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 2020
Global Bike

Fiori 3.0

Level
Bachelor
Master
Advanced

Focus
Product cost calculation

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Version
4.1

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SAP University Alliances

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 multi-level 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.

Process Overview

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.

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.

Time ~245 Min. + 60 Min.

Optional task

Employees involved
Jermain Kumins (Production Worker 1)

Jamie Shamblin (Controller)

Shuyuan Chen (Accounting Manager)

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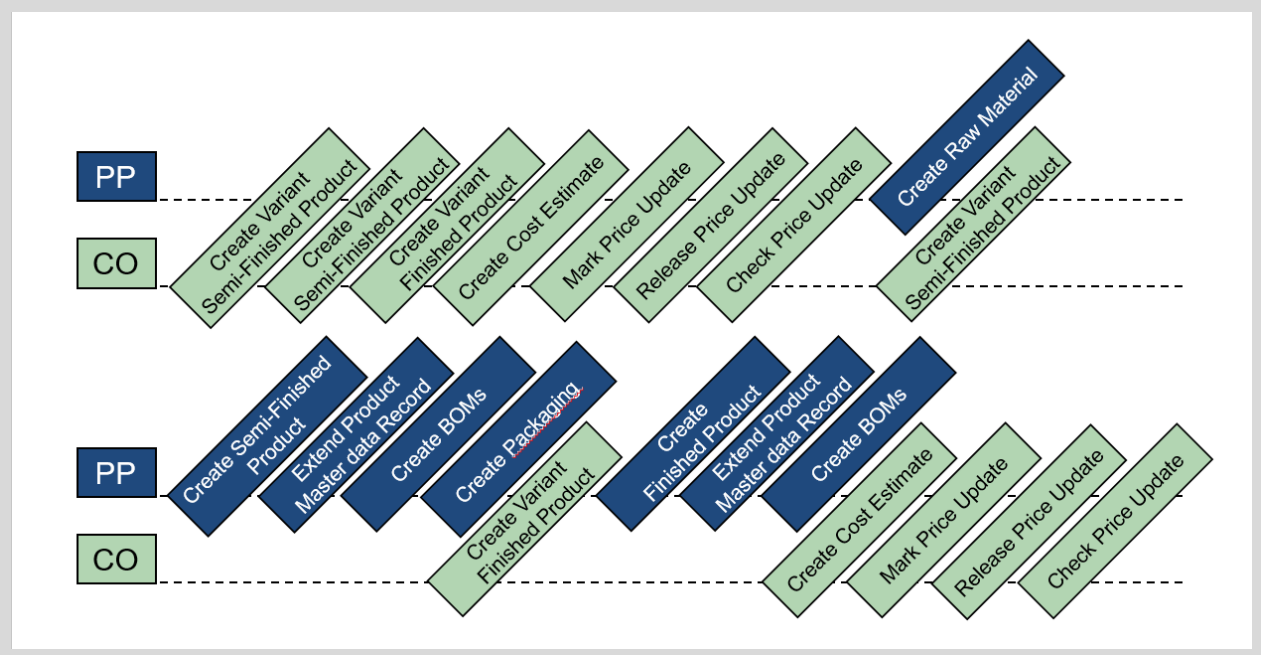
The multi-level product structure of the end products *Off Road Bike computer* (*ORBC1###*) and *Touring Bike computer* (*TRBC1###*) can be found in the following figure. Please note that the components of the touring bike computer are not created in the system in advance.

Version Global Bike EN

Table of contents

□
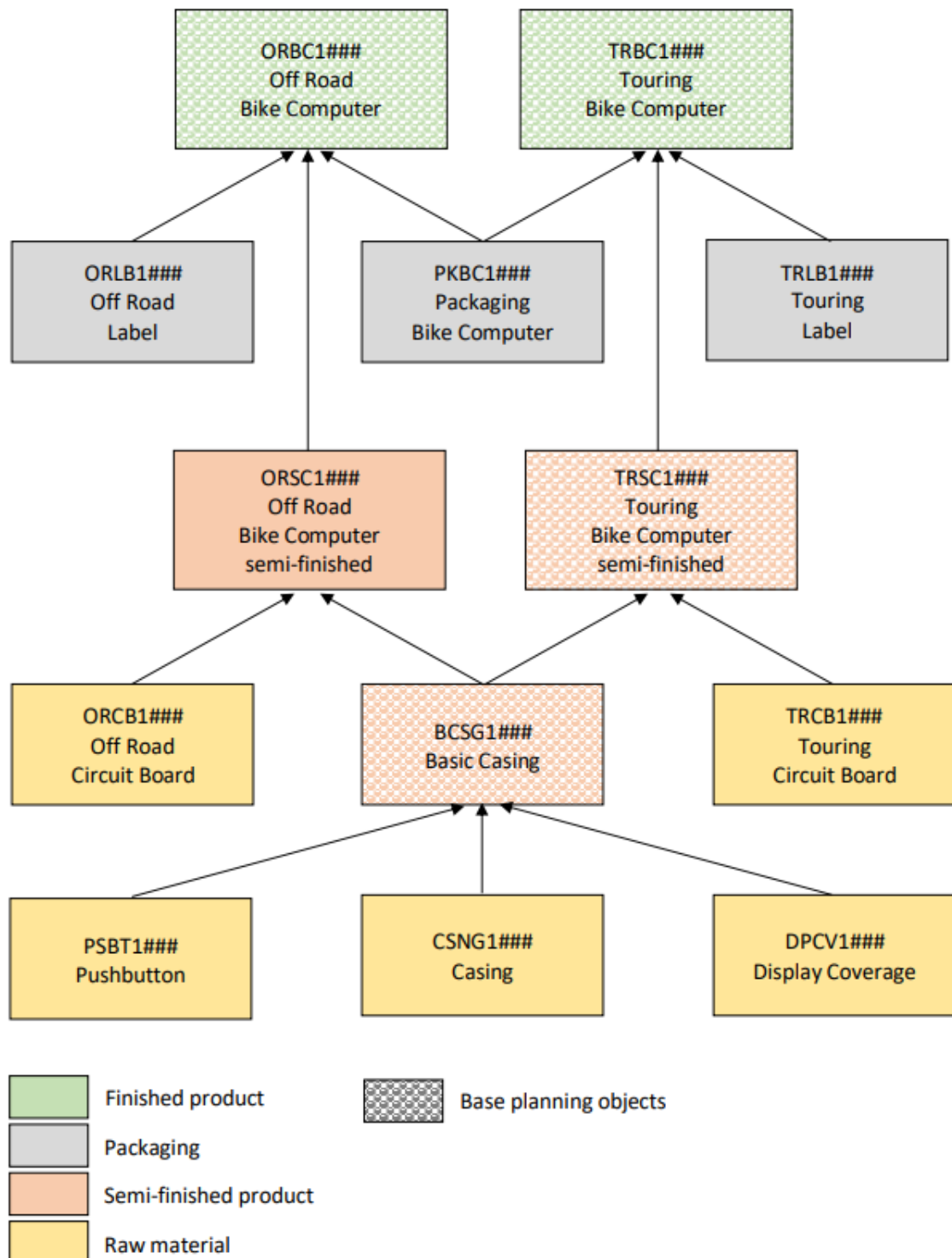
[Optional] Manual calculation of manufacturing costs

