

ERPZ'
STUDENTS

Script 6: Management Accounting

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1 Management Accounting

This teaching unit explains the main components of the Management Accounting application (also referred to as Controlling – SAP CO). We will show how SAP has implemented the central functionalities that are required to accomplish different tasks in Controlling. First, the organizational units and master data that are relevant to SAP CO are explained. Then we will focus on the Overhead Cost Accounting, Profitability Analysis as well as Profit Center Controlling. Furthermore, integration points to other SAP applications are illustrated.

Educational objectives in this unit:

After this teaching unit, you will be able to:

- Identify the organizational units that are relevant to Management Accounting
- Explain the differences between Management Accounting and Financial Accounting
- Explain the functions of the main components in Management Accounting
 - o Overhead Cost Controlling (CO-OM)
 - o Profitability Analysis (CO-PA)
 - o Explain Profit Center Accounting (PCA)

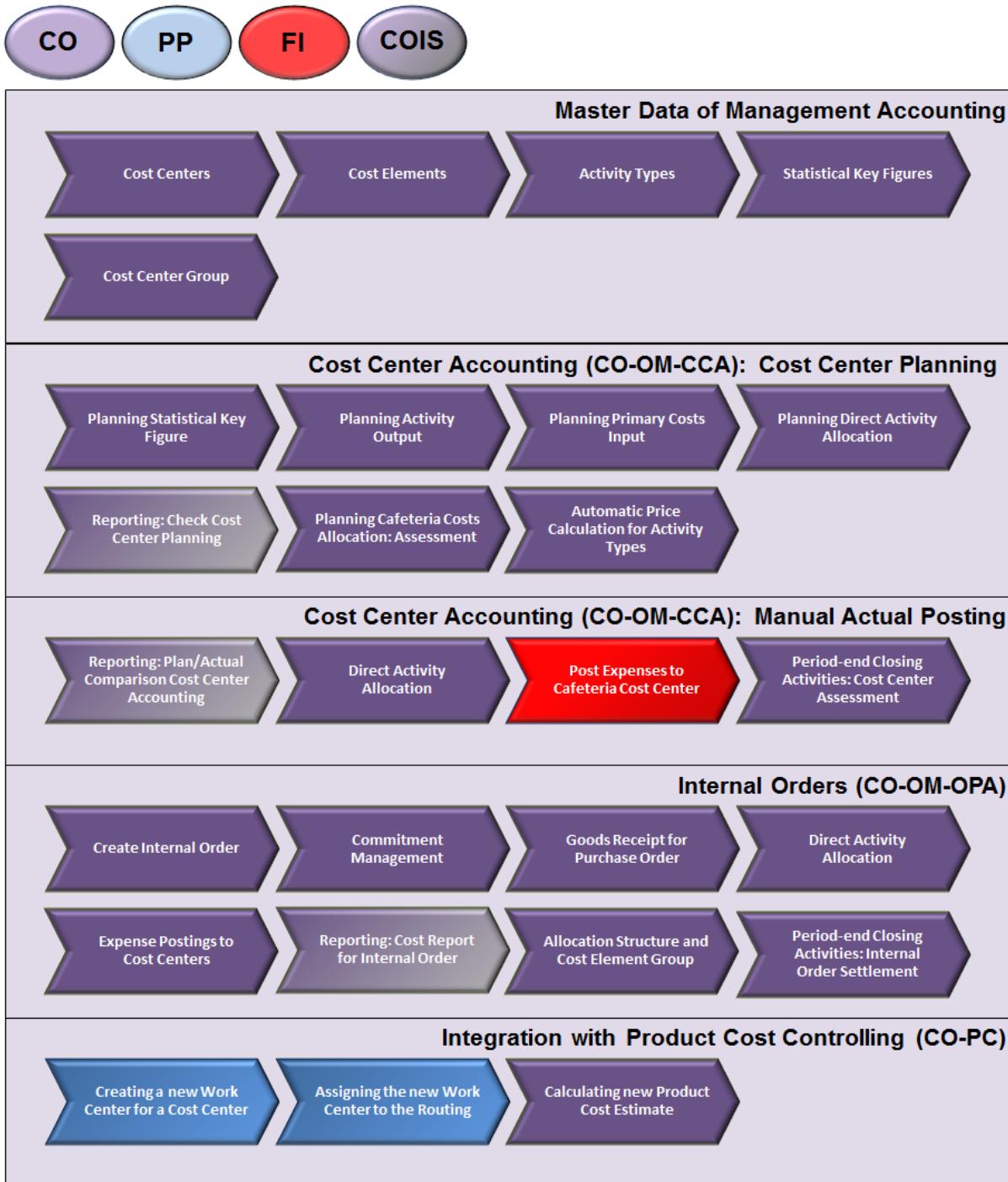
Scenario for the Case Study

In the practical application of this unit, you will focus on Cost Center Accounting. You will create own cost centers, carry out planning on these cost centers, and subsequently, record actual costs.

In the internal order section, you will create an internal order and use it as a controlling object in commitment management and for activities of your cost centers. Subsequently, you will run profit center reports, market reports and profitability segment reports.

In product costing, you will create a new work center and blend it in your work center for the production of the Speedstarlett. Based on this, you will perform a new product cost calculation.

The following figure visualizes the entire process that you will carry out independently by using the SAP system in the practical application chapters of this unit. The color-coding shows that there are some integration points with other SAP components that you are already familiar with.

**Figure 1: Process Overview: Management Accounting**

2 Basic Data of Management Accounting

This section explains the organizational levels of the SAP system that are relevant for the Controlling application (SAP CO). It is also referred to as Management Accounting. Furthermore, master data of the Controlling application are introduced.

2.1 Theory: Organizational Levels of Management Accounting

**THEORY**

Organizational levels represent the legal and organizational views of a company and form a framework that supports the activities of a business in the manner desired by management. Furthermore, they permit the accurate and organized collection of business information and support the development and presentation of relevant information to enable and support business decisions.

This section gives you an overview of the organizational model of SAP CO. There are several organizational levels that are relevant for SAP CO but primarily belong to other SAP application. Those organizational levels are explained first. Thereafter, the organizational levels that primary belong to the Controlling application are described.

2.1.1 Management Accounting: General Organizational Levels

The following organizational levels are relevant for the SAP application SAP CO but primarily belong to other applications. You already became acquainted with the following organizational levels:

Client

A **client** is the highest-level organizational unit in an SAP system and constitutes an independent environment with its own set of tables and data, which are separate from other clients. Each SAP system can host multiple clients.

Each client represents the enterprise, company or business, depending on the size. Thus, a client is an organizationally, data model-wise, and legally closed unit. In SAP, clients are identified through their three-digit client number. The GBI Company is mapped in one client of an SAP system.

Company Code

Company structure determines whether a self-contained set of accounts is required for external reporting purposes or not. Therefore, SAP features the **company code** as an organizational level. It is the smallest organizational unit for which a self-contained set of books can be defined according to commercial law; a complete profit and loss statement can be issued. If a business organization consists of more than one company (i.e., a group), company codes represent the individual companies of the group from an accounting point of view.

The company code is the central organizational element of **Financial Accounting**. However, it is relevant to almost any process in the SAP system, since most processes influence the accounting of the company. Thus, the company code is also relevant for SAP PP. For instance, when you process a production order, costs for activities performed or materials used incur. These costs are posted to specific accounts in financial accounting, which belong to the responsible company code.

The GBI has two company codes – one for the US headquarter (US00) and one for the German subsidiary (DE00). It is necessary to separate the two company parts from the point of view of financial accounting, since each country has its own laws regarding financial statements and taxes.

Business Area

A Business Area is an organizational unit that represents a distinct area of operations or responsibilities within an organization and to which value changes recorded in Financial Accounting can be allocated. With business areas, a company can be organizationally structured in distinct strategic business units to facilitate external reporting (balance, profit and loss statement). This allows the creation of financial statements per business area, and these statements can be used for various internal reporting purposes. However, business areas are not suitable for auditing; they are only suitable for reporting purposes.

The decisive characteristics for setting up business area are different products or product groups. Thus, a business area is a product-based view across the organization allowing for a condensed view on particular products or product groups. Consequently, a business area can also group business units that are associated with different company codes, since the same products or product groups may be provided by different company subsidiaries within an enterprise.

The GBI uses only one Business Area (BI00 – Bikes), which is used in both company parts.

2.1.2 Management Accounting: Organizational Levels of Controlling

There are two central organizational levels in Controlling: Controlling Area and Operating Concern.

Controlling Area

The **Controlling Area** is the main organizational level of Controlling and represents the highest reporting level in an organization from a costing standpoint (roll-up reporting). A controlling area depicts a closed entity for cost accounting. Costs can only be allocated within a controlling area. Objects in other controlling areas cannot be included in this allocation. Thus, a controlling area depicts a self-contained, organizational unit for which the management of revenues and expenses can be performed. Since there is no option to allocate costs between different controlling areas it often makes sense to implement only one controlling area in a company.

A controlling area can be responsible for several company codes allowing for cross-company-code cost accounting (e.g., allocation of costs) as well as management accounting analyses and reports. That is, one or multiple company codes can be assigned to a controlling area.

The GBI uses two controlling areas. GBI Europe (EU00) is responsible for the cost accounting of company codes in Europe, which so far is only the company code DE00 in Germany. GBI North America (NA00) is responsible for the cost accounting of company codes in the USA, which so far is only the company code US00. Thus, no cross-company-code cost accounting is implemented in the GBI.

Operating Concern

The **Operating Concern** controls **Profitability Analysis** (CO-PA) and represents the structure of the external market segments of a company. That is, an operating concern is an organizational unit which structures the company's customer markets according to pre-defined criteria required for market analyses. This allows calculating operating profits for individual market segments. Revenues from businesses with customers are directly posted to the particular segments. Multiple controlling areas can be assigned to one operating concern. This allows defining concern-wide market analyses and analyzing cost and revenue cost elements incurring in multiple controlling areas together.

The GBI company uses one operating concern (GL00), which has both controlling areas (NA00, EU00) assigned to it.

Cost Center

A **cost center** is an “organizational unit” within a Controlling Area that represents a clearly delimited location of cost occurrence. Cost centers are rather considered as master data than as organizational units. Cost centers are not responsible for revenue generation. Within each cost center one or multiple value-added **activities** are performed. By using Cost Center Accounting (CO-OM-CCA) in the SAP system, it can be determined, **where** costs incur in a company.

The **Cost Center Standard Hierarchy** is a special type of **cost center group** and provides a formal structure for the cost center hierarchy within the company for a given period. Each controlling area must feature a unique standard hierarchy. All cost centers of the specific controlling area **must** be assigned to a node of this standard hierarchy and build together a tree structure as illustrated in the following figure (excerpt of the cost center hierarchy of GBI). For instance, the controlling area NA00 features the standard hierarchy NA00 (top node). Below this node, further cost center groups (e.g. N1000, N2000) are assigned which in turn contain further cost center groups or cost centers (as leaves of the tree). By combining cost centers into cost center groups, and combining the groups to a cost center hierarchy, you build the formal structure of the enterprise in accordance to the decision-making areas, area of responsibility, or management areas of the company.

The following figure depicts the organizational structures in accounting (SAP FI and SAP CO) of the GBI Company. From the figure, you can see the very close ties between Controlling and Financial Accounting. Even though cost center hierarchies and cost centers possess characteristics of organizational units, in the context of the SAP system, they are considered as master data and, thus, will be discussed in the next chapter.

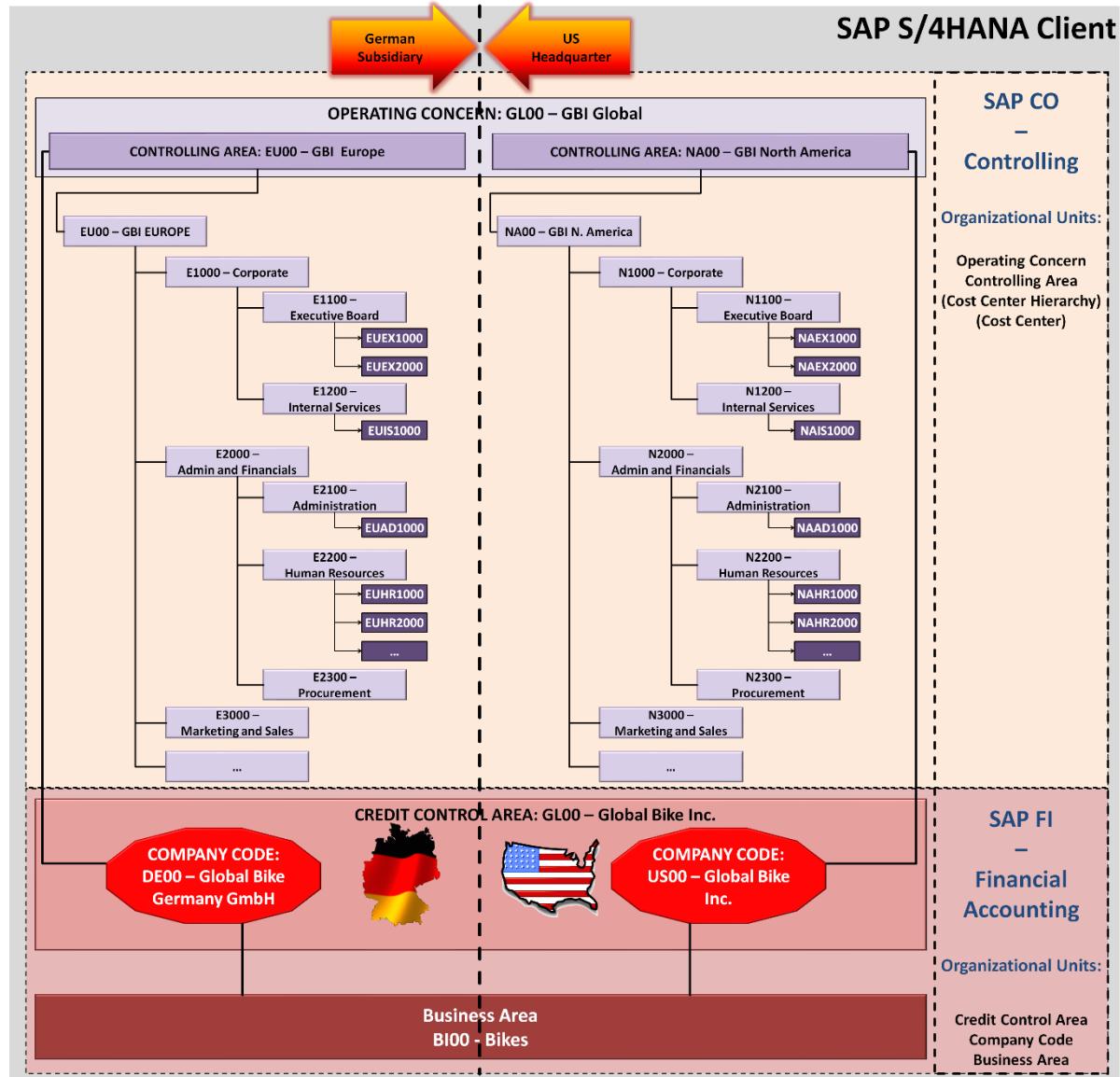


Figure 2: SAP Organizational Structures of Accounting

2.1.3 Integration FI/CO: Cross-Company-Code Cost Accounting

As mentioned above, one or multiple company codes can be assigned to one controlling area to implement cross-company-code cost accounting. This means, that all costs and revenues that incur in the individual company parts are managed in one controlling area. This also allows performing cost allocations across the different company codes.

If multiple company codes are assigned to a controlling area, the controlling area as well as all the company codes must have specific common settings:

- Company codes and the controlling area must have the same operating chart of accounts.
- Company codes and the controlling area must have fiscal year variants with the same start and end dates (only the number of special periods can vary).
- Each company code can, in addition to the operative chart of accounts) use a **local** (country-specific) **chart of accounts** for parallel accounting. Therefore, the accounts of

the operative chart of accounts in the company code are linked to the alternative accounts in the local chart of accounts.

- The currencies between the company codes can differ. The following currencies can be used:

- Controlling area currency
- Company code currency or object currency
- Transaction currency (used for posting a document to Management Accounting).

By default, cross-company-code cost accounting displays the company code currency as the object currency. This default value cannot be changed.

If only one company code is assigned to a controlling area, you can also assign the object currency for each controlling object, such as a cost center, as required.

The following figure illustrates the settings for the controlling area and the two company codes of the GBI assuming that the GBI only has one controlling area that is responsible for both company codes.

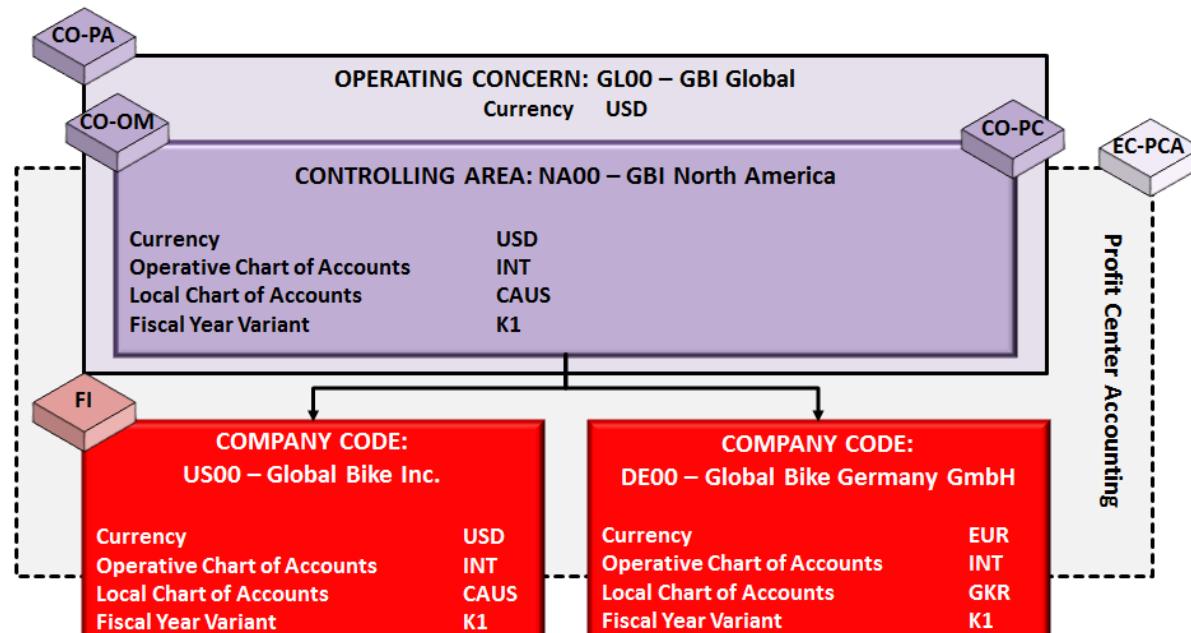


Figure 3: Cross-Company-Code Cost Accounting

2.2 Theory: Master Data of Management Accounting

**THEORY**

You have already learned that master data provide information about objects for multiple applications and that they built the next-higher level in the SAP system structure after the organizational structures.

In this chapter, we discuss some central master data that is relevant for the SAP CO application. Note that this chapter is – aside from the statistical key figures – a repetition of master data types that we have already introduced in the Plan-to-Produce business process when discussing the Product Cost Accounting (SAP CO-PC):

- Cost Center
- Cost Element
- Activity Types
- Statistical Key Figures
- Master Data Groups

2.2.1 Cost Centers

A cost center is an organizational level (even though technically it belongs to master data) within a controlling area that represents a clearly delimited location of cost occurrence. Cost centers are not responsible for revenue generation. Within each cost center one or multiple value-added activities are performed.

Furthermore, Cost Centers allow for a differentiated assignment of overhead costs to company activities based on the utilization of the respective organizational area (cost determination function) and they allow for a differentiated controlling of costs occurring within a company (cost control function).

Setting up cost centers can be based on several criteria. A cost center can be distinguished, for example, by functional requirements, allocation criteria for cost allocation to other costing objects, types of activities or services performed on the cost center, or geographical aspects as well as responsibilities. The approach should be consistent throughout the company. As a typical approach, a company can define a cost center for each low-level organizational level that has responsibility for managing costs. Examples for possible cost centers are car pool, marketing department, sales department, security department, or maintenance department.

By using Cost Center Accounting (CO-OM-CCA) in the SAP system, you can determine **where** costs incur in a company. When costs incur, they are assigned or posted to the appropriate cost center. These costs can include payroll costs, rent and utility costs, or any other costs relevant to a cost center. The posting and assignment of costs to cost centers makes managerial accounting possible, which is a vital step for utilizing other CO components.

Defining Cost Centers

A cost center is defined on **controlling-area-level** and can only belong to one controlling area. However, the same cost center (with the same ID) can be defined in a different controlling area as well.

General data

General data of a cost center encompasses the following information:

- Controlling area
- Name and description
- Validity period (The cost center master data record is time dependent).
- Name of the responsible person or user of the cost center
- The department to which the cost center is assigned
- Cost center category

Cost Center Category

The cost center category determines which **activity types** a cost center can use. Therefore, in the master data of an activity type one or more cost center categories are assigned. The activity type may then be used only by cost centers of the appropriate categories. You can define cost center categories in Customizing and set default values for the "Lock" and "Record quantity" indicators, for transfer to cost center master data. Furthermore, cost center categories can be used for reports and evaluations. Examples for cost center categories are production cost center, service cost center, or administration cost center.

Organizational Assignments

Cost centers are generally embedded in the organizational structure of a company. Therefore, different assignments to the organizational model can be set:

- **Hierarchy Area (see also next point: master data groups):** The cost center hierarchy field displays the standard hierarchy node to which the cost center is assigned. This field is mandatory if the cost center is to be used as a control feature in CO-OM-CCA (Overhead Cost Controlling). Each controlling area must have a unique standard hierarchy that includes every cost center created in that controlling area.
- **Company Code, Business Area and Segment:** The company code and business area fields represent the close integration between Management Accounting and Financial Accounting. If multiple company codes are assigned to one controlling area, the company code to which the cost center belongs must be specified in the master data of the cost center. If a business area is used for that company code (as defined in Financial Accounting), the business area must also be specified in the cost center master record. If **segment reporting** is required, the segment can be derived from the profit center to which the cost center is assigned.
- **Functional Area:** The functional area is required to create a profit and loss account in Financial Accounting using cost-of-sales accounting. Examples of structure criteria are manufacturing, administration, sales, or research and development
- **Profit Center:** The profit center field identifies the purpose of the cost center, such as production, service, sales, and administration. If Profit Center Controlling is active, revenues and costs generated on a cost center lead to statistical postings on the associated profit center.
- **Currency:** In this field, the default currency for the cost center is entered.

