

# Business Performance - Absorption Costing

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# BEAS BUSINESS PERFORMANCE-ABSORPTION COSTING

## CONTENT

<b>1. INTRODUCTION .....</b>	<b>2</b>
Cost Accounting for Manufacturing Organisations .....	2
An Introduction to Absorption Costing.....	4
SAP B1 and Beas Financial Integration .....	5
<b>2. BEAS BUSINESS PERFORMANCE-ABSORPTION COSTING.....</b>	<b>6</b>
Beas Business Performance-Absorption Costing .....	6
<b>3. BEAS BUSINESS PERFORMANCE-SAP BUSINESS ONE SETTINGS.....</b>	<b>6</b>
SAP Business One Setup – Cost Centres .....	6
SAP Business One Setup – Distribution Rules .....	7
SAP Business One Setup – GL Account Determination .....	8
<b>4. BEAS BUSINESS PERFORMANCE-BEAS MANUFACTURING SETTINGS.....</b>	<b>9</b>
Beas Manufacturing Setup – Configuration Wizard Settings.....	9
Beas Manufacturing Setup – Statement Cycle .....	10
Beas Manufacturing Setup – Cost Centres .....	13
Beas Manufacturing Setup – Distribution Keys .....	15
Beas Manufacturing Setup – Cost Elements.....	17
Beas Manufacturing Setup – Cost Element Assignment.....	19
Beas Manufacturing Setup – Resources .....	19
Beas Manufacturing Setup – Summary .....	21
<b>5. BEAS BUSINESS PERFORMANCE-ABSORPTION COSTING WORKFLOW .....</b>	<b>21</b>
Beas Manufacturing Workflow – Financial Data.....	21
Beas Manufacturing Workflow – Production Activities.....	22
Beas Manufacturing Workflow – Cost Calculate .....	24
Beas Manufacturing Workflow – Understanding the Absorption Costing Report .....	26
Beas Manufacturing Workflow – Executing Absorption Costing.....	29
Beas Manufacturing Workflow – After Absorption Costing .....	32

# 1. Introduction

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Before we dive into absorption costing and review how Beas Manufacturing works with it, let us outline some fundamental concepts of cost accounting that will play a key role in guiding us through this whole set of definitions and processes. Otherwise, it could be difficult to make sense of why certain processes must take place and their importance for enhancing a company's decision-making capability by providing indispensable costing information.

## COST ACCOUNTING FOR MANUFACTURING ORGANISATIONS

Cost, in its basic definition, is something everyone is familiarised with. After all, several decisions we take in our everyday lives depend on the many implications that costs have over variables we can and cannot control, like what is going to be our next car, to which school we will take our kids, where we will enjoy our next vacations, or in which city (or country) we are going to live.

In a business environment, however, costs represent a decisive factor in the companies strive for survival and growth. If a company has a non-competitive cost structure, it will ultimately become unfeasible to operate, as its profits will fall below acceptable levels, or its prices will soar above what the market is willing to pay for its products. Additionally, even when cost structures are competitive, incorrect costs appropriation might overburden some of the companies' products while unburdening others, turning profitability analysis into a difficult and inaccurate task, and possibly leading to wrong business decisions. Therefore, understanding costs and being able to distribute them properly across the products is critical to success in a competitive environment.

If we think on retail or wholesale organisations, costs seem straightforward and are clearly identifiable in the products. Companies can easily know for how much they purchased their goods and pricing decisions are generally not complicated, as administrative expenses are either common to the entire company or related to product divisions and therefore easily linked to the goods. In this scenario, lowering purchasing prices and reducing structural costs have a direct impact on profitability, and understanding current profits doesn't require much effort.

For manufacturing organisations, on the other hand, costs have a much higher degree of complexity, which arises especially from the fact that many manufacturing-related costs cannot be directly linked to a particular product. Nevertheless, instead of jumping straight into the tools we have for solving such problems and transforming complicated data into reliable and accurate costing information, let's have a look at the components and definitions of cost for manufacturing companies.

There are three categories in which manufacturing costs are normally divided:

- **Direct material:** the costs of all direct materials consumed for manufacturing a product. If we think on a machined sandblasted metal piece, the direct material costs would come from how much metal we used to produce it, whereas other materials (such as sand wasted in the sandblasting process, drill bits, and end mills) whose measuring results impossible for that piece are treated as manufacturing overhead;

- **Direct labour:** all costs associated to the workforce physically and directly involved in the process of manufacturing a certain product. This accounts for machine operators and assemblers, but not for indirect labour, such as production supervisors, maintenance technicians and quality control operators;
- **Manufacturing overhead:** all other manufacturing costs which do not fall into the categories of direct material and direct labour are manufacturing overheads. This category includes costs of indirect materials (cleaning supplies, disposable safety equipment, disposable tools, fittings and fasteners, etc.), maintenance staff, quality control staff, equipment depreciation, utilities, factory rental, property taxes on the production facilities, production managers and supervisors, and many others. Manufacturing overheads do not include, however, administrative expenses not related to production—only indirect production costs can be considered as overheads.

Although it is fairly easy to measure direct materials and direct labour for manufacturing a product, understanding how much overhead costs each product should receive is always a complicated endeavour. For example, consider a company who produces liquid chemical products. Do all chemicals require the same reaction times on reactors and have the same viscosity? Not at all, and both higher reaction times and viscosity might represent a higher burden on maintenance and cleaning activities after production, as these products could wear the reactors faster and occasionally cause clogs which can be hard to clean. Besides, if the company constantly switches between different types of products using the same production resources, more cleaning and machine preparation times might be required than when producing multiple times the same product, which also increases manufacturing overheads significantly.

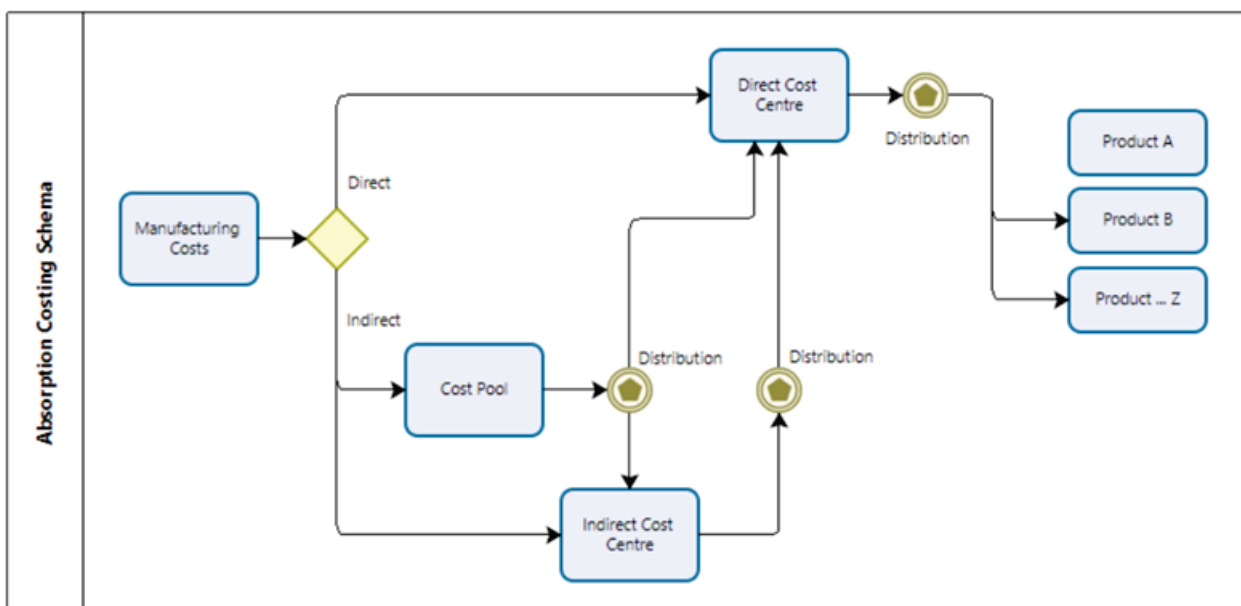
Using the traditional costing method, all manufacturing overheads would be summed and divided by the amount of a particular cost driver (which are the factors responsible for generating manufacturing costs), like the number of produced units, processed kilograms, or labour hours. Then, each and every product receives a share of manufacturing overheads based on how much of that same cost driver it contributed to increase. However, considering the existing variables in real production environments, should all products receive the same share of manufacturing overheads? If we produced 100 kilograms of a very difficult to process chemical, should it receive the same costs as 100 kilograms of an easily processable chemical? When the goal is to achieve a more accurate profitability analysis, the answer is no. And this leads to our next and fundamental question: how to make sure that each product receives a fair share of the correct manufacturing overheads?

For this question, the answer comes from one of the alternative methods to appropriate manufacturing overheads to products called absorption costing, which is precisely our next topic in this article. Using absorption costing, companies can base their costs appropriation on the costs related to direct or indirect manufacturing cost centres and on how much they affected production.

## AN INTRODUCTION TO ABSORPTION COSTING

Absorption costing is a costing method targeted at distributing manufacturing overheads to the manufactured items and appropriating these costs into inventory, where they will remain until the company sells them. After selling, the products' costs, now including manufacturing overheads distribution, will be recognised as COGS (Costs of Goods Sold) and affect the Profit & Losses financial statement. It is important to note that, apart from being an extremely useful tool for accurate per-product profits calculation, absorption costing is a mandatory requirement for publicly traded companies who need to follow GAAP and/or IFRS standards, and required by tax laws in the United States, Brazil, and many other countries.

When using absorption costing, the companies book all their manufacturing costs to cost centres, which can be direct or indirect. Direct cost centres represent manufacturing units directly related to production, like production equipment and work centres. Indirect cost centres, on the other hand, can represent either manufacturing units indirectly related to production (such as maintenance, production supervision, and quality control) or cost pools, which are intermediate cost centres that collect multiple costs before a further distribution into other direct or indirect cost centres. Afterwards, distribution rules will set the basis for sharing the costs contained in indirect cost centres across the direct cost centres, which will later be carried over into the products.



However, absorption costing can be an extremely complicated and time-consuming task without a powerful and integrated ERP to support it. Actually, several companies give up on absorption costing or treat it just like a burdensome obligation due to the simple fact that they lack the proper tools to calculate it properly. After all, for absorption costing to be successful, it needs to combine information coming from finance, production, maintenance, and many other departments, which can all have their own systems and require extensive manual work to match an immense amount of data in spreadsheets and input the results into the ERP. Nevertheless, when using Beas Manufacturing, you can be just a few clicks away from accomplishing a full absorption costing process, as it integrates manufacturing data to financial information coming from SAP Business One, automatically calculates the distributions of costs in between cost centres and products, and reevaluate the goods based on their new calculated costs.



Now that we have reviewed the basics concepts of cost accounting and the implications of absorption costing for a manufacturing organisation, let's take a look at how SAP Business One handles cost accounting and how Beas Manufacturing processes absorption costing, part of its Business Performance module.

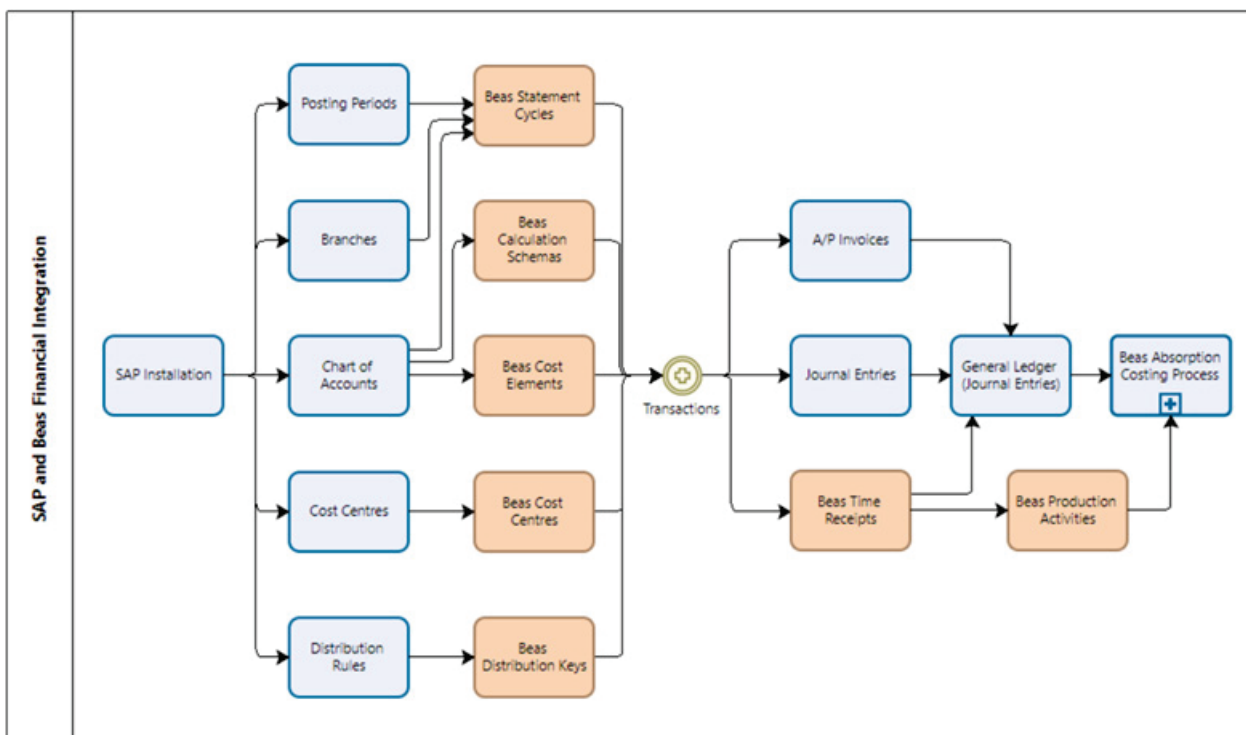
### SAP B1 AND BEAS FINANCIAL INTEGRATION

In an SAP Business One installation, the typical implementation process includes basic financial definitions such as posting periods, company branches (in the case of having multiple subsidiaries in the same database), chart of accounts, cost centres, and distribution rules (responsible for sharing values across multiple cost centres in certain transactions). Every time a user creates a transaction with inventory or financial implications, this transaction will trigger a journal entry containing manually selected accounts or automatically defined accounts based on accounting determinations, besides cost centres selected by the user or linked to the accounts.

For using absorption costing in Beas Manufacturing, extra definitions are required, like statement cycles mapped to the branches and posting periods, cost elements associated to the desired accounts from the chart of accounts, cost centres for direct and indirect manufacturing costs, and distribution keys reflecting SAP's distribution rules. The linking in between manufactured items and direct cost centres happens through time receipts, which are the transactions generated to record processing times from factory workers and machines, and will later compose the production activities, or the list of manufactured goods to receive absorption costing appropriation.

Time receipts also trigger journal entries for labour and machine costs according to pre-defined resources and operators' cost rates, in order to keep manufacturing costs as close as possible to the costs after absorption costing. These costs are automatically reverted as part of the absorption costing process (preventing double-costing on products, as they will receive labour, machine, and overhead costs from absorption costing) and, based on absorption costing results, output new recommended cost rates for production resources.