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.	1000 pcs		
Packaging bike comp.	1000 pcs.	Pallet à 1000 pcs.	150,00 € per pallet
Deluxe" sticker	1000 pcs.	carton à 1000 St.	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.	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.

<div align="right">Create Base Planning Objects</div>
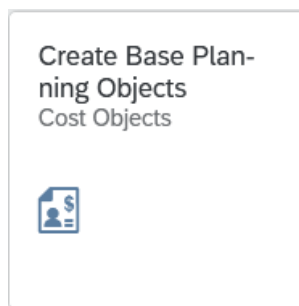
Create Base Planning Object: Initial screen appears. At the beginning, select
More → Extras → Set Controlling Area…
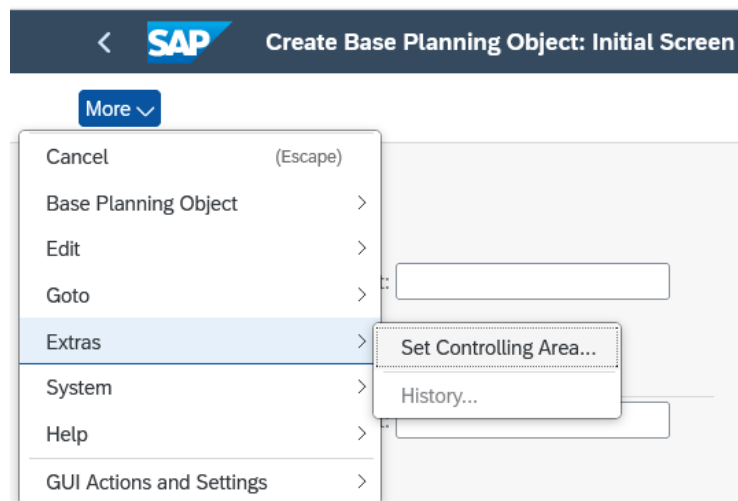
Change the controlling area from NA00 to **EU00** and confirm the change with ✅ (*Copy*).

<div align="right">EU00</div>

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

<div align="right">BCSG1###</div>

* Base Planning Object:	BCSG1100

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 **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*.

<div align="right">PC
5004000
DE00
HD00
PP-PC1</div>

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*.

<div align="right">###
Basic Casing ###
Basic Casing Bike
Computer</div>

SAP   **Create Base Planning Object: Master Data**

Base Planning Object:	BCSG1100	Controlling Area:	EU00

General data

* Base Unit of Measure:	PC	Cost Element:	5004000
Company Code:	DE00	Base Object Group:	
Plant:	HD00	Sort Field:	100
Profit Center:			
Costing Sheet:	PP-PC1	Overhead key:	

Texts

* Name:	Basic Casing 100
Description:	Basic Casing Bike Computer

Cost estimate

Total Value (LocCur):	0.00	EUR
Lot Size:	0.000	
Price:	0.00	EUR

Status

☐ Released
☐ Deletion Flag

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**.

<div align="right">PG
1000</div>

Create Cost Estimate   ✕

Costing Variant: PG

Lot Size: 1000 PC

Copy from

Base Object:

✓ ✕

Click on ☑ (*Continue*) to proceed.

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.

<div align="right">
M
S
PSBT1###
CSNG1###
DPCV1###
M
</div>

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

<div align="right">HD00</div>

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

<div align="right">
4000
1000
</div>

Costing Items - Basic View

⬚	Ma	Item	Category	Resource	Plant/...	Pur...	Quantity	U...	Lo	Value - Total
☐		1	M	PSBT1100	HD00		4000	PC		0.00
☐		2	M	CSNG1100	HD00		1000	PC		0.00
☐		3	M	DPCV1100	HD00		1000	PC		0.00
☐		4	S							0.00

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.

Costing Items - Basic View

⬚	Ma	Item	Category	Resource	Plant/...	Pur...	Quantity	U...	Lo	Value - Total	Description
☐		1	M	PSBT1100	HD00		4,000	PC		800.00	Pushbutton
☐		2	M	CSNG1100	HD00		1,000	PC		5,800.00	Casing
☐		3	M	DPCV1100	HD00		1,000	PC		4,000.00	Display Coverage
☐		4	S							10,600.00	

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

Click on **Save** to save your calculation.