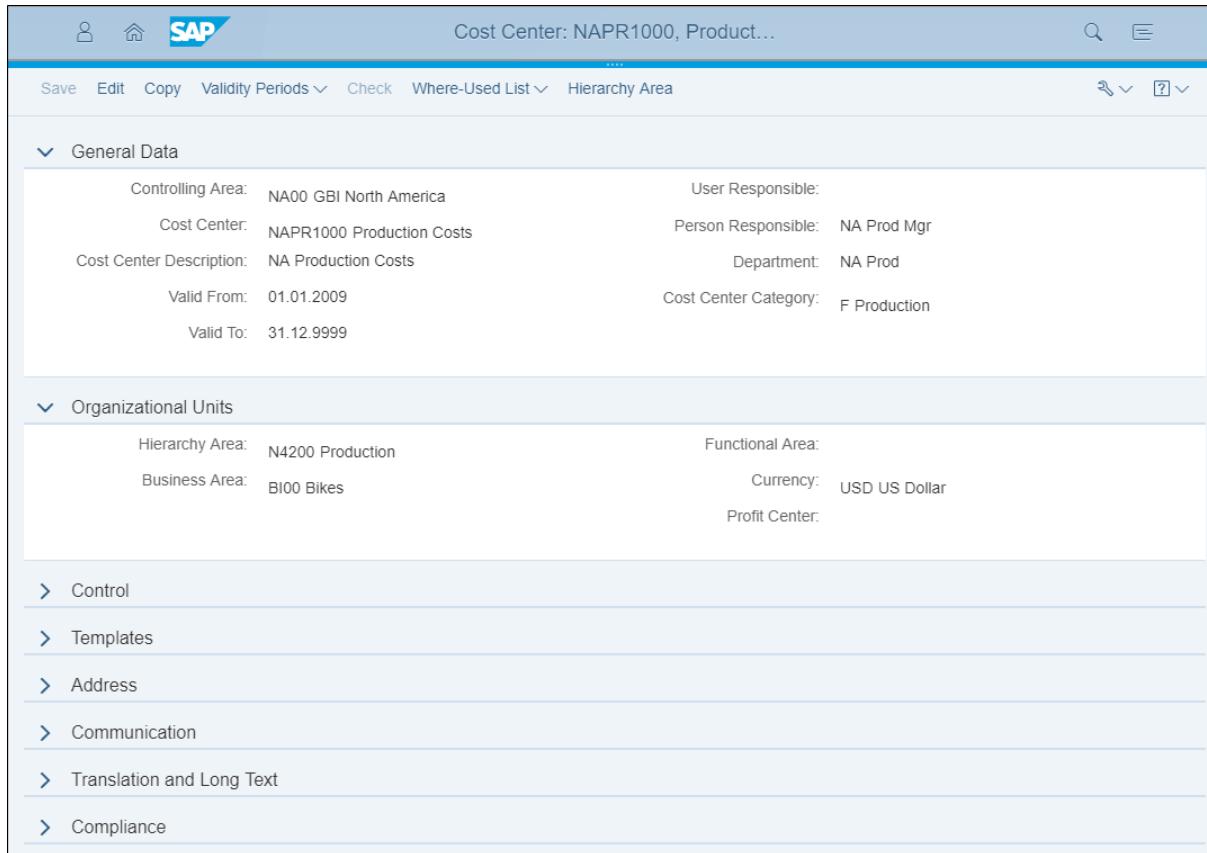


Figure 4: Cost Center Master Data: SAP-System-Screenshot

Internal Order

Internal Orders – like any other type of orders in the SAP system – do not depict Master but Transactional Data. We only mention them at this point, as they can act as a temporary Cost Center. Thereby, Internal Orders – like Cost Centers – can be responsible for cost containment. Unlike Cost Centers, revenues can be posted to Internal Orders.

Internal Orders are used to plan, collect, and monitor the costs associated with a distinct short-term event, activity, or project. Examples are:

- Company picnic
- Trade show or trade fair
- Recruiting campaign

2.2.2 Cost Elements

One of the biggest innovations in SAP S/4HANA is the new data model for G/L accounts and cost elements that leads to even greater integration between the SAP FI and SAP CO applications. In this chapter, we will introduce this new approach and the motivation behind it. Costs can incur on many ways in a company. For instance, when a company pays the salaries of its employees then this is, on the one hand, posted in Financial Accounting (SAP FI: debit and credit postings on particular **accounts**) and, on the other hand, documented in Management Accounting (SAP CO: **cost element** posted to a particular costing object, such as cost center). SAP FI and SAP CO are the two applications in the SAP system that have the closest integration. In some aspects SAP CO and SAP FI could even be viewed as only different perspectives on the same business process.

In the following we will first describe how cost elements are used in SAP S/4HANA.

2.2.2.1 Expenditures and Cost

In Accounting theory, there are two approaches for value determination in a company.

The first approach, which is mainly used in Anglo-Saxon countries, sees the values in Financial Accounting and Management Accounting as equal, whereby, Management Accounting provides only additional reporting possibilities by separating Financial Accounting documents by further characteristics, such as segments, profit centers, and projects in a “coding block”. As a result, Profit and Loss Statement as well as Balance Sheets can be issued per segment, profit center or project.

The second approach, which is mainly used in central European countries, uses Management Accounting based on costs and revenues. Thereby, costs are expenditures which fulfill the following characteristics:

- The expenditure is related to the company's business
- The expenditure is exactly assigned to a certain period and, thus, is source specific
- The expenditure is valued

Neutral Expenditures and Additional Costs

For instance, if a company donates money to an organization, it is an expenditure but not costs in the sense of this approach as it is not related to any of the company's businesses. These types of expenditures are referred to as “neutral expenditures”. They do not meet the above-mentioned definition and are only reflected in Financial Accounting but not in Controlling.

The other way around, there are also additional cost types that are not reflected in Financial Accounting as there is no financial document for those postings. Examples are:

- A company owns its own office buildings and, thus, does not pay rent. However, these buildings (assets) or the hypothetical rent you could get for them, are still production costs and need to be reflected in the costs of the products produced by the company. Here, the missing rents are added to the production costs as additional costs (so-called imputed costs) in Management Accounting but are not reflected in Financial Accounting as there is no “legal” document that post these costs (e.g. invoices).
- A company has invested huge amounts of money in production facilities. This money could hypothetically also be invested on the capital market and produce income returns. In this case, the “not realized returns” are costs of the invested money (so-called opportunity costs) and for accurate cost accounting may also be reflected in Management Accounting as additional costs.
- A company has invested in production facilities and posts the depreciations on these assets in Financial Accounting. How depreciations are calculated is regulated in each country by the law and the Financial Accounting Standards (e.g., HGB, GAAP, IFRS), which are also subject to changes in time. Accordingly, different parallel accounting approaches in Financial Accounting may reflect different depreciation values for the company's assets depending on the specific depreciation areas (e.g. USA, Germany, etc.) and often do not reflect the “true” value of the assets the company possesses. A

viable approach could be to set up a separate depreciation calculation in Management Accounting. This costing-based depreciation could be higher than the depreciation values calculated with the legal financial-based calculations. The difference could then again be considered as additional costs (as so-called neutral expenditures) in Controlling.

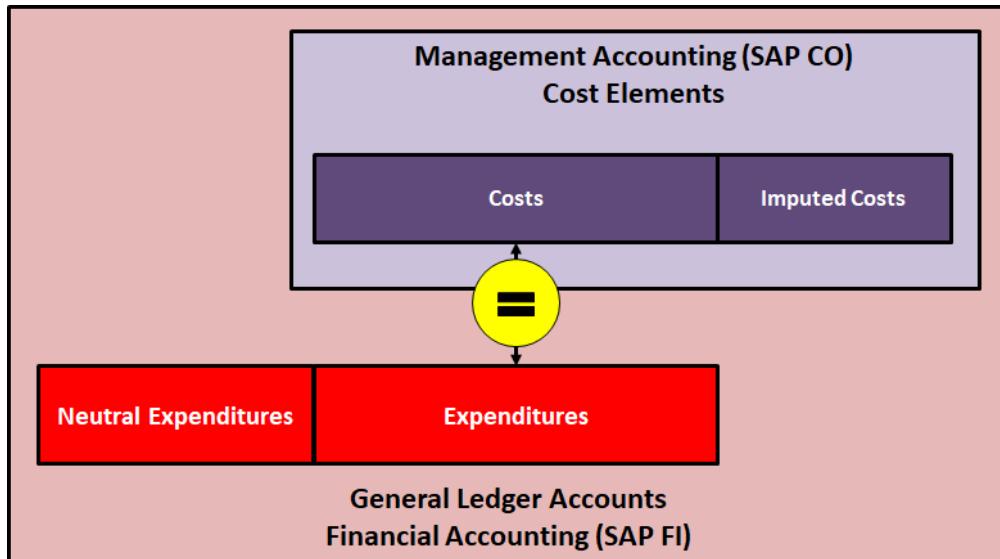


Figure 5: General Ledger Accounts and Cost Elements (SAP Online Library)

2.2.2.2 General Ledger Accounts and Cost Elements

With SAP S/4HANA it is now possible to implement both approaches. Therefore, revenues, expenditures and costs are represented by financial accounts and separated by the account type. Based on these account types, the accounts used in Controlling are called cost elements.

In SAP ERP only primary cost elements of the Controlling application (SAP CO) have a corresponding General Ledger account in the Financial Accounting application (SAP FI). Secondary cost elements in SAP ERP are used only in company internal accounting procedures and are not reflected in SAP FI postings or G/L accounts.

In SAP S/4HANA all cost elements correspond to G/L accounts and are now created centrally. That is, primary as well as secondary cost elements are now created directly as FI accounts. The transaction codes used in SAP ERP to create primary cost elements (KA01) and secondary cost elements (KA06) are obsolete in SAP S/4HANA and redirect to the G/L account creation transaction FS00.

The following figure schematically illustrates the relationship between cost elements and G/L accounts.

The benefit of the new data model of SAP S/4HANA is that only one master data record is required, which reflects FI-accounts as well as primary and secondary cost elements alike: the **G/L account**. Accordingly, all cost element types are now part of the chart of accounts.

If you create a G/L account that represents costs, you will always have to assign a CO object such as a cost center, a project, an internal order, or a CO-PA segment. Secondary costs are exclusively used in Management Accounting to identify internal cost flows such as assessments or settlements. Reports, such as the trial balance, will display all posted costs (primary and secondary costs).

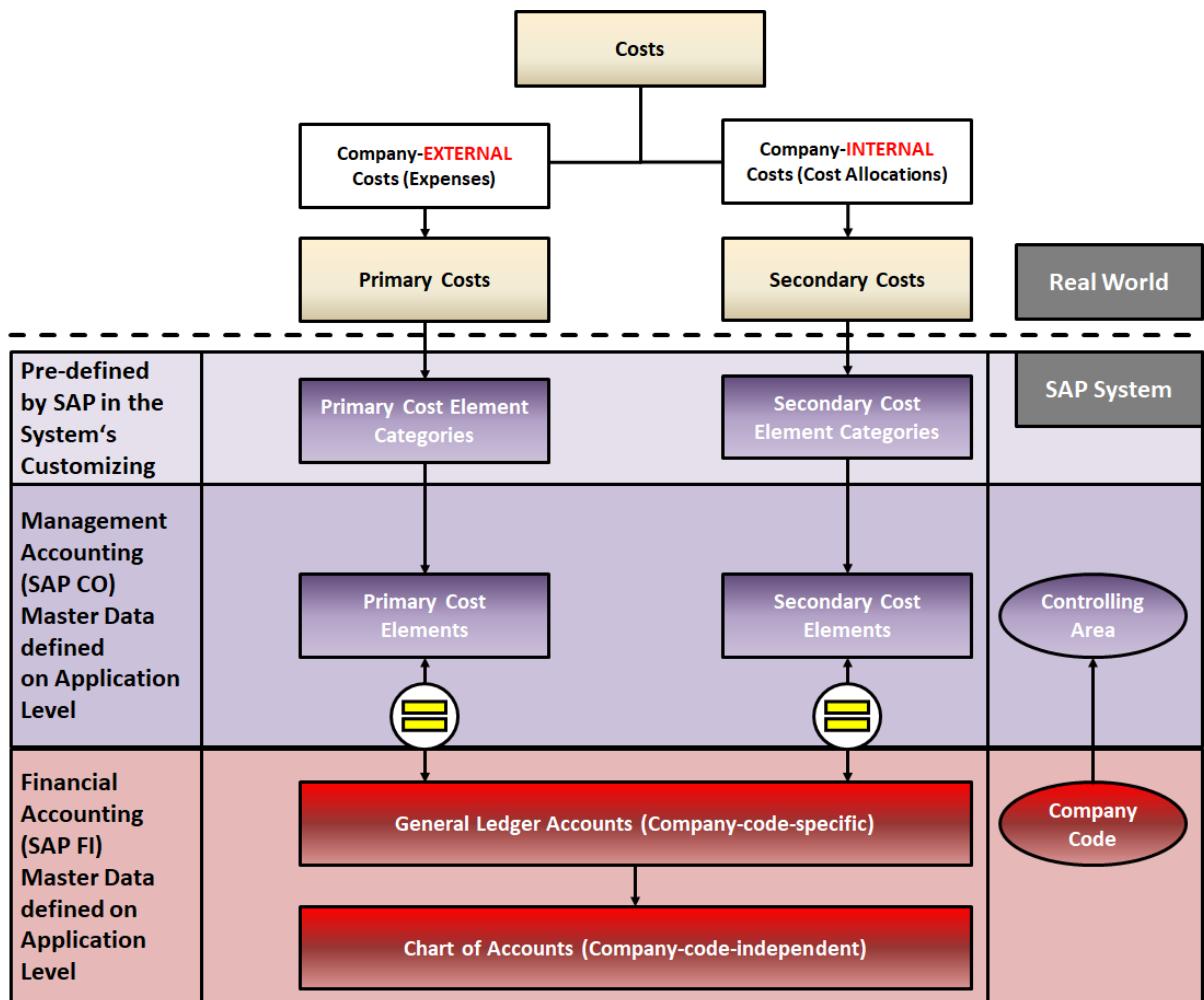


Figure 6: General Ledger Accounts and Cost Elements in S/4HANA (SAP Online Library)

The main field to classify the type of account is the **Account Type** field on the creation screen of a G/L account. This field (technical name GLACCOUNT_TYPE) has been added to the Universal Journal database table for the account master data and can be occupied with one of the following entries:

- **X – Balance Sheet Account:** This account type is used for the classic balance sheet accounts, to which business transactions post to. The balance of a balance sheet account is carried forward at the fiscal year-end.
- **N – Non-operating Expense or Income:** Profit and Loss accounts of this account type are used for non-operating expenses and revenues such as those parts of the P&L statement that never been associated with a cost center, order, or profitability segments in the past, that is, income statement accounts that record expenses or gains from activities that are not part of the main purpose of the company (e.g., gains realized from financial investments by a manufacturing company).
- **P – Primary Costs or Revenues:** Profit and Loss accounts of this account type are used for primary cost elements (or revenue), thus, all expenses posted from external sources to the company accounts. Examples are employee salaries in Cost Center Accounting, material expenses in Order and Project Accounting, or revenues and sales deductions in Profitability Analysis.

- S – Secondary Costs:** The main innovation in SAP S/4HANA is that secondary cost elements are now also created as G/L accounts. Secondary cost elements are income statement accounts that function as a cost element for secondary costs. Secondary costs result from company-internal value flows, such as internal activity cost allocations, overhead allocations, and settlement transactions.
- C – Cash Account:** A cash account is a G/L account that can be assigned to more than one house bank account. Since each house bank account requires a G/L account to which payment transactions are posted, using cash accounts helps to reduce the number of such G/L accounts significantly.

The following figure illustrates the General area of the G/L account creation screen in SAP Fiori UX and highlights the new field Account Type. Also note that there is a new account group for secondary cost elements which determines the fields and layout of the G/L account when a secondary cost element is created.

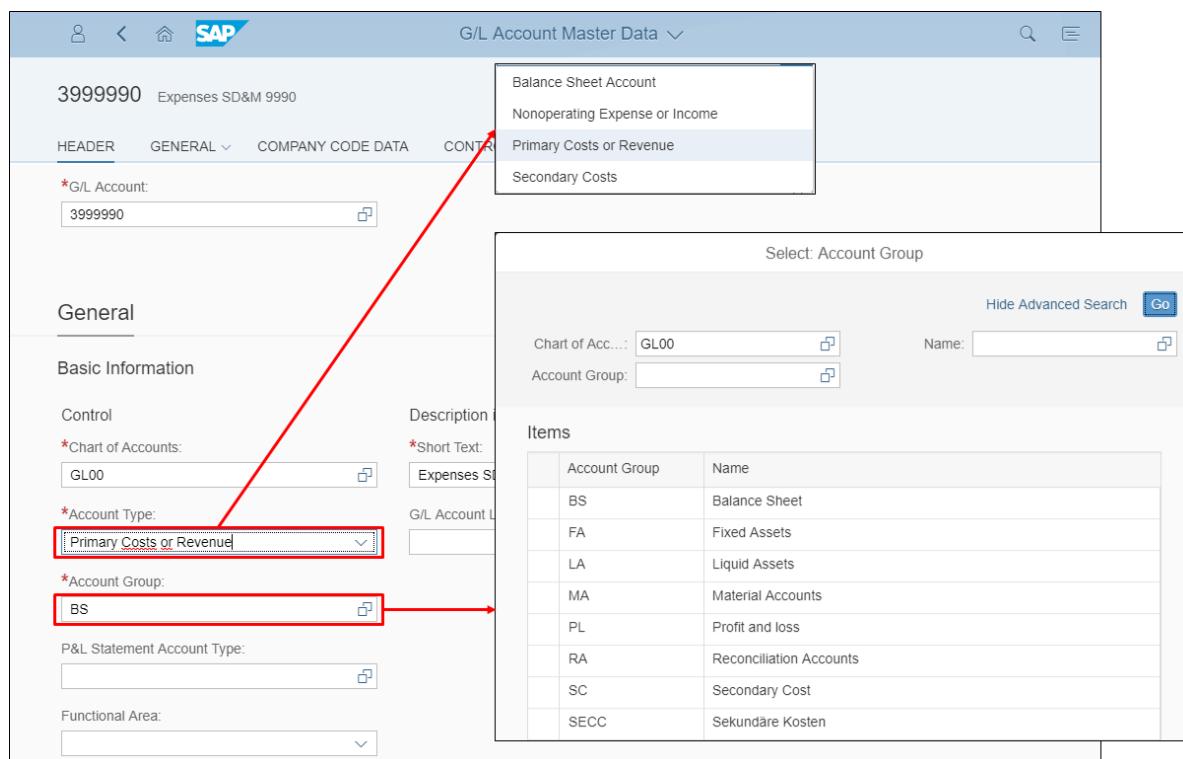


Figure 7: G/L Account Creation in SAP S/4HANA (1): SAP-System-Screenshot

Controlling-Area-specific Data

Expense accounts to which costs are posted for cost accounting purposes must be created with G/L Account Type **P (Primary)** or **S (Secondary)**. This ensures that all postings to this type of expense accounts always arrive in Management Accounting at the same time on a Management Accounting object, such as cost center, internal order, or project. An exception to this rule is the Cost Element Category 90, which can be assigned to **Balance Sheet Accounts (X)** to allow performing, e.g., plan or actual comparisons and manage plan values, budgets, and commitments on capital investments.