The flowchart below illustrates the integrations between SAP Business One and Beas Manufacturing for generating transactions and processing absorption costing.



## 2. Business Performance - Absorption Costing

Beas Manufacturing, through its module Business Performance, provides an absorption costing functionality capable of distributing manufacturing costs (labour and overheads) to the produced goods, including distributions from cost pools and indirect cost centres to direct cost centres, detailed control of open absorption costing values for unfinished production orders at the month's end, and redirection of subassemblies' appropriations to the products who consumed them. Absorption costing affects inventory values, expenses, and costs of goods sold (if the products to reevaluate were already sold during the month) by moving production-related expenses into inventory. This means that, after executing absorption costing, the company's profits will be higher unless it has sold all its produced inventory, as manufacturing costs are only recognised as expenses in the form of COGS.

As mentioned before, absorption costing is a mandatory requirement for publicly traded companies who need to follow GAAP and/or IFRS standards, and required by tax laws in the United States, Brazil, and many other countries. By having Beas Manufacturing in place, your company can transform the burden of fulfilling tax requirements or complying to financial standards into a powerful and automated analytical tool for understanding costs and profits, requiring a fraction of the effort normally required by the traditional manual calculation methods.

## 3. Business Performance - SAP Business One Settings

Even though absorption costing is part of Beas Manufacturing, the initial settings begin in SAP Business One, where you must create all direct and indirect cost centres, cost pools (only if desired, as cost pools are not mandatory), and distribution rules. Below, you can find examples of how to set-up the required data in SAP Business One.

### SAP BUSINESS ONE SETUP – COST CENTRES

1) Create Cost Centres for all production resources (direct manufacturing costs), considering both machines and labour.

Important note: You cannot activate the "Use multidimensional" parameter in SAP Business One's General Settings if you want to use the Business Performance module, as it is not compatible with multiple Cost Centre dimensions.

The screenshot shows the 'Cost Centers - Setup' dialog box in SAP Business One. The fields are as follows:

Cost Center	08025
Name	Dryer_Secado_Secador
Owner	
Sort Code	
Cost Center Type	
Effective From	01/01/2021
To	
Active	<input checked="" type="checkbox"/>

Buttons: OK, Cancel, Open Table

2) Create Cost Centres for indirect manufacturing costs.

The screenshot shows the 'Cost Centers - Setup' dialog box. The 'Cost Center' field contains 'IND001'. The 'Name' field is highlighted in yellow and contains 'Quality Control'. The 'Owner' and 'Sort Code' fields are empty. The 'Cost Center Type' is a dropdown menu. The 'Effective From' field contains '01/01/2017' and the 'To' field is empty. The 'Active' checkbox is checked. At the bottom, there are three buttons: 'OK', 'Cancel', and 'Open Table'.

3) If needed, create Cost Centres to represent desired cost pools if you wish to book costs directly into them, although this is an optional step, as it is perfectly possible to execute absorption costing without having any cost pools. Costs related to cost pools will suffer a first distribution to direct and indirect Cost Centres before the costs from indirect Cost Centres are distributed to the direct ones.

The screenshot shows the 'Cost Centers - Setup' dialog box. The 'Cost Center' field contains 'POOL001'. The 'Name' field is highlighted in yellow and contains 'Cost Pool 1'. The 'Owner' and 'Sort Code' fields are empty. The 'Cost Center Type' is a dropdown menu. The 'Effective From' field contains '01/01/2017' and the 'To' field is empty. The 'Active' checkbox is checked. At the bottom, there are three buttons: 'OK', 'Cancel', and 'Open Table'.

## SAP BUSINESS ONE SETUP – DISTRIBUTION RULES

1) Define Distribution Rules for costs requiring distribution amongst several Cost Centres. A typical example of cost distribution is in how to deal with meals for employees or corporate cafeteria. When all employees receive a share of a global expense, this expense affects several departments and might need to affect product costing as well. So, the first step is to split meals expense across different accounts, one related to administrative departments and one (or multiple) reflecting production department(s). Next, a Distribution Rule can be set to assign parts of these costs to each Cost Centre based on a pre-defined criterion (like number of employees per department, for instance).

**Important note:** Beas Manufacturing's absorption costing function is not compatible to "manual" distributions to Cost Centres (allowed by SAP Business One); so, make sure that all your documents with distributed values have a Distribution Rule assigned.



Distribution Rules - Setup

Code: ALIM001    Effective From: 20/07/2017    To: \_\_\_\_\_

Description: Meals for Employees

Active

Total: 100     Direct Allocation     Allocate by Fixed Amounts

Center Code	Center Name	Value
0B002	Cutting_Cortadora	15
0B003	Blasting_Chorreado_Jateadora	10
0B007	Work Center I_Centro de Tral	25
0B010	Stamping_Estampado_Estamp	10
IND001	Quality Control	5
IND002	Production Supervision	3
IND003	Maintenance	8
IND004	Warehouse	24

Centr\_z-General Center: \_\_\_\_\_

Table Total: 100

Buttons: OK, Cancel, Cgst Accounting Adjustment, Distribution Rule History

## SAP BUSINESS ONE - GL ACCOUNT DETERMINATION

1) Configure the **Price Difference Account** to match the corresponding COGS (Cost of Goods Sold) account, using simple or advanced GL Account Determinations. The last steps of the absorption costing process generate Stock Revaluations to change the products' stock value according to the appropriated costs. However, if the products are not in stock anymore (sold during the month), COGS should be adjusted to reflect the correct costs, and SAP Business One uses the Price Difference Account to register Stock Revaluation values when the products are partially or completely out-of-stock.

GL Account Determination

Period Selection: 2022

Navigation: Sales, Purchasing, General, **Stock**, Resources, WIP Mapping

#	Type of Account	Account Code	Account Name	Advanced Rules
	Stock Account	⇒ 13400000-01-001-01	Inventory - Finished Goods (HO, USA, GA )	⇒ 7 Rules
	Cost of Goods Sold Account	⇒ 51100000-01-001-01	COGS - Domestic (HO, USA, GA )	
	Allocation Account	⇒ 23400001-01-001-01	Goods Received Not Invoiced (HO, USA, GA )	⇒ 6 Rules
	Variance Account	⇒ 52400000-01-001-01	Gain/Loss Price Variance (HO, USA, GA )	⇒ 6 Rules
	<b>Price Difference Account</b>	⇒ 51100000-01-001-01	<b>COGS - Domestic (HO, USA, GA )</b>	<b>⇒ 10 Rules</b>
	Negative Stock Adj. Acct			
	Stock Offset - Decr. Acct	⇒ 52300000-01-001-01	Gain/Loss Inventory Variance (HO, USA, GA )	
	Stock Offset - Incr. Acct	⇒ 52300000-01-001-01	Gain/Loss Inventory Variance (HO, USA, GA )	
	Sales Returns Account	⇒ 13500000-01-001-01	Inventory - Returns (HO, USA, GA )	
	Exchange Rate Differences Account	⇒ 81600000-01-001-01	Rounding (HO, USA, GA )	⇒ 6 Rules
	Goods Clearing Account	⇒ 13900000-01-001-01	Goods Clearing Account (HO, USA, GA )	⇒ 6 Rules
	G/L Decrease Account	⇒ 52300000-01-001-01	Gain/Loss Inventory Variance (HO, USA, GA )	
	G/L Increase Account	⇒ 52300000-01-001-01	Gain/Loss Inventory Variance (HO, USA, GA )	
	WIP Stock Account	⇒ 13200000-01-001-01	Inventory - Work In Progress (HO, USA, GA )	
	WIP Stock Variance Account	⇒ 52500000-01-001-01	WIP Material Variances (HO, USA, GA )	
	WIP Offset P&L Account			⇒ 3 Rules
	Stock Offset P&L Account			⇒ 6 Rules
	Expense Clearing Account	⇒ 23600000-01-001-01	Accrued Freight & Landed Costs (HO, USA, GA )	

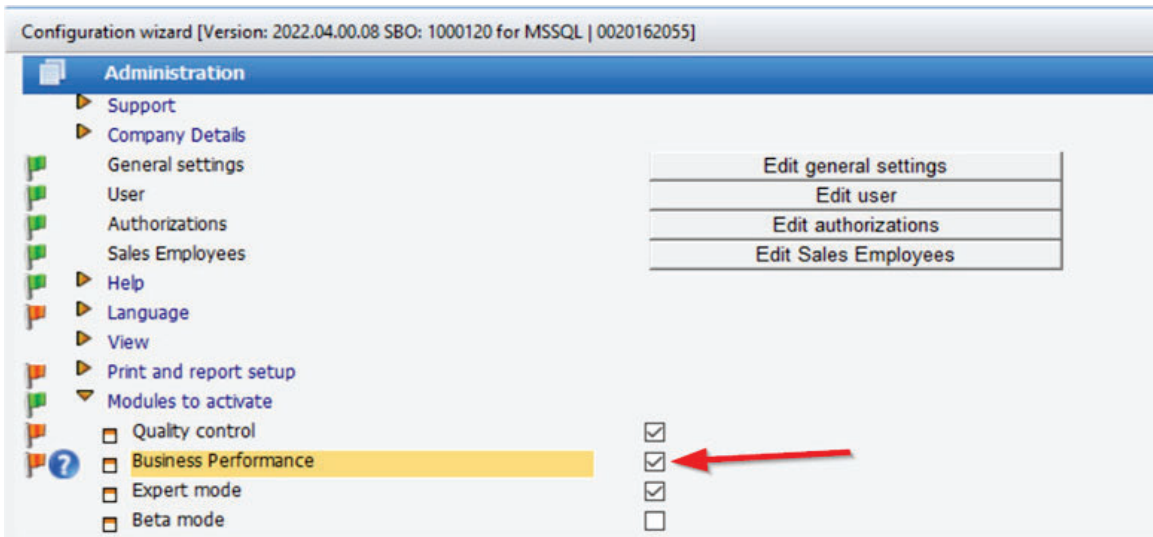
Buttons: OK, Cancel, Advanced

## 4. Business Performance - Beas Manufacturing Settings

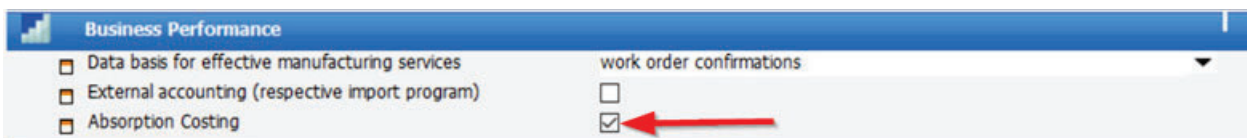
Beas Manufacturing holds the thick part of absorption costing's settings and its entire processes. Now, we'll review how you can set-up Beas Manufacturing for executing absorption costing in your company.

### BEAS MANUFACTURING SETUP – CONFIGURATION WIZARD SETTINGS

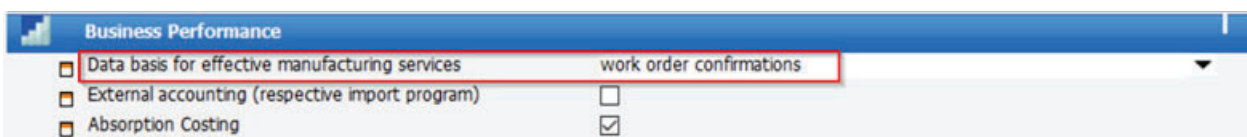
- 1) Activate the Business Performance module. Business Performance, a separately licensed module for Beas Manufacturing, is the module which contains the absorption costing functionality. Activating Business Performance is the first step to use absorption costing in a company.



- 2) Activate the absorption costing functionality.



- 3) Set the "Data basis for effective manufacturing services" as "work order confirmations". This parameter ensures that Beas Manufacturing distribute manufacturing costs according to production data (coming from Time Receipts).



## BEAS MANUFACTURING SETUP – STATEMENT CYCLE

The Statement Cycles are a mandatory master data for Business Performance and have a similar logic to SAP's Posting Periods, except that they are always annual and, when working on multi-branch databases, have to be branch-specific. Here is how to create them.

- 1) Create a Statement Cycle, define starting date for the year and set the related branch (only if using multi-branch).

The screenshot shows the 'Statement cycle: 2022 / 2022' dialog box. The 'Statement cycle' and 'Description' fields are both set to '2022'. The 'Start fiscal year' dropdown is highlighted with a red box and set to '01/01/2022'. Other fields include 'Represent Cost Center Group' (empty), 'Distribution base' (Full Cost), 'Cost Clearing Account' (\_SYS0000000216), 'Costs to Absorb Account' (\_SYS0000000215), 'Standard Costs Reversal Account' (\_SYS0000000091), and 'WIP (initial values for Month)' (January-2022). Buttons at the bottom include OK, Cancel, Remove, and Duplicate.

- 2) Set the Distribution Base for absorption costing. The Distribution Base defines how the costs coming from direct Cost Centres (after all distributions are processed) should be carried over into the manufactured products. Distributions can happen either based on production hours, on marginal costs, or on full costs. It is recommended to always use marginal or full costs to base absorption costing distribution, as they represent the multiplication between production hours and the resources' cost rates (which are set to represent the average costs per minute or hour for each machine or work centre). If only using hours, products going through inexpensive resources for a large number of hours will receive more costs than products going through very expensive resources for a small number of hours.

The screenshot shows the 'Statement cycle: 2022 / 2022' dialog box. The 'Distribution base' dropdown is highlighted with a red box and set to 'Full Cost'. Other fields are the same as in the previous screenshot: 'Statement cycle' and 'Description' are '2022', 'Start fiscal year' is '01/01/2022', 'Represent Cost Center Group' is empty, 'Cost Clearing Account' is \_SYS0000000216, 'Costs to Absorb Account' is \_SYS0000000215, 'Standard Costs Reversal Account' is \_SYS0000000091, and 'WIP (initial values for Month)' is January-2022. Buttons at the bottom include OK, Cancel, Remove, and Duplicate.

- 3) Set the Cost Clearing Account for absorption costing. This is a contra account to all manufacturing expenses (except direct materials, as direct materials are always directly appropriated into the manufactured products and are never part of an absorption costing process), turning their total amount to 0 after executing the first absorption costing step, called "Booking Cost Transfer". You can create this account in your Chart of Accounts just below the accounts related to direct labour and manufacturing overheads. This account will receive a credit value.

Statement cycle: 2022 / 2022

Statement cycle: 2022

Description: 2022

Start fiscal year: 01/01/2022

Represent Cost Center Group: [dropdown]

Distribution base: Full Cost (Absorption Costing)

Cost Clearing Account: \_SYS00000000216 (-) Costs Reversal (HO, USA, GA)

Costs to Absorb Account: \_SYS00000000215 Inventory - Work In Progress - Absorption Costing (HO, USA, GA)

Standard Costs Reversal Account: \_SYS00000000091 Production cost

WIP (initial values for Month): January-2022

Buttons: QK, Cancel, Remove, Duplicate

4) Set the Costs to Absorb Account for absorption costing. This asset account offsets the Cost Clearing Account by receiving a debit value during the first absorption costing step, called "Booking Cost Transfer"; holding the total amount of costs to absorb during absorption costing execution. Its nature is similar to a work-in-progress account, as it represents inventory-to-be.