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.

Costing Items - Basic View

	Ma Item	Category	Resource	Plant/...	Pur...	Quantity	U...	Lot	Value - Total	Description
☐	1	M	PSBT1100	HD00		4,000	PC		800.00	Pushbutton
☐	2	M	CSNG1100	HD00		1,000	PC		5,800.00	Casing
☐	3	M	DPCV1100	HD00		1,000	PC		4,000.00	Display Coverage
☐	4	S							10,600.00	
☐	5	G							2,120.00	Material Overhead

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

Click on **Save** to save your calculation.

⊘ Base planning object EU00 BCSG1100 was saved View Details

Click on **SAP** to return to the SAP Fiori Launchpad.

Confirm any browser warnings that may appear with **Ok** .

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 *Controller* role, use the *Create Base Planning Objects* app to create a base planning object.

<div style="text-align: right">Create Base Planning Objects</div>

Create Base Plan-
ning Objects
Cost Objects

Change the *Controlling area* from NA00 to **EU00** and confirm the change with ✓ (*Copy*).

<div style="text-align: right">EU00</div>

Enter **ORSC1###** (*Off Road Bike Computer semi-finished*) in the *Base Planing Object* field and enter the *Base Planning Object* **BCSG1###** you have just created as a template.

<div style="text-align: right">ORSC1###</div>
<div style="text-align: right">BCSG1###</div>

* Base Planning Object: ORSC1100

Copy from

Base Planning Object: BCSG1100

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

Change the *Name* to **Off Road Semi ###**. Enter **Off Road Bike Computer semi-finished** as the new *Description*.

<div style="text-align: right">Off Road Comp Semi ###
Off Road Bike Computer semi-finished</div>

Texts

* Name:	Off Road Semi 100
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.

Create Cost Estimate   ✕

Costing Variant: PG

Lot Size: 1,000 PC

Copy from

Base Object:

✓   ✕

Click on ✅ (*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.

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

Costing Items - Basic View

| 🗒	Mar	Item	Category	Resource	Plant/...	Pur...	Quantity	U...	Lot Value - Total
☐		1	B	BCSG1100			1000	PC	0.00
☐		2	M	ORCB1100	HD00		1000	PC	0.00
☐		3	S						0.00

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

Mar	Item	Category	Resource	Plant/...	Pur...	Quantity	U...	Lot Value - Total
☐	1	B	BCSG1100			1,000	PC	12,720.00
☐	2	M	ORCB1100	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.

Cost estimate

Total Value (LocCur):	39,264.00	EUR
Lot Size:	1,000	PC
Price:	39.26	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.

Costing Items - Basic View

Ma	Item	Ca	Resource	Plant/...	Pur...	Quantity	Un...	Lot Value - Total	Description
☐	1	B	BCSG1100			1,000	PC	12,720.00	Basic Casing Bike Computer
☐	2	M	ORCB1100	HD00		1,000	PC	20,000.00	Off Road Circuit Board
☐	3	S						32,720.00	
☐	4	G						6,544.00	Material Overhead

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

Click on **Save** to save your calculation.

⊘ Base planning object EU00 ORSC1100 was saved View Details

Click on **SAP** to return to the SAP Fiori Launchpad.

Confirm any browser warnings that may appear with **Ok**.

☐

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.

<div style="text-align:right">Create Base Planning Objects</div>

Create Base Plan-
ning Objects
Cost Objects

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

<div style="text-align:right">EU00</div>

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

<div style="text-align:right">ORBC1###</div>

* Base Planning Object: ORBC1100

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*).

<div style="text-align:right">PC
5002000
DE00
HD00
PP-PC1</div>

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

<div style="text-align:right">###
Off Road Comp ###
Off Road Bike Computer</div>

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

Click on ☑ (*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 and third rows, and **S** for *Total* in the fourth and seventh rows. In the fifth and sixth line enter **E** for *Internal Activity*.

In the Resource column, enter **ORSC1###** for the semi-finished product Off 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 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**.

1000
360
720

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

MIN

Costing Items - Basic View

	Ma	Item	Categ...	Resource	Plant/...	Pur...	Quantity	Unit of Measure	Lot Value - To...	Description
☐		1	B	ORSC1100			1000	PC	0.00	
☐		2	M	ORLB1100	HD00		1000	PC	0.00	
☐		3	M	PKBC1100	HD00		1000	PC	0.00	
☐		4	S						0.00	
☐		5	E	EUPR1000	MACH		360	MIN	0.00	
☐		6	E	EUPR1000	WAGE		720	MIN	0.00	

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.

Costing Items - Basic View

	Ma	Item	Ca	Resource	Plant/...	Pur...	Quantity	Unit of M...	Lot Value - Total	Description
☐		1	B	ORSC1100			1,000	PC	39,264.00	Off Road Bike Computer semi-finished
☐		2	M	ORLB1100	HD00		1,000	PC	50.00	Off Road Label
☐		3	M	PKBC1100	HD00		1,000	PC	150.00	Packaging Bike Computer
☐		4	S						39,464.00	
☐		5	E	EUPR1000	MACH		360	MIN	372.00	Machine Hours
☐		6	E	EUPR1000	WAGE		720	MIN	384.00	Wage Hours
☐		7	S						40,220.00	

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.

Cost estimate

Total Value (LocCur):	48,267.24	EUR
Lot Size:	1,000	PC
Price:	48.27	EUR

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.

