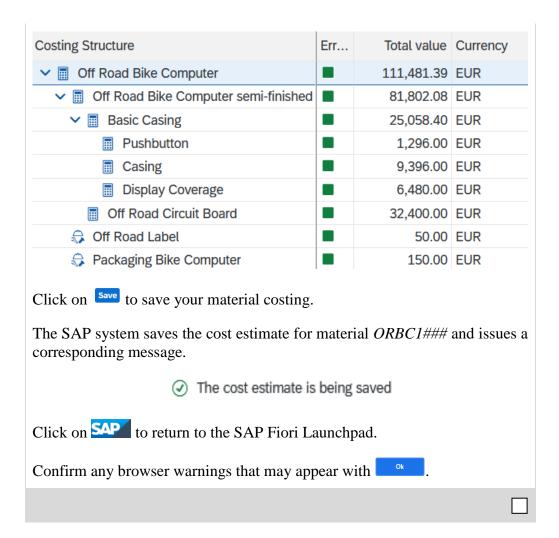
This overview is similar to the previously created sample cost estimate, the costs can be fundamentally compared with each other.

In the dropdown in the middle of the screen, now change from *Cost of goods manufactured* to *Cost of goods sold*. Additional overhead surcharges are displayed, which are to be assigned to administration and sales. These make up the difference between cost of goods manufactured and cost of goods sold.



Optional What is the difference between cost of goods sold and cost of goods sold? Research these two cost accounting terms.

On the left side of the screen you can see the structure of the finished product. View the individual components of the product, adjust the size of the area for this purpose if necessary.





Step 5: Mark price update

Task Memorize the price update.

Time 10 Min.

Short Description The idea of the price update is the following: While the cost of goods manufactured per Off Road Bike Computer computer has already been calculated in the material cost estimate, no unit prices have yet been entered in the material master for the Bike Computer. With the help of the price update, the unit costs are transferred to the material master as the standard price. The costs are then available as standard cost of goods manufactured and do not have to be recalculated when selling.

Name (position) Shuyuan Chen (Head of Accounting)

In the *Controlling* area on the *Multilevel Product Cost Controlling* page in the *Head of Accounting* role, use the *Release Material Cost Estimates* to mark the price update.

Release Material Cost Estimates

Release Material Cost Estimates

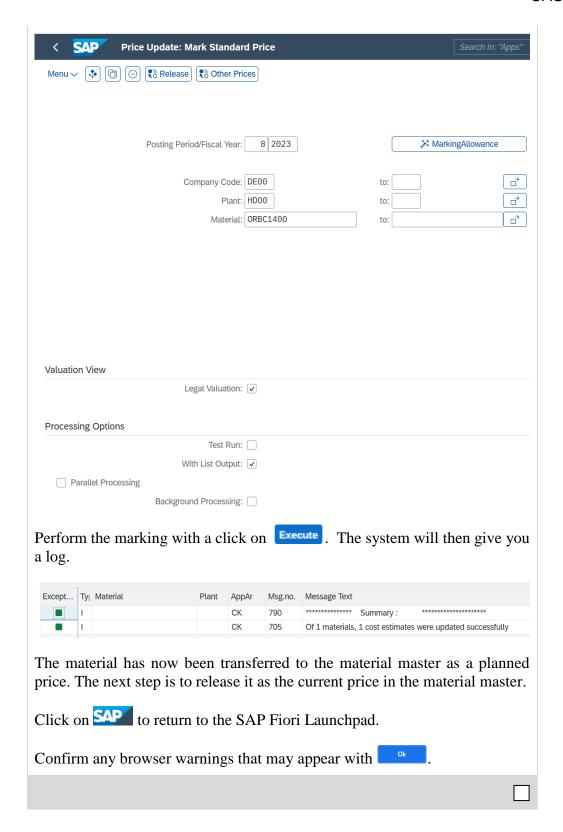


The *Price Update: Mark Standard Price* screen appears. Enter **the current month** and the **current year** as the posting period.

Enter **DE00** (Germany) as the *Company Code*, **HD00** as the *Plant* and the *Material* **ORBC1**###. In addition, remove the check mark from **Test run**.

current Month current Year

> DE00 HD00 ORBC1### Test run





Step 6: Release price update

Task Perform a price release for the Off Road Bike Computer.

Time 5 Min.

Short Description Release the preregistered price update for the material master. If the period has changed in the meantime, the marking must be performed again. The reason for this is that the marking is done with reference to the posting period and therefore cannot be used for release outside this period.

Name (position) Shuyuan Chen (Head of Accounting)

In the Controlling area on the Multilevel Product Cost Controlling page in the Head of Accounting role, use the Release Material Cost Estimates app to release the price update.

Release Material Cost Estimates



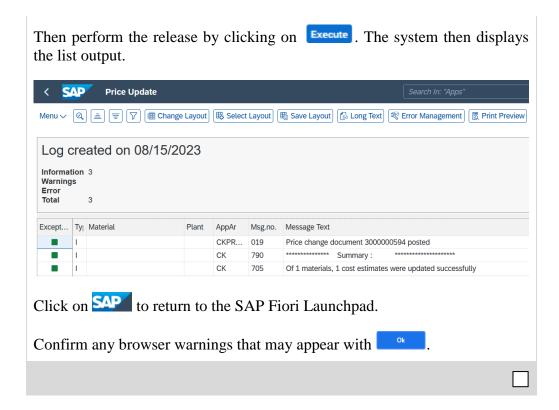
Click on to switch from marking to releasing material cost estimates. Again, make sure that the **current month** is selected as the *Posting Period* and the **current year**.

current month current year

Enter **DE00** (Germany) as the *Company Code*, **HD00** as the *Plant* and the *Material* **ORBC1**###. In addition, remove the check mark from **Test run**.

DE00 HD00 ORBC1### Test run

Posting Period/Fiscal Yea	ar: 8 2023		
	e: DE00 nt: HD00 at: ORBC1400	to: to:	→ →
No. of Materials in Documer	nt: 128		
Processing Options			
Test Ru With List Outpu			





Step 7: Check price update

Task Perform a price release check.

Time 5 min

Short Description Check if the price update was successful. You do this directly in the product master data.

Name (position) Jermain Kumins (Production Floor Worker 1)

In the *Controlling* area, on the *Multilevel Product Cost Controlling* page, in the *Shop Floor Worker* role, use the *Manage Product Master Data* app to check the current price.