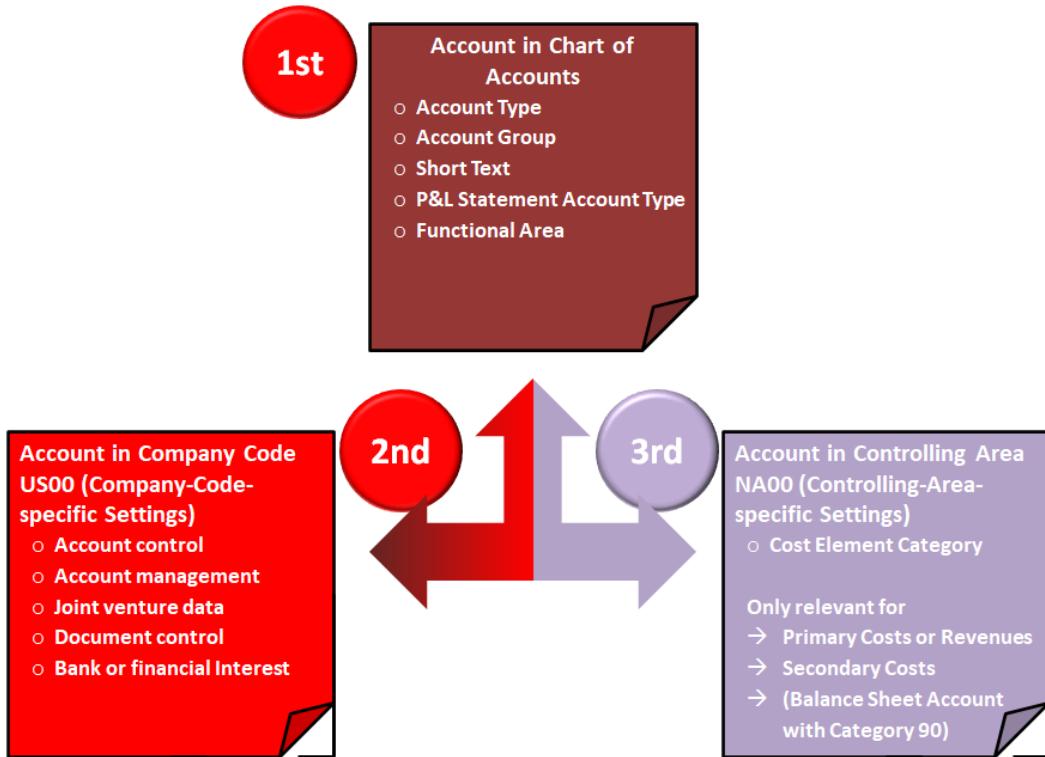


Figure 8: Controlling-Area-specific Data

The controlling-area-specific data segment of the G/L account master data is, thus, only needed for Secondary Costs and Primary Costs or Revenue accounts. In this screen area, you therefore assign a **Cost Element Category**. The cost element category is among the most important entries in the cost element master data as it classifies a cost element according to its usage or origin. That is, it determines which account can be used for which business transaction in Controlling (CO). Examples of cost element categories are:

- Material cost elements
- Settlement cost elements for orders
- Cost elements for allocating internal activities

The following figure shows the cost element category 43, which is used for secondary cost elements, if the cost element is to be utilized for internal activity allocations

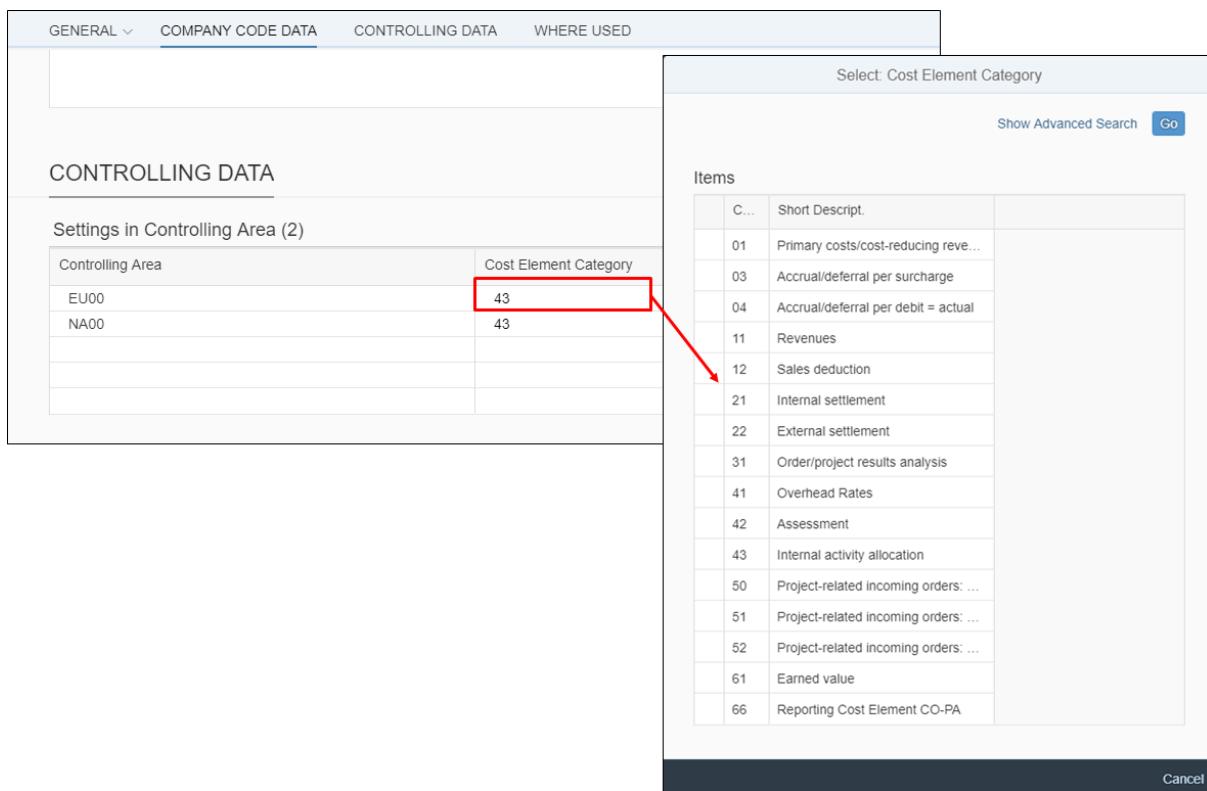


Figure 9: G/L Account Creation in SAP S/4HANA (2): SAP-System-Screenshot

2.2.3 Activity Types

An **Activity Type** is a unit in a controlling area that classifies the activities performed in one or multiple cost center of a company. Thus, you use activity types to define the productive output quantity of cost centers, which are usually measured in a time or unit increment. For instance, activity types in a production cost center could be machine hours, or manual labor performed by employees.

The **cost center categories** entered in the activity type master data controls, to which cost centers the activity types can be assigned. SAP allows entering up to eight different cost center categories in the activity type master data. Alternatively, you can leave the assignments unrestricted by entering an asterisk (*).

Another important setting in the activity type master data is the **allocation cost element**. This **secondary** cost element is used as default value for allocating costs that incur, when the activity type performed on a cost center. You can overwrite the default value within cost center planning, when the activity type is used the very first time in planning. The allocation cost element must have been created in the cost element master data as a secondary cost element of category 43 (Allocate activities/processes), before it can be used as cost element for an activity type.

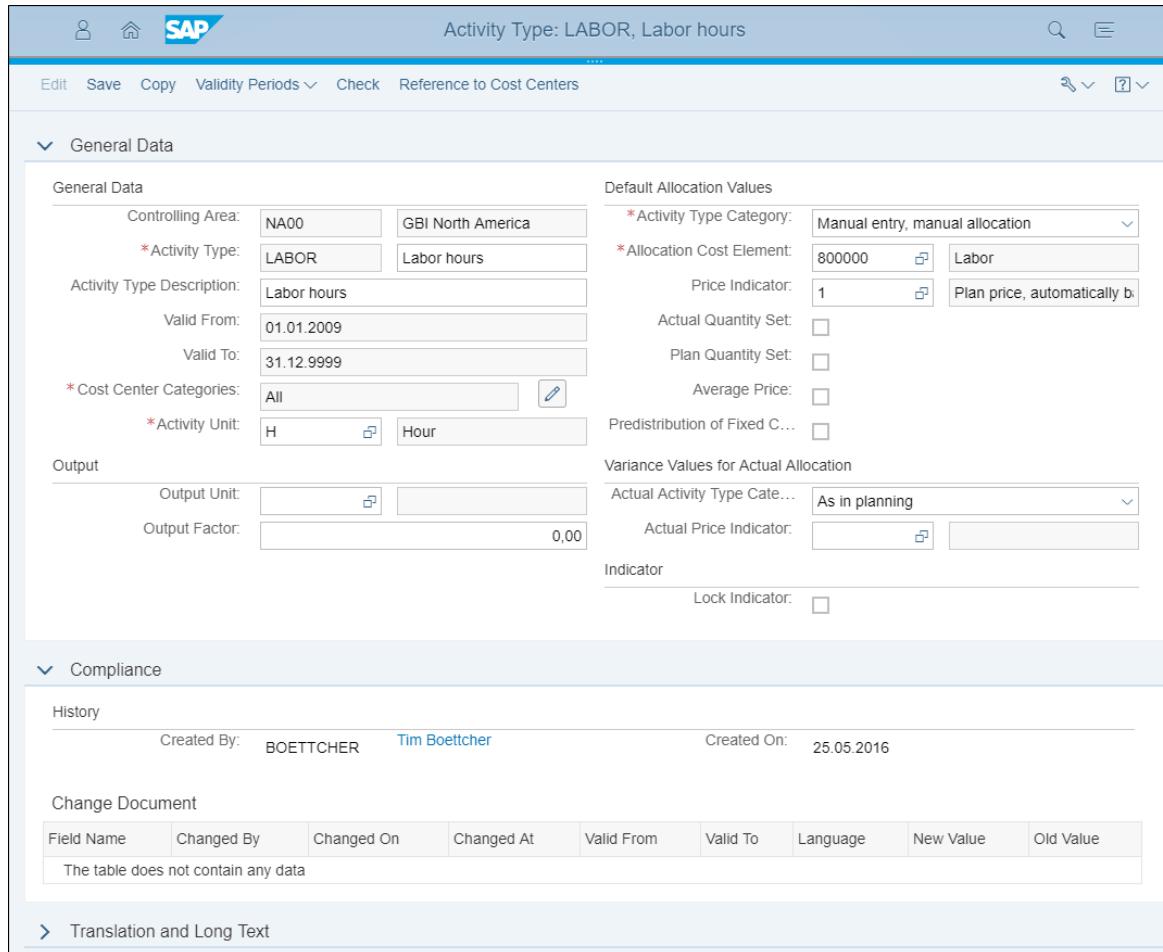


Figure 10: Activity Type Master Data: SAP-System-Screenshot

2.2.4 Cost Centers and Activity Types

Once the basic setup of an activity type master data record is done, it can be assigned to cost centers for cost center planning or in allocation of actual costs. If a cost center provides services for other cost centers, orders, and processes, this means that the resources of the cost center are used. The costs of these resources need to be allocated to the receivers of the activity. Activity types serve as tracing factors for this cost allocation.

In cost center planning, you can assign activity types to cost centers in order to plan output capacities and prices for the activities (work) performed by that cost center. This is done in transaction KP26 or Fiori UX App *Set Activity Price*.

The following figure displays the cost center-planning screen of the App *Set Activity Price*. In the example, you can see the activity type LABOR being planned with 100.000 hours and the planned price of 50\$ per hour on cost center NAPR1000. The planned price set for the activity type on the cost center can be either entered ***manually*** by an employee or be ***calculated by the system*** based on different calculation methods in cost center planning that the SAP system provides.

Generally, you enter planned prices for an activity type manually only in cases where the price determination is easy. Examples for scenarios where you manually enter activity type prices are:

- The planned price for an activity type on a cost center is determined within the company and does not depend on internally produced activities of other cost centers.
- The planned price for an activity type is determined by an external supplier and not on any costs of the company's cost centers.

The screenshot shows the SAP Fiori UX App 'Change Activity Type/Price Planning' interface. The top navigation bar includes 'SAP', 'Undo Entries', 'Select', 'Select All', 'Select Block', 'Deselect All', 'Delete', 'Cut', 'Copy', 'More', and 'Exit'. The main area displays 'Plan/Act - Version To: 12' and 'NA Production Costs'. On the left, there are filters for 'Version' (Cost Center), 'Period' (2017), 'Fiscal Year' (2017), and 'Cost Center' (NAPR1000). The main grid shows columns for Activity Type (LABOR), Planned Output Quantity (100.000), Dis..., Capacity, Dis..., Unit, Price (Fixed) (50,00), Variable price, Price ..., Pl..., P..., A..., Alloc. cost ..., T, and Equi... (800000). Below the grid, three boxes are labeled: 'Activity Type' (LABOR), 'Planned Output Quantity' (100.000), 'Planned Price' (50,00), and 'Allocation Cost Element' (800000).

Figure 11: Cost Center Planning: SAP-System-Screenshot

Cost center NAPR1000 can now provide its resource (LABOR) to other cost centers, order (maintenance, production, internal, etc.), or business process. In this way, the costs for the provided resource can flow to other cost objects such as internal orders, production orders, and Activity-Based Costing (ABC) processes. This is referred to as **Cost Allocation**. Cost allocation is one of the main tasks of Controlling. Thereby, the costs that incur on a cost center must then be allocated to the receivers that consume the activity, using the consumed activity type as tracing factors for the cost allocation.

For instance, if cost center NAPR1000 provides 1 hour of the activity type LABOR to the production of our Speedstar, this means that the resources (e.g. employees of the cost center assembling Speedstars) of the cost center NAPR1000 have been used and cost of 50\$ incurred on the cost center. However, cost center NAPR1000 is the provider (*sender*) of the activity and the production order for the material Speedstar is the *receiver* of the activity. Hence, the costs of the performed activity must be also sent to the receiver.

The SAP system provides many different methods for cost allocation of which some are simple and others are very complex depending on the cost allocation logic that needs to be implemented.

Direct Activity Allocation

Direct Activity Allocation is the simplest way of cost allocation. In direct activity allocation, the quantity of the activity, such as the hours of an activity performed, is entered either manually or automatically into the SAP system. In transaction KB21N or Fiori UX App *Direct Activity Allocation*, you can manually perform a direct activity allocation. Here, you enter

- The cost center that provides the activity (sender)
- The activity type that is provided

- The costing object (order, cost center, WBS element, network, etc.) that consumes the activity (receiver)
- The quantity of the activity performed

The SAP system then evaluates the allocated activity amount by using the sender's price for the activity type. When direct activity allocation is used, the system retrieves the **plan price** (from KP26) for the combination cost center and activity type to perform this calculation. The plan price is multiplied by the consumed quantity to retrieve the total amount with which the receiver cost object is **debited** and the sender cost center is **credited**. The **secondary cost element** used for this credit/debit posting in Controlling is retrieved from the activity type's master data.

Example of Cost/Activity Allocation using Direct Activity Allocation

Cost center **NAPR1000** has the activity type **LABOR** assigned to it. The activity type LABOR hours are allocated using cost element (*secondary cost element type*) Labor Costs (800000) and costs 50\$ per hour. One unit (hour) of this activity type is performed for production order 1000001. Thus, the production order that consumes the activity must "pay" for it.

| ItmNo. | Send. CCtr | SAtyTyp | Rec. order | Total Quantity | UM | Text | Amount | Crcy | Cost Elem. |
|--------|------------|---------|------------|----------------|----|------|--------|------|------------|
| 0001 | NAPR1000 | LABOR | 1000001 | 1 | H | | 50,00 | USD | 800000 |
| 0000 | | | | | | | | | |

Figure 12: Direct Activity Allocation: SAP-System-Screenshot

The costs of the activity are allocated to the activity receiver (production order) using the activity as **tracing factors for this cost allocation**. That means that the system checks:

- how much the activity type costs that the cost center performs: 50\$ per hour
- multiplies the cost rate with the performed units (e.g., hours): 1h * 50\$

- and allocates the costs using the cost element type assigned to the activity type to the receiver: 50\$ of cost element 800000

Now, the receiving cost object (production order) receives a cost position (debit) with the cost element type 800000 and the activity sender is credited with the same amount.

The figure above illustrates this posting in the App *Direct Activity Allocation*.

2.2.5 Statistical Key Figures

Statistical Key Figures define measurable values that can be applied to Cost Centers, Profit Centers, Internal Orders, or processes. They provide the foundation for accurate and effective cost allocations between cost objects. Examples of Statistical Key Figures in the SAP system are:

- Total number of employees in a Cost Center
- Long-distance calls (measures in minutes)
- Number of employees that perform vehicle repairs in the transportation Cost Center

Values for Statistical Key Figures can be posted as planned and actual values to Cost Centers. Then these Statistical Key Figures can be used as allocation basis (“tracing factor” in CO terminology) for periodic transactions such as distribution or assessment or for analysis purposes. For instance, the Statistical Key Figure employee numbers can be planned on different Cost Centers within a Cost Center Group as factor for calculating how to allocate costs to these Cost Centers. Thereby, the costs that should be settled by this Cost Center Group are distributed according to the number of employees that each of the Cost Centers possesses.

The following figure illustrates this with an example. The Cost Center X (Engineering) performs activities (e.g., maintenance of machines) for the Cost Centers Setup and Assembly. Setup has 5 employees and Assembly employs 15 employees. These values are planned on the Cost Centers with the Statistical Key Figure Employee. The Costs of the Engineering Cost Center, which in the example are of Cost Element 420000 (employee salaries), are then allocated to the Cost Centers Setup and Assembly using the allocation (secondary) Cost Element 620000 with the following split relation:

- 5 Employees/20 Employees = 25% to the Cost Center Setup
- 15 Employees/20 Employees = 75% to the Cost Center Assembly

In the SAP system two types of Statistical Key Figures can be defined:

- **Fixed Value** Key Figures do not change very often and are transferred from one period to the next. Example: the number of employees in a Cost Center is pretty constant on a monthly basis.
- **Total Value** Key Figures are not transferred from one period to the next. Example: the electricity consumption in kilowatt-hours is different each month.

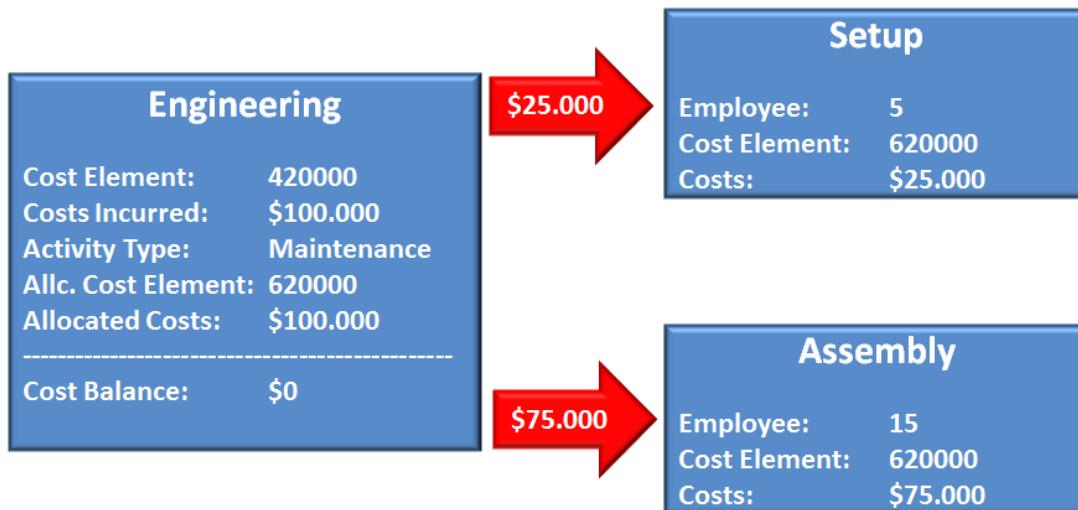


Figure 13: Statistical Key Figures

2.2.6 Master Data Groups

All master data used in Controlling (cost center, cost elements, activity types, statistical key figures, etc.) can be grouped in **Master Data Groups**. That is, activity types can be grouped to activity type groups, cost centers in cost center groups, cost elements in cost element groups, etc. By creating those groups, specific functions (analyses, allocations, transfers, etc.) can be run on a group and they will be applied to all members of the group.

For instance, a cost allocation is performed upon a cost center group using the fixed statistical key employee that was assigned to each group element (cost centers). The costs are then allocated to each group member based on the number of employees they have.

The following applies when using master data groups:

- Master data (cost center, cost element, activity type) is assigned to the lowest level node in the structure.
- A master data value (cost center, cost element, activity type, etc.) can only appear once in a group.
- As many **different** groups as required, can be created.
- Each element (e.g., activity type) can be assigned in more than one group.

The **Cost Center Standard Hierarchy** is a special type of **cost center group** and provides a formal structure for the cost center hierarchy within the company for a given period. Each controlling area must feature a unique standard hierarchy. All cost centers of the particular controlling area **must** be assigned to a node of this standard hierarchy and build together a tree structure as illustrated in the following figure (excerpt of the cost center hierarchy of GBI).

For instance, the controlling area NA00 features the standard hierarchy NA00 (top node). Below this node, further cost center groups (e.g. N1000, N2000) are assigned which in turn contain further cost center groups or cost centers (as leaves of the tree). By combining cost centers into cost center groups, and combining the groups to a cost center hierarchy, you build the formal structure of the enterprise in accordance to the decision-making areas, area of responsibility, or management areas of the company.

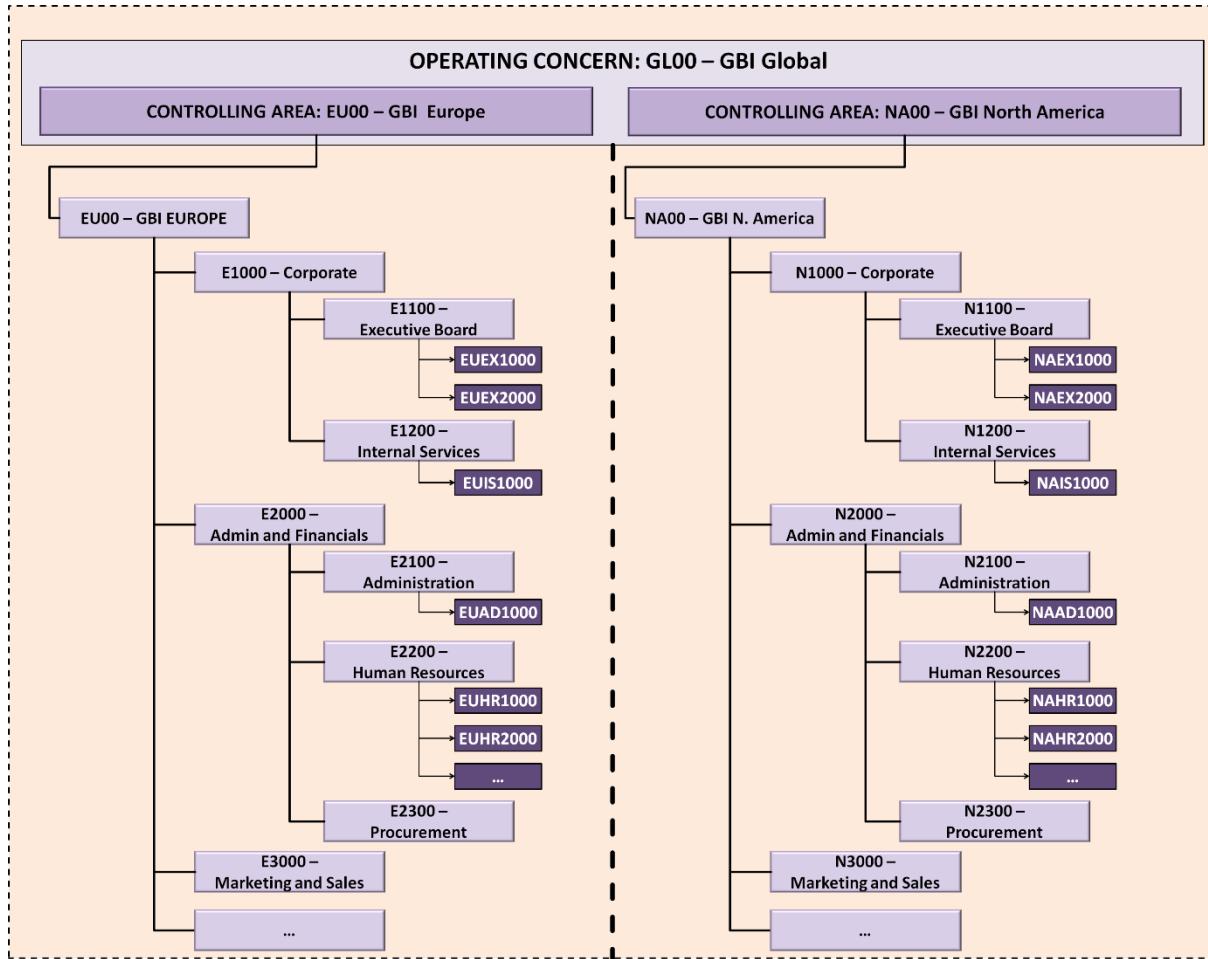


Figure 14: Cost Center Hierarchies of the GBI

2.3 Practice: Master Data of Management Accounting



PRACTICE

After reviewing the calculation data, the management decided to increase production efficiency of the Speedstarlett. Therefore, manufacturing is supposed to be carried out at a new work center. Moreover, a new department is supposed to be set up that is in charge of technical maintenance of work centers and that is supposed to internally allocate its services with the other work centers. This decision has been in place for quite some time now but the actual set up was postponed. Additionally, the two new work centers receive their own cafeteria, the costs of which they have to bear. Each work center will have an own cost center for cost controlling. The cafeteria will also receive its own cost center.