Costing Items - Basic View

	Ma	Item	Ca	Resource	Plant/...	Pur...	Quantity	Unit of M...	Lot Value - Total	Description
☐		1	B	ORSC1100			1,000	PC	39,264.00	Off Road Bike Computer semi-finished
☐		2	M	ORLB1100	HD00		1,000	PC	50.00	Off Road Label
☐		3	M	PKBC1100	HD00		1,000	PC	150.00	Packaging Bike Computer
☐		4	S						39,464.00	
☐		5	E	EUPR1000	MACH		360	MIN	372.00	Machine Hours
☐		6	E	EUPR1000	WAGE		720	MIN	384.00	Wage Hours
☐		7	S						40,220.00	
☐		8	G						7,892.80	Material Overhead
☐		9	G						154.44	Prod. Wages Overhead

Select [<] to return to the *Create Base Planning Object: Master Data* screen.

Click on [Save] to save your calculation.

✅ Base planning object EU00 ORBC1100 was saved View Details

Click on [SAP] to return to the SAP Fiori Launchpad.

Confirm any browser warnings that may appear with [Ok].

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

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
1000

* Material: ORBC1100
* Plant: HD00

Costing Data   Dates   Qty Struct.

* Costing Variant: ZPC1
Costing Version: 1
Costing Lot Size: 1000
Transfer Control:

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**.

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.

Click on **Save** to save your material costing.

The SAP system saves the cost estimate for material *ORBC1###* and issues a corresponding message.

⊘ The cost estimate is being saved

Click on **SAP** to return to the SAP Fiori Launchpad.

Confirm any browser warnings that may appear with **Ok** .

☐

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 (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* 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* **ORBC1###.** In addition, remove the check mark from **Test run**.

DE00
HD00
ORBC1###
Test run

Perform the marking with a click on **Execute**. The system will then give you a log.

The material has now been transferred to the material master as a planned price. The next step is to release it as the current price in the material master.

Click on **SAP** to return to the SAP Fiori Launchpad.

Confirm any browser warnings that may appear with **Ok**.

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 (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 [Release] 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 Year:	4	2022		
Company Code:	DE00	to:		
Plant:	HD00	to:		
Material:	ORBC1100	to:		

No. of Materials in Document: 128

Processing Options

Test Run: ☐
With List Output: ☑
☐ Parallel Processing
Background Processing: ☐

Then perform the release by clicking on Execute . The system then displays the list output.

⚠	T	Material	Plnt	AppAr	MsgNo	Message Text	ItmNo
■	I			CKPRCH	019	Price change document 3000000592 posted	
■	I			CK	790	*************** Summary : *********************	
■	I			CK	705	Of 1 materials, 1 cost estimates were updated successfully	

Click on SAP to return to the SAP Fiori Launchpad.

Confirm any browser warnings that may appear with Ok .

___

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 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.

<div align="right">Manage Product Master Data</div>

Manage Product Master Data

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

<div align="right">ORBC1###</div>

	Image	Description / ID	Group / Type	GTIN	Product Category	Last Changed
Products (1)			Create Copy Mass Processing Show in Hierarchy	**Hide Draft Values** Delete		
☐	🔷	**Off Road Bike Computer** ORBC1100	Utilities (UTIL) Finished Product (FERT)		Product	04/28/2022, 09:03:56 Learn-100 Learn-100

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.

<div align="right">Valuation Areas</div>

tachments - Generic Object Services

General Information

    Basic Data

    Descriptions

…

Plants

Valuation Areas

Attachments - Document Management Services

Attachments - Generic Object Services

The screen automatically scrolls to the appropriate section.

Valuation Areas

Valuation Area	Valuation Type	Price Control Determination	Valuation Category	Valuation Class	Split Indicator	Marked for Deletion	
DL00		Transaction-Based (2)		Finished products (7920)	Not Applicable	No	>
HD00		Transaction-Based (2)		Finished products (7920)	Not Applicable	No	>

Click on the line with the Valuation Area *HD00* to view more details of the material.

Select the *Valuation tab* ► *Current period*. Here you can see the price of the posted material cost estimate as the currently valid standard price.

Current Period

Currency Type / Valuation View	Currency	Inventory Price	Price Unit	Price Control
Company code currency 10	EUR	56.83 EUR	1	Standard price (S)

As a result of your price update, the calculated price for the Off Road Bike Computer was updated as the standard price in the material master.

Click on **SAP** to return to the SAP Fiori Launchpad.

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 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 Data

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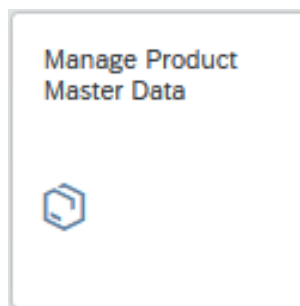
In the search mask, enter **ORCB1###** in the Product field and click on Go. The system will display your Off Road Circuit Board.

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 P*roduct Number* and change the *Description* to **Touring Circuit Board**. All other data can be taken over.

Create Master Data Record

Product Number:	Base Unit: *	Change Number:
TRCB1100	PC	
Product Type: *	GTIN:	Revision Level: Create Revision Level
ROH		
Product Category:	GTIN Category:	
Product		
Product Group:		
RAW		

Description: *

Touring Circuit Board

Click on **OK** to proceed.

The system now shows you the new data set for your touring board. Scroll to the *Descriptions* in the *General Information* section. Adjust the German name of the product here and enter **Touring Platine**.

Touring Platine

Descriptions

Create   Delete   Paste   ⚙

	Language	Product
○	EN	Touring Circuit Board
○	DE	Touring Platine

Use the pull-down menu to select the *Valuation Areas* section.

Valuation Areas

tachments - Generic Object Services   ⌄

General Information
    Basic Data
    Descriptions

…

Plants

Valuation Areas

Attachments - Document Management Services

Attachments - Generic Object Services

The screen automatically scrolls to the appropriate section.

Valuation Area	Valuation Type	Price Control Determination	Valuation Category	Valuation Class	Split Indicator	Marked for Dele-tion	
DL00		2		3000	Not Applicable	No	›
HD00		2		3000	Not Applicable	No	›

Click on the line with the valuation area *HD00* to view more details of the material in this company code.