Manage Product Master Data



In the search mask, enter **ORBC1**### in the *Product* field and click on The system will display your Off Road Bike Computer.

ORBC1###

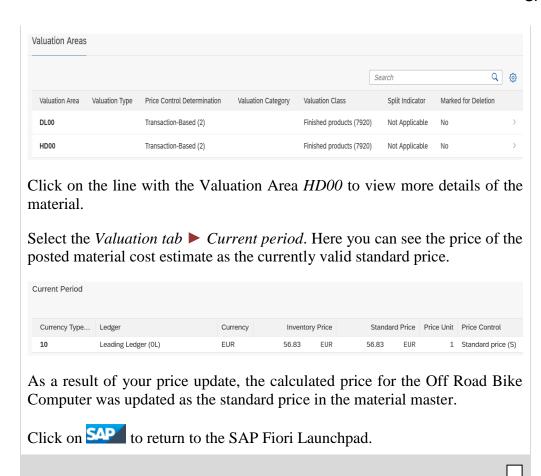


Click on the entry to open the details of the product.

On the right edge of the screen, use the pull-down menu to select the *Valuation Areas* section.

Valuation Areas







Step 8: Create raw material

Task Create the touring board as a new raw material.

Time 10 Min.

Description After you have already worked with the existing Off Road Bike Computer, you will now create another model of the bicycle computer. In advance, the expected costs are determined via sample calculations. As a first step, another circuit board is now created, using the Off Road Circuit Board as a template.

Name (position) Jermain Kumins (Production Floor Worker 1)

In the *Controlling* area on the *Multi-level Product Cost Controlling* page, in the *Shop Floor Worker* role, use the *Manage Product Master Data* app to create a new raw material.

Manage Product Master



In the search mask, enter **ORCB1**### in the Product field and click on The system will display your Off Road Circuit Board.

ORCB1###



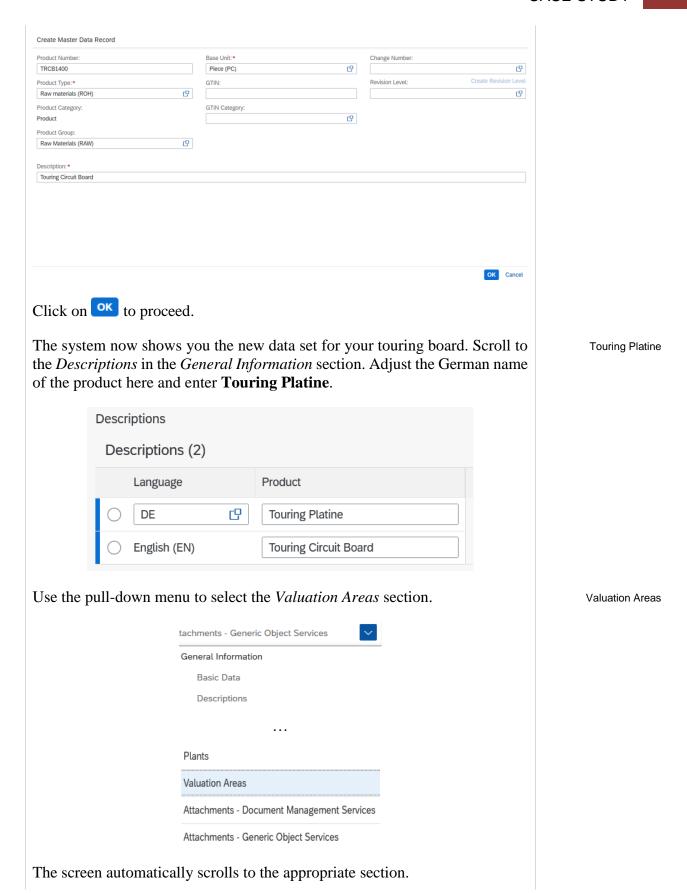
Select the entry and click on Copy. A window opens in which the organizational data to be copied must be selected.



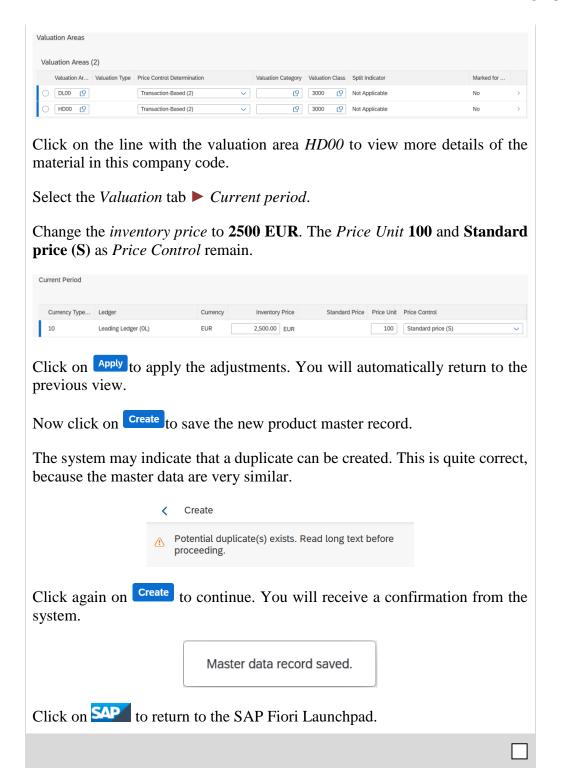
Accept the default setting and click on ok

In the next window create the basic data of the new master record. Enter **TRCB1**### as the Product Number and change the Description to **Touring Circuit Board**. All other data can be taken over.

TRCB1###
Touring Circuit Board



2500 EUR





Step 9: Create Variant Semi-finished product

Task Perform the sample calculation for the semi-finished product Off Road Bike Computer.

Time 15 Min.

Short Description Create a base object cost estimate for the semi-finished product of the Touring Bike Computer. You will use it to calculate the manufacturing costs for the semi-finished product even before the corresponding master data record has been created.

Name (position) Jamie Shamblin (Controller)

In the *Controlling* area on the *Multilevel Product Cost Controlling* page in the *Controller* role, use the app *Create Base Planning Objects* to create a base planning object.

Create Base Planning Objects



If you are asked for the *Controlling* area, enter EU00 (Global Bike Europe) and confirm the entry with \checkmark (*Continue:enter*).