Statement cycle: 2022 / 2022

Statement cycle: 2022

Description: 2022

Start fiscal year: 01/01/2022

Represent Cost Center Group: [dropdown]

Distribution base: Full Cost (Absorption Costing)

Cost Clearing Account: \_SYS00000000216 (-) Costs Reversal (HO, USA, GA)

Costs to Absorb Account: \_SYS00000000215 Inventory - Work In Progress - Absorption Costing (HO, USA, GA)

Standard Costs Reversal Account: \_SYS00000000091 Production cost

WIP (initial values for Month): January-2022

Buttons: QK, Cancel, Remove, Duplicate

5) Set the Standard Costs Reversal Account. Throughout the month, when manufacturing goods, Beas assigns manufacturing costs to products according to the resources' cost rates, which are set in a way to represent historical average costs per hour or minute but will never match exactly the actual manufacturing expenses. While helpful in minimising differences between before and after absorption product costing, these costs cannot remain on the products after absorption costing, or the products will have duplicated costs (one calculated based on the resource rates and another coming from absorption costing). This field defines in which account the reverted values coming from costs calculated based on resource costs rates should be booked and is a contra account to the accounts set in the Beas Calculation Schemas or Production Cost Elements.

Statement cycle: 2022 / 2022

Statement cycle: 2022

Description: 2022

Start fiscal year: 01/01/2022

Represent Cost Center Group: [dropdown]

Distribution base: Full Cost (Absorption Costing)

Cost Clearing Account: \_SYS00000000216 (-) Costs Reversal (HO, USA, GA)

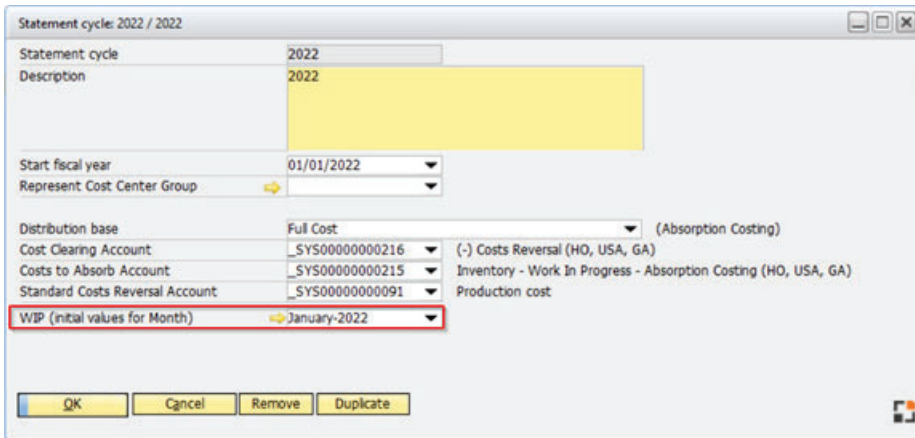
Costs to Absorb Account: \_SYS00000000215 Inventory - Work In Progress - Absorption Costing (HO, USA, GA)

Standard Costs Reversal Account: \_SYS00000000091 Production cost

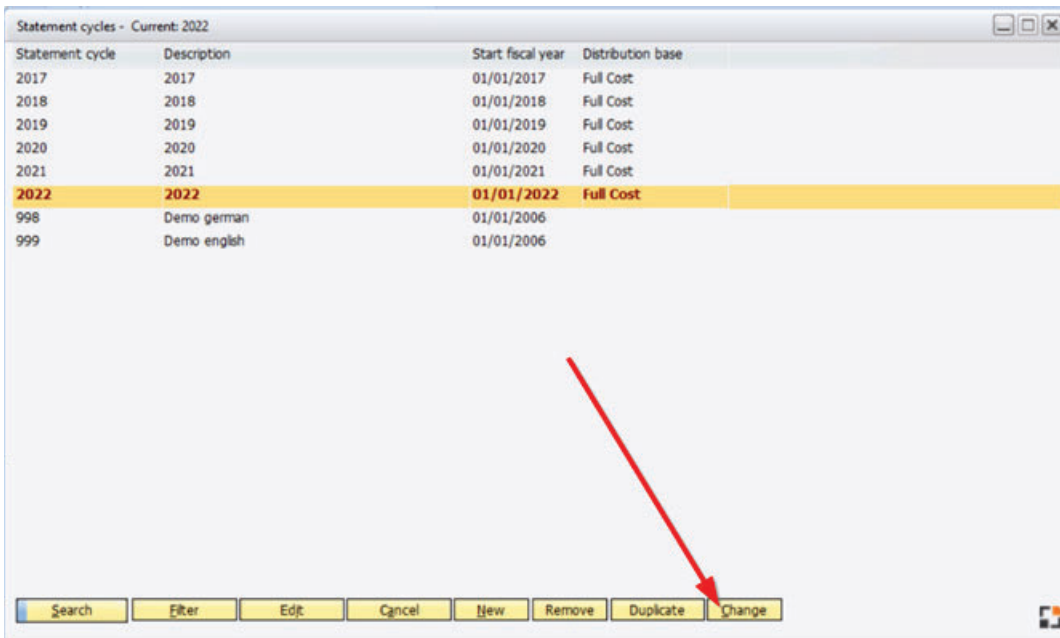
WIP (initial values for Month): January-2022

Buttons: QK, Cancel, Remove, Duplicate

6) If there are open values from previous absorption costing processes before implementing Beas Manufacturing, you can set the initial values under "WIP (initial values for Month)" (by clicking on the golden arrow) and define for which month they should apply.




7) The last step, after creating the Statement Cycles, is to choose in which one you want to work, as all master data and processes belong exclusively to the selected Statement Cycle. When not using a multi-branch database, you only need to create one Statement Cycle per year and choose it just after the year starts. If using multi-branch, you will need to configure master data and perform absorption costing for each branch individually and choose the Statement Cycle corresponding to the branch in which you want to work.



**Important note:** As Business Performance master data is related to Statement Cycles, whenever you create a new Statement Cycle by clicking on the "New" button, it will come empty. If you have already defined another Statement Cycle previously and just want to create a new period for it (maintaining the same master data), you can choose the previous Statement Cycle and click on the "Duplicate" button instead. This will duplicate all master data related to the Statement Cycle to create a new one.



Statement cycle	Description	Start fiscal year	Distribution base
2017	2017	01/01/2017	Full Cost
2018	2018	01/01/2018	Full Cost
2019	2019	01/01/2019	Full Cost
2020	2020	01/01/2020	Full Cost
2021	2021	01/01/2021	Full Cost
<b>2022</b>	<b>2022</b>	<b>01/01/2022</b>	<b>Full Cost</b>
998	Demo german	01/01/2006	
999	Demo english	01/01/2006	



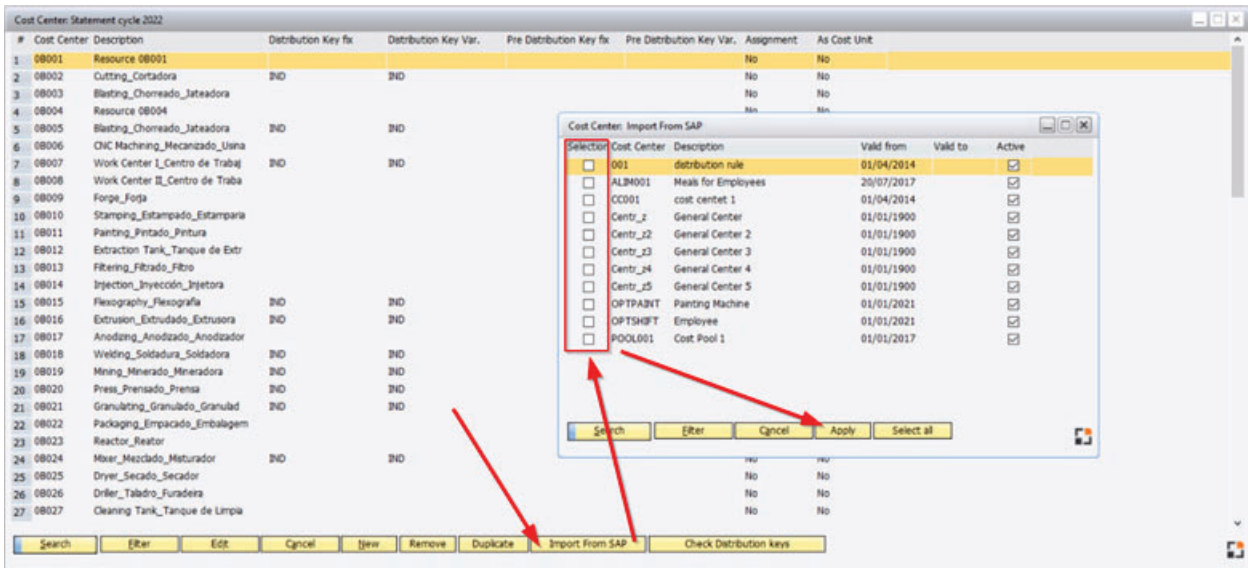
## BEAS MANUFACTURING SETUP – COST CENTRES

Before coming into this part, all your direct and indirect manufacturing Cost Centres should already exist in SAP Business One. If not, make sure you create them there first, as you can just import them in this step to make your progress faster. However, even though you can import SAP’s Cost Centres into Beas’s Cost Centres, they are not directly connected, and you can have different Cost Centres in both places (which is not a recommended practice for manufacturing-related Cost Centres, as your efforts will be higher for analysing data and for connecting SAP’s transactions to Beas’s Financial Data). One of the few reasons for having Cost Centres only in Beas is for handling fictional Cost Centres, like the ones representing cost pools when they’re not having direct financial bookings. In such a situation, the values coming from indirect Cost Centres could have a first pre-distribution into cost pools, then a further distribution into direct Cost Centres. Here is how to create Cost Centres.

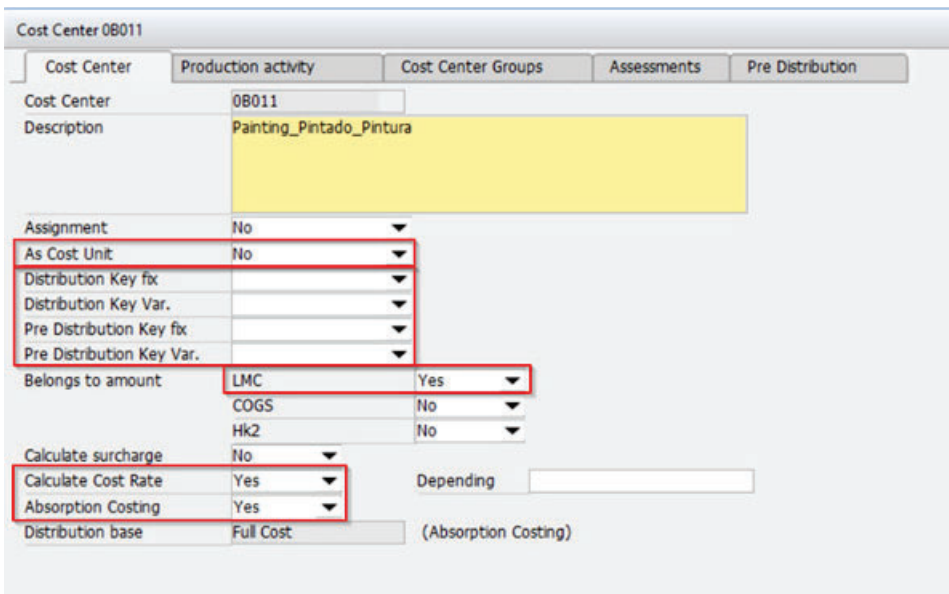
**Important note:** Creating Cost Centres in SAP Business One does not create Cost Centres in Beas, as well as creating Cost Centres in Beas does not create Cost Centres in SAP Business One. Keep in mind that there is no automatic synchronisation and data must be manually created on both sides (or imported from SAP Business One into Beas).

- 1) Import direct and indirect Cost Centres from SAP Business One. Although importing the Cost Centres is an optional step, if you skip it, you’ll have to create all your Cost Centres manually. Remember to only import Cost Centres directly or indirectly related to production; administrative Cost Centres must not be imported, as their value should not be part of absorption costing (for absorption costing, only direct labour and manufacturing overheads are relevant).





2) Configure direct Cost Centres. Direct Cost Centres must not have Distribution or Pre-Distribution Keys assigned to them (unless in very specific circumstances, explained later in this guide), and require a set of specific configurations showed below.



3) Configure indirect Cost Centres. Indirect Cost Centres require either Distribution or Pre-Distribution Keys (Pre-Distribution should only be used in cases like having cost pools, as Pre-Distribution runs prior to Distribution, moving the costs from cost pools to other indirect Cost Centres before they are carried over into the direct Cost Centres—if this is not the case, leave all Pre-Distributions empty). The general recommendation is to always use the same Distribution Key in both fields for Distribution or Pre-Distribution (“fix” and “var.”), although you could use different Distribution Keys for handling different ways of distributing costs if they come from Cost Elements set to contain variable or fixed costs. Indirect Cost Centres must also have the parameters shown below.

**Important note:** Distribution Keys are explained in the next topic of this guide. You will need to create Distribution Keys before you can complete the setup of indirect Cost Centres. Besides, you must choose between using Pre-Distribution or Distribution Keys, as it is impossible to set both to the same Cost Centre.

Cost Center IND001

Cost Center: IND001  
Description: Quality Control

Assignment: No

As Cost Unit: No

Distribution Key fix: IND Indirect share Full C

Distribution Key Var.: IND Indirect share Full C

Pre Distribution Key fix:

Pre Distribution Key Var.:

Belongs to amount: LMC No

COGS: No

Hk2: No

Calculate surcharge: No

Calculate Cost Rate: No Depending

Absorption Costing: No

## BEAS MANUFACTURING SETUP – DISTRIBUTION KEYS

If you use or want to use Distribution Rules in SAP Business One transactions, you'll probably also want to create your Distribution Rules in SAP Business One first before creating Beas's Distribution Keys, to easier the creation process and to ensure a common cost accounting in between the two systems (which, by the way, is not mandatory if you intend to have different cost accounting for the financial department, but keep in mind that Beas will always distribute values according to its own Distribution Keys, no matter which Distribution Rules you select in SAP Business One transactions). Nevertheless, if your only intention is to distribute costs from indirect Cost Centres to direct Cost Centres (and not from, let's say, a Journal Entry into multiple Cost Centres), you don't need to create Distribution Rules in SAP Business One, as you'll only use Beas's Distribution Keys.

1) Import Distribution Rules from SAP Business One. As explained in this topic's introduction, this step is only relevant if you plan to use Distribution Rules in SAP Business One transactions. If not, you can just create the required Distribution Keys in Beas and don't need to have them reflected in SAP Business One. Additionally, this step is only valid for the first time that you create your Distribution Keys. After the first time, a double effort will be required to maintain Distribution Rules and Distribution Keys in both sides, as Beas allows Distribution Keys to have month-specific distribution criteria and SAP Business One does not, requiring you to create a new Distribution Rule if you want to change distribution criteria keeping historical data.