Select the *Valuation* tab ► *Current period*.

Change the *inventory price* to **2500 EUR**. The *Price Unit* **100** and **Standard price (S)** as *Price Control* remain.

2500 EUR

Current Period

Currency Type / Valuation View	Currency	Inventory Price	Price Unit	Price Control
10	EUR	2,500.00 EUR	100	Standard price (S)

Click on Apply to apply the adjustments. You will automatically return to the previous view.

Now click on Create to save the new product master record.

The system may indicate that a duplicate can be created. This is quite correct, because the master data are very similar.

‹ Create

⚠ Potential duplicate(s) exists. Read long text before proceeding.

Click again on Create to continue. You will receive a confirmation from the system.

Master data record saved.

Click on SAP to return to the SAP Fiori Launchpad.

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.

<div align="right">Create Base Planning Objects</div>

Create Base Plan-
ning Objects
Cost Objects

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

<div align="right">EU00</div>

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.

<div align="right">TRSC1###</div>

<div align="right">ORSC1###</div>

< **SAP** Create Base Planning Object: Initial Screen

More ∨

* Base Planning Object: TRSC1100

Copy from
Base Planning Object: ORSC1100

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*.

<div align="right">Tour Comp Semi ###
Touring Bike Computer
semi-finished</div>

Texts

* Name:	Tour Comp Semi 100
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

<div align="right">

PG
1000
ORSC1100

</div>

Create Cost Estimate ✕

Costing Variant: PG
Lot Size: 1,000 PC

Copy from

Base Object: ORSC1000

✓ ✕

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.

<div align="right">

~~ORCB1###~~
TRCB1###

</div>

Costing Items - Basic View

Ti	Ma	Item	Ca	Resource	Plant/...	Pur...	Quantity	Unit ...	Lot Value - Total	Description
☐		1	B	BCSG1100			1,000	PC	12,720.00	Basic Casing Bike Computer
☐		2	M	TRCB1100	HD00		1,000	PC	25,000.00	Touring Circuit Board
☐		3	S						37,720.00	

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 View Details

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
Lot Size:	1,000	PC
Price:	45,26	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.

Costing Items - Basic View

□	Ma	Item	Ca	Resource	Plant/…	Pur…	Quantity	Unit …	Lot Value - Total	Description
□		1	B	BCSG1100			1.000	PC	12.720,00	Basic Casing Bike Computer
□		2	M	TRCB1100	HD00		1.000	PC	25.000,00	Touring Circuit Board
□		3	S						37.720,00	
□		4	G						7.544,00	Material Overhead

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

Click on **Save** to save your sample calculation.

✓ Base planning object EU00 TRSC1100 was saved View Details

Click on **SAP** to return to the SAP Fiori Launchpad.

Confirm any browser warnings that may appear with **Ok** .

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.

<div align="right">Manage Product Master Data</div>

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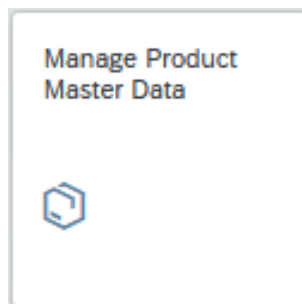
In the search mask, enter **ORSC1**### in the *Product* field and click on Go. The system will display your Off Road Bike Computer semi-finished.

<div align="right">ORSC1###</div>

Products (1)	Create Copy Mass Processing Show in Hierarchy **Hide Draft Values** Delete
Image	Description / ID · Group / Type · GTIN · Product Category · Last Changed
☐	**Off Road Bike Computer semi-finished** · Utilities (UTIL) · Product · 04/05/2022, 14:35:59
	ORSC1100 · Semifinished Product (HALB) · · Marcel Himburg

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

Select Organizational Data to Copy

Off Road Bike Computer semi-finished

ORSC1100

☑ Plants
2 items selected   2 >

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.

<div align="right">TRSC1###
Touring Bike Computer semi-finished</div>

Click on to **OK** continue.

The system now shows you the new data set for your Touring Bike Computer semi-finished. Scroll to the *Descriptions* in the *General Information* section. Adjust the german name of the product here and enter **Touring Fahrradcomputer halbfertig**.

Touring Fahrradcomputer halbfertig

Click on **Create** to save the new product master record.

The system may indicate that a duplicate can be created. This is quite correct, because the master data are very similar.

Click again on **Create** to continue. You will receive a confirmation from the system.

Click on **SAP** to return to the SAP Fiori Launchpad.

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 *Controlling* area, on the *Multilevel Product Cost Controlling* page, in the *Shop Floor Worker* role, use the *Change Material* app.

Change Material

Enter **TRSC1###** in the *Material* field and click on Continue . The *Select View(s)* window opens. Select the view *Costing 1*.

TRSC1###

Costing 1

Select View(s)   ×

View
☐ Basic Data 1
☐ Basic Data 2
☐ Extended SPP Basic Data
☐ MRP 1
☐ MRP 2
☐ MRP 3
☐ MRP 4
☐ Advanced Planning
☐ Extended SPP
☐ Work Scheduling
☐ General Plant Data / Storage 1
☐ General Plant Data / Storage 2
☐ Accounting 1
☐ Accounting 2
☑ Costing 1
☐ Costing 2

Confirm the selection by clicking on ☑ (*Continue (enter)*).

In the following window, specify *Organizational Levels* for *Plant* **HD00** and confirm again with ☑ (*Continue (enter)*).

HD00

Select the **With Qty Structure** and **Material origin** checkboxes.