EU00

Enter **TRSC1**### (Touring Bike Computer semi-finished) in the first Base Planning Object field and enter **ORSC1**### as a template (Copy from) in the second Base Planning Object field.

* Rase Planning Object: TRSC1400

TRSC1###

ORSC1###

ct. INCOL+CO
ct: ORSC1400

Press Enter. The Create Base Planning Object: Master Data screen appears.

Change the *Name* to **Tour Comp Semi** ###. Enter **Touring Bike Computer semi-finished** as the new *description*.

Tour Comp Semi ###
Touring Bike Computer
semi-finished

Page 31

Texts		
* Name:	Tour Comp Semi 400	
Description:	Touring Bike Computer semi-finished	

Then click on (Create Cost Estimate) to create the calculation. The Create Cost Estimate window appears. The Costing Variant PG and the Lot Size 1000 can be used, as well as the template ORSC1### can be adopted Create Cost Estimate × Costing Variant: PG 1,000 PC Lot Size: Copy from Base Object: ORSC1400 ✓ X Click on (Continue:enter) to continue. You will now see the screen: Create unit Cost Estimate: List screen - 1. In the second line, change the resource and replace the Off Road Circuit Board ORCB1### with the new Touring Circuit Board TRCB1###. Press Enter to apply the adjustment. Costing Items - Basic View Plant/... Pur... Quantity Ma Item Ca Resource Un... Lot Value - Total Description 1 B BCSG1400 1.000 PC 12,720.00 Basic Casing Bike Computer 2 M TRCB1400 1,000 PC 25,000.00 Touring Circuit Board 3 S 37,720.00 6.544.00 Material Overhead Click on Save to save your calculation. Optional Compare the calculation with your manual invoice for the product Touring bike computer semi-finished. You will be redirected to the master data view and receive the following message in the status bar. Cost estimate saved temporarily In the Cost estimate area, both the total value of the specified lot size and the unit price were calculated. Cost estimate Total Value (LocCur): 45,264.00 **EUR** PC Lot Size: 1,000

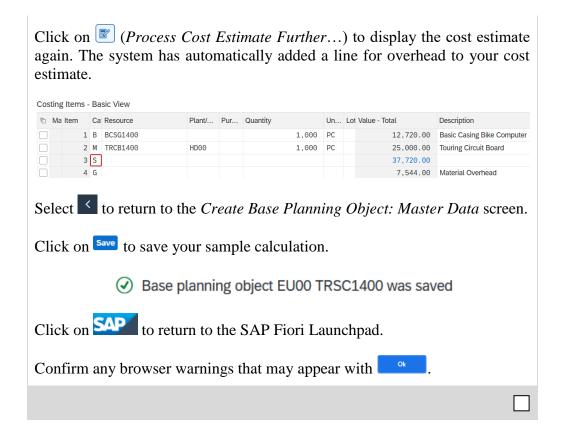
Price:

PG 1000 ORSC1100

ORCB1### TRCB1###

EUR

45.26





Step 10: Create semi-finished product

Task Create the material above.

Time 15 Min.

Short Description Now that you have created the Circuit Board for the new Touring Bike computer, here is the associated semi-finished product.

Name (position) Jermain Kumins (Production Worker 1)

In the *Controlling* area, on the *Multilevel Product Cost Controlling* page, in the *Shop Floor Worker* role, use the *Manage Product Master Data* app.

Manage Product Master Data

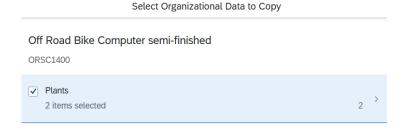


In the search mask, enter **ORSC1**### in the *Product* field and click on The system will display your Off Road Bike Computer semi-finished.

ORSC1###



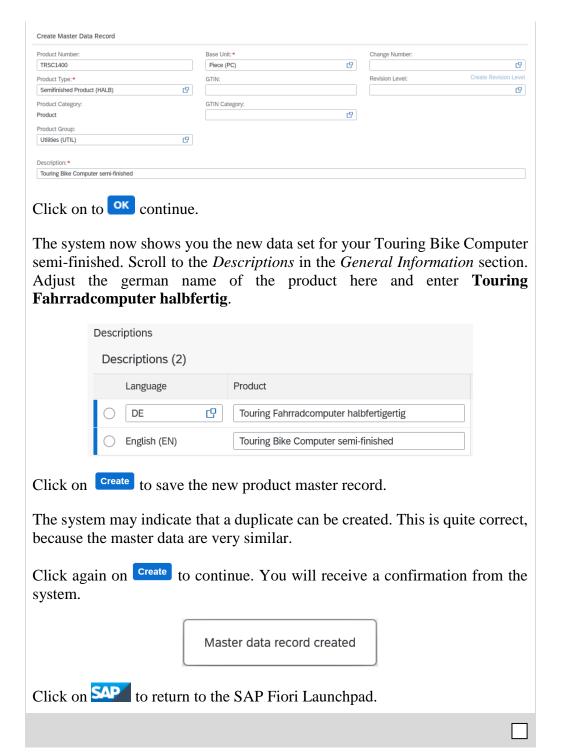
Select the entry and click on Copy. A window opens in which the organizational data to be copied are to be selected.



Accept the default setting and click on OK.

In the next window, create the basic data of the new master record. Enter **TRSC1**### as the *Product Number* and change the *Description* to **Touring Bike Computer semi-finished**. All other data can be taken over.

TRSC1### Touring Bike Computer semi-finished



Touring Fahrradcomputer halbfertig



Step 11: Extend product master data record for costing

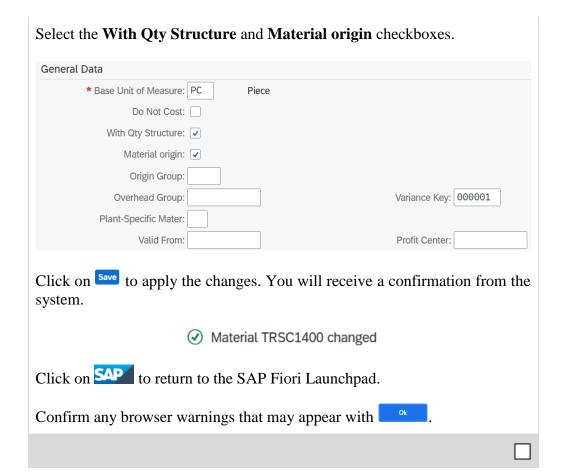
Task Extend the master data record of your new semi-finished product.