Distribution key: Statement cycle 2022

Key	Description	Unit	Distribution	Assessment
ALM	Food for employees	Persons	Manual	to cost center
AUTO	Automatic		by Production hours per Cost Center	to cost center
IND	Indirect share	Full Costs	Manual	to cost center

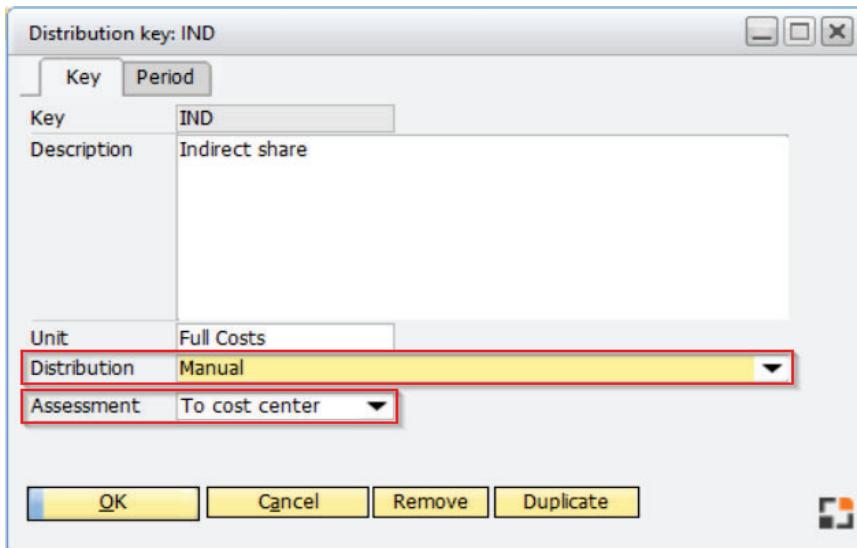
Distribution key: Import From SAP

Selection	Distribution key	Description	Cost Center	Quantity	Valid from	Valid to	Active
<input type="checkbox"/>	001	distribution rule	CC001		1,00 01/04/2014		<input checked="" type="checkbox"/>
<input type="checkbox"/>	ALM001	Meals for Employees	08002	15,00	20/07/2017		<input checked="" type="checkbox"/>
<input type="checkbox"/>	ALM001	Meals for Employees	08003	10,00	20/07/2017		<input checked="" type="checkbox"/>
<input type="checkbox"/>	ALM001	Meals for Employees	08007	25,00	20/07/2017		<input checked="" type="checkbox"/>
<input type="checkbox"/>	ALM001	Meals for Employees	08010	10,00	20/07/2017		<input checked="" type="checkbox"/>
<input type="checkbox"/>	ALM001	Meals for Employees	IND001	5,00	20/07/2017		<input checked="" type="checkbox"/>
<input type="checkbox"/>	ALM001	Meals for Employees	IND002	3,00	20/07/2017		<input checked="" type="checkbox"/>
<input type="checkbox"/>	ALM001	Meals for Employees	IND003	8,00	20/07/2017		<input checked="" type="checkbox"/>
<input type="checkbox"/>	ALM001	Meals for Employees	IND004	24,00	20/07/2017		<input checked="" type="checkbox"/>

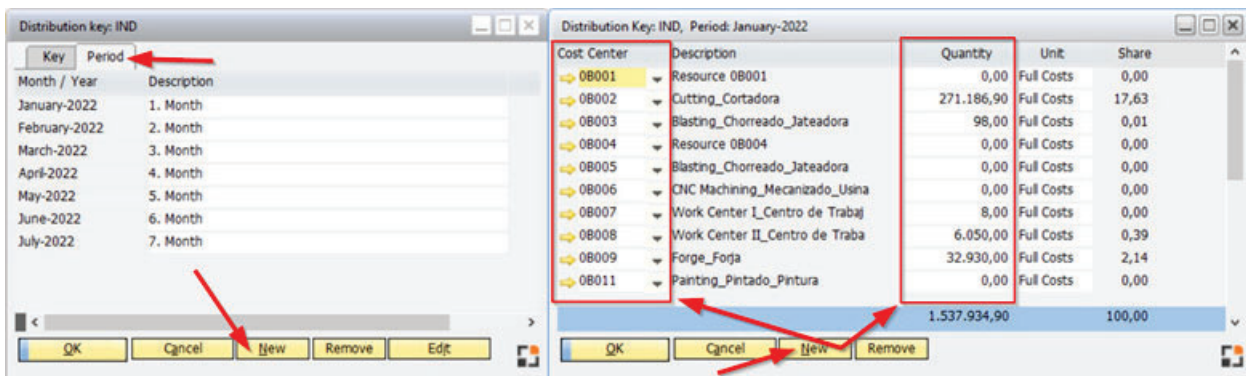
Buttons: Search, Eter, Cancel, Apply, Select all

Buttons: Search, Eter, Edit, Cancel, New, Remove, Import From SAP

2) Create or edit Distribution Keys. When creating a new Distribution Key or editing an imported one, the "Distribution" and "Assessment" fields must be set as shown below.



3) Define distribution per period. After the initial settings, you must set how distribution will happen for each month of the year (or you can choose "STD" if the distribution should be the same for all months). You are free to set the distribution basis according to what makes more sense for your Cost Centres, and Beas will calculate the corresponding proportion (field "Share"). For example, if you wish to distribute energy costs to the direct Cost Centres representing your machines, you can use kW consumed by each one of them as distribution base. However, if you don't know which criterion fits you best, or don't want to create multiple criteria to avoid overloading your team with further maintenance during the following months, you can base your distribution on the amount of marginal/full costs generated by each resource, which will normally result in a fair appropriation, as these costs come from cost rates including all costs related to the resources. This strategy will be explained in more details in the topic about importing production activities.



## BEAS MANUFACTURING SETUP – COST ELEMENTS

**Cost Elements** are the link that holds together SAP Business One's Chart of Accounts and Beas Manufacturing's Business Performance. Using Cost Elements, you can define which accounts you want to be part of an absorption costing process and set criteria for distributing their values into multiple Cost Centres. There is no option to import Cost Elements, and it is recommended to create as minimum Cost Elements as possible.

As a general rule, you need a single Cost Element for all non-distributed accounts and one Cost Element for each account that requires specific distributions using Distribution Keys. Nevertheless, when creating new Cost Elements, you have the option to choose a Chart of Accounts' account from the dropdown for its ID; this makes the assignment process (covered in this guide's next topic) easier, but in overall adds unnecessary extra complications to the process and increase maintenance burdens in the long run.

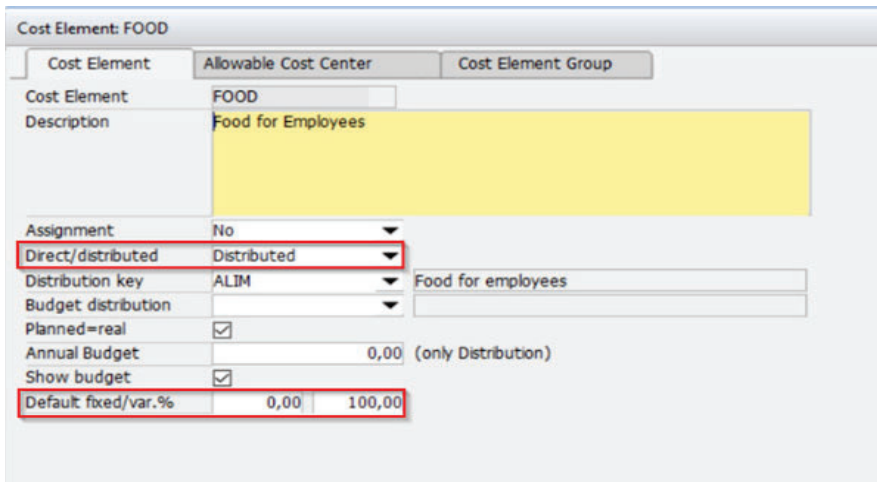
1) **Create Cost Elements** for non-distributed accounts. If you're planning to assign this Cost Element to accounts directly related to particular Cost Centres (not Distribution Rules), you need no more than the settings showed below.

The screenshot shows the SAP Cost Element configuration interface for 'DIRECT'. The 'Direct/distributed' dropdown is set to 'Direct'. The 'Default fixed/var.%' field is set to '0,00 | 100,00'. Other fields include 'Assignment' (No), 'Distribution key', 'Budget distribution', 'Planned=real' (checked), 'Annual Budget' (0,00), and 'Show budget' (checked).

Cost Element	Allowable Cost Center	Budget direct	Cost Element Group
DIRECT			
Description: Direct Cost Element			
Assignment	No		
Direct/distributed	Direct		
Distribution key			
Budget distribution			
Planned=real	<input checked="" type="checkbox"/>		
Annual Budget	0,00	(only Distribution)	
Show budget	<input checked="" type="checkbox"/>		
Default fixed/var.%	0,00	100,00	

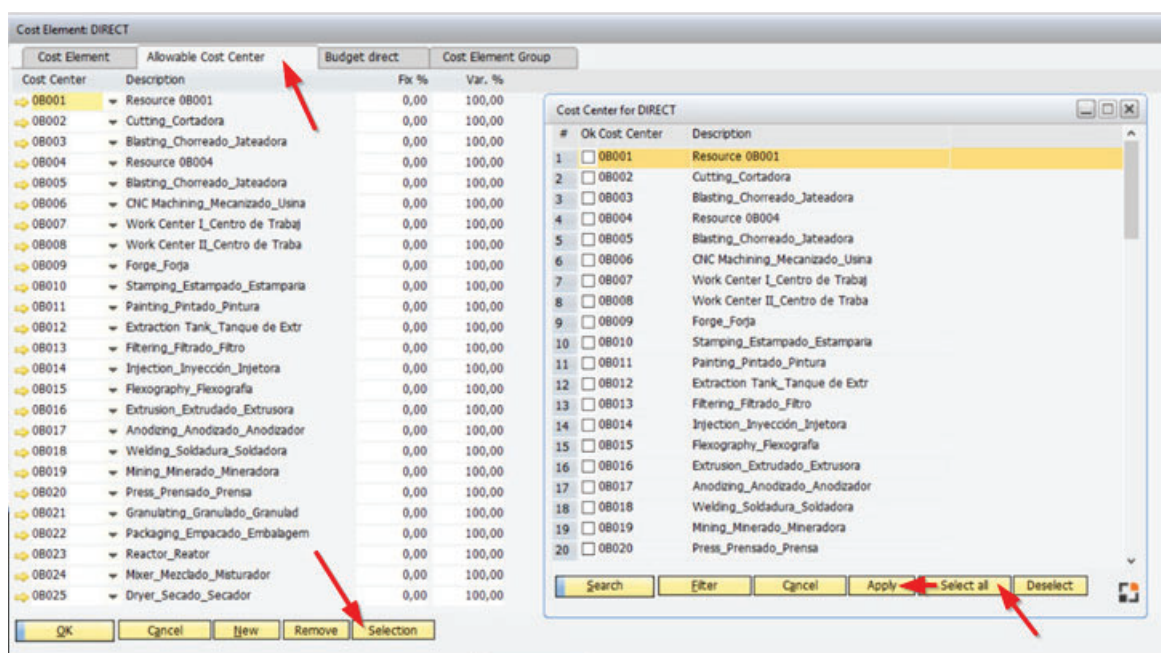
2) If needed, create Cost Elements for distributed accounts. This step is only required in case you're planning to assign this Cost Element to accounts related to Distribution Rules instead of Cost Centres. Examples for this, as explained before, could come from transactions related to meals for employees or energy for the factory, which are expenses that hold costs for multiple Cost Centres.

You will need to set the Cost Element as "Distributed" and define the corresponding Distribution Key (as explained before, Beas will not use Distribution Rules from SAP Business One and will follow its own rules for distributing values—if you wish both places to have the same distributions, you must replicate Distribution Rules as Distribution Keys).



3) Set **Allowable Cost Centres** for all Cost Elements (individually). Although you can choose specific Cost Centres as allowed to receive values from a particular Cost Element, the general recommendation is to always set all Cost Centres as allowed, or some financial transactions might not be imported into Beas's Business Performance for absorption costing if the Cost Centre to which they are linked isn't allowed (and you will probably want all manufacturing costs' transactions correctly imported). The easiest way is to press the "Selection" button, then "Select all" and "Apply", which will apply all Cost Centres as allowed for the Cost Element.

The "Fix %" and "Var. %" come from the "Default fixed/var.%" set in the Cost Element and are only useful when you define different Distribution Keys for fixed and variable costs (and this is not a normal recommendation, so you can just set all Cost Elements as 100% variable costs). Without specific Distributions Rules for fixed and variable costs, the calculated values will be exactly the same regardless of the proportions defined in these fields.

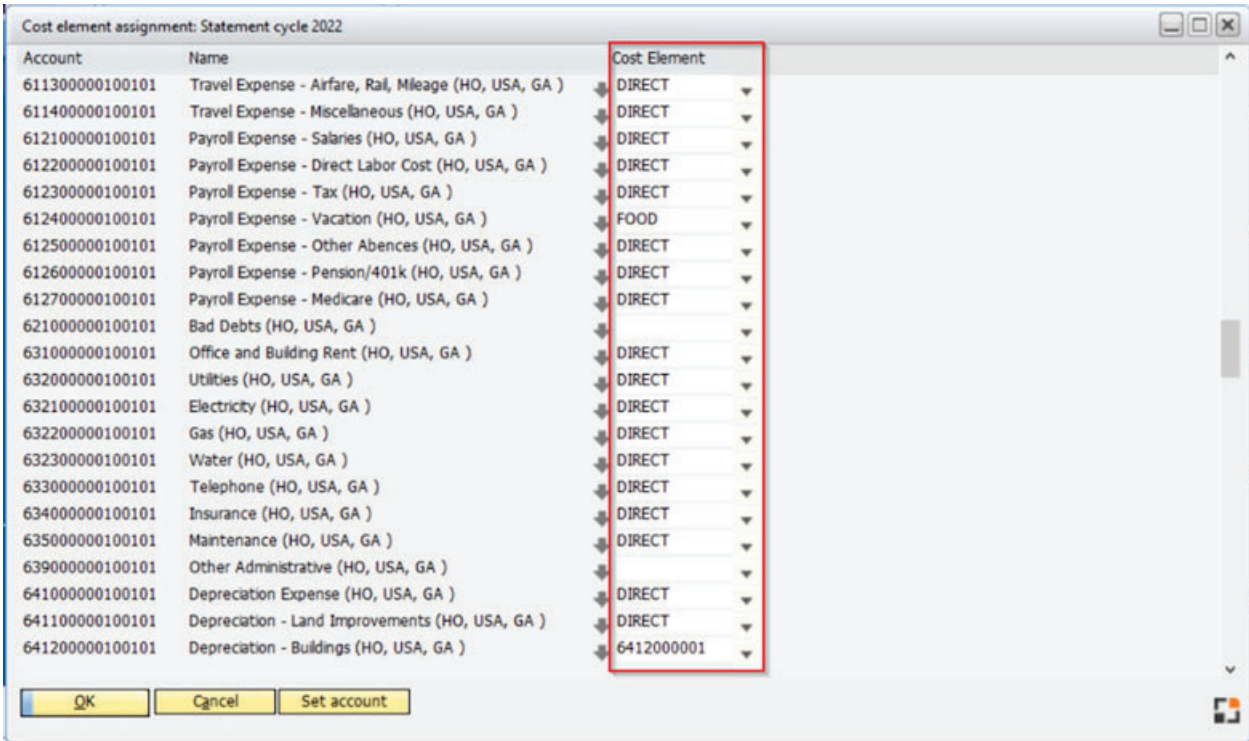




## BEAS MANUFACTURING SETUP – COST ELEMENT ASSIGNMENT

The **Assignment** is the process in which you effectively choose which accounts should be part of Beas’s absorption costing, as only transactions coming from accounts linked to Cost Elements will be imported into Business Performance’s financial data (covered later in this guide). Remember that you should not select any account related to administrative expenses, as only manufacturing-related costs should base absorption costing.