NOTE

*You will later create one work center (SAP PP point of view), which will be responsible for manufacturing. All other structures will be created in Controlling (SAP CO point of view). Thus, we only pretend that a **work center (SAP PP)** for maintenance exists for which the **cost center (SAP CO)** maintenance is responsible.*

In this chapter, you will first create all the Management Accounting master data required to process the cost center accounting later on.

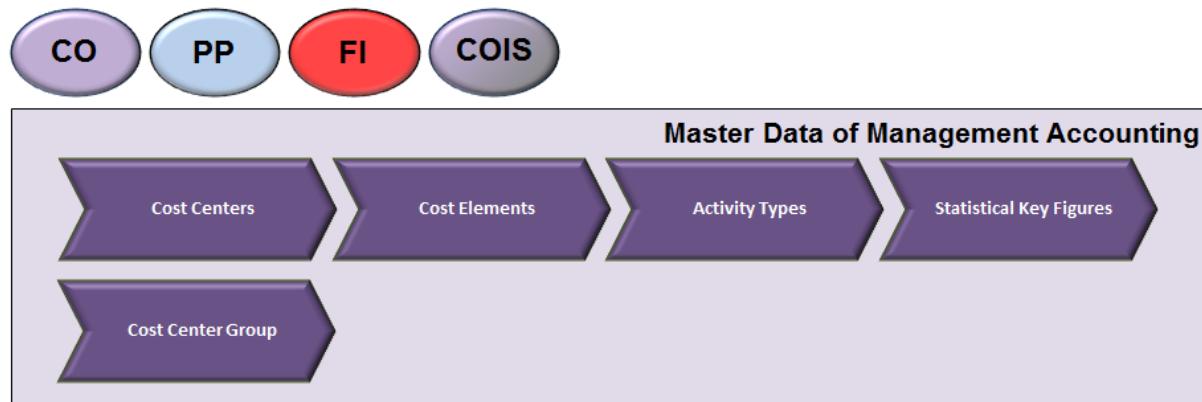


Figure 15: Process Overview: Master Data of Management Accounting

2.3.1 Cost Centers

The cost centers you need to create are the two service cost centers, cafeteria (**CC-CA-xxxx**) and maintenance (**CC-MT-xxxx**), as well as the production cost center, manufacturing (**CC-MF-xxxx**). Please bear in mind to replace the string xxxx with your user number when creating the cost centers. In the subsequent section, the individual steps are exemplified by using the user number 9995.

2.3.1.1 Cost Center: Cafeteria

To create cost centers, select the app **Manage Cost Centers** in tile group **Script 6 – Controlling**.

1. First, select **Add**, then, enter the following data:
 - **Controlling Area (upper area)** **NA00**
 - **Cost Center** **CC-CA-xxxx**

- **Valid from** **01.01. (!) of the current year**
 - **Valid to** **31.12.9999**
 - Confirm with by selecting **Continue**.
2. Next, enter the following data:
- | | |
|-------------------------------------|--|
| - Name (next to Cost Center) | <i>Cafeteria-xyyy</i> |
| - Cost Center Description | <i>Description of your choice</i> |
| - Person Responsible | <i>your name</i> |
| - Cost Center Category | <i>H (Service cost center)</i> |
| - Hierarchy Area | <i>N3xyyy (your own hierarchical area)</i> |
| - Business Area | <i>BI00 (Bikes)</i> |
| - Currency | <i>USD</i> |
| - Profit Center | <i>PROF-xyyy</i> |

The screenshot shows the SAP Fiori interface for creating a new cost center. At the top, the 'New Cost Center' dialog is open, displaying fields for Controlling Area (NA00), Cost Center (CC-CA-9995), Valid From (01.01.2017), and Valid To (31.12.9999). Below this, the 'General Data' section is visible, showing the same information plus User Responsible (Khatami), Person Responsible (Khatami), Department (Marketing and SD Bicycle), and Cost Center Category (H Service cost center). Further down, the 'Organizational Units' section shows Hierarchy Area (N39995), Business Area (BI00), Functional Area, Currency (USD), and Profit Center (PROF-9995). Fields for Cost Center Description (Cost Center Cafeteria 9995) and Valid To (31.12.9999) are also present in the General Data section.

Figure 16: Create Cost Center: SAP-System-Screenshot

3. **Save** and close the view.

2.3.1.2 Cost Center: Maintenance

To create cost centers, select within the tile group **Script 6 – Controlling** the app **Manage Cost Centers**.

1. First, select **Add**, then, enter the following data:
 - **Controlling Area (upper area)** **NA00**
 - **Cost Center** **CC-MT-xyyy**
 - **Valid from** **01.01. (!) of the current year**
 - **Valid to** **31.12.9999**
 - Confirm with by selecting **Continue**.
2. Next, enter the following data:

- Name (next to Cost Center) *Maintenance-xyyy*
 - Cost Center Description *Description of your choice*
 - Person Responsible *your name*
 - Cost Center Category *E (Development)*
 - Hierarchy Area *N3xxxx (your own hierarchical area)*
 - Business Area *BI00 (Bikes)*
 - Currency *USD*
 - Profit Center *PROF-xyyy*
3. Save and close the view.

2.3.1.3 Cost Center: Manufacturing

To create cost centers, select within the tile group **Script 6 – Controlling** the app **Manage Cost Centers**.

1. First, select **Add**, then, enter the following data:
 - Controlling Area (upper area) *NA00*
 - Cost Center *CC-MF-xyyy*
 - Valid from *01.01. (!) of the current year*
 - Valid to *31.12.9999*
 - Confirm with by selecting **Continue**.
2. Next, enter the following data:
 - Name (next to Cost Center) *Manufacturing-xyyy*
 - Cost Center Description *Description of your choice*
 - Person Responsible *your name*
 - Cost Center Category *F (Production)*
 - Hierarchy Area *N3xxxx (your own hierarchical area)*
 - Business Area *BI00 (Bikes)*
 - Currency *USD*
 - Profit Center *PROF-xyyy*
3. Save and close the view.

2.3.1.4 Check Cost Center Hierarchy

Now, display the cost center standard hierarchy on your own in transaction **OKENN** to make sure your cost centers are in the right place (**NA00 → N3000 → N3300 → N3xxxx**).

| Standard Hierarchy | | | | |
|--------------------|-------------------------------|------------|--|--------------------|
| Cost center group | Name | Name | Activation st... | Person resp... |
| NA00 | GBI North America CCtr Std. H | N3000 | Marketing & Sales | |
| | | N3100 | Marketing | |
| | | N3200 | Sales | |
| | | N3300 | Global Sales | |
| | | NAGS1000 | NA Global Sales Costs | NA Glob Sales US00 |
| | | N39995 | Marketing and SD Bicycle-9995 | |
| | | CC-CA-9995 | Cost Center Cafeteria 9995 | Khatami US00 |
| | | CC-MA-9995 | Marketing Department 9995 | Khatami US00 |
| | | CC-MF-9995 | Cost Center Manufacturing 9995 | Khatami US00 |
| | | CC-MT-9995 | Cost Center Maintenance 9995 | Khatami US00 |
| | | CC-SD-9995 | Sales and Distribution Department 9995 | Khatami US00 |
| | | CCMSD-9995 | Marketing / SD 9995 | Khatami US00 |

Figure 17: Cost Center Hierarchy with new Cost Centers: SAP-System-Screenshot

2.3.2 Cost Elements

In the subsequent section, you will create **Secondary Cost Elements**. Allocation of internal costs and activity flows is always carried out using secondary Cost Elements in SAP S/4HANA. A cost element classifies the purpose-related and valued consumption of production factors within a controlling area.

2.3.2.1 Cafeteria Assessment

Assessment is a method of internal cost allocation in which costs are apportioned from a sender cost center to receivers (cost centers, orders or projects) by using an assessment cost element. The costs are apportioned according to an allocation base (tracing factor) defined by the user. Assessment can be run for both plan and actual values.

The user can use the following allocation bases (tracing factors) to apportion the costs to the receivers:

- Amounts posted to the receivers (such as cost element values or statistical key figures). These values are defined in the "Receiver base".
- Fixed amounts (The user enters the amount debited to each receiver in the receiver rule).
- Percentages (percentage for each receiver in the receiver rule).
- Portions (portions debited to each receiver defined in the receiver rule such as the square foot area of the cost centers).

The sender cost center is credited according to the receiver rule selected:

- Fully credited (all costs of the sender).
- With an amount specified by the user.
- All costs credited except for a residual percentage defined by the user.

The apportioned costs are allocated using an assessment cost element. This means that the information of the original primary Cost Elements is lost. It is possible to group the Cost Elements (into personnel costs, for example) and assign them by using different assessment Cost Elements. The type of costs apportioned can then be seen on the receiver. However, system resource usage increases during assessment with the number of groups.

Now, within the tile group **Script 6 – Controlling** select the app **Create G/L Account**.

1. Enter the following data:

| | |
|---|----------------|
| - G/L Account | CAFxyyy |
| - Company Code | US00 |
| - Press  (<i>Create</i>) | |
2. Within the **Type/Description** tab, enter the following data:

| | |
|-----------------------------|------------------------------|
| - G/L Account Type | Secondary Costs |
| - Account Group | Secondary Cost |
| - Short Text | Assess. CC-CA-xyyy |
| - G/L Acct Long Text | Assessment CC-CA-xyyy |

G/L Account: CAF995
Company Code: US00 Global Bike Inc.

Type/Description Control Data Create/bank/interest Key word/translation Information (C/A)

Control in Chart of Accounts GL00 GBI Global
* G/L Account Type: Secondary Costs
Account Group: Secondary Cost

Detailed Control for P&L Statement Accounts
Functional Area:

Description
Short Text: Assess. CC-CA-9995
G/L Acct Long Text: Assessment CC-CA-9995

Figure 18: Create Secondary Cost Element Type for Assessment (1): SAP-System-Screenshot

3. Switch to the **Control Data** tab and enter **42 (Assessment)** as **Cost Element Category (CElem category)**.

G/L Account: CAF995
Company Code: US00 Global Bike Inc.

Type/Description **Control Data** Create/bank/interest Key word/translation

Account control in company code
Account currency: USD United States Dollar
 Balances in Local Crcy Only
Exchange Rate Difference Key:
Valuation Group:
Tax Category:
 Posting without tax allowed
Recon. Account for Acct Type:
Alternative Account No.:
 Acct Managed in Ext. System
Inflation key:
Tolerance Group:

Account Management in Company Code
 Open Item Management
Sort key:
Authorization Group:
Accounting clerk:

Cost Element Category: The classification of cost elements according to their usage or origin. Examples of cost element categories are:

- Material cost elements
- Settlement cost elements for orders
- Cost elements for allocating internal activities

Account Settings in Controlling Area NA00 GBI North America
* CElem category: **42**

Figure 19: Create Secondary Cost Element Type for Assessment (2): SAP-System-Screenshot

4. Finally, switch to **Create/bank/interest** tab and enter **SECC** into the **Field status group** field. **Save** and leave the view by pressing **Exit**.

2.3.2.2 Cost Element for Activity Allocation of Maintenance Hours

Direct internal activity allocation is a method of tracing valued activities (allocation bases) from cost centers to the receivers responsible for the incurred costs.

The activities or allocation bases represent the quantity output of a cost center (production hours or machine hours, for example). This output is classified into activity types. The activity types are valued at prices that can either be set by the user manually or calculated by the system in an iterative price calculation function.

When costs are allocated, the quantity output by the sender cost center is valued with the activity price and credited to the sender cost center by using cost element category 43 and debited to the receiver (such as other cost centers, orders, or projects).

Now, within the tile group **Script 6 – Controlling** select the app **Create G/L Account** to create a further cost element:

1. Enter the following data:
 - **G/L Account** *MNTxyyy*
 - **Company Code** *US00*
 - Press  (*Create*)
2. Within the **Type/Description** tab, enter the following data:
 - **G/L Account Type** *Secondary Costs*
 - **Account Group** *Secondary Cost*
 - **Short Text** *Maintenance-All-xyyy*
 - **G/L Acct Long Text** *Maintenance-Allocation-xyyy*
3. Switch to the **Control Data** tab and enter **43 (Internal activity allocation)** as **Cost element category (CElem category)**.
4. Finally, switch to **Create/bank/interest** tab and enter **SECC** into the **Field status group** field. **Save** and leave the view by pressing **Exit**.

2.3.2.3 Cost Element for Activity Allocation of Manufacturing Hours

Now, within the tile group **Script 6 – Controlling** select the app **Create G/L Account** to the last cost element:

1. Enter the following data:
 - **G/L Account** *MFTxyyy*
 - **Company Code** *US00*
 - Press  (*Create*)
2. Within the **Type/Description** tab, enter the following data:
 - **G/L Account Type** *Secondary Costs*
 - **Account Group** *Secondary Cost*
 - **Short Text** *Manufacture-All-xyyy*
 - **G/L Acct Long Text** *Manufacturing-Allocation-xyyy*

5. Switch to the **Control Data** tab and enter **43 (Internal activity allocation)** as **Cost element category (CElem category)**.
3. Finally, switch to **Create/bank/interest** tab and enter **SECC** into the **Field status group** field. **Save** and leave the view by pressing **Exit**.

2.3.3 Activity Types

Your next task includes the creation of **activity types** (cf. subsequent definition). There are two activity types used in this case study:

- MTxyyy: to allocate maintenance hours provided by the maintenance cost center. These are posted by using the secondary cost element MNTxyyy.
- MFxyyy: to allocate manufacturing hours provided by the manufacturing cost center. These are posted by using the secondary cost element MFTxyyy.

This activity type is supposed to be provided by cost center CC-MT-xyyy or CC-MF-xyyy, respectively.

Definition: Activity Type

An activity type refers to a particular activity provided by a cost center (e.g., manufacturing hours, energy, reviewing hours, etc.). Activity types are always used if provided activities are entered on a quantitative basis and if they are supposed to be allocated individually.

Example:

The cost center “energy” measures the actual output in KWh and charges this amount to the receiver cost centers.

2.3.3.1 Activity Type for Maintenance Hours

To create the activity type, choose within the tile group **Script 6 – Controlling** the app **Manage Activity Types**.

1. First, click on **Create** to create a new activity type.
2. Make sure, that **NA00** is entered as **Controlling Area (CO Area)**.



*If there is another entry than NA00 in the Controlling Area field, you have to set the correct controlling area in the user settings of your user, first. Then, open the **Manage Activity Types** app again, and press **Create** one more time. The following figure illustrates the proceeding:*

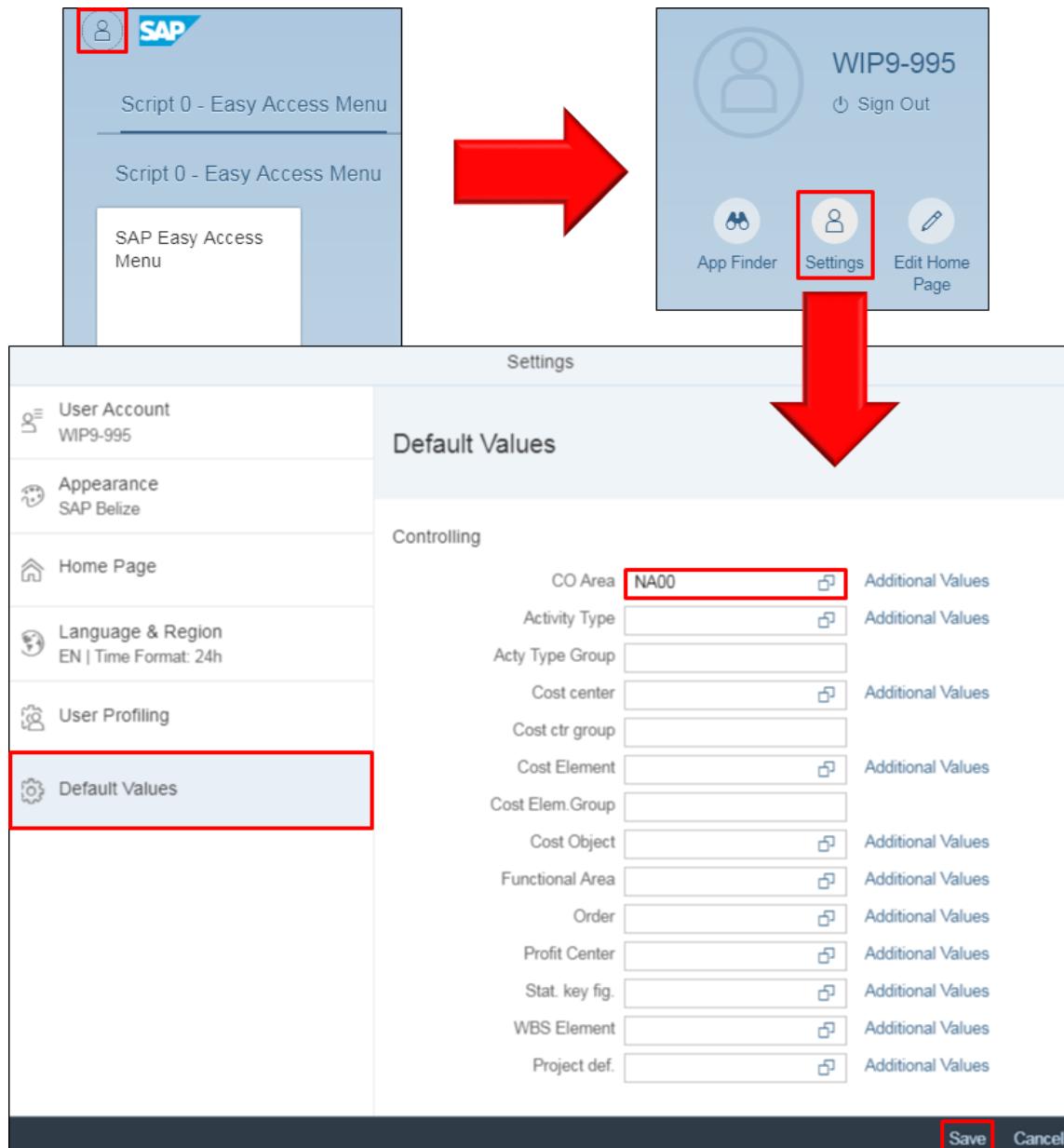


Figure 20: Set Controlling Area: SAP-System-Screenshot

3. Enter the following:

- **Activity Type** *MTxyyy*
- **Valid From** *01.01. (!) of this fiscal year*
- **Valid To** *31.12.9999*
- Confirm with [Continue](#).

| New Activity Type | |
|---------------------|------------------------|
| * Controlling Area: | NA00 GBI North America |
| * Activity Type: | MT9995 |
| * Valid From: | 01.01.2017 |
| * Valid To: | 31.12.9999 |

Figure 21: Create Activity Type for Activity Allocation (1): SAP-System-Screenshot

4. Now, enter the following data:

- Name (next to Activity Type) **Maintenance-xyyy**
- Activity Type Description **Maintenance-hours-xyyy**
- Cost Center Categories **E (Development) → press and select the entry from the list**
- Activity Unit **HR**
- Activity Type Category **Manual entry, manual allocation**


NOTE

An error notification regarding cost element for activity cat. 1 can be ignored since we enter the demanded allocation cost element in the next step.

- Allocation Cost Element **MNTxyyy**

The screenshot shows the SAP Fiori interface for creating a new Activity Type. The 'General Data' section includes fields for Controlling Area (NA00), Activity Type (MT9995, Maintenance-9995), Activity Type Description (Maintenance-hours-9995), Valid From (01.01.2020), Valid To (31.12.9999), Cost Center Categories (Development), and Activity Unit (HR). The 'Default Allocation Values' section shows Activity Type Category set to 'Manual entry, manual allocation' and Allocation Cost Element set to 'MNT9995'. A tooltip for 'Allocation Cost Element' states: 'The allocation cost element is a secondary cost element, under which the activity type or business process is allocated. You can store a default value in the master data of an activity type or a business process. You can overwrite the default value within planning if you are planning for the first time. The allocation cost element must have been created in the cost element master data as a secondary cost element of category 43 "Allocate activities/processes".' Another tooltip for 'Allocation Cost Element' states: 'You specify that this activity (MTxyyy), which is produced by your Maintenance Cost Center is allocated using secondary cost element type MNT-xYYY'.

Figure 22: Create Activity Type for Activity Allocation (2): SAP-System-Screenshot

5. Confirm with **Enter**, **save** your entries and leave the view.

2.3.3.2 Activity Type for Manufacturing Hours

To create the activity type, choose within the tile group **Script 6 – Controlling** the app **Manage Activity Types**.

1. First, click on **Create** to create a new activity type.
2. Make sure, that **NA00** is entered das **Controlling Area**.
3. Enter the following:
 - **Activity Type** **MFxyyy**
 - **Valid From** **01.01. (!) of this fiscal year**

- Valid To **31.12.9999**
 - Confirm with **Continue**.
4. Now, enter the following data:
- | | |
|--------------------------------|--|
| - Name (next to Activity Type) | Manufacture-xyyy |
| - Activity Type Description | Manufacturing-hours-xyyy |
| - Cost Center Categories | F (Production) → press  and select the entry from the list |
| - Activity Unit | HR |
| - Activity Type Category | Manual entry, manual allocation |
| - Allocation Cost Element | MFTxyyy |
5. Confirm with **Enter, save** your entries and leave the view.

You have thus determined that the activity types, maintenance hours and manufacturing hours, which you will later assign to the cost centers maintenance and manufacturing and which will later be used to allocate the provided activities of the corresponding cost center, are charged against the Cost Elements MNTxyyy und MFTxyyy.