Time 5 Min.

Short Description To enable costing with quantity structure, the previously created master data record still needs to be extended.

Name (position) Jermain Kumins (Production Worker 1)

In the Contr the Shop Flo	Change Material			
		Change Material		
		٥		
		Material field and click lect the view Costing 1.	c on Continue . The Select	TRSC1### Costing 1
	Select View(s)		×	
Confirm the	General Plant Accounting 1 Accounting 2 Costing 1 Costing 2	nning	e (enter)).	
			Levels for Plant HD00 and	HD00
contirm agai	ın wıth 🚩 (<i>Cc</i>	ontinue (enter)).		



With Qty Structure Material origin



Step 12: Create BOMs (Bill of Materials)

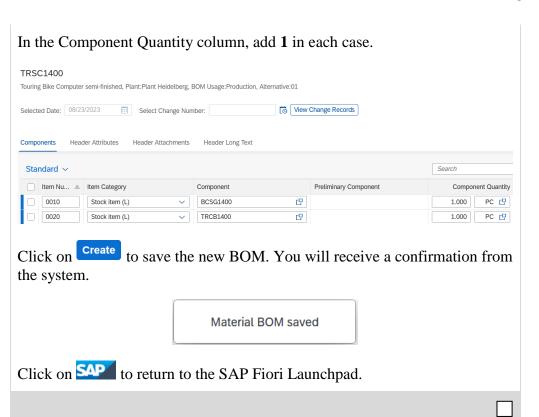
Task Create a BOM for the product *Touring bike computer* semi-finished.

Time 15 Min..

Short Description Create a BOM for the semi-finished product created previously. Here you use on the one hand the new Touring circuit board and on the other hand the already existing Basic Casing for Bike computers.

Name (position) Jermain Kumins (Production Worker 1)

S	rea on the Multilevel Product Cost Controlling page in the role, use the Maintain Bill of Material to create a BOM	Maintain Bill of Material
	Maintain Bill Of Material Create, change & dis	
	<u></u>	
Click on Create BOM	to create a new BOM . The Create BOM window opens.	
	eld, enter the semifinished product you just created, more, enter HD00 as the <i>Plant</i> and select 1 (Production)	TRSC1### HD00 1 (Production)
Create BOM		
Material:*	TRSC1400 C	
Plant:	HD00	
BOM Usage: *	1 (Production)	
Alternative BOM:		
Change Number:	<u>G</u>	
Valid From:	08/23/2023	
Change Record:	C	
	OK Cancel	
Click on ok to a	accept your input.	
	of Materials screen appears. In the list, for the first two 1### (Basic Casing) and TRCB1### in the Component	BCSG1### TRCB1###





Step 13: Change BOMs (Bill of Materials)

Task Change a BOM for the product *Touring bike computer* semi-finished. **Name (position)** Jermain Kumins (Production Worker 1)

Time 15 Min..

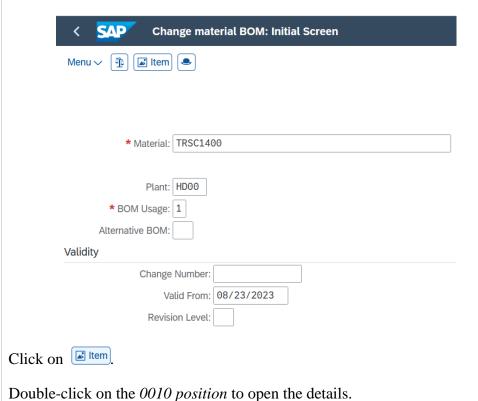
Change Bill of Material

In the Controlling area on the Multilevel Product Cost Controlling page in the Shop Floor Worker role, use the Maintain Bill of Material to change a BOM

Change Bill of Material

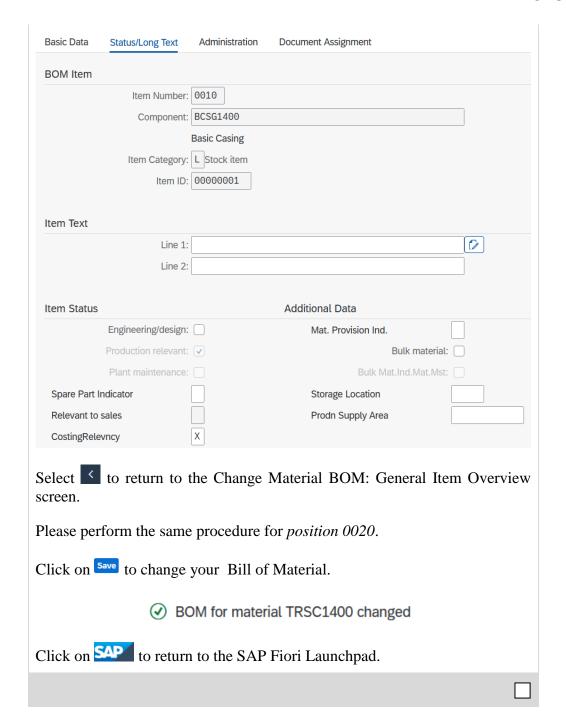
In the *Material* field, enter the semifinished product you just created, **TRSC1**###. Furthermore, enter **HD00** as the *Plant* and select **1** (Production) for the *BOM Usage*.

TRSC1### HD00 1 (Production)



Х

Please switch to the *Status/Long text* tab and select **X** (100% Relevant to Costing) for CostingRelevncy in this area.





Step 14: Create packaging

Task Create the above material.

Time 10 Min.

Short Description A sticker is placed on the packaging to make the product *Touring Bike Computer* recognizable as such. The sticker in question is supplied by a printing company. You will also need a separate material master record for the new sticker.

Name (position) Jermain Kumins (Production Worker 1)

In the *Controlling* area, on the *Multilevel Product Cost Controlling* page, in the *Shop Floor Worker* role, use the *Manage Product Master Data* app.

Manage Product Master Data

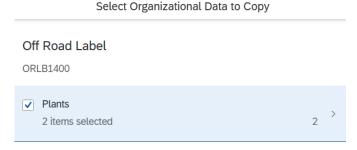


In the search mask, enter **ORLB1**### in the *Product* field and click on Go. The system will display your Off Road Label.