1) Link Cost Elements to the accounts you want as part of the absorption costing process. If you have created the Cost Elements with the same IDs as the accounts’ IDs, you can press “Set Account” for an automatic assignment.

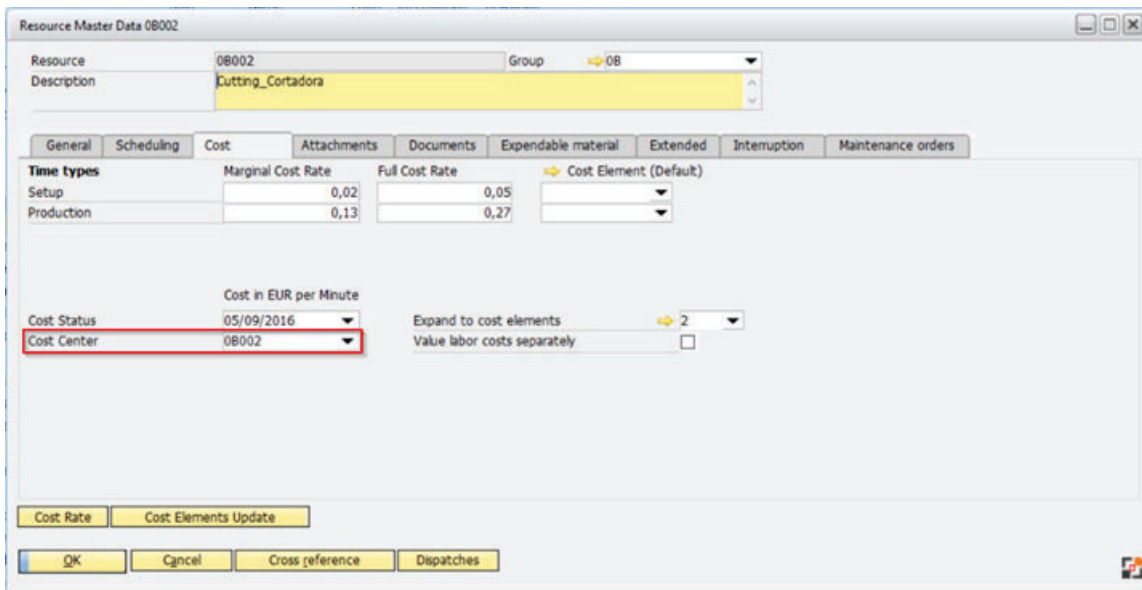


## BEAS MANUFACTURING SETUP – RESOURCES

For Beas to allocate the correct Cost Centres to the Time Receipts, it is necessary to set the corresponding direct Cost Centre to each resource, as well as define, in the Configuration Wizard, that Cost Centres must be read from Resources. Ideally, each resource should have its own direct Cost Centre (unless the resource belongs to a group of similar resources sharing the same costs), since Beas will suggest new cost rates for each Cost Centre after running absorption costing (and you can easily update the resources’ cost rates based on the latest absorption costing executing using Data Integration Hub).

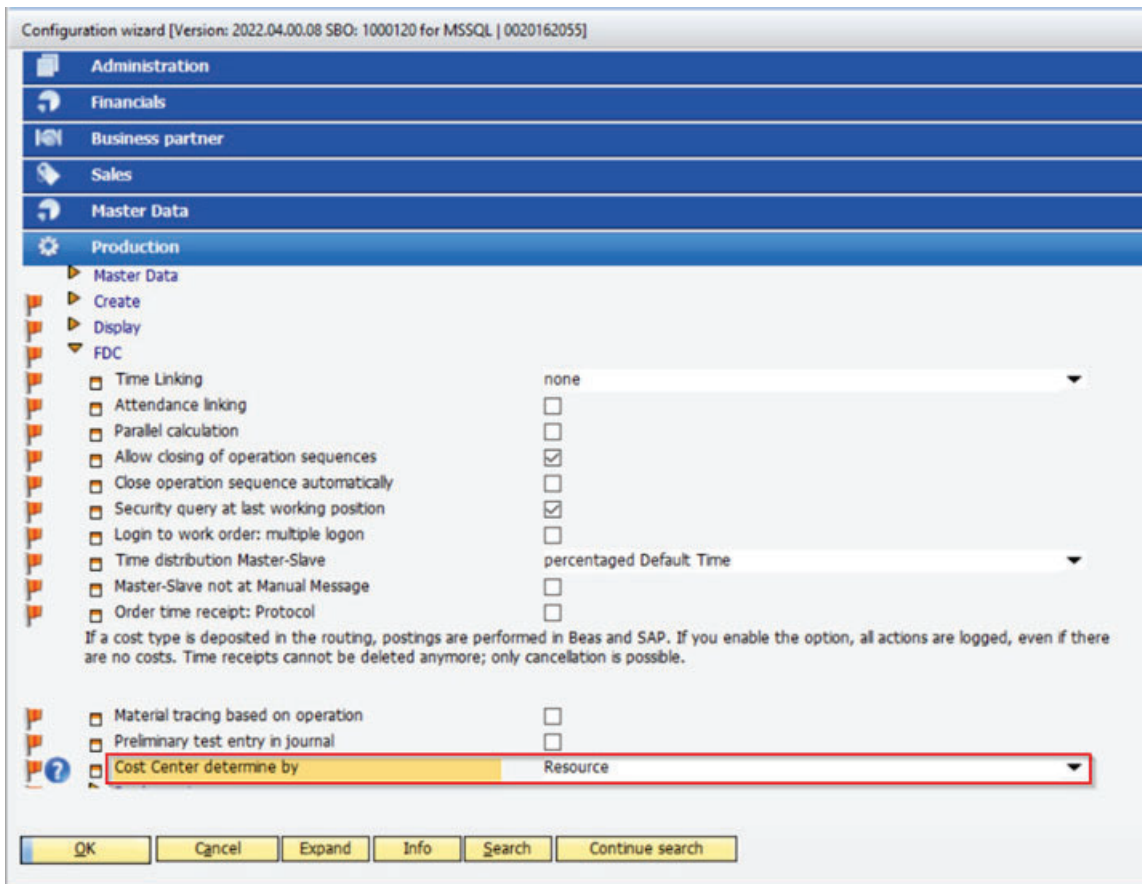


- 1) Choose the corresponding Cost Centre in the resources master data.



The screenshot shows the SAP Resource Master Data 08002 window. The 'Cost' tab is active. The 'Time types' section shows Marginal Cost Rate (0,02) and Full Cost Rate (0,05) for Setup, and Marginal Cost Rate (0,13) and Full Cost Rate (0,27) for Production. The 'Cost in EUR per Minute' section shows Cost Status (05/09/2016) and Cost Center (08002). The 'Expand to cost elements' dropdown is set to 2. The 'Value labor costs separately' checkbox is unchecked. Buttons for 'Cost Rate', 'Cost Elements Update', 'OK', 'Cancel', 'Cross reference', and 'Dispatches' are visible.

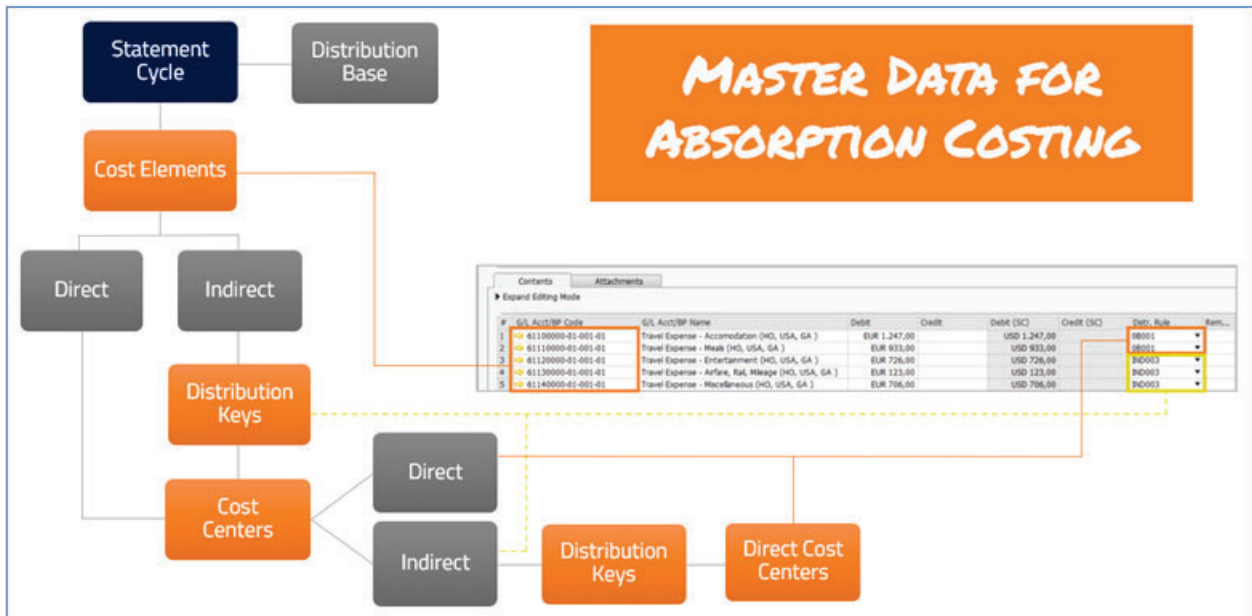
- 2) Set Beas to read Cost Centres from Resources in the Configuration Wizard.



The screenshot shows the SAP Configuration Wizard window. The 'Production' section is expanded, and the 'FDC' sub-section is selected. The 'Cost Center determine by' dropdown is set to 'Resource'. The 'Time Linking' dropdown is set to 'none'. The 'Allow closing of operation sequences' and 'Security query at last working position' checkboxes are checked. The 'Time distribution Master-Slave' dropdown is set to 'percentaged Default Time'. The 'Material tracing based on operation' and 'Preliminary test entry in journal' checkboxes are unchecked. Buttons for 'OK', 'Cancel', 'Expand', 'Info', 'Search', and 'Continue search' are visible.

## BEAS MANUFACTURING SETUP – SUMMARY

The following image summarises all steps you should have gone through when setting-up Beas for absorption costing.

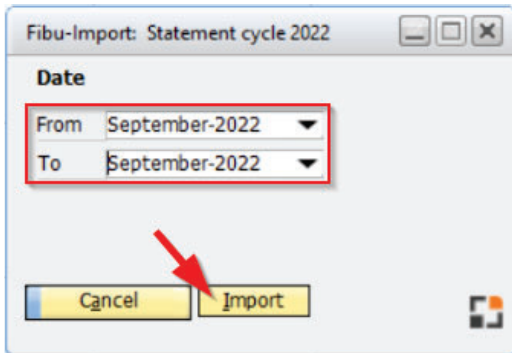


## 5. Business Performance - Absorption Costing Workflow

### BEAS MANUFACTURING WORKFLOW – FINANCIAL DATA

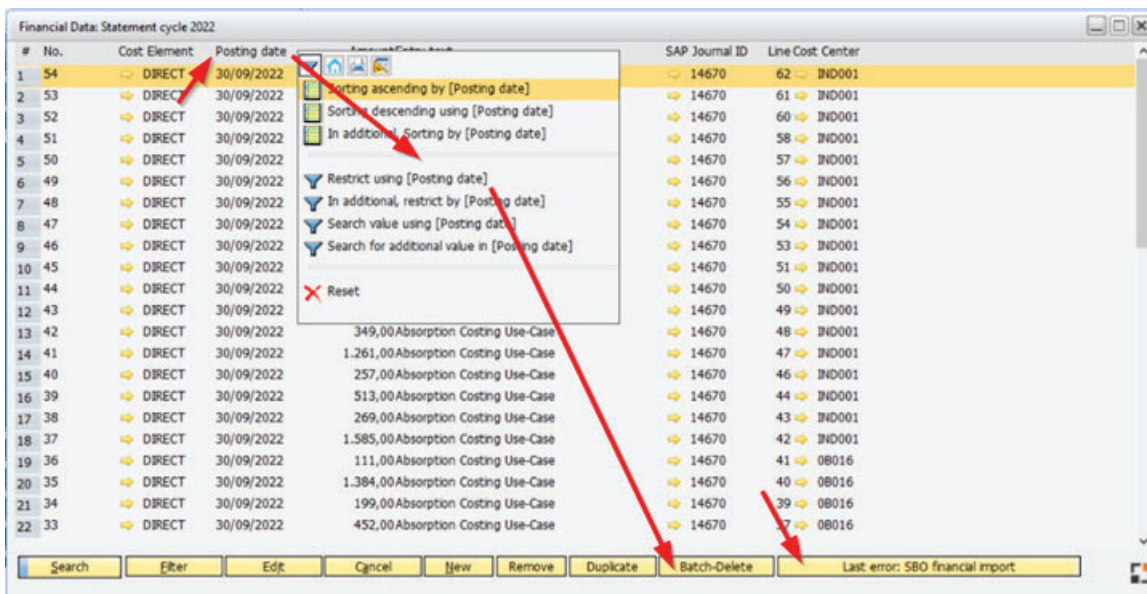
Business Performance's **Financial Data** keeps all financial transactions that will feed the absorption costing process. Importing financial data is the first step for executing absorption costing after you have successfully completed the required setup. As it relies on transactions created in SAP Business One, make sure that all documents and journal entries are already posted before you import the financial data, as data isn't automatically synchronised in between the two systems.

- 1) Define starting and ending month to import Financial Data for the currently active Statement Cycle. Remember that Business Performance will ignore all transactions related to accounts not assigned to Cost Elements. Besides, all transactions must be linked to Cost Centres or Distribution Rules, and the chosen Cost Centres must be defined as allowed for the Cost Elements, or you will receive errors during



2) Open the Financial Data window and check if there were any errors related to the previous importing. After you fix the errors, you need to delete the existing financial data for the month before you import it again, or the data will be duplicated (Beas does not check if the data exists before importing, it will just re-import everything). To delete the data, you can right-click the "Posting date" column, choose "Restrict using [Posting date]", select the month in which the error happened, and click on "Batch-Delete" (batch-delete only affects the data currently visible on the screen—if you filtered correctly, this will not affect transactions from other periods).

Important note: Although there is a "New" button on the screen, don't use it for the purposes of absorption costing, or you'll overburden your products with non-existent costs. This button exists for other functionalities related to the Business Performance module, not for companies using absorption costing. All financial transactions must be created in SAP Business One and imported into Beas.