2.3.4 Statistical Key Figure

Now, create the required **Statistical key figure** EMxyyy. In the Management Accounting case study, the EMxyyy key figure records the number of employees at the maintenance and manufacturing cost centers. At the same time, this is the basis for allocation of cafeteria costs (see subsequent explanation).

The costs of the cafeteria are supposed to be allocated to the **Manufacturing-xyyy** and **Maintenance-xyyy** cost centers. The number of employees is a reference (**tracing factor**) for cost allocation.

Therefore, create the following statistical key figure, within the tile group **Script 6 – Controlling** the app **Manage Statistical Key Figures**.

1. First, select **Create**, and within the **Create Statistical Key Figure** popup, enter the following data:

| | |
|-----------------------------------|----------------------------|
| - Statistical Key Figure ID | EMxyyy |
| - Statistical Key Figure Name | Number of employees |
| - Statistical Key Figure Unit | EA (each) |
| - Statistical Key Figure Category | 1 (Fixed values) |

Create Statistical Key Figure

Show Reference Statistical Key Figure

*Statistical Key Figure ID
EM9995

*Statistical Key Figure Name
Number of employees

*Statistical Key Figure Unit
EA (each)

*Statistical Key Figure Category
1 (Fixed values)

Controlling Area
NA00

Note that this statistical key figure is of type fixed value, since the number of employees on the cost centers are not summed up and do not change often in time.

Show Link to LIS

Create Cancel

Figure 23: Statistical Key Figure Employee: SAP-System-Screenshot

2. Save the statistical key figure by pressing **Create** button.

2.3.5 Cost Center Group

The last task in this section is to create the **cost center group** (see subsequent explanation).

The cost centers maintenance and manufacturing are combined in the cost center group **Group-*xxxx*** within this case study. This group is the receiver object for the cafeteria assessment.

Cost center group:

A cost center group is an organizational unit to combine several cost centers according to specific criteria, e.g., hierarchy or type.

Cost center groups are, therefore, a combination of several individual cost centers. The grouping of master data is frequently used in CO to facilitate mass-maintenance of master data, for generating grouping stages in documents, and to combine receivers of an allocation.

To carry out assessment of cafeteria costs, you need to combine the cost centers for manufacturing (CC-MF-*xxxx*) and for maintenance (CC-MT-*xxxx*) to a group. Therefore, within the tile group **Script 6 – Controlling** the app **Manage Cost Center Groups**.

1. Press and within the opened view, enter **Group-*xxxx*** as **Cost Center Group**. Confirm with **Continue**.
2. Select the row containing your **GROUP-*xxxx*** select **Add → Add Cost Center**.
3. Enter your cost center for maintenance (**CC-MT-*xxxx***) as **Cost Center** and confirm with **OK**.
4. Repeat the procedure for your cost center manufacturing (**CC-MF-*xxxx***).

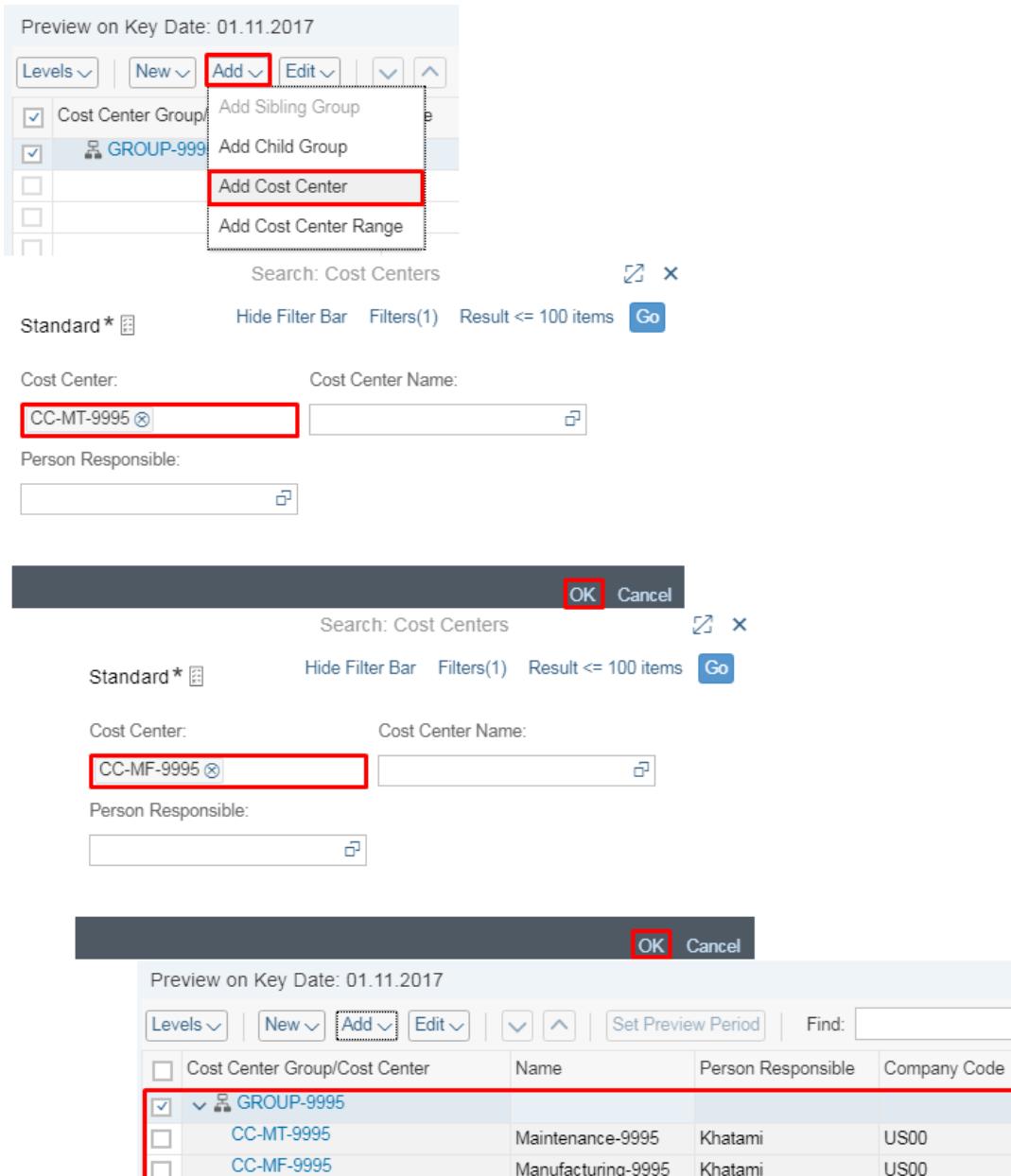


Figure 24: Create Cost Center Group: SAP-System-Screenshot

5. Save ([Save](#)).

You now have created the structure for assessing the cafeteria costs later. At the time of cafeteria cost assessment, it is no longer required to enter individual cost receivers because the receiver is entered as the entire group. The allocation base is the number of employees of the corresponding cost centers.

3 Business Processes in Management Accounting

This section provides a general overview of the components and processes of Management Accounting (SAP CO) as well as its relationship with Financial Accounting (SAP FI) and other SAP applications.

3.1 Theory: Business Processes in Management Accounting

**THEORY**

The **Controlling** application (SAP CO) provides all information, functions and tools to implement an effective controlling of expenses and revenues and to facilitate decision-making for the management of a company. Thereby, it allows the coordination, monitoring, and optimization of all costing relevant processes in a company, as it records all costing-relevant business events including the consumption of production factors and the services provided by a company. The transactional data that the system collects (e.g., material costs for production, workforce activity costs incurred during manufacturing, etc.) provides the basis for preparing internal reports that support decision-making within the company. Note that these reports are exclusively for the use within the company and include:

- Cost center performance
- Profit center performance
- Budgets analyses

Besides documenting actual costing-relevant events, the main task of controlling is planning. It allows determining variances by comparing actual costing data with planned costing data or issuing income statements such as, contribution margin accounting. Thus, it supports controlling the cost efficiency of individual areas of an organization, as well as the entire organization. Accordingly, Management Accounting (SAP CO) deals with **company-internal accounting processes** and the targeted audiences are executives, senior management, department managers, controllers, or cost accountants.

In contrast to Management Accounting, the main objectives of **Financial Accounting (SAP FI)** are the **company-external accounting processes and external financial reporting**. Company-external accounting processes deal with monetary values flowing into and out of the company. With external reporting financial reports such as *balance sheets* and *P&L statements* as required by law and regulated by general accounting standards such as GAAP (Generally Accepted Accounting Principles) or IAS (International Accounting Standard) are created. Accordingly, the targeted audiences for Financial Accounting are financial authorities and external shareholders.

3.1.1 Overview of Management Accounting

In the following we will provide an overview of the components of the Controlling (SAP CO) application in SAP S/4HANA as well as describe the data flows within SAP CO and the integration with other SAP applications.

3.1.1.1 Components of Management Accounting

Management Accounting consists of several components:

- Overhead Cost Controlling (CO-OM)
 - o Cost Center Accounting (CO-OM-CCA)
 - o Cost Element Accounting (CO-OM-CEL)
 - o Activity Based Costing (CO-OM-ABC)
 - o Internal Orders (CO-OM-OPA)
- Product Cost Controlling (CO-PC)
- Profitability Analysis (CO-PA)
- Profit Center Accounting (PCA): Note that with the New General Ledger this component became part of Financial Accounting (SAP FI).

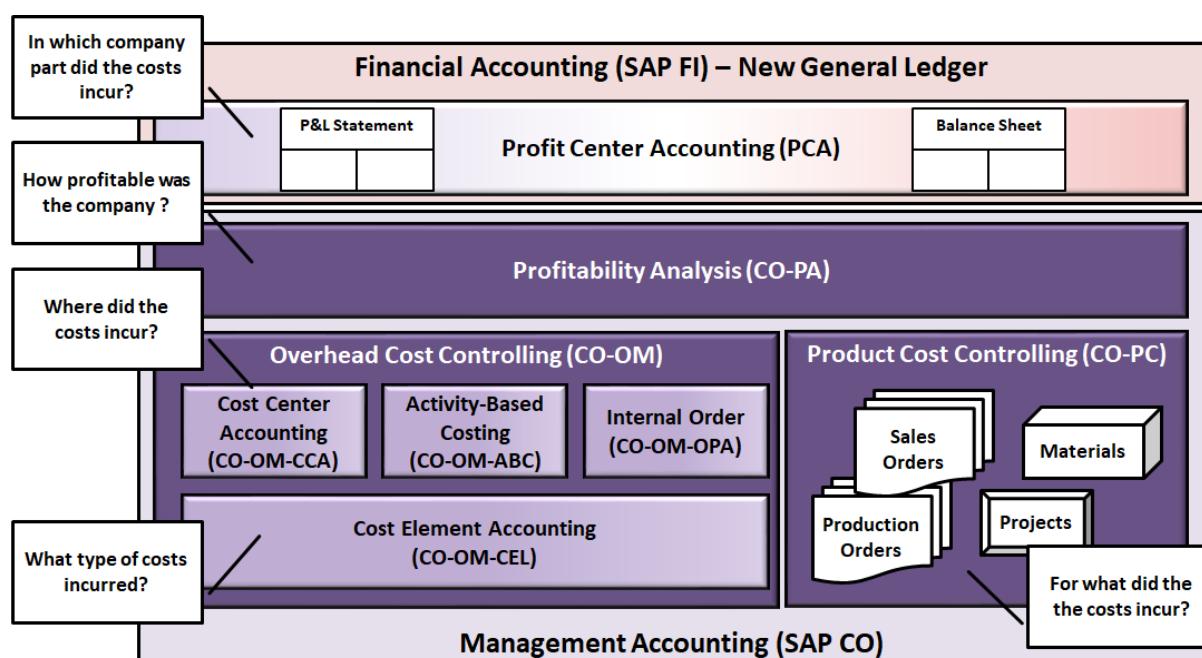


Figure 25: Components of Management Accounting

3.1.1.1.1 Overhead Cost Controlling (CO-OM)

The Overhead Cost Controlling (CO-OM) component is the main area of SAP CO. It provides functionalities to plan, allocate, control, and monitor overhead costs.

What are overhead costs?

Overhead cost is a term usually used to group expenses that are necessary for the processes in a company but cannot be directly associated with the products or services that are produced. That is, these expenses come from work that is accomplished but, e.g., do not directly generate profits. Overhead costs can be, e.g., administrative work for IT or in personnel management. Often it is difficult to determine the cause of these costs and how to allocate these costs to the

real cost originator. Thus, the task of CO-OM is to determine the origin of costs in the functional areas of a company. Therefore, all overhead costs are assigned to the cost centers where they incurred, or to the activities that triggered them.

The SAP system provides several methods to allocate these overhead costs to controlling objects true to the cost origins. At the end of a posting period, when all allocations have been made, the plan (target) costs are compared with the corresponding actual costs based on the operating rate. You can make a source-based analysis of the resulting target/actual variances, and use the analysis for further managerial accounting measures within Controlling.

Overhead Cost Controlling consists of the following sub-components:

Cost Element Accounting (CO-OM-CEL):

Cost Element Accounting is the area of cost accounting where you track and structure the costs incurred during a settlement period. It is, thus, not an accounting system as such but rather a detailed recording of data that forms the basis for cost accounting.

This area allows determining ***which*** costs and revenues have incurred in a company. That is, the cost element type determines the type of costs that incurred. Accordingly, CO-OM-CEL focuses on ***classification of costs*** and ***reconciliation of data***. Reconciliation of data refers to the assignment of costs in cost accounting (CO) to postings in financial accounting (FI) using primary cost elements that are assigned to General Ledger accounts in SAP FI.

Examples of **types** of costs that generally exist in a company are:

- Personnel costs
- Telephone costs
- Energy costs
- Consulting costs
- Raw material costs
- Production costs

Cost Center Accounting (CO-OM-CCA):

You use Cost Center Accounting for controlling purposes within a company and to increase transparency of the costs incurred in the company. This enables checking the profitability of individual functional areas and providing decision-making data for management. Therefore, all costs must be assigned ***according to their source of origin***. However, source-related assignment of costs is one of the biggest challenges for allocating overhead costs. Cost Center Accounting lets you analyze the overhead costs according to ***where*** they were incurred within the organization. Therefore, cost elements are assigned to cost centers and, thus, are assigned to the subareas of the company (cost centers) where they incurred.

If you want to assign overhead costs accurately to individual products, services or market segments, you need to further allocate the costs to those cost centers directly involved in the creation of the products or services. From these cost centers, you can then use different methods to assign the activities and costs to the relevant products, services and market segments. The “activities” of cost centers represent “internal resources” for business processes in Activity-Based Costing. Multiple allocation methods are available to allocate the collected costs of a given cost center to other controlling objects (also referred to as cost objects).

Examples of **where** costs generally incur in a company are:

- Cost center bicycle production
- Cost center engineering
- Cost center secretary
- Cost center postal office

Activity Based Costing (CO-OM-ABC):

Activity-Based Costing provides a *process-oriented, cross-functional* view of overhead costs, in contrast to the traditional location-oriented view provided by Cost Center Accounting. Activity-Based Costing, thus, complements and enhances Cost Center Accounting and allocates process quantities based on resource and process drivers. This allows defining cost allocation along the value-added chain more exactly than it is possible with overhead rates. Activity-Based Costing also complements and enhances Product Cost Controlling by assigning costs to the business processes where they originated. Cost center resources can allocate to business processes based on their true utilization of activities.

How much does an activity cost? Examples:

- Activity type Consulting hours costs 200 \$ per 1 hour
- Activity type Assembling hours costs 100 \$ per 1 hour

Internal Orders (CO-OM-OPA):

Internal orders are normally used to plan, collect, and settle the costs of internal jobs and tasks. You can monitor your internal orders throughout their entire lifecycle; from initial creation, through the planning and posting of all the actual costs, to the final settlement and archiving.

Order management within a company usually differentiates between sales-oriented orders and internal orders. Sales-oriented orders (production or sales orders) are intended mainly for the logistical control of input factors and sales activities. Internal orders are categorized as either:

- Orders are used only for monitoring objects in Cost Accounting (such as advertising or trade fair orders).
- Productive orders that are value-added, that is, orders that can be capitalized (such as in-house construction of an assembly line).

Internal order management is the most detailed operational level of cost and activity accounting.

It can be used for:

- Cost monitoring, for example, where costs need to be looked at from object-related aspects, unlike in Cost Element Accounting or Cost Center Accounting.
- Assisting decision-making, when you need to decide between in-house production and external procurement.

3.1.1.1.2 Product Cost Controlling (CO-PC)

Product Cost Controlling is used for evaluating and calculating the costs that incur during manufacturing of a product, or provision of a service or for carrying out a project (planned and actual cost calculation). It enables calculating the minimum price at which a product can be profitably marketed. We have discussed this topic in the Plan-to-Produce business process.

3.1.1.1.3 Profitability Analysis (CO-PA)

Profitability Analysis (CO-PA) enables you to analyze company activities and their effects on **external** markets (not company-internal). This component determines the company success and the development of the profitability in different market segments (e.g., product divisions).

Profitability Analysis (CO-PA) enables you to evaluate market segments which can be classified according to products, customers, orders or any combination of these, or strategic business units such as sales organizations or business areas, with respect to your company's profit or contribution margin.

The aim of the system is to provide sales, marketing, product management, and corporate planning departments with information to support internal accounting and decision-making.

Examples:

- How much did we sell of our product Speedstar in customer segment *Private Customers*?
- How well did our sales organization in Germany performed regarding business area bicycles?

3.1.1.1.4 Profit Center Accounting (PCA)

With the New General Ledger, Profit Center Accounting is now part of SAP FI. Using profit centers in your company structures is optional.

When using profit centers, you can delimit areas in your company, e.g., multiple cost centers that functionally belong together and combine them logically to profit centers. Then you can assign costs and revenues occurring in these company areas to the profit center.

Note that real costs are always posted to real account assignment objects (e.g., cost centers, materials, orders, etc.). Profit centers are not real account assignment objects but only receive a **statistical** posting when a real account assignment object that is assigned to that profit center receives the real cost or revenue posting. In Profit Center Accounting, these statistically assigned costs and revenues are then used for analysis purposes and allow **evaluating individual profit center success**. Thus, you can represent the **internal** market of the company, especially if you use multiple valuation methods and transfer prices (Note the difference to CO-PA).

Examples:

- How much profit did the department *bicycles* generate in 2017?
- How much costs originated in this department in the last three years?

3.1.1.2 Value Flows within Management Accounting

As mentioned afore, the main objective of Management Accounting is to book costs that incur in a company to the correct “accounts”. Correct “accounts” in this context refer to the real costing objects (account assignment objects) in Controlling that are the actual causer of the costs.

In a company, costs can incur on many different objects. Generally, all costs that incur in a company originate from **external sources** and, thus, have a reference to postings in **Financial Accounting** (SAP FI). Accordingly, SAP FI is the main source for costs that are posted in Management Accounting (SAP CO). For instance, if employees are paid their salaries, a posting

is made in SAP FI that reduces the amount on the bank account of the company and transfers money to the bank accounts of the employees. At the same time, this posting might debit the cost center, which the employee is associated with using the corresponding **primary cost element**. These direct costs are easy to track and to assign to the correct account assignment objects as they are associated directly with the cost object (in this case cost center).

However, the central task of **Management Accounting** is to further allocate costs, such as the mentioned salaries, from those cost assignment objects that collect the costs to those cost assignment objects that *in reality* use the activities that generate these costs. This **company-internal** cost allocation requires **secondary cost elements**.

For instance, the production of Speedstars includes multiple different types of costs:

- **Direct costs** of production are purchasing costs for raw materials and activity costs for activities performed by employees (salary costs) on work centers
- **Indirect costs** that incur in the company but is not directly associated with the product. This may include administrative costs such as personnel administration, secretary or management
- **Indirect costs** that can somehow be associated with the product. This may include cantina costs for the workers, costs from auxiliary cost centers such as electricity or warehouse or even investment costs and depreciations for machines that are used in the factory to produce the Speedstars.

The allocation of **direct costs** is relatively easy, since they are simply posted to the costing object that generates them. In the case of our Speedstar production costs of activities performed and material costs can directly be posted to the cost object *production order*. The production order collects all costs during the manufacturing process and settles them in the period-end closing operations to the final cost bearer (in this case the material Speedstar).

Indirect costs are not that easy to track and to allocate to the final cost bearer. For instance, costs for electricity are paid by the electricity cost center and in parts need to be allocated to the production cost center. But how big is the amount of electricity used by the production work center? The costs of administration must be allocated to all cost centers of a department. But how much of the activities the administration cost center performed can be directly associated with a specific cost center (such as the production work center)?

The main task of **Overhead Cost Controlling** (CO-OM) is to find answers to these questions and reproduce the costing structure in a company as good as possible. Therefore, cost allocation bases (so called tracing factors) are developed and assigned to the cost receivers. Using special cost allocation methods, the initial costs are transferred as so-called **overhead costs** from one costing object to other cost objects in the company. We will discuss some cost allocation methods later on in this chapter.

The following figure illustrates the possible flows of costs in a company.