ORLB1###



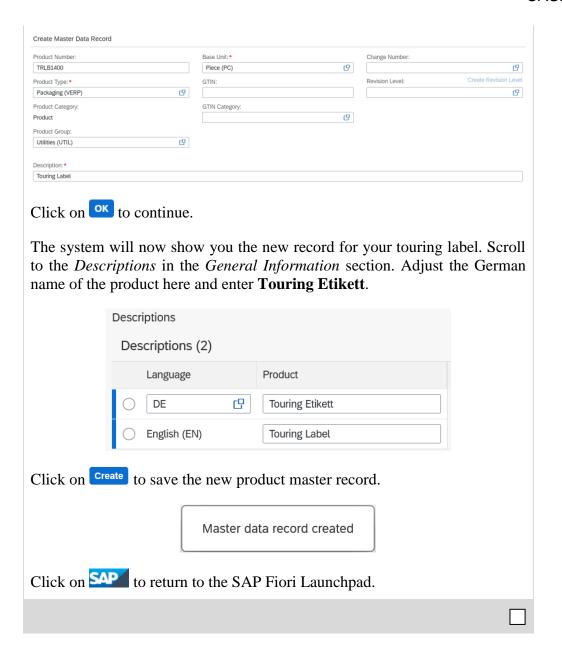
Select the entry and click on Copy. A window opens in which the Organizational Data to be copied must be selected.



Accept the default setting and click on ok.

In the next window create the basic data of the new master record. Enter **TRLB1**### as the *Product Number* and change the *Description* to **Touring Label**. All other data can be taken over.

TRLB1###
Touring Label



Touring Etikett



Step 15: Sample costing finished product

Task Perform the sample costing for the Touring bike computer.

Time 20 Min.

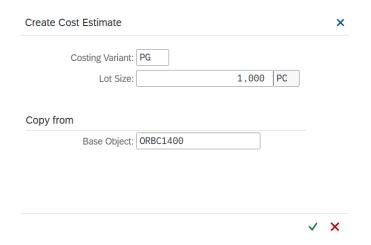
Short Description Create a base planning object for the new finished product Touring bicycle computer. The sample costing can be done before the actual material master of the product is created and thus provide information about the potential manufacturing costs in advance.

Name (position) Jamie Shamblin (Controller)

Again, in the <i>Controlling</i> page in the <i>Controller</i> role	Create Base Planning Objects	
	Create Base Plan- ning Objects Cost Objects	
If you are asked for the coand confirm the entry with	ontrolling area, enter EU00 (Global Bike Europe) (Continue:enter).	EU00
	Object: Initial Screen appears. Enter TRBC1### ect field and ORBC1### as the template (Copy	TRBC1### ORBC1###
* Base Pl	anning Object: TRBC1400	
Copy from		
Base Pl	anning Object: ORBC1400	
Change the <i>Name</i> to Tour new <i>Description</i> .	Comp ###. Enter Touring Bike Computer as the	Tour Comp ### Touring Bike Computer
Texts		
* Name:	Tour Comp 400	
Description:	Touring Bike Computer	

Then click on (Create Cost Estimate) to create the calculation. The Create Cost Estimate window appears. Enter the Costing Variant **PG** (Base Planning Object) and the Lot Size **1000**.

PG 1000



Click on (*Continue:enter*) to continue. You will now see the screen: *Create unit Cost Estimate: List screen - 1*.

In the first and second line, change the resource and replace the *Off Road Bike Computer semi-finished* **ORSC1**### with the new *Touring Bike Computer semi-finished* **TRSC1**###, and the *Off Road Label* **ORLB1**### with the *Touring Label* **TRLB1**###. Press Enter to apply the adjustment.

ORSC1### TRSC1###

ORLB1### TRLB1###



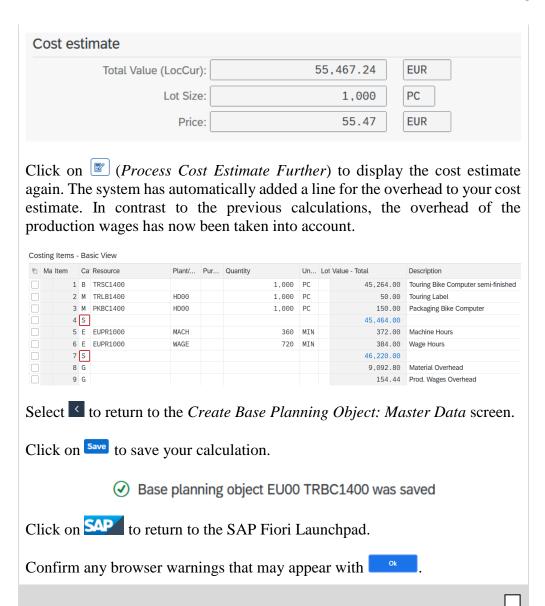
Click on Save your calculation.

Optionally compare the calculation with your manual invoice for the product Touring bike computer.

You will be redirected to the master data view and receive the following message in the status bar.

✓ Cost estimate saved temporarily View Details

In the *Cost estimate* area, both the total value of the specified lot size and the unit price were calculated. Here, the total value deviates from the previous sum, since the overhead surcharges have now been taken into account.





Step 16: Create finished product

Task Create the above material.

Time 15 Min.

Short Description Now create the material master for the finished product Touring bike computer.

Name (position Jermain Kumins (Production Worker 1)

In the *Controlling* area, on the *Multilevel Product Cost Controlling* page, in the *Shop Floor Worker* role, use the *Manage Product Master Data* app.

Manage Product Master Data



In the search mask, enter ORBC1## in the *Product* field and click on The system will display your Off Road Bike Computer.

ORBC1###



Select the entry and click on Copy. A window opens in which the Organizational Data to be copied must be selected.