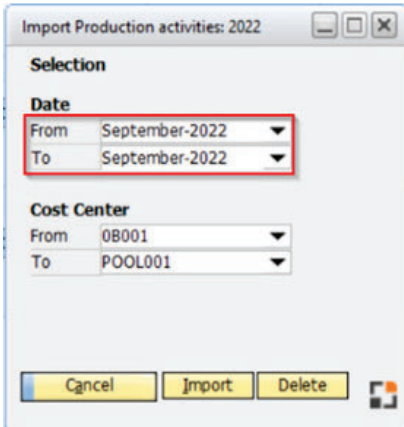


## BEAS MANUFACTURING WORKFLOW – PRODUCTION ACTIVITIES

All production transactions generated in Beas are reflected in Business Performance's Production Activities. Production activities include the production items, quantities, times, and costs per Cost Centre and are the base for distributing costs from direct Cost Centres into the manufactured goods.

Additionally, since this feature also summarises all manufacturing costs per Cost Centre (calculated according to the existing resources' cost rates), it can also be a guide to set-up Distribution Keys for indirect manufacturing costs.

- 1) Define starting and ending month to import Production Activities for the currently active Statement Cycle. You can leave the Cost Centres filter untouched and import data for all Cost Centres, as production activities, in contrast to financial data, are always erased when re-importing data for the same months (so, you will never get duplicate production activities).



- 2) After importing production activities, you will be presented with a summary screen, including marginal and full costs per Cost Centre.

Production hours per Cost Center (Resources)		Production hours per Cost Unit (products)			
Month / Year	Cost Center	Description	Sum Time	Sum Marginal Cost	Sum Full Cost
September-2022	0B002	Cutting_Cortadora	3,33	26,00	54,00
September-2022	0B005	Blasting_Chorreado_Jateadora	10,83	292,50	338,00
September-2022	0B007	Work Center I_Centro de Traba	8,33	40,00	40,00
September-2022	0B008	Work Center II_Centro de Traba	0,83	2,50	3,50
September-2022	0B015	Flexography_Flexografia	3,00	45,00	57,60
September-2022	0B016	Extrusion_Extrudado_Extrusora	4,17	437,50	487,50

This is a very useful data if you are not sure which is the most appropriate criteria for distributing costs from indirect to direct Cost Centres, as it represents which resources (direct Cost Centres) generated more costs for your company. To use this data as distribution base for indirect Cost Centres, can just copy the information from this screen into a Distribution Key and link it to the desired indirect Cost Centres.

Cost Center	Description	Quantity	Unit	Share
0B002	Cutting_Cortadora	54,00		5,51
0B005	Blasting_Chorreado_Jateadora	338,00		34,47
0B007	Work Center I_Centro de Traba	40,00		4,08
0B008	Work Center II_Centro de Traba	3,50		0,36
0B015	Flexography_Flexografia	57,60		5,87
0B016	Extrusion_Extrudado_Extrusora	487,50		49,71
		980,60		100,00

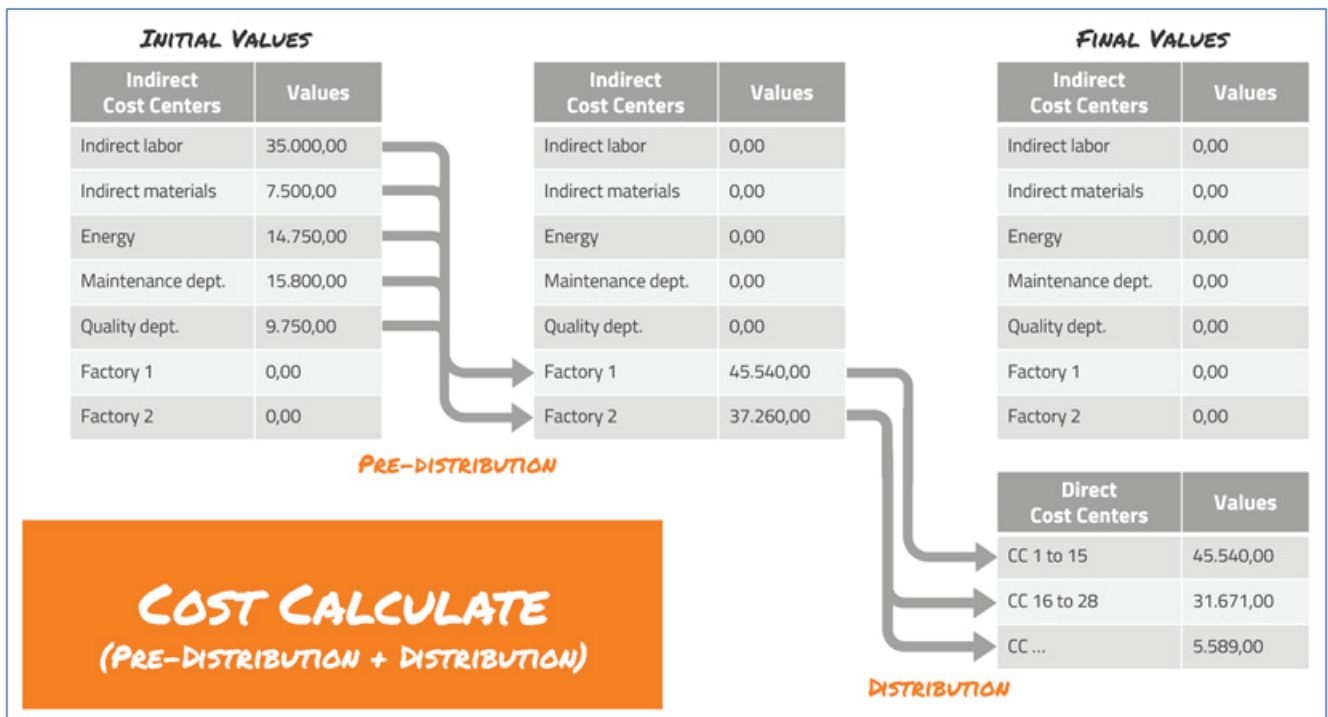
After you press "Apply", the results screen will close.

## BEAS MANUFACTURING WORKFLOW – COST CALCULATE

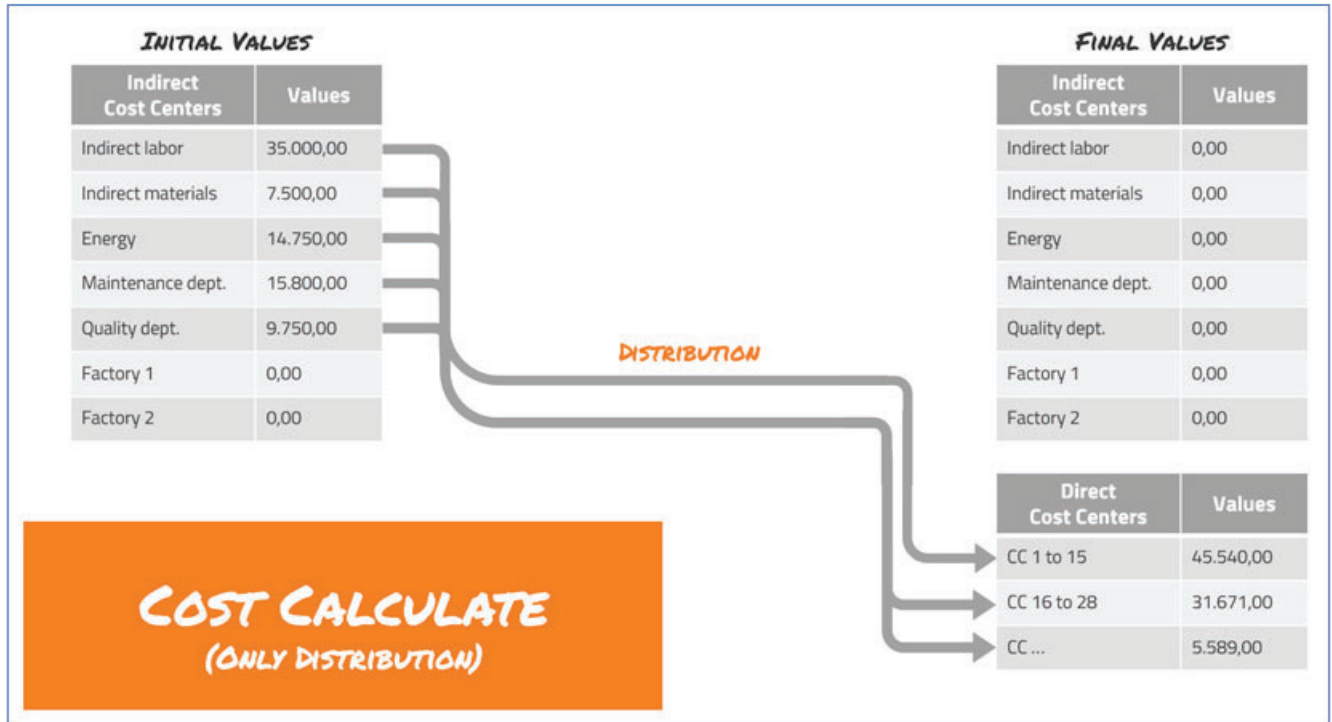
When both financial data and production activities are imported, the next step is to process the distributions in between Cost Centres through the Cost Calculate function. Distributions are processed in two steps:

- I. Pre-distribution: distribute values from indirect Cost Centres (including cost pools) to other Cost Centres, either direct or indirect. Cost Centres receiving values from the pre-distribution phase can also have Distribution Keys set to them for further distributions. If no Cost Centres have Distribution Keys set for pre-distribution (normal scenario, as pre-distribution is only useful in very specific situations), this step is skipped.
- II. Distribution: final distribution step, taking values from the indirect Cost Centres into direct. If any costs remain undistributed, it will not be carried over to the manufactured goods, reason for which you must make sure that all indirect Cost Centres have Distribution Keys assigned and that they are configured to send values only to direct Cost Centres.

In the two images below, you can see how Cost Calculate behaves when having pre-distribution plus distribution, or distribution only. Next, there is an explanation about running the Cost Calculate process.







1) Execute Cost Calculate. Switching between short and long views has no impact on the calculation process itself, only on how you see data on the screen. The recommendation is to always use the short view, as there is no real benefit from using long view and it really slows down the calculations. If you wish to double-check whether your calculated values are correct or wrong, verify if the sum of "Financial Data direct" and "Financ.Data distributed" matches the total amount of financial data for the whole Statement Cycle. The values for "Financ.Data distributed" will only differ from 0 when you have distributed Cost Elements; if not, it will be 0 even when you have values on indirect Cost Centres with Distribution Keys assigned (and you shouldn't worry about where this screen displays the values).

**Important note:** "Fix" and "Variable" values depend on whether you set your Cost Elements as related to fixed or variable costs for the Cost Centres. Regarding the "Assessment" field, you can safely ignore its value.

Cost Calculate: Statement cycle 2022

Protocol Cost accounting      Date 16.09.22      Statement cycle 2022  
concentrated      short      Statement cycle From 01/01/2022

Month	Text	Planned fix	Planned variable	Effective fix	Effektiv variable
1	Deleting Monthly Values	0,00	0,00	0,00	0,00
1	Budget Cost Elements direct	0,00	0,00	0,00	0,00
1	Budget Cost Element Groups direct	0,00	0,00	0,00	0,00
1	Budget Cost Elements distributed	0,00	0,00	0,00	0,00
1	Financial Data direct	0,00	39.030,00	0,00	39.030,00
1	Wage direct	0,00	0,00	0,00	0,00
1	Financ.Data distributed	0,00	0,00	0,00	0,00
1	Wage distributed	0,00	0,00	0,00	0,00
1	Assessment	0,00	82.387,00	0,00	82.387,00
1	Cost Center Group	0,00	0,00	0,00	0,00
1	Sum FK/HK Calculate				
12	End of calculating				

Financial Data: Statement cycle 2022

#	No.	Cost Element	Posting date	Amount	Entry text
53	2	DIRECT	30/09/2022	2.16,00	Absorption Costing Use-Case
54	1	DIRECT	30/09/2022	2.790,00	Absorption Costing Use-Case
				39.030,00	

Buttons: Start, Cancel, Short/Long



## UNDERSTANDING THE ABSORPTION COSTING REPORT

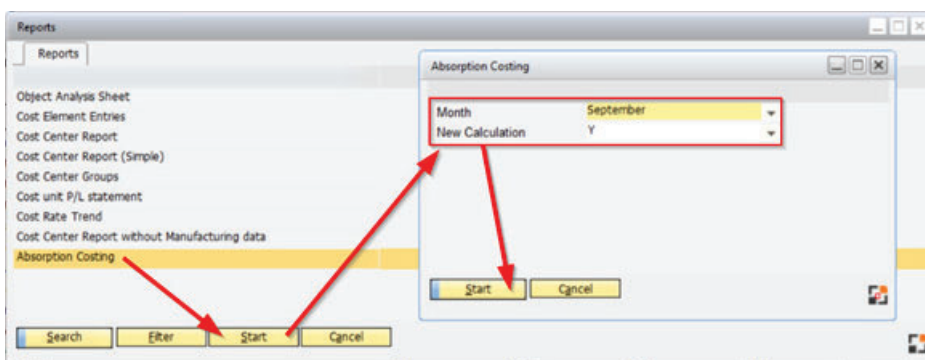
This part of the guide is focused on helping you to understand the Absorption Costing report, where you will find all data related to absorption costing and the functions which will later perform its execution. Before you can get into the report, however, there are several rules you must follow to prevent some common mistakes, as they can hinder your progress if Beas identifies them in your setup:

- Cost Centres **cannot have** both Pre-Distribution and Distribution Keys at the same time.
- Cost Centres with either Pre-Distribution or Distribution Keys **must have the field "As Cost Unit" set to "No"**. As a general recommendation when using absorption costing, all Cost Centres must have "As Cost Unit" set to "No".
- Cost Centres **cannot have** Pre-Distribution or Distribution Keys distributing values back to themselves.

Additionally, there are two extra recommendations for absorption costing. These recommendations will not prevent you from running absorption costing but may trigger additional warning messages.

- Direct Cost Centres receiving values either directly or from Distribution Keys should have production activities linked to them (if not, you might want to link a Distribution Key to them to prevent having non-absorbed values).
- Cost Centres with associated production activities should not be linked to Distribution Keys (as their values will go to the manufactured goods).

1) Run the Absorption Costing report. You need to select the month (remember that it is always within the selected Statement Cycle) and, if not done before, leave "New Calculation" as "Y" for Beas to process the distributions between direct Cost Centres and manufactured goods, which happens according to the Distribution Base set in the Statement Cycle. If you have already processed it, you can set "New Calculation" to "N" on the next time you open the report, as it will speed up the opening by not processing new calculations.



2) **Analyse** the report. The absorption costing report presents you with a list of all manufactured goods within the selected month, as well as the calculated appropriations and costs to revert for each one of them. Remember that appropriations come from financial data distributions, and costs to revert from costs booked to the goods according to the resources' cost rates. The difference between non-total and total columns is that non-totals represent values before discounts and additions due to "Consumed Assemblies" (explained in 6) and totals represent values after applying these discounts and additions.