General Data

* Base Unit of Measure:	PC	Piece	
Do Not Cost:	☐		
With Qty Structure:	☑		
Material origin:	☑		
Origin Group:			
Overhead Group:		Variance Key:	000001
Plant-Sp.Matl Status:			
Valid From:		Profit Center:	

Click on **Save** to apply the changes. You will receive a confirmation from the system.

⊘ Material TRSC1100 changed

Click on **SAP** to return to the SAP Fiori Launchpad.

Confirm any browser warnings that may appear with **Ok**.

☐

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)

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

Maintain Bill of Material

Maintain Bill Of Material
Create, change & dis...

Click on Create BOM to create a new BOM . The *Create BOM* window opens.

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)

Create BOM

Material:*	TRSC1100
Plant:	HD00
BOM Usage:*	1 (Production)
Alternative BOM:	
Change Number:	
Valid From:	05/02/2022
Change Record:	

OK   Cancel

Click on OK to accept your input.

The *Maintain Bill of Materials* screen appears. In the list, for the first two items, enter **BCSG1###** (Basic Casing) and **TRCB1###** in the *Component* column.

BCSG1###
TRCB1###

In the Component Quantity column, add **1** in each case.

1

Click on **Create** to save the new BOM. You will receive a confirmation from the system.

Click on **SAP** to return to the SAP Fiori Launchpad.

Step 13: 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

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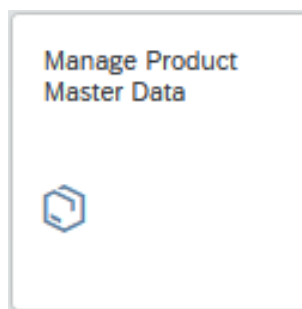
In the search mask, enter **ORLB1###** in the *Product* field and click on Go . The system will display your Off Road Label.

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

Create Master Data Record

Product Number:	Base Unit: *	Change Number:
TRLB1100	PC	

Product Type: *	GTIN:	Revision Level: Create Revision Level
VERP		

Product Category:	GTIN Category:
Product	

Product Group:

UTIL

Description: *

Touring Label

Click on **OK** to continue.

The system will now show you the new record for your touring label. Scroll to the *Descriptions* in the *General Information* section. Adjust the German name of the product here and enter **Touring Etikett**.

Touring Etikett

Descriptions

Create   Delete   Paste   ⚙

	Language		Product
○	EN		Touring Label
○	DE	⊡	Touring Etikett

Click on **Create** to save the new product master record.

The system may indicate that a duplicate can be created. This is quite correct, because the master data are very similar.

Click again on **Create** to continue. You will receive a confirmation from the system.

Master data record created

Click on **SAP** to return to the SAP Fiori Launchpad.

Step 14: 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 *Controlling* area on the *Multilevel Product Cost Controlling* page in the *Controller* role, use the *Create Base Planning Objects* app.

Create Base Plan-
ning Objects
Cost Objects

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

EU00

The Create Base Planning Object: Initial Screen appears. Enter **TRBC1###** in the Base *Planning Object* field and **ORBC1###** as the template (*Copy from*).

TRBC1###
ORBC1###

< SAP	Create Base Planning Object: Initial Screen

More ∨

* Base Planning Object: TRBC1100

Copy from

Base Planning Object: ORBC1100

Change the *Name* to **Tour Comp ###**. Enter **Touring Bike Computer** as the new *Description*.

Tour Comp ###
Touring Bike Computer

Texts

* Name: Tour Comp 100

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**.

Create Cost Estimate	✕

Costing Variant: PG

Lot Size: 1,000 PC

Copy from

Base Object: ORBC1100

✓ ✕

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.

Costing Items - Basic View

Ma	Item	Ca	Resource	Plant/...	Pur...	Quantity	Un...	Lot	Value - Total	Description
	1	B	TRSC1100			1000	PC		0.00	
	2	M	TRLB1100	HD00		1000	PC		0.00	
	3	M	PKBC1100	HD00		1000	PC		0.00	
	4	S							0.00	
	5	E	EUPR1000	MACH		360	MIN		0.00	
	6	E	EUPR1000	WAGE		720	MIN		0.00	

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.

Costing Items - Basic View

Ma	Item	Ca	Resource	Plant/...	Pur...	Quantity	Un...	Lot	Value - Total	Description
	1	B	TRSC1100			1,000	PC		45,264.00	Touring Bike Computer semi-finished
	2	M	TRLB1100	HD00		1,000	PC		50.00	Touring Label
	3	M	PKBC1100	HD00		1,000	PC		150.00	Packaging Bike Computer
	4	S							45,464.00	
	5	E	EUPR1000	MACH		360	MIN		372.00	Machine Hours
	6	E	EUPR1000	WAGE		720	MIN		384.00	Wage Hours
	7	S							46,220.00	

Click on **Save** to 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.

Cost estimate

Total Value (LocCur):	55,467.24	EUR
Lot Size:	1,000	PC
Price:	55.47	EUR

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.

< SAP Create Unit Cost Estimate: List Screen - 1

Base Planning Obj: TRBC1110 Tour Comp 110

Costing Items - Basic View

Ma	Item	Ca	Resource	Plant/...	Pur...	Quantity	Un...	Lot	Value - Total	Description
	1	B	TRSC1110			1,000	PC		45,264.00	Touring Bike Computer semi-finished
	2	M	TRLB1110	HD00		1,000	PC		50.00	Touring Label
	3	M	PKBC1110	HD00		1,000	PC		150.00	Packaging Bike Computer
	4	S							45,464.00	
	5	E	EUPR1000	MACH		360	MIN		372.00	Machine Hours
	6	E	EUPR1000	WAGE		720	MIN		384.00	Wage Hours
	7	S							46,220.00	
	8	G							7,892.80	Material Overhead
	9	G							154.44	Prod. Wages Overhead

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

Click on Save to save your calculation.