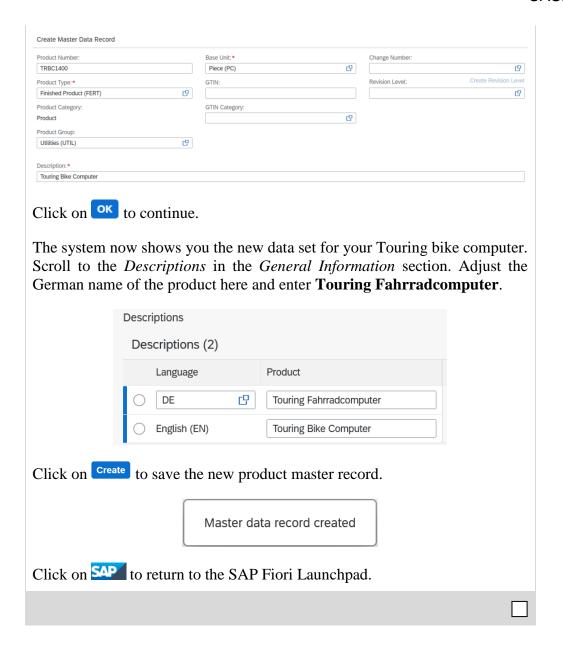


Accept the default setting and click on OK.

In the next window create the basic data of the new master record. Enter **TRBC1**### as the *Product Number* and change the *Description* to **Touring Bike Computer**. All other data can be taken over.

TRBC1###
Touring Bike Computer

© SAP UCC Magdeburg



Touring Fahrradcomputer



© SAP UCC Magdeburg

Step 17: Extend product master data record for costing

Task Extend the master data record of your new finished product.

Time 5 Min.

Page 49

Short Description To enable costing with quantity structure, the previously created master data record still needs to be extended.

Name (position) Jermain Kumins (Production Worker 1)

Change Materia		the Multilevel Product Co. e, use the Change Material a	
		Change Material	
TRBC1### Costing 1	Continue. The Select	Material field and click or ect the view Costing 1.	
	×		Select View(s)
			View
			Basic Data 1
		oris Data	Basic Data 2
		asic Data	Extended SPP B
		asic Data	Extended SPP B
		asic Data	Extended SPP B MRP 1 MRP 2
		asic Data	Extended SPP B MRP 1 MRP 2 MRP 3
			Extended SPP B MRP 1 MRP 2 MRP 3 MRP 4
			Extended SPP Barrier MRP 1 MRP 2 MRP 3 MRP 4 Advanced Planni
			Extended SPP B. MRP 1 MRP 2 MRP 3 MRP 4 Advanced Planni Extended SPP
		ng	Extended SPP Barrier MRP 1 MRP 2 MRP 3 MRP 4 Advanced Planni Extended SPP Work Scheduling
		ng ta / Storage 1	Extended SPP B. MRP 1 MRP 2 MRP 3 MRP 4 Advanced Planni Extended SPP
		ng ta / Storage 1	Extended SPP B. MRP 1 MRP 2 MRP 3 MRP 4 Advanced Planni Extended SPP Work Scheduling General Plant Da
		ng ta / Storage 1	Extended SPP Barry MRP 1 MRP 2 MRP 3 MRP 4 Advanced Planni Extended SPP Work Scheduling General Plant Da

In the following window, specify <i>Organizational Levels</i> for <i>Plant</i> HD00 are confirm again with \checkmark (<i>Continue (enter)</i>).	nd HD00
Select the With Qty Structure and Material origin checkboxes.	With Qty Structure Material origin
General Data	
* Base Unit of Measure: PC Piece	
Do Not Cost:	
With Qty Structure: 🗸	
Material origin: ✓	
Origin Group:	
Overhead Group: Variance Key: 000001	
Plant-Specific Mater:	
Valid From: Profit Center:	
Click on Save to apply the changes. You will receive a confirmation from the system.	ne
Material TRBC1400 changed	
Click on to return to the SAP Fiori Launchpad.	
Confirm any browser warnings that may appear with	



Step 18: Create BOMs (Bill of Materials)

Task Create a BOM for the finished product Touring bike computer.

Time 15 Min.

Short Description This BOM now assembles the semi-finished product of the Touring bike computer with the two packaging materials to form the finished product.

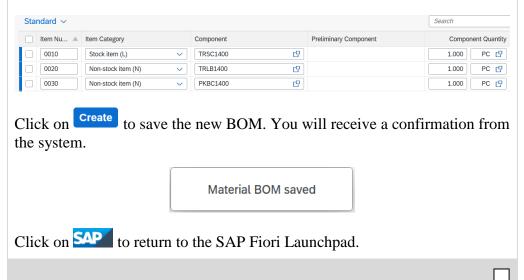
Name (position) Jermain Kumins (Production Worker 1)

e e e e e e e e e e e e e e e e e e e	rea on the <i>Multilevel Product Cost Controlling</i> page in the role, use the <i>Maintain Bill of Material</i> to create BOM.	Maintain Bill of Material
	Maintain Bill Of Material Create, change & dis	
Click on Create BOM	to create a new BOM . The <i>Create BOM</i> window opens.	
	, enter the finished product you just created, TRBC1 ###. ID00 as the <i>Plant</i> and select 1 (Production) for the <i>BOM</i>	TRBC1### HD00 1 (Production)
Create BOM		
Material:*	TRBC1400	
Plant:	HD00	
BOM Usage:*	1 (Production)	
Alternative BOM:		
Change Number:	G	
Valid From:	08/23/2023	
Change Record:	C	
	OK Cancel	
Click on ok to a	accept your input.	
	f Materials screen appears. In the Item Category column, item) for the second and third items.	N(non-stock item)

Then enter **TRSC1**### (Touring Bike Computer semi-finished), **TRLB1**### (Touring Label) and **PKBC1**### (Packaging Bike computer) in the *Component* column in the first three lines. The last two components do not have their own storage location and are used directly during production. Therefore these are the non-stock items.

TRSC1### TRLB1### PKBC1###

Add a quantity of **1** in the *Component quantity* column, *PC* is automatically preselected as the *Unit of Measure* when you enter the components.



1



Step 19: Change BOMs (Bill of Materials)

Task Change a BOM for the product *Touring bike computer* semi-finished. **Name (position)** Jermain Kumins (Production Worker 1)

Time 15 Min..