#	Document Position	Item	Description	Batch / Serial Number	Warehouse	Qty. to produce	Quantity	Weighting [%]	Appropriation (AC)	Appropriation (AC) total	Full Cost	Full Cost (Total)
1	4012 10	PA185	Finished Steel Piece_Pieza Terminada de Acero	20220915-003	QC	20,000	20,000	100,000	19,387,89	33,560,04	548,60	940,60
2	4012 20	SA156	Painted Steel Piece 1_Pieza Pintada de Acero	20220915-002	01	20,000	20,000	100,000	8,599,51	0,00	338,00	0,00
3	4012 30	SA158	Painted Steel Piece 2_Pieza Pintada de Acero	20220915-001	01	20,000	20,000	100,000	5,572,64	0,00	54,00	0,00
									33,560,04	33,560,04	940,60	940,60

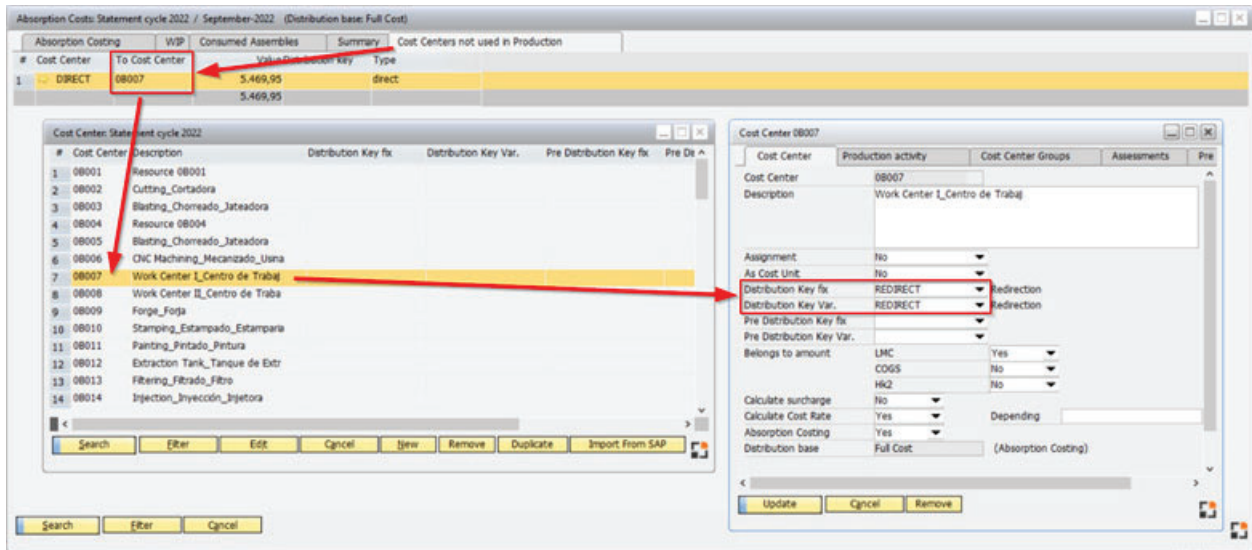
3) Check the **Summary** tab. Through the summary, you can understand how your financial values are distributed to your manufactured products in three main groups:

- **Absorption Costing:** values that Business Performance can absorb into the products during the absorption costing execution for the selected month, as the goods were processed and received on stock.
- **WIP:** values kept open for future months because the goods were not received on stock (production process incomplete).
- **Absorption Costing + WIP:** if everything is correct, this value will be exactly the same as the financial data, since all manufacturing costs must be appropriated to production. One common source of differences is because direct Cost Centres receiving costs were not used in production, so they have no production orders to distribute their contained values. If this happens, you'll see a value different from 0 under "**Total value of all cost centres that receive values and are not used in production**".

#	Result	Value
1	Financial Data	39.030,00
2	Absorption Costing	33.560,04
3	WIP	0,00
4	Absorption Costing + WIP	33.560,04
5	Total value of all cost centres that receive values and are not used in production	5.469,95
6	Sum	39.029,99

4) Whenever you have a value different from 0 under "Total value of all cost centres that receive values and are not used in production", check the tab "Cost Centres not used in Production" to find out who they are. Then, assign them **Distribution Keys (not Pre-Distribution, or values received from indirect Cost Centres might remain on them)** to redirect their values to the other direct Cost Centres. Remember to erase this Distribution Key from the Cost Centres' master data after you complete the absorption costing run.

**Important note:** After setting the Distribution Keys, you **must execute the Cost Calculate process again and reopen the Absorption Costing report with "New Calculation" set to "Y"**. If not, no values distribution will happen.



If you followed all these steps correctly, the Summary report should now show the full financial value under "Absorption Costing + WIP".

Absorption Costs: Statement cycle 2022 / September-2022 (Distribution base: Full Cost)		
Absorption Costing    WIP    Consumed Assemblies    Summary    Cost Centers not used in Production		
#	Result	Value
1	Financial Data	39.030,00
2	Absorption Costing	39.030,00
3	WIP	0,00
4	<b>Absorption Costing + WIP</b>	<b>39.030,00</b>
5	Total value of all cost centers that receive values and are not used in production	0,00
6	Sum	39.030,00

5) The **WIP** tab contains all production orders for products whose manufacturing process could not be completed during the month. These products consumed production resources, thus requiring a share of the total manufacturing costs, but are not on stock so to be revaluated. Beas, in this case, will keep them open until the next periods when they are finally received on stock, a situation in which you will see values coming from previous months to increase appropriation amounts. If all your items in production were received on stock until the end of the month (at least through partial receipts for the work done), WIP will be empty.

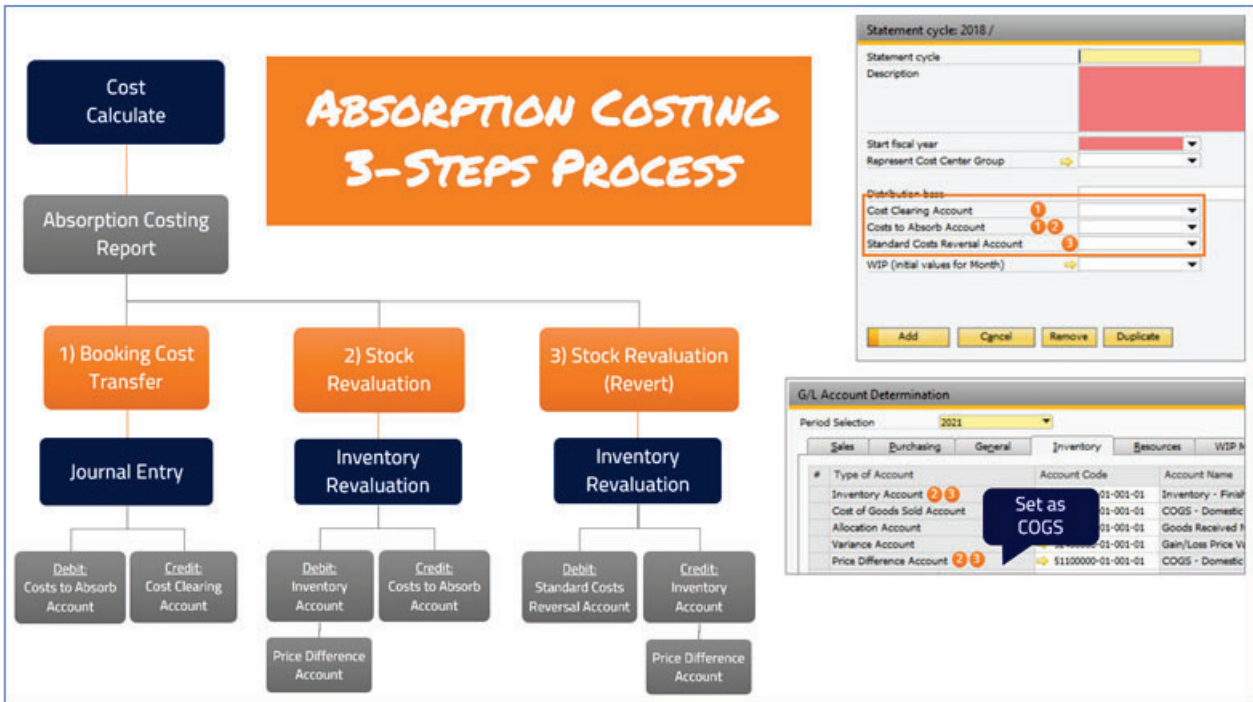
Absorption Costs: Statement cycle 2022 / September-2022 (Distribution base: Full Cost)						
Absorption Costing    WIP    Consumed Assemblies    Summary    Cost Centers not used in Production						
#	Document	Position	Item	Description	Qty. to produce	WIP    Full Cost

6) The Consumed Assemblies tab details all subassemblies who were produced and consumed during the month to be incorporated into other products. This is needed to prevent these assemblies from receiving a direct appropriation, which would send values to COGS due to the items not being on stock anymore. With this behaviour, Beas can roll up manufacturing costs throughout assemblies until the last level is received on stock. You will see negative amounts for consumed subassemblies and positive amounts for the assemblies who consumed them.

Absorption Costs: Statement cycle 2022 / September-2022 (Distribution base: Full Cost)								
Absorption Costing		WIP	Consumed Assemblies		Summary		Cost Centers not used in Production	
#	Document	Position	Item	Description	Quantity	Quantity (Issued)	consumed Assemblies (AC)	consumed Assemblies (Full Cost)
1	4012	10	PA185	Finished Steel Piece_Pieza Terminada de Ac	20,000	0,000	14.398,01	392,00
2	4012	20	SA156	Painted Steel Piece 1_Pieza Pintada de Ace	20,000	20,000	-8.794,26	-338,00
3	4012	30	SA158	Painted Steel Piece 2_Pieza Pintada de Ace	20,000	20,000	-5.603,75	-54,00
							0,00	0,00

## EXECUTING ABSORPTION COSTING

After completing the verifications and making sure that all data is correct (if not, please fix everything before going forward), you can proceed to execute absorption costing. Executing it requires three major steps, illustrated in the image below and explained further in this topic. The circled numbers represent the accounts used in each step.



### Important notes:

- After the absorption costing processes of Stock Revaluation and Stock Revaluation (Revert) are executed for a Statement Cycle, they cannot be performed for the same Work Orders again. Be sure that all values are correct before starting the three major steps.
- There is no cancellation option for the absorption costing process. Whenever absorption costing transactions need to be reverted, you must create new inverted Stock Revaluations in SAP (manually or using DTW) to correct the values. Stock Revaluations created manually or using DTW will not display on the Absorption Costing report.
- Due to an SAP Business One's limitation, the Stock Revaluation transactions can only be done considering the stock available **at the moment in which they are being executed**. As the available stock influences how much of the values will go into stock or COGS accounts, it is recommended to execute the Absorption Costing process as soon as possible after the month ends.

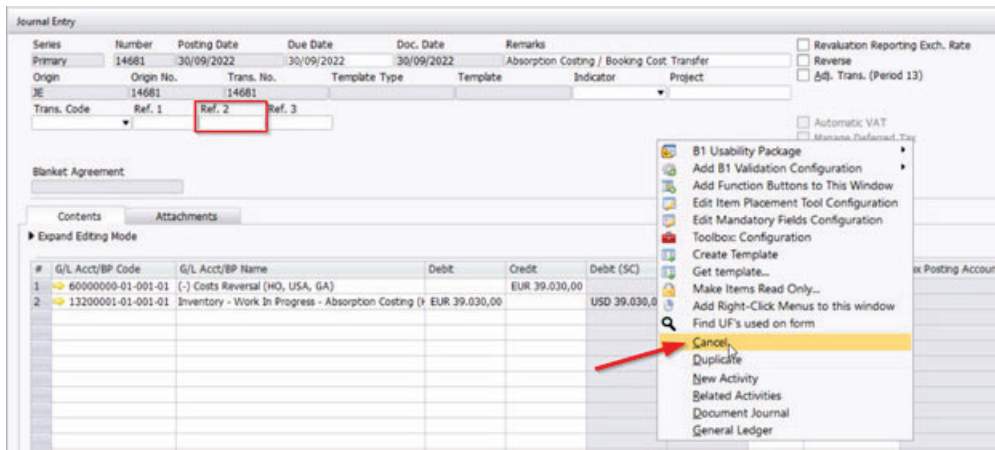
1) Execute **Booking Cost Transfer**. Whenever you book manufacturing costs in SAP Business One, being them related to labour or overheads, they'll go to costs or expenses accounts and be part of your Profit and Losses Statement. Using absorption costing, however, those costs only affect your Profit and Losses Statement in the form of COGS after the products are sold. In this first step, all your manufacturing-related costs are credited from the "Cost Clearing Account" (expenses contra account) and debited to the "Costs to Absorb Account" (asset account) set in the Statement Cycle.

Account	Description	Information	Debit	Credit Branch
_SYS0000000(-)	Costs Reversal (HO, USA, GA)	Absorption Costing Total	0,00	39.030,00
_SYS0000000	Inventory - Work In Progress - Absorption Cos	Absorption Costing Total	39.030,00	0,00

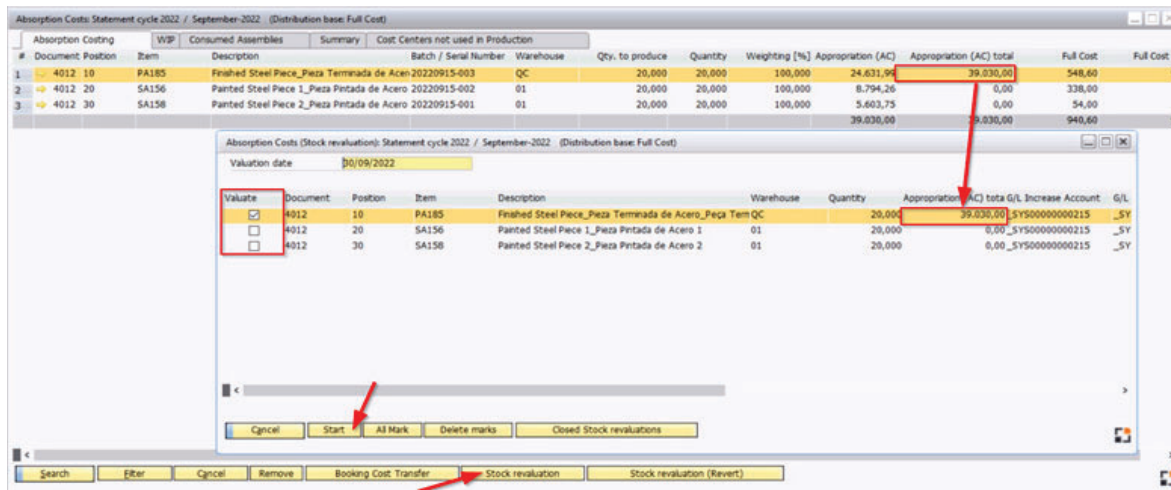
**Important note:** This is the only step with a relatively easy cancellation procedure if you detect a mistake in your absorption costing process. Therefore, make sure everything is correct before proceeding. If you ever need to cancel a Booking Cost Transfer process, follow these steps:

Open the Booking Cost Transfer journal entry, erase the content of "Ref. 2", update and then cancel it using the same posting date as the date in which Booking Cost Transfer was originally posted. This will enable you to perform Booking Cost Transfer again.