✓ Base planning object EU00 TRBC1100 was saved View Details

Click on SAP to return to the SAP Fiori Launchpad.

Confirm any browser warnings that may appear with [Ok].

Step 15: 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

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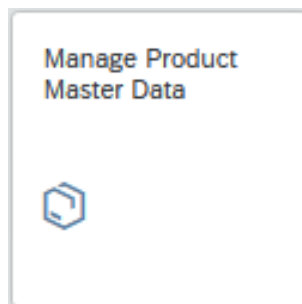
In the search mask, enter **ORBC1###** in the *Product* field and click on Go . The system will display your Off Road Bike Computer.

ORBC1###

Products (1)		Create Copy Mass Processing Show in Hierarchy Hide Draft Values Delete			
Image	Description / ID	Group / Type	GTIN	Product Category	Last Changed
	Off Road Bike Computer ORBC1100	Utilities (UTIL) Finished Product (FERT)		Product	05/04/2022, 07:50:57 Learn-110 Learn-110

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

Select Organizational Data to Copy

Off Road Bike Computer
ORBC1100

☑ Plants
2 items selected   2 >

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

Click on **OK** to continue.

The system now shows you the new data set for your Touring bike computer. Scroll to the *Descriptions* in the *General Information* section. Adjust the German name of the product here and enter **Touring Fahrradcomputer**.

Touring
Fahrradcomputer

Click on **Create** to save the new product master record.

The system may indicate that a duplicate can be created. This is quite correct, because the master data are very similar.

Click again on **Create** to continue. You will receive a confirmation from the system.

Master data record created

Click on **SAP** to return to the SAP Fiori Launchpad.

Step 16: Extend product master data record for costing

Task Extend the master data record of your new 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 *Controlling* area, on the *Multilevel Product Cost Controlling* page, in the *Shop Floor Worker* role, use the *Change Material* app.

Change Material

Change Material

Enter **TRBC1###** in the *Material* field and click on Continue . The *Select View(s)* window opens. Select the view *Costing 1*.

TRBC1###
Costing 1

Select View(s) ✕

View
☐ Basic Data 1
☐ Basic Data 2
☐ Extended SPP Basic Data
☐ MRP 1
☐ MRP 2
☐ MRP 3
☐ MRP 4
☐ Advanced Planning
☐ Extended SPP
☐ Work Scheduling
☐ General Plant Data / Storage 1
☐ General Plant Data / Storage 2
☐ Accounting 1
☐ Accounting 2
☑ **Costing 1**

Confirm the selection by clicking on ☑ (*Continue (enter)*).

In the following window, specify *Organizational Levels* for *Plant* **HD00** and confirm again with ☑ (*Continue (enter)*).

Select the **With Qty Structure** and **Material origin** checkboxes.

General Data

* Base Unit of Measure:	PC Piece
Do Not Cost:	☐
With Qty Structure:	☑
Material origin:	☑
Origin Group:	
Overhead Group:	Variance Key: 000001
Plant-Sp.Matl Status:	
Valid From:	Profit Center:

Click on **Save** to apply the changes. You will receive a confirmation from the system.

⊘ Material TRBC1100 changed

Click on **SAP** to return to the SAP Fiori Launchpad.

Confirm any browser warnings that may appear with **Ok**.

Step 17: 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)	

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

Maintain Bill of Material
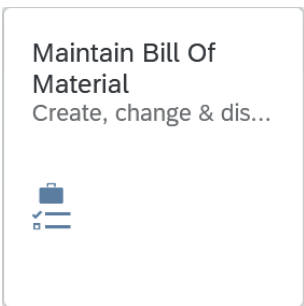
Maintain Bill Of Material
Create, change & dis...

Click on **Create BOM** to create a new BOM . The *Create BOM* window opens.

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

TRBC1###
HD00
1 (Production)

Create BOM

Material:*	TRBC1100
Plant:	HD00
BOM Usage:*	1 (Production)
Alternative BOM:	
Change Number:	
Valid From:	05/05/2022
Change Record:	

OK   Cancel

Click on **OK** to accept your input.

The *Maintain Bill of Materials* screen appears. In the *Item Category* column, select **N(Non-stock 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.

TRBC1100
Touring Bike Computer, Plant:Plant Heidelberg, BOM Usage:Production, Alternative:01

Components Timeline Header Attributes Header Attachments Header Long Text

Ite...	Item Category	Component	Component Description	Component Quantity	
0010	L(Stock item)	TRSC1100	Touring Bike Computer semi-finished	1.000	PC
0020	N(Non-stock ...)	TRLB1100	Touring Label	1.000	PC
0030	N(Non-stock ...)	PKBC1100	Packaging Bike Computer	1.000	PC

Click on **Create** to save the new BOM. You will receive a confirmation from the system.

Material BOM saved

Click on **SAP** to return to the SAP Fiori Launchpad.

Step 18: 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.

<div align="right">Create Material Cost Estimates</div>

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.

<div align="right">TRBC1###
HD00
ZPC1
1
1000</div>

* Material: TRBC1100
* Plant: HD00

Costing Data   Dates   Qty Struct.

* Costing Variant: ZPC1
Costing Version: 1
Costing Lot Size: 1000
Transfer Control:

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**.

<div align="right">Current Date</div>

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.

Cost Components in Company Code Currency

CC...	Name of Cost Comp.	Σ	Overall	Σ	Fixed	Σ	Variable	Currency
1	Raw Materials		35,800.00				35,800.00	EUR
2	Human Resources							EUR
3	Production							EUR
4	Material Overhead		29,620.16				29,620.16	EUR
5	Production Overhead		54.00				54.00	EUR
8	External Activity							EUR
9	Miscellaneous							EUR
		•	65,474.16			•	65,474.16	EUR

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.