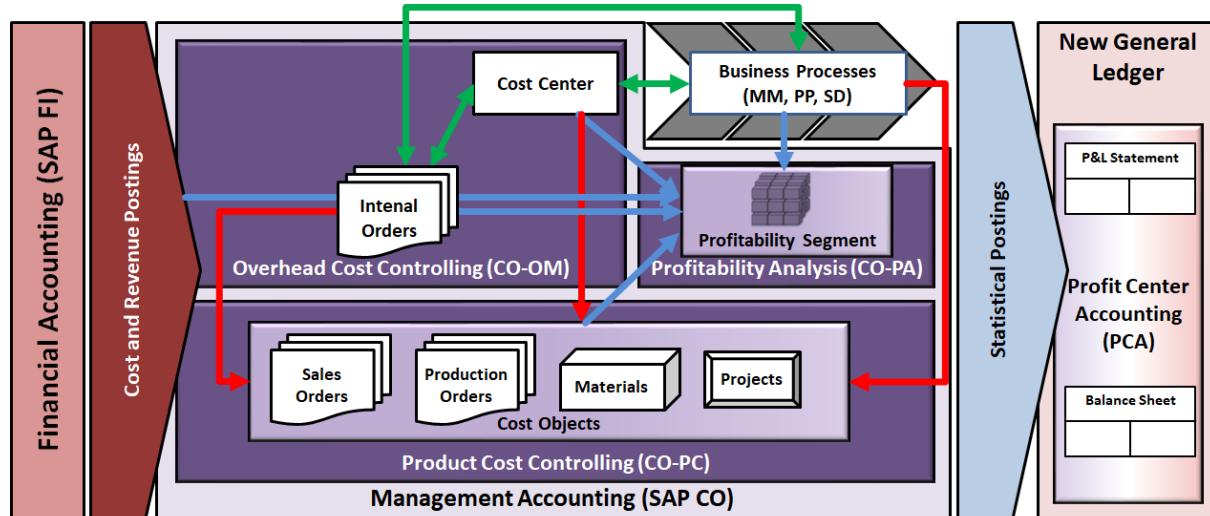


Figure 26: Value Flow in Management Accounting

- The **green arrows** illustrate the typical flow of cost and activity quantities (such as working hours) between the components of **Overhead Cost Controlling**. In **CO-OM** costs that originate from external sources (with a posting in Financial Accounting) can be posted to cost centers, internal orders, and business processes using ***primary cost elements***. For instance, in the Source-to-Pay business process, the goods receipt and the corresponding invoice posting and vendor payment lead to costs for the purchased materials to the receiving object e.g. a cost center. These costs can be passed on to other cost objects within **CO-OM** using ***secondary cost elements***:
 - o Cost centers can transfer costs to other cost centers, internal orders, or processes in activity-based costing (CO-ABC).
 - o Activity-based costing can in turn transfer costs to cost centers and internal orders.
 - o Internal orders can transfer costs to cost centers, processes in activity-based costing or other internal orders.
- The **red arrows** display costs being transferred from the objects of **CO-OM** to cost objects of **CO-PC** (Product Cost Controlling). Specifically, the **CO-PC** sub-components Cost Object Controlling (CO-PC-OBJ) deals with costs being booked on cost accounting objects such as orders, materials or projects that are then settled in period-end closing activities. The central cost flows between **CO-OM** and **CO-PC** include costs from cost centers, internal orders as well as costs transferred from activity-based costing being charged as overhead cost allocations or direct activity allocations to all type of orders and projects in **CO-PC**.

Of course, direct postings from Financial Accounting to **CO-PC** cost objects are also possible. For instance, when purchasing raw materials cause costs that are posted in Financial Accounting and debit the production process that consumes those raw materials.
- Finally, the **blue arrows** indicate cost flow to objects of **Profitability Analysis** (so called profitability segments) that are also closely linked to Overhead Cost Controlling

and Product Cost Controlling. If active, Profitability Analysis can – in addition to direct postings from Financial Accounting – also receive costs from CO-OM, such as allocations from cost centers and activity-based costing processes, cost settlements of internal orders or from CO-PC, such as production variances settled from cost objects. Furthermore, revenues of sales are also posted to profitability segments.

- Even though – with the new General Ledger – **Profit Center Accounting** (PCA) is not part of the Controlling application, it is very closely linked to SAP CO. If active, Profit Center Accounting can collect statistical cost postings of all real cost flows from all other Management Accounting components. This information can then be used for reporting and financial analyses on profit center basis.

3.1.1.3 Value Flows from and Integration with other SAP Components

SAP CO is one of the most important applications of the SAP system, since Controlling concerns any application or process within a company. Thus, SAP CO is fully integrated with other SAP applications including, but not limited to:

- Financial Accounting (FI)
- Materials Management (MM)
- Production Planning and Execution (PP)
- Sales and Distribution (SD)
- Human Resource Management (HR)

Transactions carried out in other SAP components can directly affect Management Accounting. Thereby, all cost- and revenue-relevant data that needs to be posted in Controlling, flows automatically to Management Accounting from Financial Accounting and other applications. Other SAP components such as Human Capital Management or Logistics (Materials Management, Sales and Distribution, Production Planning) are also linked to Management Accounting, since every activity in those components generates costs or revenues that need to be posted to a cost object (cost center, internal order, etc.):

Financial Accounting (FI) in the SAP system is the main data source for Management Accounting. Most expense postings in the General Ledger result in a cost posting in **Overhead Cost Controlling** (CO-OM). These expense postings in the General Ledger (FI-GL) can be journal postings, vendor invoices (FI-AP), or depreciation postings from Asset Management (FI-AA). For example, when a non-stock item is purchased by a cost center, this results in a posting to an expense account in the General Ledger. This expense item is then also posted to the cost center that caused the purchase. The costs of this cost center can later be transferred to a production cost center as overhead.

Direct postings from Financial Accounting to cost objects of **Product Cost Controlling** (CO-PC) occur, when, e.g., raw materials are purchased directly for a production order and costs are posted in Financial Accounting. Contrary, a flow back of costs from CO-PC to SAP FI can occur when production costs for finished product or work in process (WIP) are activated.

In addition, revenues resulting from e.g. sales processes, lead – if activated – to direct postings on profitability segments in **Profitability Analysis** (CO-PA).

In **Materials Management (MM)** goods issues and goods receipts can trigger a cost posting in Management Accounting (SAP CO) to the associated cost object (e.g. production order or cost center). Furthermore, the standard price fields in material master records are directly affected by product cost calculations created in Product Cost Planning (CO-PC-PCP).

The creation of purchase orders or purchase requirements can result in the creation of commitment postings in Cost Object Controlling (CO-PC-OBJ) if the item is to be purchased for consumption.

The invoice creation can result in the creation of a controlling document in Management Accounting (SAP CO), if the referenced purchase order contains an item with consumable materials and the invoice amount is different than the purchase order amount.

Production Planning (PP) is also closely integrated with Management Accounting as well. BOMs and routings created in production are used in Product Cost Planning (CO-PC-PCP) for product cost calculations. In addition, production orders depict cost objects in Cost Object Controlling (CO-PC-OBJ) and are used as cost collectors during the manufacturing process.

Sales Order Management (SD) is the main source for revenue-related posting. Generally, each time a SD posting occurs, Profitability Analysis and Profit Center Accounting are updated with revenue and sales discounts. When billing documents are created, revenues are posted to profitability segments in Profitability Analysis (CO-PA) and statistically to profits centers in Profit Center Accounting (PCA). In addition, cost-of-goods sold are posted with the corresponding controlling document to the cost object (sales order) once a goods issue for an outbound delivery has been posted.

Human Capital Management (HCM) can lead to cost postings in Management Accounting. HCM allows for transferring labor costs, payroll data, or timesheet data to different controlling objects such as a cost center or an internal order. Moreover, planned personnel costs can be transferred and can be used for planning in Management Accounting.

3.1.2 Overhead Cost Controlling (CO-OM)

In this chapter, we will focus on the Controlling sub-component Overhead Cost Controlling and explain several cost allocation methods as well as internal orders.

3.1.2.1 Cost Allocation Methods

In this chapter, we will discuss how cost allocation in Management Accounting works and introduce two central cost allocation methods in detail. Note that only Assessment is relevant for the SAP exam.

3.1.2.1.1 Elucidation: Overview of Cost Allocation Methods



ELUCIDATION

As mentioned now multiple times, the main focus of SAP CO is to allocate costs within the company to those company units (cost objects) that produce costs by consuming resources. For instance, a cost center that produces a finished good generates costs by:

- Consuming materials
- Consuming workforce
- Using the company's infrastructure (IT, telephone, administration)
- Using company's assets (buildings, machines, computers, car pool, etc.)
-

All these resources are provided by other cost centers and need to be transferred to the consumer. Thereby, it is crucial that the cost-/activity-recipient "pays" for only those resources he consumes.

Cost allocation methods are used to allocate these costs from one or multiple cost objects to one or multiple other cost objects in Controlling. Cost allocation occurs only within a company and, thus, only uses **secondary cost element** types, which do not have any corresponding General Ledger account. That is, allocation cost elements, are secondary cost elements. This also means that Financial Accounting (external accounting) is never involved in cost allocation. An exception is the allocation method Distribution, which does not use secondary cost elements. SAP provides various methods to further allocate the actual costs that have been recorded on a cost accounting object, according to their source. You can distinguish between direct and indirect allocations and between transaction-based (manual) allocations, which occur within one period, and period-based allocations, which occur at period end.

- "direct-manual-transaction-based" methods (component *Manual Actual Postings*) are:
 - o **Manual Cost Allocation**
 - o **Direct Activity Allocation**
- "indirect-automatic-period-based" methods (component *Period-End Closing*) are:
 - o **Distribution**
 - o **Assessment**
 - o **Indirect Activity Allocation**
 - o **Template Allocation**
 - o **Periodic Reposting**

In the Plan-to-Produce business process, we had briefly introduced the Direct Activity Allocation method as the simplest of all allocation methods. In the following, we will only focus on two allocation types of the SAP system, as they are the most commonly used: **Distribution** and **Assessment**.

Distribution and Assessment are used to further allocate costs (or quantities for Indirect Activity Allocations) that were collected on a cost center during an accounting period to receivers based on user-defined keys. Since the cost or activity allocation is not based on the direct exchange of activities between the sender and receiver controlling objects, these methods are called indirect allocation methods.

Instead of direct allocation, user-defined keys such as percentage rates, amounts, statistical key figures, or posted amounts are used to allocate the costs or quantities to the cost receivers. These user-defined keys, thus, serve as allocation basis and are called **tracing factors**. The advantage of using indirect allocation methods is that they are easy to use as tracing factors and the *sender/receiver relationships* must be defined only once.

Generally, the allocation methods Distribution and Assessment are used for allocation of costs of cost centers, since direct cost allocation is not possible here due to:

- The variety of transactions.
- The lack of clearly defined individual activity types.
- The fact that the entry of the activity is too time-consuming.

3.1.2.1.2 Elucidation: Distribution



ELUCIDATION

Distribution is an allocation method for periodically allocating **primary** cost elements. Thereby, those allocated primary cost elements retain their “identities” in the sending as well as in the receiving objects. Retaining in this case means that the primary cost elements are passed on from the sender to the receiver. Thereby, the sender is credited with the primary cost element and the receivers are debited with the primary cost elements. A **secondary** cost element is **not involved** in the Distribution. However, note that Financial Accounting is also not involved, even though primary cost elements are used, since the original costs are only passed on. The advantage of using Distribution is that the following information are passed on to the cost receiver:

- The original cost element is retained. Thus, it is perfectly clear what type of cost has been allocated to the receiving cost center.
- Sender and receiver information (e.g., the identities of sender and receiver cost centers or business processes) is fully documented in the line items of a unique Controlling (CO) document.

The following figure illustrates the allocation of primary costs by using the method of Distribution.

The company's Cantina cost center purchases food from an external supplier. This purchase is posted in Financial Accounting by debiting the expense account 370000 and crediting the bank account. The costs are charged to the Cantina cost center with the corresponding primary cost element 370000. These costs are now passed on by Cantina to the receiving cost centers Y and Z. The tracing factor in this case is again the number of employees (which makes sense: the more employees the more need for food). According to this tracing factor, the \$10.000 are

relatively allocated to cost center Y and Z as \$2.500 and \$7.500. The Cantina cost center is balanced out.

Note that the costs charged to cost centers Y and Z are posted with the **primary** cost element 370000 as the costs are only passed on. The benefit here is that in the cost center reports of cost centers Y and Z it is perfectly clear what kind of costs these are (370000 = food).

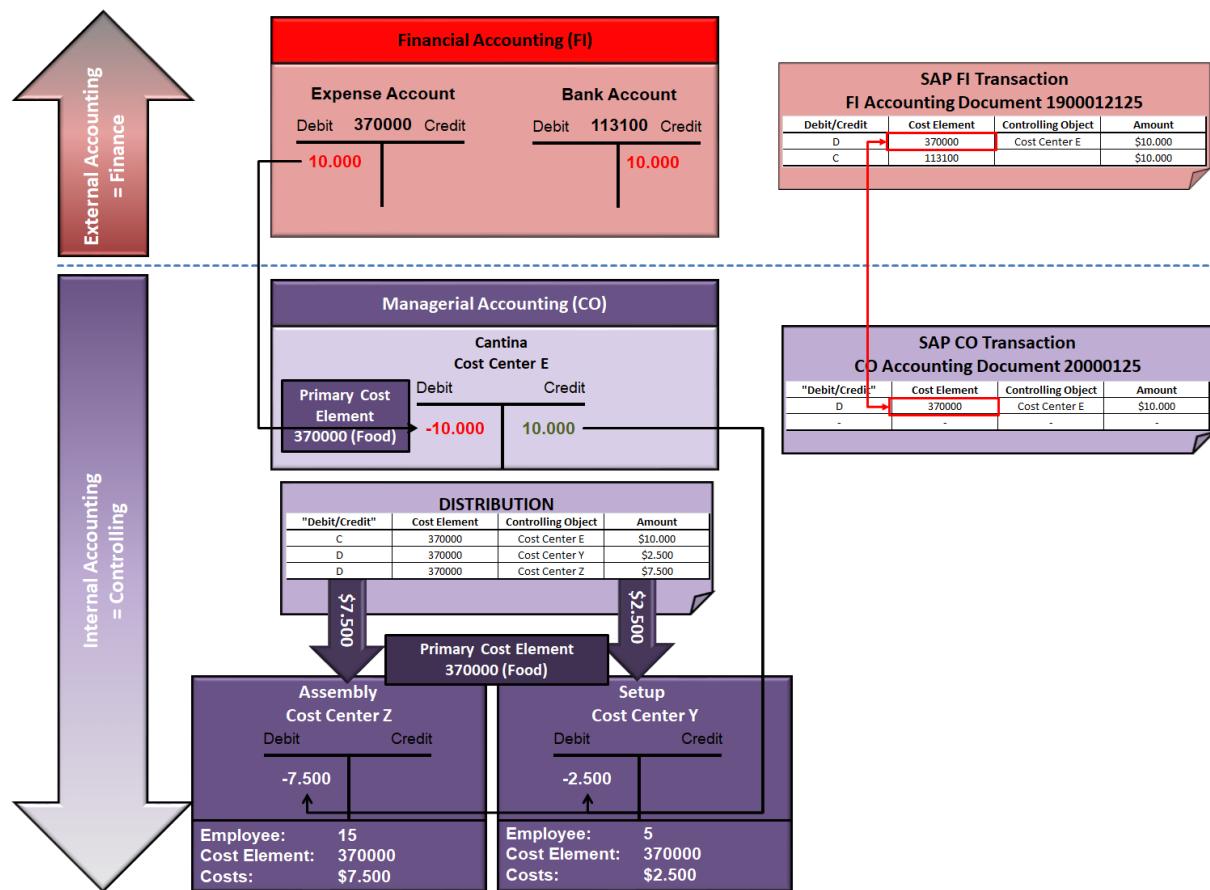


Figure 27: Cost Allocation using Distribution

3.1.2.1.3 Assessment

The allocation method of Assessment is used to allocate **primary** as well as **secondary cost elements** in Cost Center Accounting and Activity-Based Costing. Thereby, primary and secondary cost elements are grouped together and transferred to receiver cost centers by using a **secondary cost element**. When running an Assessment, the following information is passed on to the receiver controlling objects:

- The original cost elements are cumulated or assigned in groups to the **assessment (secondary) cost element**. The original cost elements are not recorded on the receivers. That is, you cannot retrieve information about the original cost elements from the Assessment document.
- Sender and receiver information (sender cost center, receiver cost center, or business process) appears in the Controlling (CO) document.

The method of Assessment is useful when the composition of the costs is unimportant for the receivers. For instance, the assessment of activity costs performed by a supplementary Cost Center need not be broken down further.

The following figure demonstrates the use of Assessment with the already known example. Here, the Engineering cost center (X) is charged with different costs (salaries, raw materials, energy). These costs accumulate to \$200.000 on the Engineering cost center. The costs are then allocated to the receivers of the services that the Engineering cost center provides, again, using the tracing factor *number of employees*. Thereby, the accumulated amount is allocated using the secondary cost element 620000. The information about what type of costs (salaries, energy, raw materials) is passed on to the receivers is lost. However, this information is not important to the receivers, as they only need (or want) to know that they are charged, for the services they receive from the cost center Engineering.

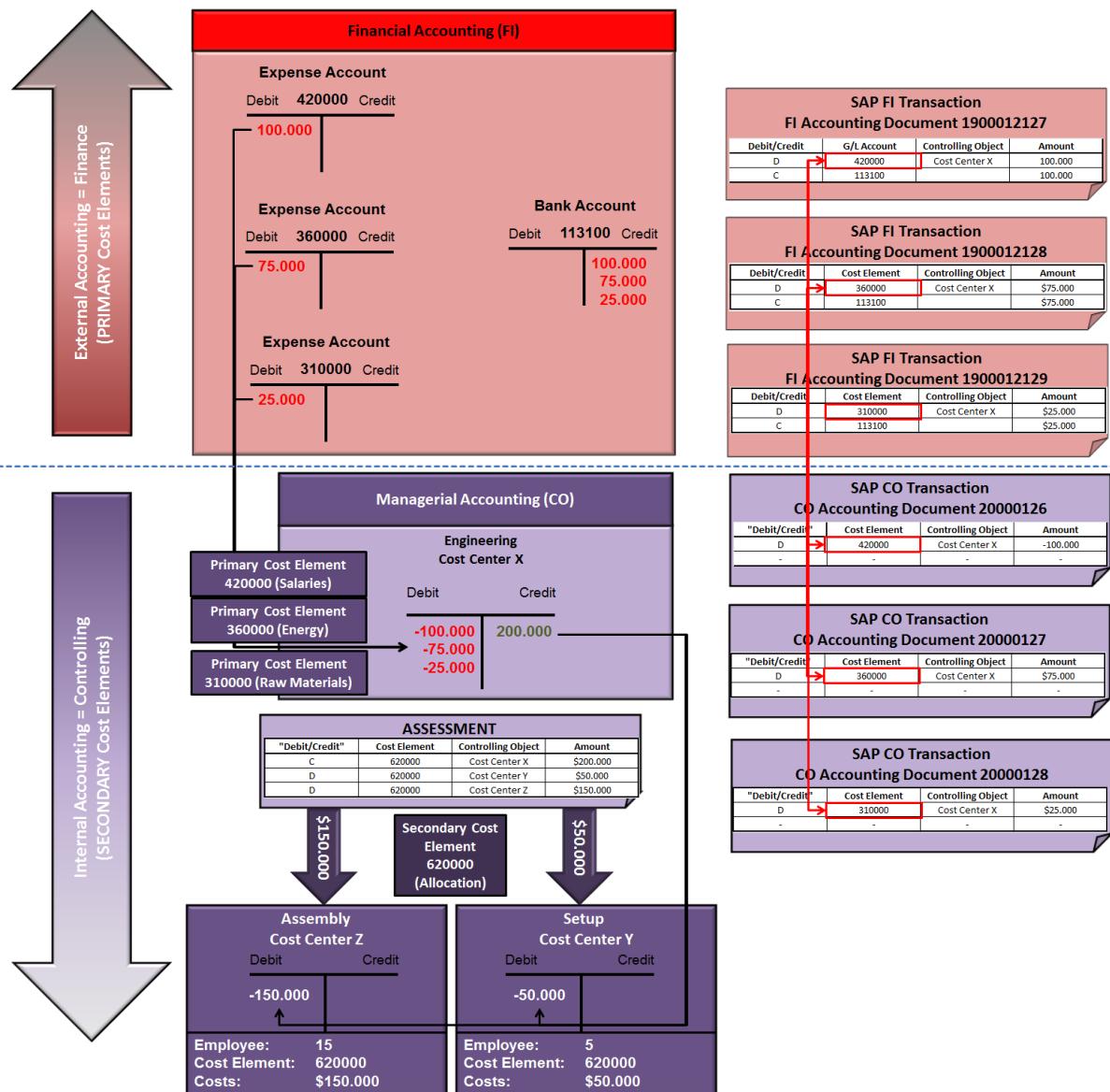


Figure 28: Cost Allocation using Assessment

3.1.2.2 Internal Orders

Internal Orders (SAP CO-OM-OPA) is a sub-component of Overhead Cost Controlling that provides a flexible tool for planning, allocating, and monitoring of costs within a controlling area in many different scenarios.

3.1.2.2.1 Purpose and Types of Internal Orders

Internal Orders can be used as an alternative to cost centers to monitor costs below the cost center level. For instance, with internal orders you can track costs and revenues for temporarily limited projects or other company-internal processes. You can use them to capture project-related cost and revenues for trade fair, product promotions, facility maintenance, repair services, etc.

The differences between an internal order and a cost center as a cost collector (cost assignment object) are:

- You usually use internal orders to break down costs below the cost center level. This allows capturing costs that incur within a cost center and belong together on a more detailed level. For instance, you could post all costs that are related to the procurement and maintenance of one specific machine (asset) to an internal order in order to delimit it from the procurement and maintenance costs of other machines.
- You use internal orders for tracking individual or recurring events or for business events with short-term duration. An example would be the organization of a trade fair. All costs that are referred to the trade fair are collected on the internal order.
- You might have the case that several cost centers share the expenses for one business event – such as product promotion expenses may be shared between the Marketing and the Sales department, but you want to track the expense on one cost collector. In this case you can post all costs on one internal order and settle the costs later to the cost centers.

In order to enable using internal orders for the different purposes, different internal order categories are provided:

- **Overhead orders:** You use this type of internal orders, if you want to collect and monitor overhead costs that incurred for a specific purpose, e.g., the costs for running a trade fair or monitoring the costs that are associated with the procurement and maintenance of a particular asset.
- **Investment orders:** You use this type of internal order, if you want to collect and monitor the costs that incurred for the production of an investment object, such as a fixed asset like a building.
- **Accrual orders:** You use this type of internal order to post offsets of accrued costs (costs calculated in CO) of cost centers against this order type. This is particularly useful, if you want to distribute those expenses that have been posted in one period in Financial Accounting over several periods. Accrual orders are used to monitor such a period-related accrual calculation for cost accounting. An example of this could be a holiday bonus, where cost centers are debited across periods and an accrual order is credited.
- **Orders with revenue:** This type of internal orders is used, if you want to replace the cost accounting part of (sales) orders in the Sales and Distribution application (SAP SD) if the SD application is not used. Thereby, both costs and revenue can be monitored using the internal order. They can also be used for monitoring revenue that is not part of the core business of the company (e.g., miscellaneous revenues).