2) Execute Stock Revaluation. This is the moment in which Beas really appropriates costs into the products, taking values from the "Costs to Absorb Account" and moving those values either to the products' stock accounts or COGS (if there is not enough stock during the revaluation). If there are any products for which you don't want to appropriate values now, you can deselect the "Valuate" column, and they will remain open in the list after you run the Stock Revaluation step. This column is automatically selected for items with values to appropriate and deselected for items with 0 appropriation value.



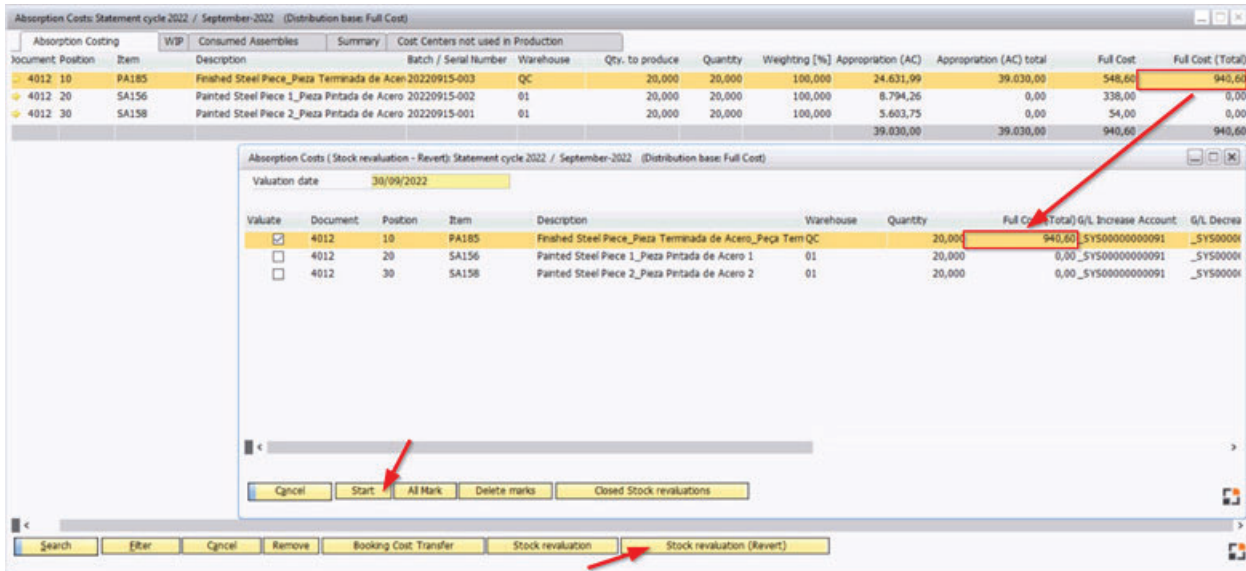
Here is a summary of SAP's possible bookings for the Stock Revaluation process:

Revaluation Amount	Revaluation Quantity	Quantity in Stock	Stock Variation	COGS Variation
+1.000,00	100	100	+1.000,00	0,00
+1.000,00	100	50	+500,00	+500,00
+1.000,00	100	0	0,00	+1.000,00

**Important note:** There is no cancellation option in SAP Business One for Stock Revaluations. If you ever need to cancel an absorption costing process, you can only do so by performing opposite revaluations through DTW.



3) Execute Stock Revaluation (Revert). This is not an optional step. You must execute Stock Revaluation (Revert) in order to complete the absorption costing process. This step removes from the manufactured products the costs added during the Beas's manufacturing products using the resources' cost rates. These costs are useful to keep the costs as close as possible to the costs after running absorption costing, but cannot remain afterwards, or products will have double costing.



Here is a summary of SAP's possible bookings for the Stock Revaluation (Revert) process:

Revaluation Amount	Revaluation Quantity	Quantity in Stock	Stock Variation	COGS Variation
-1.000,00	100	100	-1.000,00	0,00
-1.000,00	100	50	-500,00	-500,00
-1.000,00	100	0	0,00	-1.000,00

Important note: There is no cancellation option in SAP Business One for Stock Revaluations. If you ever need to cancel an absorption costing process, you can only do so by performing opposite revaluations through DTW.

## BEAS MANUFACTURING WORKFLOW – AFTER ABSORPTION COSTING

If you reached this topic, you should have probably executed absorption costing successfully for your company. Congratulations! If not, please review the previous topics and make sure that you haven't forgot anything, as any detail left behind can represent potential unwanted differences in your accounting numbers.

When the three absorption costing steps are completed, you can stop right where you are if this is your decision—all product costs should be correct and the only remaining open values should be due to active work orders without production receipts in the month. However, going through a few more steps can guarantee a more accurate system for the future. After all, now that you know exactly how much each one of your direct Cost Centres costed you for all their manufacturing activities, why not updating their cost rates so to keep your products even closer to the actual costs when closing the next months?

Understanding the resources' actual costs rates after absorption costing and updating them according to the new rates is precisely what we will review in this topic.

- 1) Open the **Cost Rate Trend** report. This report brings the actual appropriated cost for each direct Cost Centre and dividing it by the number of work hours gives you their actual hourly rates for marginal and full costs (columns "Hourly Rate (MargCosts)" and "Hourly Rate (Full Costs)"). For comparison purposes, you can check the costs according to their current hourly rates on "Lmc-real (MargCosts)" and "Lmc-real (Full Costs)".

**Important note:** If you want Beas to calculate actual cost rates for each resource, you must link each one of them to a specific direct Cost Centre.

#	Cost Center	Accounting month	Month/year	Marginal Cost	Full Cost	Hours	Hourly Rate (MargCosts)	Hourly Rate (Full Costs)	Lmc-real (MargCosts)	Lmc-real (Full Costs)
1	08002	9	September-2022	5.603,75	5.603,75	3,33	1.682,81	1.682,81	26,00	54,00
2	08005	9	September-2022	8.794,26	8.794,26	10,83	812,03	812,03	292,50	338,00
3	08007	9	September-2022	0,00	0,00	0,00	0,00	0,00		
4	08008	9	September-2022	4.497,44	4.497,44	0,83	5.418,60	5.418,60	2,50	3,50
5	08015	9	September-2022	9.421,60	9.421,60	3,00	3.140,53	3.140,53	45,00	57,60
6	08016	9	September-2022	10.712,95	10.712,95	4,17	2.569,05	2.569,05	437,50	487,50
7	08028	9	September-2022	0,00	0,00	0,00	0,00	0,00		

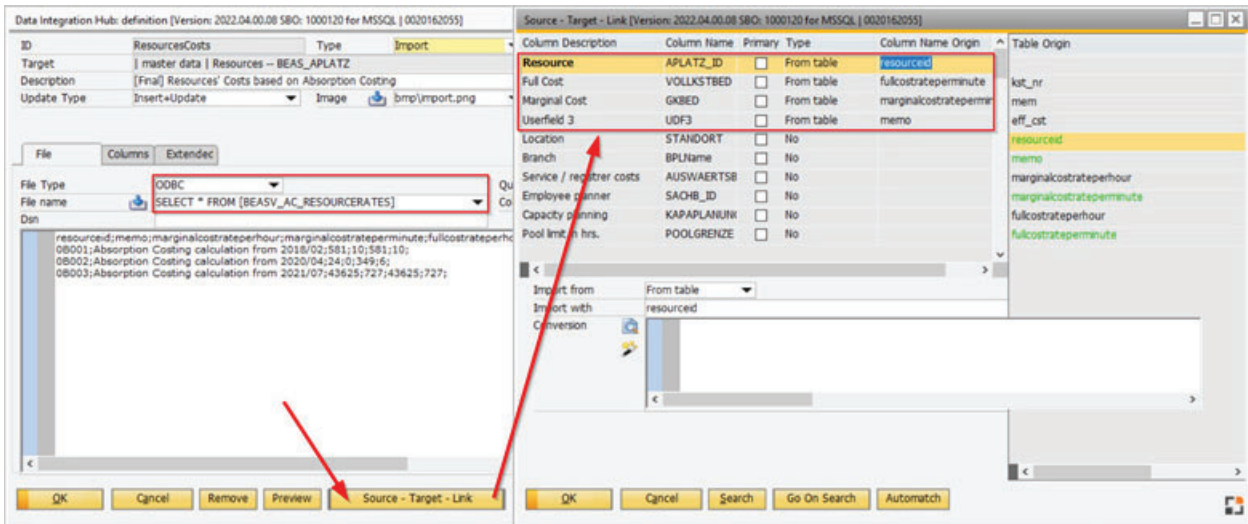
- 2) Create the following SQL View on your database. SQL Views are an easy way to pre-set queries to retrieve data again and again without having to rewrite them. So, you can select data directly from the SQL View and it will bring values related to all the tables inside it.

```

CREATE VIEW [dbo].[BEASV_AC_RESOURCERATES] AS
SELECT
T0."ResourceID",
CONCAT('Absorption Costing calculation from ',T0."Memo") AS "Memo",
COALESCE(T0."MarginalCostRatePerHour",0) AS "MarginalCostRatePerHour",
COALESCE(T0."MarginalCostRatePerMinute",0) AS "MarginalCostRatePerMinute",
COALESCE(T0."FullCostRatePerHour",0) AS "FullCostRatePerHour",
COALESCE(T0."FullCostRatePerMinute",0) AS "FullCostRatePerMinute"
FROM
(SELECT
"APLATZ_ID" AS "ResourceID",
(SELECT CONCAT(RTRIM(T0."ABR_ID"),CONCAT('/',RIGHT(CONCAT('00',T0."MONAT"),2))) FROM "BEAS_BAB_KOSTENSAETZE" T0
WHERE CONCAT(T0."ABR_ID",RIGHT(CONCAT('00',T0."MONAT"),2))=(SELECT
MAX(CONCAT(T1."ABR_ID",RIGHT(CONCAT('00',T1."MONAT"),2))) FROM "BEAS_BAB_KOSTENSAETZE" T1 WHERE T1."EFF_STD">0
AND T1."VK">0 AND T1."KST_NR"=T0."KST_NR") AND T0."KST_NR"="BEAS_APLATZ"."KSTST_ID") AS "Memo",
(SELECT CASE WHEN T0."EFF_STD">0 THEN T0."VK"/T0."EFF_STD" ELSE 0 END FROM "BEAS_BAB_KOSTENSAETZE" T0 WHERE
CONCAT(T0."ABR_ID",RIGHT(CONCAT('00',T0."MONAT"),2))=(SELECT
MAX(CONCAT(T1."ABR_ID",RIGHT(CONCAT('00',T1."MONAT"),2))) FROM "BEAS_BAB_KOSTENSAETZE" T1 WHERE T1."EFF_STD">0
AND T1."VK">0 AND T1."KST_NR"=T0."KST_NR") AND T0."KST_NR"="BEAS_APLATZ"."KSTST_ID") AS "FullCostRatePerHour",
(SELECT CASE WHEN T0."EFF_STD">0 THEN T0."VK"/T0."EFF_STD"/60 ELSE 0 END FROM "BEAS_BAB_KOSTENSAETZE" T0 WHERE
CONCAT(T0."ABR_ID",RIGHT(CONCAT('00',T0."MONAT"),2))=(SELECT
MAX(CONCAT(T1."ABR_ID",RIGHT(CONCAT('00',T1."MONAT"),2))) FROM "BEAS_BAB_KOSTENSAETZE" T1 WHERE T1."EFF_STD">0
AND T1."VK">0 AND T1."KST_NR"=T0."KST_NR") AND T0."KST_NR"="BEAS_APLATZ"."KSTST_ID") AS "FullCostRatePerMinute",
(SELECT CASE WHEN T0."EFF_STD">0 THEN T0."VK"/T0."EFF_STD"/60 ELSE 0 END FROM "BEAS_BAB_KOSTENSAETZE" T0 WHERE
CONCAT(T0."ABR_ID",RIGHT(CONCAT('00',T0."MONAT"),2))=(SELECT
MAX(CONCAT(T1."ABR_ID",RIGHT(CONCAT('00',T1."MONAT"),2))) FROM "BEAS_BAB_KOSTENSAETZE" T1 WHERE T1."EFF_STD">0
AND T1."GK">0 AND T1."KST_NR"=T0."KST_NR") AND T0."KST_NR"="BEAS_APLATZ"."KSTST_ID") AS
"MarginalCostRatePerHour",
(SELECT CASE WHEN T0."EFF_STD">0 THEN T0."VK"/T0."EFF_STD"/60 ELSE 0 END FROM "BEAS_BAB_KOSTENSAETZE" T0 WHERE
CONCAT(T0."ABR_ID",RIGHT(CONCAT('00',T0."MONAT"),2))=(SELECT
MAX(CONCAT(T1."ABR_ID",RIGHT(CONCAT('00',T1."MONAT"),2))) FROM "BEAS_BAB_KOSTENSAETZE" T1 WHERE T1."EFF_STD">0
AND T1."GK">0 AND T1."KST_NR"=T0."KST_NR") AND T0."KST_NR"="BEAS_APLATZ"."KSTST_ID") AS
"MarginalCostRatePerMinute"
FROM "BEAS_APLATZ") T0
WHERE
COALESCE(T0."FullCostRatePerHour",0)>0 OR COALESCE(T0."MarginalCostRatePerHour",0)>0
GO

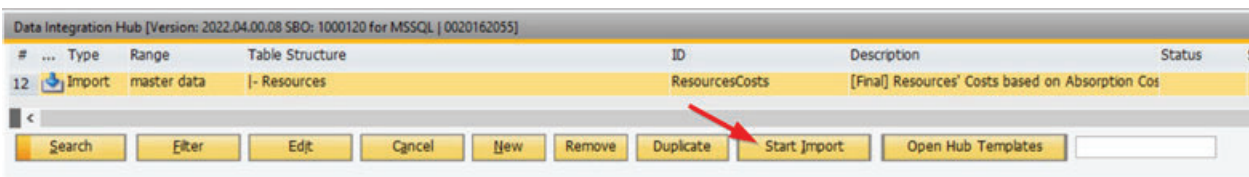
```

4) Check the Preview (if desired) and process the data importing. Remember that if you have more resources linked to the same direct Cost Centre, their costs will also be updated even if they haven't taken part in the absorption costing process. This can be avoided by having one direct Cost Centre for each resource.



3) Create a Data Integration Hub scenario for resources master data retrieving information from the SQL View ("SELECT \* FROM [BEASV\_AC\_RESOURCERATES]") and match the highlighted fields (choose between rate per minute and rate per hours according to how you configure your resource cost rates).

Resource	Full Cost	Marginal Cost	Userfield 3
08002	28,046800	28,046800	Absorption Costing calculation from 2022/09
08005	13,533800	13,533800	Absorption Costing calculation from 2022/09
08008	90,310000	90,310000	Absorption Costing calculation from 2022/09
08015	52,342200	52,342200	Absorption Costing calculation from 2022/09
08016	42,817500	42,817500	Absorption Costing calculation from 2022/09
08044	42,817500	42,817500	Absorption Costing calculation from 2022/09



# Who is Boyum Solutions?

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Boyum IT Solutions is a global award-winning SAP Business One development and consultancy house. We have the largest partner and customer ecosystems, with a presence in 115 countries and just over 9,000 customers and 200,000 users.



## Boyum IT Solutions