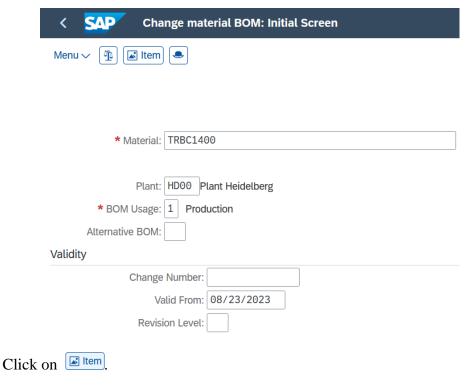
In the *Controlling* area on the *Multilevel Product Cost Controlling* page in the *Shop Floor Worker* role, use the *Maintain Bill of Material* to change a BOM

Change Bill of Material

Change Bill of Material

In the *Material* field, enter the semifinished product you just created, **TRBC1**##. Furthermore, enter **HD00** as the *Plant* and select **1** (Production) for the *BOM Usage*.

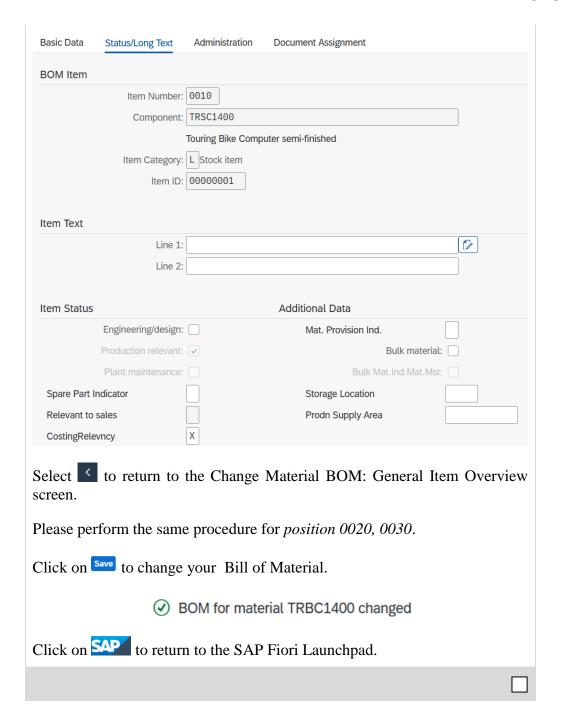
TRBC1### HD00 1 (Production)



Х

Double-click on the 0010 position to open the details.

Please switch to the *Status/Long text* tab and select **X** (100% Relevant to Costing) for CostingRelevncy in this area.





Step 20: Create cost estimate with quantity structure

Task Create a cost estimate with quantity structure for the Touring bike computer.

Time 15 Min.

Short Description After the manufacturing costs for the bicycle computer have been calculated in advance using the base planning object, a cost estimate with quantity structure is now created. This is done with the help of the material cost estimate.

Name (position) Shuyuan Chen (Accounting Manager)

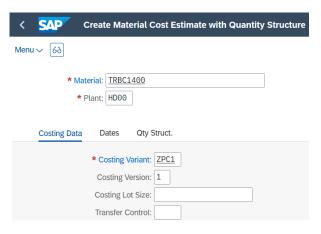
In the Controlling area on the Multilevel Product Cost Controlling page in the Controller role, use the Create Material Cost Estimates app to create a material cost estimate.

Create Material Cost Estimates



The Create Material Cost Estimate with Quantity Structure screen appears. Enter **TRBC1**### (your finished product Touring Bike Computer) in the Material field and **HD00** (Heidelberg) as the Plant. The Costing Variant is **ZPC1** (standard cost estimate Mat+OC), the Costing Version is 1 and you enter 1000 in the Costing Lot Size field.

TRBC1### HD00 ZPC1 1 1000

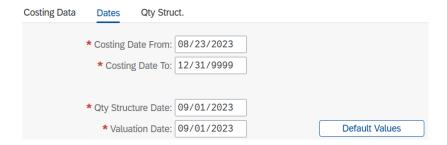


Now select the *Dates* tab. This is not prefilled, click on Default Values to create dates.

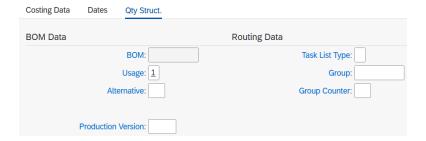
The costing dates *from* and *to* indicate the period of validity of the cost estimate. The explosion date determines the point in time at which the then valid quantity structure is used. Based on the valuation date, the valid price

Current Date

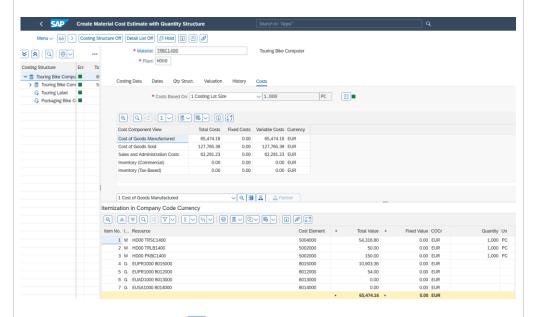
and date data are selected. Change the date in the *Costing Date From* field to the **current date**.



Now click on the *Quantity Structure* (*Qty Struct*.) tab and enter **1** in the *Usage* field. This indicates that the production BOM is to be used as the quantity structure for the cost estimate.

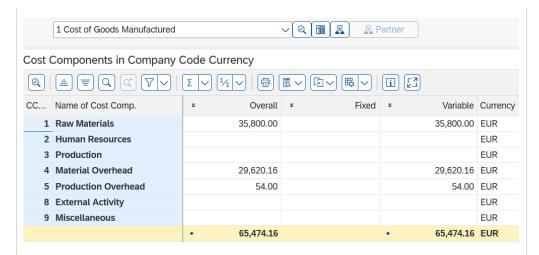


Press Enter. You will now see the calculation overview.



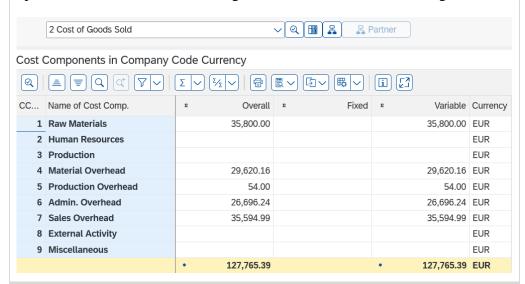
Scroll down and click on (Cost Comps) in about the middle of the screen to display the individual Cost Components.