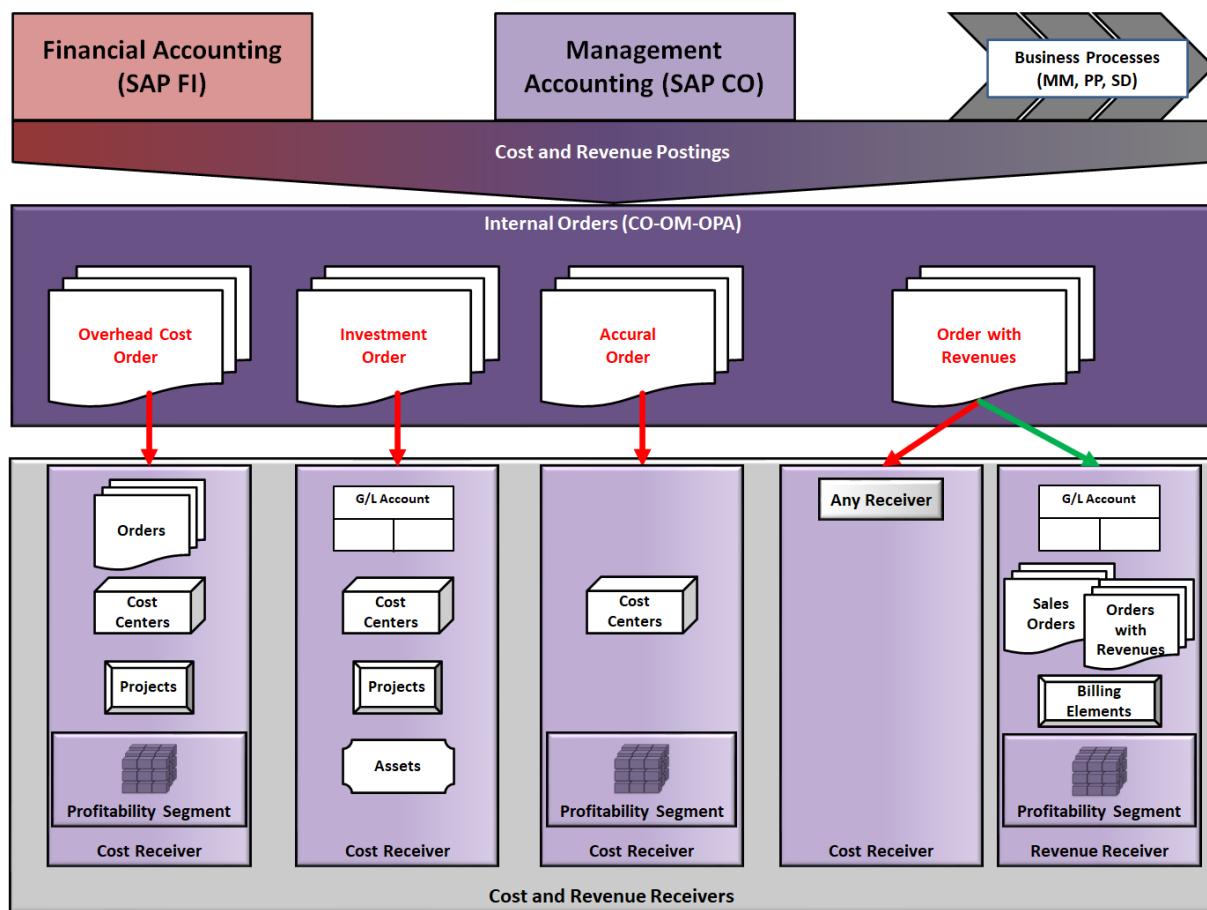


Figure 29: Purposes and Types of Internal Orders

3.1.2.2.2 Creating an Internal Order

Internal orders belong to transactional data but also have a master data record like cost centers or cost element types. You define internal order master data either in transaction KO01 or in the overview transaction KO04. In SAP Fiori UX you use the App Manage Internal Orders.

The master data of an internal order consists of different tabs, with each tab containing different field groups and fields. The tab page name as well as field groups and displayed fields can be adjusted in the Customizing of the system. You can also determine which fields are mandatory and require an entry.

The following screenshot displays an internal order of type Overhead Cost Order. The **order type** is the main control parameter of an internal order. It determines the default values for the different master data fields and allows defining certain order characteristics, such as the settings for settlement, planning, and budgeting, depending on what the order is used for. Thus, when creating an internal order, the order type is the first entry that you specify as it controls all other entries and the available fields.

The screenshot shows the SAP Internal Order Master Data screen. The top navigation bar includes 'Save', 'Edit', 'Copy', 'Check', 'Maintain Settlement Rule', 'More', and search/filter icons.

General Data: Contains fields for Controlling Area (NA00), Order (100000), Order Type (0100, highlighted with a red arrow and a black box labeled 'Order Type'), Reference Order, Applicant, Telephone, Application Date, Department, Estimated Costs (0,00), Currency (USD, United States Dollar), Processing Group (00), Person Responsible, Telephone, Work Start Date, Work End Date, and Work Approval.

Assignments: This section is highlighted with a red box and contains two parts: 'Organizational Assignments' and 'Links'. 'Organizational Assignments' includes fields for Company Code (US00, Global Bike Inc.), Business Area (BI00, Bikes), Plant, Functional Area, *Object Class (Overhead costs), Profit Center (PROF-999C, ==?==), Cost Center Responsibility (KS-MO-999C), User Responsible, Location, Location Plant, and Tax Jurisdiction. 'Links' includes fields for Requesting Cost Center, Requesting Company, Requesting Order, WBS Element, Sales Order/Item No. (00001), and External Order No.

Status: This section is highlighted with a red box and includes fields for System Status (Released, Settlement rule cre), Change System Status, Display Allowed Transactions, User Status Without Status Number (LKD Locked), and PLIM Write Plan Line Items.

Control: This section is highlighted with a red box and includes fields for Order Category (01, Internal Order (Controller)), Statistical Order, Actual Posted Cost Ce..., Integrated Planning, Revenue Postings, and Commitment Update.

Figure 30: Internal Order Master Data: SAP-System-Screenshot

Once the internal order master data was created, you can use it for planning, collecting, monitoring, and settling costs of delimited operations and tasks in a company. You can use the SAP system to control your internal orders throughout the life cycle of an internal order (from creation to final settlement, including planning and posting actual costs).

- **Planning costs:** Planning with internal orders allows you to account costs, activities, and business processes on an internal order that you expect to incur during the life cycle

of the order. Using internal order planning, you can compare plan and actual costs and carry out a differentiated variance analysis.

- **Collecting costs:** Internal orders are *real* (true) cost accounting objects. This means that it can receive postings from other applications such as
 - SAP FI: Invoices, G/L account postings, revenues
 - SAP MM: Goods movements, purchase requisitions, purchase orders
 - SAP CO: Statistical key figures, funds commitments, cost allocations
 If the internal order is a “real” cost accounting object, the debits are posted with value type 04 (actual costs) and can be settled later on to other cost receivers.
 An internal order can also be a *statistical* order (i.e., only for information purpose). In this case, the cost accounting object that the statistical internal order is assigned to would receive the real posting and the internal order is used for reporting purposes only.
- **Monitoring costs:** Internal orders depict a powerful tool for monitoring costs that cannot be itemized at cost center level or for monitoring costs for a specific delimited process or project throughout the life cycle of the internal order (from creation to final settlement, including planning and posting actual costs).
- **Settling costs:** Once the purpose of the internal order is fulfilled, e.g., the specific project is accomplished; the costs that the internal order has collected are settled to the final cost receivers (e.g. cost centers, profitability segments, G/L accounts, sales orders etc.). Therefore, internal orders can settle costs and post revenues to a variety of other objects in the SAP system.

The following screenshot shows a purchase order that procures a material and posts the costs of this purchasing process to an internal order of type overhead order. The internal order will collect all costs and settle them in the period-end closing activities to the final cost receivers.

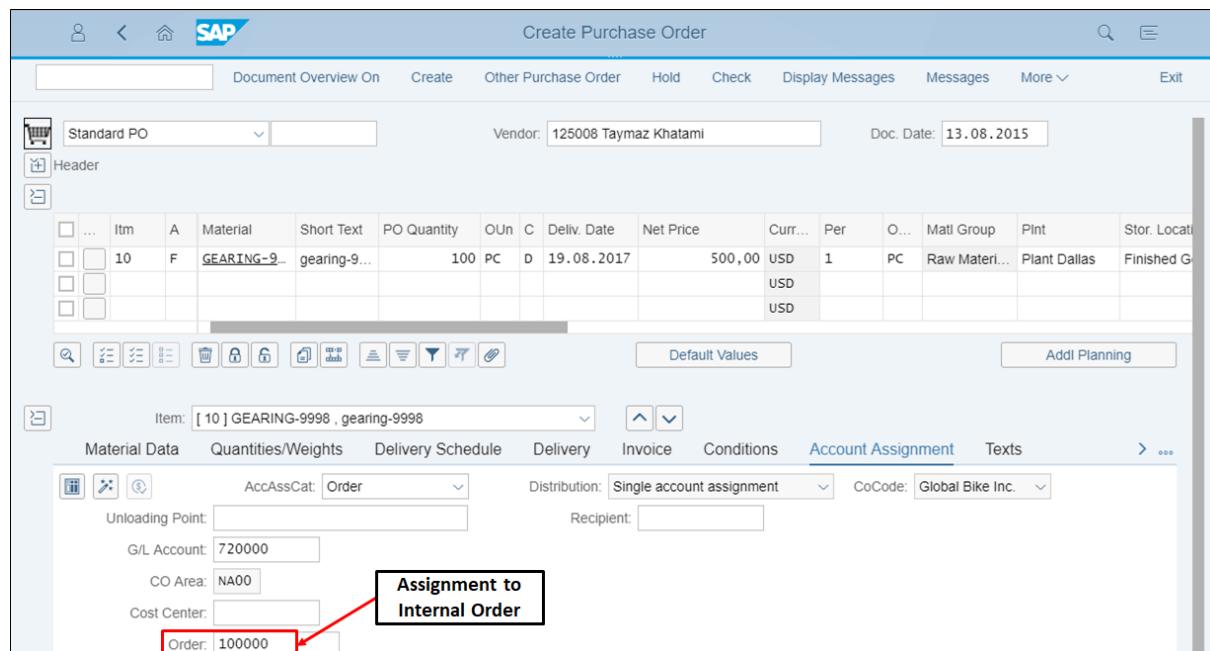


Figure 31: Purchase Order accounted on Internal Order: SAP-System-Screenshot

3.1.2.2.3 Real and Statistical Internal Order

Internal Orders are generally *real* (true) cost accounting objects but can also be used as *statistical* costing objects.

Posting to a Real Internal Order

When using internal orders as real controlling objects, you can post *actual costs* (e.g., cost of purchased materials, activity costs) incurring during processes to the internal order. The internal order is then debited with value type 04 (actual cost). The internal order is then used as cost collector and can allocate these costs later to a final cost receiver. In a cost allocation (e.g., distribution, assessment or settlement) the internal order is then credited and the cost receiver (e.g., a cost center) is debited with the costs.

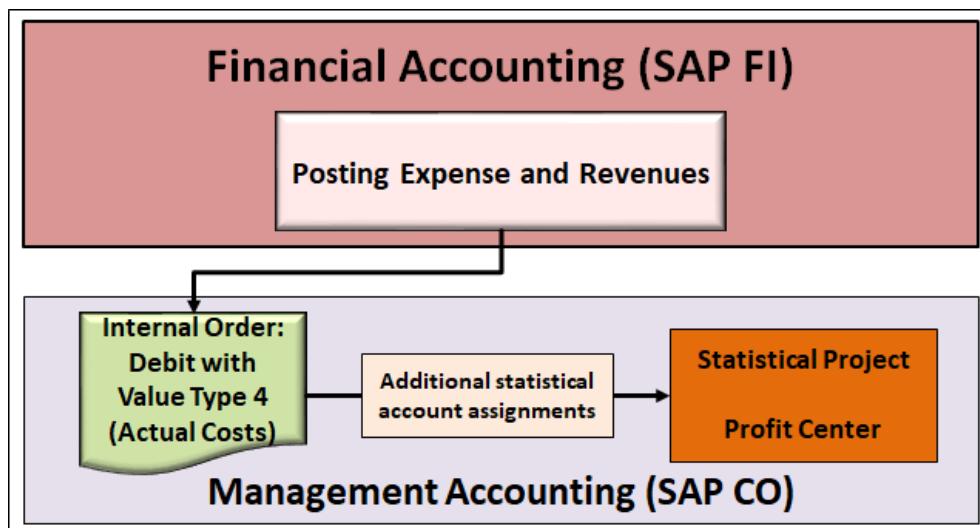


Figure 32: Posting to a Real Internal Order

Posting to a Statistical Internal Order

In addition to the real posting to an internal order, the same costs can also be posted to other statistical objects, which will then be posted *statistically*. Statistical controlling objects are, e.g., profit centers (always) or internal orders and WBS elements that are marked as statistical. The purpose of statistical cost is to use this information for analysis purposes from different perspectives. Statistical costs are not meant for allocations and are not considered in any reconciliation between CO and other applications such as FI.

If an internal order is marked as statistical, costs can be posted to the order in addition to the posting to a real object (e.g. a real internal order, a cost center, a production order).

Example

You want to collect the cost for a complex of buildings on a cost center but, in addition, each single building should be posted to a separate internal order. In this case, you make all actual cost postings to the cost center (as a real controlling object) and post the individual costs for each building statistically to the corresponding statistical internal order at the same time. This approach has the following advantages:

- You can analyze the cost on the individual buildings using the corresponding internal orders and, at the same time analyze the total costs on the cost center.
- You do not have to (and cannot) settle the internal orders later, which saves time and does not result in an additional financial document.

Statistical orders should only be used, if the purpose is to collect cost of an object or an activity for reporting purposes without the requirement to allocate the cost to other cost objects later.

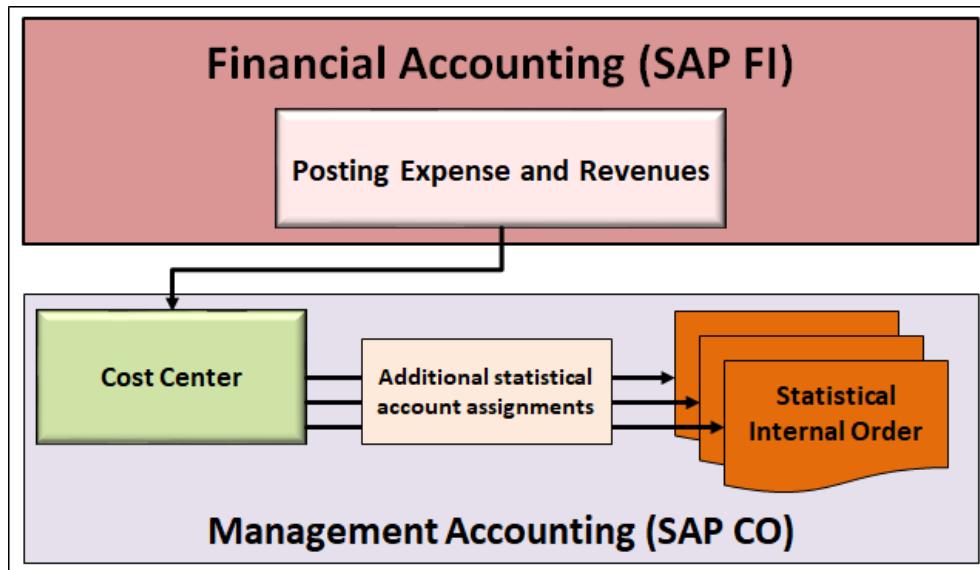


Figure 33: Posting to a Statistical Internal Order

3.1.2.2.4 Order Settlement

As explained so far, internal orders collect costs for a specific business purpose with, generally, a delimited period of time. This helps to plan, monitor and report the of the business activity before and during its accomplishment. Once the specific business activity is finished, all the costs that incurred for that purpose are stored on the internal order. The next step is to transfer these costs to their final destination.

This operation is called **settlement**, which is another form of periodic cost allocation. When costs of a cost collector like the internal order are settled, the costs are allocated to other cost accounting objects by crediting the cost collector and debiting the receivers with the collected costs. The result of the settlement is that the internal order transfers all the costs that it collected for the specific purpose to the cost accounting object that is finally responsible for this business activity.

Example

You organize a trade fair for the SD department. Since you want to delimit all the costs for this project from other costs of the sales department, you do not post the costs on the SD department cost center but create an overhead internal order, which collects all the costs associated with the trade fair. This also allows you to use commitment management, plan and monitor all costs, as well as allocate available budgets and funds for the trade fair. Once, the trade fair is over all the collected costs are settled against the cost center of the SD department.



NOTE

Note that settlements are not restricted to internal orders. As we have, for instance, discussed in the Plan-to-Produce business process, production orders are also cost collectors that collect all costs during the manufacturing process and then settle these costs to a final cost receiver (e.g., material or a G/L account). Basically, any order that is a true cost accounting object can collect costs and settles these costs in period-end activities performed in Management Accounting.

Settlement Receivers

Internal orders are more flexible than cost centers with regards to settlement receivers. Depending on the order type, settlement can even be carried out to balance sheets and P&L accounts if required. When introducing the internal orders in the first sub-chapter of the internal order topic, we already have listed the possible cost receivers for the individual internal order types in the overview figure. Cost receivers for the settlement of internal orders can be, a.o.:

- Sales orders and orders with revenues
- Cost centers
- Projects
- Profitability segments
- G/L and P&L accounts
- Assets

The following figure illustrates possible settlement receivers for internal orders.

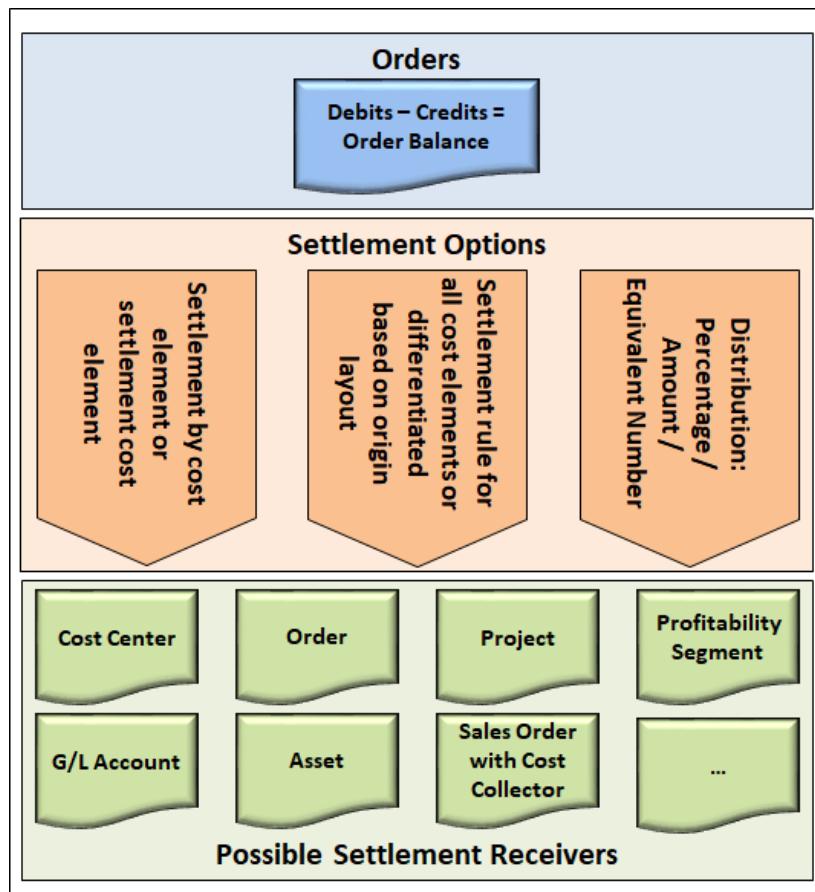


Figure 34: Examples of possible Settlement Receivers

What type of cost receivers can be used for cost settlement is defined in the system's Customizing per order type. Moreover, you have to check that no restrictions are in place (e.g., period lock) that might prevent settlement to a specific cost receiver.

Settlement Rule

How settlement takes place for an internal order (or any other order) is controlled by the **settlement rule**. We have introduced settlement rules already when discussing the production orders in the Plan-to-Produce business process.

Upon creation of an internal order, the system assigns a settlement rule to the order based on the settings in the system's Customizing. Generally, the settlement rule can be changed in the order's master data record and be overwritten if other settlement shares or settlement receivers than the default values from the customizing settings should be effective.

With the settlement rule the cost sender and cost receiver relationships as well as how much each receiver will receive during settlement (analog to tracing factors) is established. For instance, a settlement rule may specify that all of the costs on the order are settled to a single receiver or may be split to multiple receivers. Settlement can be structured flexibly by using one of the many available settlement options.

Therefore, the settlement rule contains one or more **distribution rules** for the order, which consists of a cost receiver, a settlement share, and a settlement type:

- The cost receiver (*settlement receiver*) determines to which cost object the actual costs of the order are to be settled. Thereby, costs can be sent from the order to the aforementioned receiving cost objects.
- The *settlement share* determines the percentage rate or the equivalence number to distribute the costs to the individual cost receivers.
- The *settlement type* determines whether all the costs are settled which were incurred for the order (full settlement) or whether the costs collected on the order are to be settled periodically (periodic settlement). The settlement receiver *Material Account* allows periodic settlement only for orders.

The following figure shows the settlement rule for our internal order. It contains only one settlement receiver, which is the cost center NARD1000 that receives all the costs (100%) of the internal order during order settlement.