Cost Components in Company Code Currency

CC...	Name of Cost Comp.	Overall	Fixed	Variable	Currency
1	Raw Materials	35,800.00		35,800.00	EUR
2	Human Resources				EUR
3	Production				EUR
4	Material Overhead	29,620.16		29,620.16	EUR
5	Production Overhead	54.00		54.00	EUR
6	Admin. Overhead	26,696.24		26,696.24	EUR
7	Sales Overhead	35,594.99		35,594.99	EUR
8	External Activity				EUR
9	Miscellaneous				EUR
		127,765.39	•	127,765.39	EUR

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.

Costing Structure	Err	Total value	Curr	Quantity	Uni
∨ ▦ Touring Bike Compu	☐	127,765.39	EUF	1,000	PC
∨ ▦ Touring Bike Com	☐	93,622.08	EUF	1,000	PC
∨ ▦ Basic Casing	☐	25,058.40	EUF	1,000	PC
▦ Pushbutton	☐	1,296.00	EUF	4,000	PC
▦ Casing	☐	9,396.00	EUF	1,000	PC
▦ Display Cov	☐	6,480.00	EUF	1,000	PC
▦ Touring Circuit	☐	40,500.00	EUF	1,000	PC
Touring Label	☐	50.00	EUF	1,000	PC
Packaging Bike C	☐	150.00	EUF	1,000	PC

Click on **Save** to save your material costing.

The SAP system saves the cost estimate for material *TRBC1###* and issues a corresponding message.

⊘ The cost estimate is being saved

Click on **SAP** to return to the SAP Fiori Launchpad.

Confirm any browser warnings that may appear with **Ok** .

Step 19: 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~~

Posting Period/Fiscal Year: 5 2022 — MarkingAllowance

Company Code: DE00 to:
Plant: HD00 to:
Material: TRBC1100 to:

Valuation View
Legal Valuation: ✔

Processing Options
Test Run: ☐
With List Output: ✔
☐ Parallel Processing
Background Processing: ☐

Perform the marking with a click on **Execute**. The system will then give you a log.

⚠	T	Material	Plnt	AppAr	MsgNo	Message Text	ItmNo
▪	I			CK	790	*************** Summary : *********************	
▪	I			CK	705	Of 1 materials, 1 cost estimates were updated successfully	

The material has now been transferred to the material master as a planned price. The next step is to release it as the current price in the material master.

Click on **SAP** to return to the SAP Fiori Launchpad.

Confirm any browser warnings that may appear with **Ok**.

Step 20: 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 Release 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~~

Posting Period/Fiscal Year: 5 2022

Company Code: DE00   to:
Plant: HD00   to:
Material: TRBC1100   to:

No. of Materials in Document: 128

Processing Options

Test Run: ☐
With List Output: ☑
☐ Parallel Processing
Background Processing: ☐

Then perform the release by clicking on **Execute**. The system then displays the list output.

⚠	T	Material	Plnt	AppAr	MsgNo	Message Text	ItmNo
■	I			CKPRCH	019	Price change document 3000000601 posted	
■	I			CK	790	*************** Summary : ********************	
■	I			CK	705	Of 1 materials, 1 cost estimates were updated successfully	

Click on **SAP** to return to the SAP Fiori Launchpad.

Confirm any browser warnings that may appear with **Ok**.

Step 21: Check price update

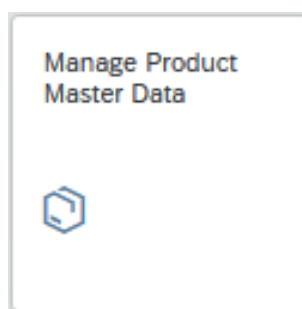|	
Task Perform a check of the price release.	**Time** 5 Min.

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

Manage Product
Master Data

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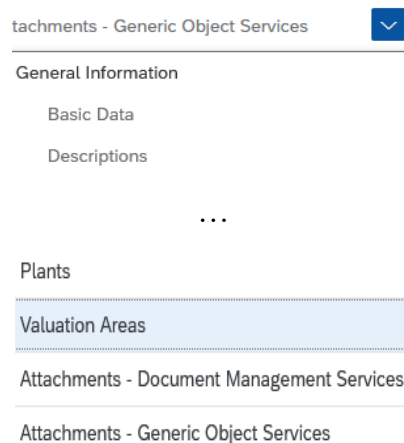
TRBC1###

	Products (1)			Create Copy Mass Processing Show in Hierarchy **Hide Draft Values** Delete		
☐	Image	Description / ID	Group / Type	GTIN	Product Category	Last Changed
☐	◊	**Touring Bike Computer** TRBC1100	Utilities (UTIL) Finished Product (FERT)		Product	05/05/2022, 08:44:29 Learn-110 Learn-110

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

tachments - Generic Object Services

General Information

    Basic Data

    Descriptions

…

Plants

Valuation Areas

Attachments - Document Management Services

Attachments - Generic Object Services

The screen automatically scrolls to the appropriate section.

Valuation Areas						
					Search	
Valuation Area	Valuation Type	Price Control Determination	Valuation Category	Valuation Class	Split Indicator	Marked for Deletion
DL00		Transaction-Based (2)		Finished products (7920)	Not Applicable	No
HD00		Transaction-Based (2)		Finished products (7920)	Not Applicable	No

Click on the line with the Valuation Area *HD00* to view more details of the material.

Select the *Valuation tab ▶ Current period*. Here you can see the price of the posted material cost estimate as the currently valid standard price.

Current Period				
			Search	
Currency Type / Valuation View	Currency	Inventory Price	Price Unit	Price Control
Company code currency 10	EUR	65,180.45 EUR	1	Standard price (S)

As a result of your price update, the calculated price for the Touring Bike Computer was updated as the standard price in the material master.

Click on **SAP** to return to the SAP Fiori Launchpad.