1



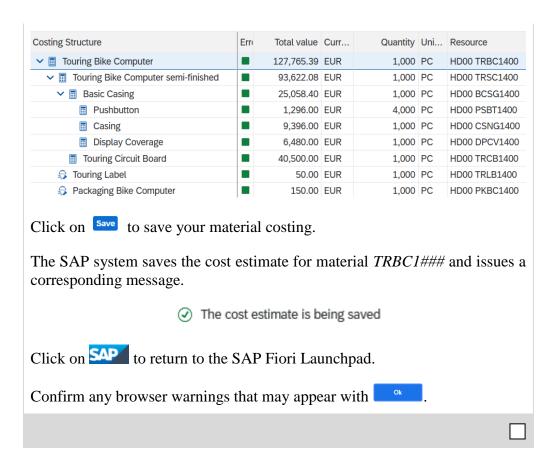
This overview is similar to the previously created sample cost estimate, the costs can be fundamentally compared with each other.

In the dropdown in the middle of the screen, now change from *Cost of goods manufactured* to *Cost of goods sold*. Additional overhead surcharges are displayed, which are to be assigned to administration and sales. These make up the difference between cost of goods manufactured and cost of goods sold.



Optional What is the difference between cost of goods sold and cost of goods sold? Research these two cost accounting terms.

On the left side of the screen you can see the structure of the finished product. View the individual components of the product, adjust the size of the area for this purpose if necessary.





Step 21: Mark price update

Task Mark the price update.

Time 10 Min.

Short Description Transfer the unit costs as standard price into the material master using the price update. To do this, first create a corresponding marking.

Name (Position) Shuyuan Chen (Accounting Manager)

In the *Controlling* area on the *Multilevel Product Cost Controlling* page in the *Head of Accounting* role, use the *Release Material Cost Estimates* app to mark the price update.

Release Material Cost Estimates

Release Material Cost Estimates

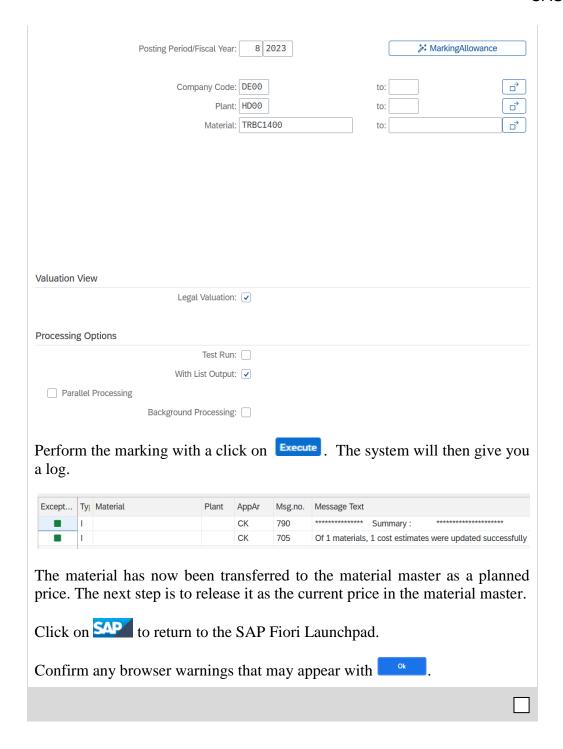


The *Price Update: Mark Standard Price* screen appears. Enter **the current month** and the **current year** as the posting period.

Current Month Current Year

Enter **DE00** (Germany) as the *Company Code*, **HD00** as the *Plant* and the *Material* **TRBC1**###. In addition, remove the check mark from **Test run**.

DE00 HD00 TRBC1### Test run





Step 22: Release price update

Task Perform a price release for the Touring bike computer.

Time 5 Min.

Short Description Release the preregistered price update for the material master. If the period has changed in the meantime, the marking must be performed again. The reason for this is that the marking is done with reference to the posting period and therefore cannot be used for release outside this period.

Name (position) Shuyuan Chen (Accounting Manager)

In the Controlling area on the Multilevel Product Cost Controlling page in the Head of Accounting role, use the Release Material Cost Estimates app to release the price update.

Release Material Cost Estimates

Release Material Cost Estimates

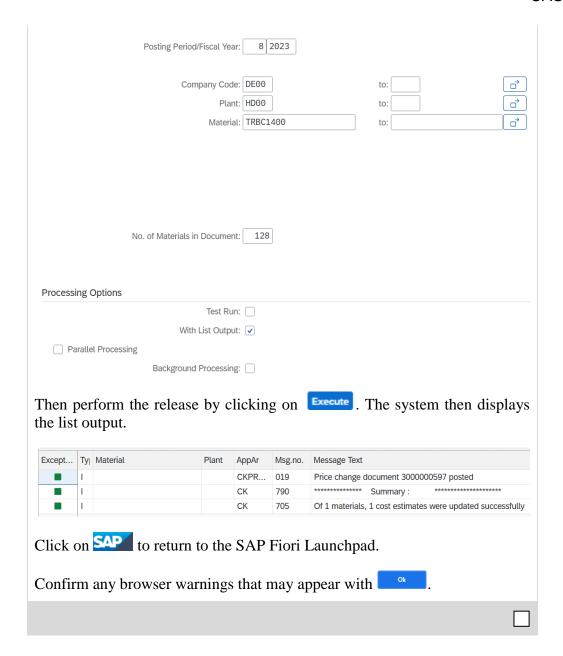


Click on to switch from marking to releasing material cost estimates. Again, make sure that the **current month** is selected as the *posting period* and the **current year**.

Current Month Current Year

Enter **DE00** (Germany) as the *Company code*, **HD00** as the *Plant* and the *Material* **TRBC1**###. In addition, remove the check mark from **Test run**.

DE00 HD00 TRBC1### Test run





Step 23: Check price update

Task Perform a check of the price release.

Time 5 Min.

Short Description Check if the price update was successful. You do this directly in the product master data.

Name (position) Jermain Kumins (Production Worker 1)

In the *Controlling* area, on the *Multilevel Product Cost Controlling* page, in the *Shop Floor Worker* role, use the *Manage Product Master Data* app to check the price update.

Manage Product Master Data



In the search mask, enter **TRBC1**### in the *Product* field and click on The system will display your Touring Bike Computer.

TRBC1###



Click on the entry to open the details of the product.

The screen automatically scrolls to the appropriate section.

On the right edge of the screen, use the pull-down menu to select the *Valuation Areas* section.

Valuation areas