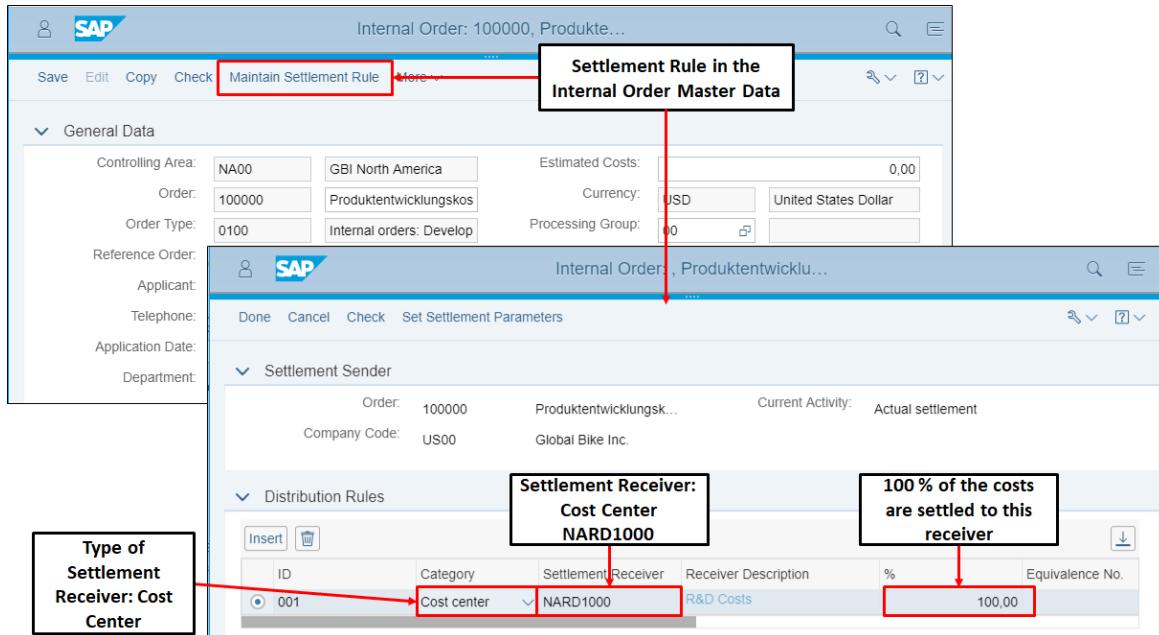


Figure 35: Settlement Rule of Internal Order: SAP-System-Screenshot

Period-end Closing Activities and Results of Settlement

Generally, settlements – depending on the specific order type – are performed as **period-end activity**. Period-end activities are usually – as the name suggests – performed at the end of each period (e.g. each month). It is also possible to perform settlements at the end of the order lifetime independently from the particular date.

When settlement is performed (in transaction KO88 or Fiori UX App Actual Settlement), the actual costs incurred on an internal order are allocated the cost receivers determined by the settlement rule. The system automatically generates offsetting entries to credit the internal order and debits the cost receivers. The following figure illustrates the example of our internal order that settles all its costs to the cost center NARD1000.

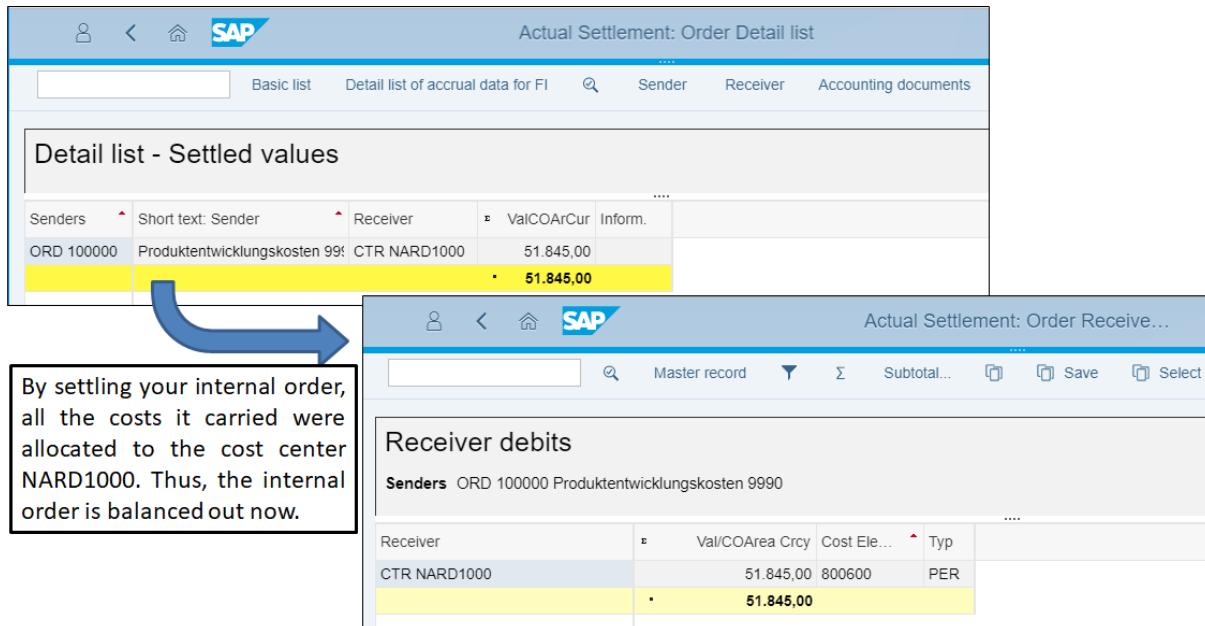
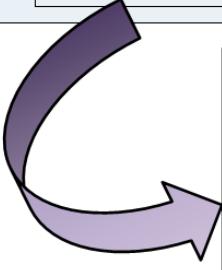


Figure 36: Running Order Settlement: SAP-System-Screenshot

The costs settled are updated on the corresponding receiver object and displayed in reporting. After settlement, the balance of the internal order should be zero.



Internal Order Report before Order Settlement

| Orders: Actual/Plan/Commitments | | Date: 27.08.2015 10:44:53 | Page: 2 / 4 | | |
|---|-----------------------|--------------------------------|-----------------------|------|-------------------------|
| Order/Group | 100000 | Product development costs 9997 | | | |
| Reporting period | 8 - 8 2015 | | | | |
| Cost Elements | Actual | Commitment | Assigned | Plan | Available |
| 720000 RM Consumpt Expense MFT-9997 Manufacture-All-9997 | 50.000,00 1.845,00 | | 50.000,00 1.845,00 | | 50.000,00- 1.845,00- |
| * Costs | 51.845,00 | | 51.845,00 | | 51.845,00- |
| ** Balance | 51.845,00 | | 51.845,00 | | 51.845,00- |

Internal Order Report after Order Settlement

| Orders: Actual/Plan/Commitments | | Date: 28.08.2015 10:25:06 | Page: 2 / 4 | | |
|---|-----------------------|--------------------------------|-----------------------|------|-------------------------|
| Order/Group | 100000 | Product development costs 9997 | | | |
| Reporting period | 8 - 8 2015 | | | | |
| Cost Elements | Actual | Commitment | Assigned | Plan | Available |
| 720000 RM Consumpt Expense MFT-9997 Manufacture-All-9997 | 50.000,00 1.845,00 | | 50.000,00 1.845,00 | | 50.000,00- 1.845,00- |
| * Costs | 51.845,00 | | 51.845,00 | | 51.845,00- |
| 800600 Customer Service Settlement | 51.845,00- | | 51.845,00- | | 51.845,00 |
| * Settled Costs | 51.845,00- | | 51.845,00- | | 51.845,00 |
| ** Balance | | | | | |

Figure 37: Results of Order Settlement: SAP-System-Screenshot

3.1.3 Profitability Analysis

With the component Profitability Analysis (CO-PA) SAP users are enabled to evaluate the profitability of **company-external market segments**. Market segments are objects created in CO-PA based on characteristics like products, customers, orders or any combination of these, or strategic business units such as sales organizations, company codes or business areas and key figures such as profit or contribution margin. The aim of CO-PA is to provide the board of directors or sales and distribution, marketing, planning and other departments of a company with decision-support from a **market-oriented viewpoint**.

3.1.3.1 Profitability Analysis Approaches

SAP provides two types of profitability reporting methods in Profitability Analysis: costing-based and account-based.

Costing-based Profitability Analysis is the form of profitability analysis that groups costs and revenues according to value fields and costing-based valuation approaches. Value fields and valuation approaches can be defined with regards to the company's requirements. With this profit analysis form, company employees can always access a complete, short-term profitability report in order to evaluate the profitability (costs and revenues) of the defined market segments.

Costing-based Profitability Analysis has the following features:

- Reports that display values by value field (flexibly defined key figures).
- Can be enhanced with further anticipated values, such as accrued freight costs.
- Uses special database tables.
- Produces revenues and cost of sales simultaneously when the billing document is calculated in the Sales and Distribution application.

Account-based Profitability Analysis is a form of profitability analysis organized in accounts and using an account-based valuation approach. The distinguishing characteristic of this form is its use of cost and revenue elements. It provides a profitability report that is permanently reconciled with financial accounting.

Account-based Profitability Analysis has the following features:

- Reports that display values by cost element and revenue element
- Reconciles directly with Financial Accounting at account level
- Shares data tables with other Management Accounting applications such as Cost Center Accounting
- Posts revenues to profitability segments when the billing document is created, but cost of sales are posted to profitability segments when the goods issue is posted

| Costing-Based Profitability Analysis | | | Account-Based Profitability Analysis | | |
|--------------------------------------|------------------------|---------------|--------------------------------------|------------------------|---------------|
| Value Fields | | | Cost Element/Account | | |
| VV010 | Revenues | 1.100.000 USD | 600000 | Revenues | 1.100.000 USD |
| VV030 | Sales Deductions | 100.000 USD | 610000 | Sales Deductions | 100.000 USD |
| Net Revenue | 1.000.000 USD | | Net Revenue | 1.000.000 USD | |
| VV150 | Material Costs | 590.000 USD | 300000 | Material Costs | 590.000 USD |
| VV210 | Production Costs | 90.000 USD | 400000 | Production Costs | 90.000 USD |
| VV300 | Prod. Variance (Qty) | 20.000 USD | 700000 | Prod. Variance (Qty) | 20.000 USD |
| Contribution Margin I | 300.000 USD | | Contribution Margin I | 300.000 USD | |
| VV250 | Material Overhead | 100.000 USD | 410000 | Material Overhead | 100.000 USD |
| VV200 | Production Costs Fixed | 50.000 USD | 420000 | Production Costs Fixed | 50.000 USD |
| Contribution Margin II | 300.000 USD | | Contribution Margin II | 300.000 USD | |
| VV360 | Production Overhead | 60.000 USD | 430000 | Production Overhead | 60.000 USD |
| VV270 | Sales Overhead | 20.000 USD | 440000 | Sales Overhead | 20.000 USD |
| VV380 | Marketing Costs | 20.000 USD | 450000 | Marketing Costs | 20.000 USD |
| Contribution Margin III | 200.000 USD | | Contribution Margin III | 200.000 USD | |

Figure 38: Two Approaches for Profitability Analysis

As already explained in the previous teaching unit, in SAP S/4HANA, all data, such as characteristics and key figures, are updated in the central table ACDOCA (Universal Journal). However, the line items are still updated in the following tables:

- COEP – Actual Line item for **account-based** CO-PA
- CE1xxxx (xxxx – ID of Operating Concern) for **costing-based** CO-PA

When drill-down reports are defined within **costing-based** CO-PA, the data for the report is retrieved from the following tables:

- CE1xxxx – Actual Line Item
- CE2xxxx – Plan Line Item
- CE3xxxx – Sum Data

When drill-down reports are defined within **account-based**, CO-PA, the data for the report is retrieved from the following tables:

- COEP – Actual Line Item
- COEJ – Plan Line Item
- COSS, SOSP – Sum Data

The CO-PA tables are still being updated following the “Prima Nota” principle.

3.1.3.2 Profitability Analysis Structures

To be able to use Profitability Analysis (CO-PA), the structures that represent the external market segments and represent the possible valuation levels must be created first. To create the structures, you need to define the **operating concern** as well as the **characteristics** and **value fields** belonging to the operating concern.

An operating concern represents an organizational unit in the company for which the sales market has a uniform structure. It is the valuation level for Profitability Analysis (CO-PA). One or multiple controlling areas can be assigned to an operating concern. Using the SAP master data (customer, product, customer hierarchy, etc.) or CO-PA derivation rules, the system can derive additional characteristics based on the ones entered manually or transferred from primary transactions. The combination of characteristic values forms a multidimensional **profitability segment** for which you can analyze profitability by comparing its costs and revenues.

Profitability Segment

Profitability segments are the most important structure in Profitability Analysis. They represent objects within Profitability Analysis to which costs and revenues are assigned when they incur. A profitability segment corresponds to a market segment. You can calculate the profitability of a profitability segment by comparing its sales revenues against its costs.

A profitability segment in an operating concern is defined by a combination of characteristic values. Characteristics can be concepts already available in the SAP System (customer, product, sales organization, etc.) or you can define custom concepts (such as "order size class").

During a posting, the system uses the combination of **characteristic values** to automatically create the affected market segment and posts the cost or revenue to it. The specifications you make for the characteristic values form the basis for the automatic determination of the profitability segment.

Components of a Profitability Segment

Profitability segments consist of three different types of components:

- **Characteristics** are the criteria in Profitability Analysis (CO-PA) according to which you can analyze your operating results and perform differentiated sales and profit planning. The combination of the values for the characteristics in an operating concern is called a profitability segment. Characteristics help answering the question “Which aspect do I want to evaluate?”

Examples for characteristics are division, region, product, customer, etc.

- **Characteristic Values** are the concrete value of a characteristic. They answer the question “What values can I have for the characteristics?” Examples are
 - o Characteristic Product has the characteristic value "Speedstar"
 - o Characteristic Customer has the characteristic value "125000".

- **Value fields** (or Key Figures) are the fields that contain the currency amounts and quantities that you want to analyze in CO-PA. They represent the structure of your costs and revenues. They answer questions such as “Which statistical key figures do I want to monitor and analyze?”

Value fields that are used frequently are predefined in the standard system. These include fields such as revenue, sales quantity, incoming freight, outgoing freight and others. You can select those predefined value fields that you wish to transfer into your own operating concern. Examples are revenue or costs.

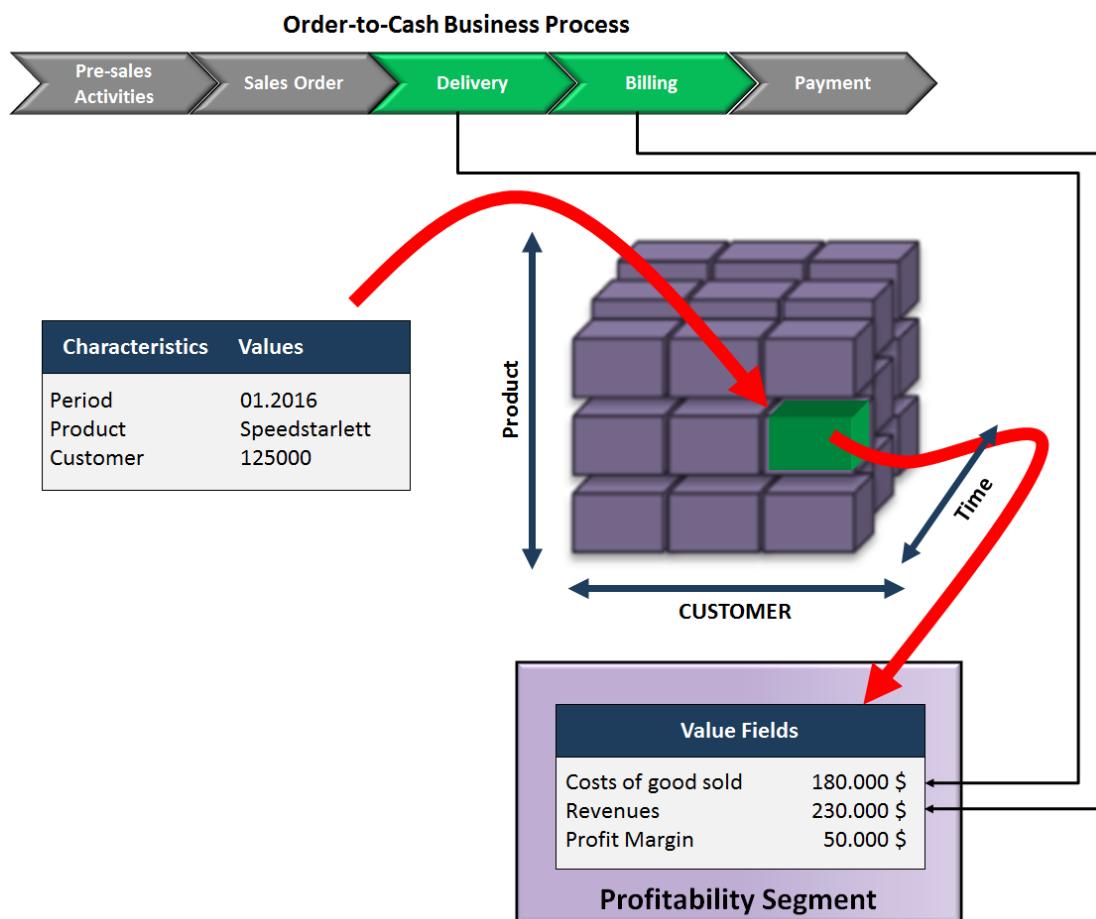


Figure 39: Profitability Segment

Example

1. In CO-PA, you define the operating concern as the highest organizational level. An operating concern can have multiple controlling areas assigned.
2. Within the operating concern, you define **characteristics**.
Examples: product, customer, etc.
3. Through assignment of these characteristics to master data definitions, you determine which characteristic values belong to which characteristic.
Examples:
 - You define the product *Speedstar*. Speedstar is then automatically assigned to the characteristic *Product* in CO-PA as a characteristic value.
 - You define the customer *125000*. 125000 is then automatically assigned to the characteristic *Customer* in CO-PA as a characteristic value.
4. Now you define **value fields** (e.g., Revenue or Costs).
5. You can define **key figures**. Thereby, a key figure can be a value field or a more complex combination of multiple value fields.
Example: Revenue - Costs = Profit Margin
6. Now you post an accounting relevant process in the SAP system. For instance, you sell 100 Speedstars to Customer 125000 and the customer pays them.
7. The system posts all revenues and costs, etc., in this process to the profitability segment, which is specified through the valid combinations of the characteristic values defined in the operating concern. Example of a very small profitability segment:

| Characteristics | Product | Customer | Time |
|-----------------------|--|-----------|-----------|
| Characteristic Values | DXTR1000 | 125000 | 001.2016 |
| Value Fields | Quantity | Revenue | Costs |
| Posted Values | 100 | 230.000 € | 180.000 € |
| Key Figure | Profit Margin = Revenue - Costs | | |
| Calculated Value | Profit Margin = 230.000 € - 180.000 = 50.000 | | |

8. Now you can analyze in CO-PA questions such as:

"How much of a certain product a certain customer purchased?"
 "How many profits did this customer generate?"
 "How many costs did the product generate?"

3.1.3.3 Data Flow in Profitability Analysis

Profitability Analysis retrieves its data from various sources within the SAP system. Thereby, postings to profitability segments can be carried out from the following components:

- Sales Order Management (SAP SD)
- Periodic Overhead Cost Allocation in Management Accounting (SAP CO-OM)
- Financial Accounting (SAP FI)

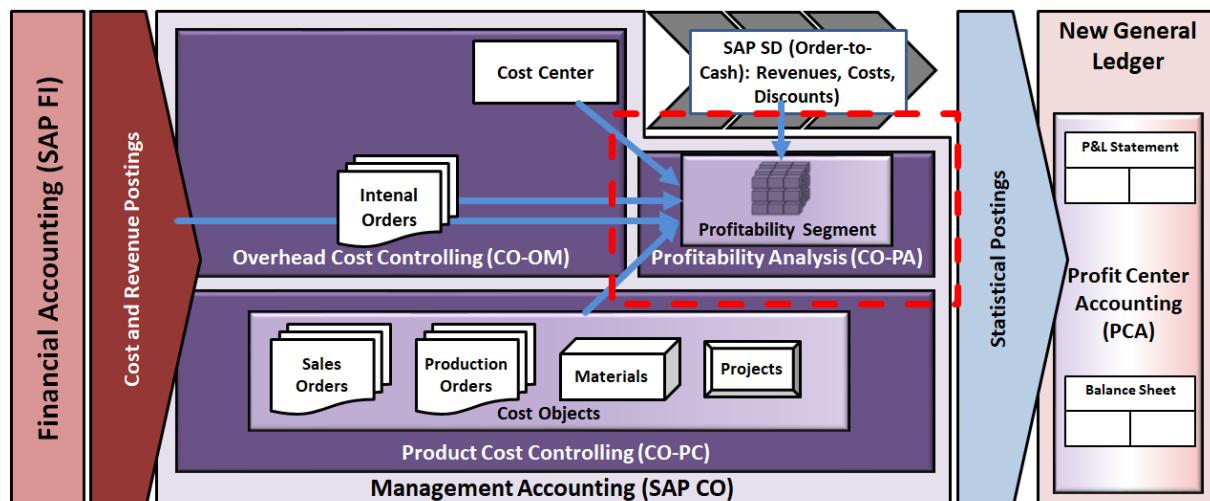


Figure 40: Data Flows in Profitability Analysis

3.1.3.3.1 Sales Order Management (SAP SD)

The Lead-to-Cash business process is a constant contributor and one of the key resources for data transferred to CO-PA. When costs and revenues are generated during the processes of sales management, they are posted to CO-PA. The main differences between the two approaches of Profitability Analysis with regards to postings from SAP SD are the *points in time* when costs and revenues are transferred to CO-PA:

- **Costing-based Profitability Analysis:** Cost and revenue information can be taken at two points in the sales order cycle:
 - o when an order is created or changed (optional)
 - o when an invoice is generated for an order.
- **Account-based Profitability Analysis:** Cost and revenue information can also be taken at two points in the sales order cycle:

- when a goods issue is posted, costs of goods (COGS) sold are posted to the profitability segment.
- When an invoice is generated for the sales order (or goods issue) the revenue is posted to the profitability segment.

3.1.3.3.2 Periodic Overhead Cost Allocation in Management Accounting (SAP CO-OM)

Costs from other areas of Management Accounting can be transferred periodically to Profitability Analysis using activity and template allocations, settlements and assessments:

- To reflect all the actual overhead costs from Overhead Cost Controlling in Profitability Analysis, you need to transfer the cost center costs and business processes, which are not directly attributable to the production process. You can transfer these costs to any profitability segments you wish and, thus, assign them to any level of your contribution margin hierarchies. That way, you can assign them to the level that best reflects the cause of the overhead.
- Example: You can assign the costs that arose in the marketing for a certain customer group to that customer group in CO-PA.

To display all overhead costs in Profitability Analysis, you allocate the overhead costs that were not allocated to Product Cost Controlling to Profitability Analysis. You have various options for doing this:

- Allocation of internal activities
- Assessment
- Order settlement
- Project settlement

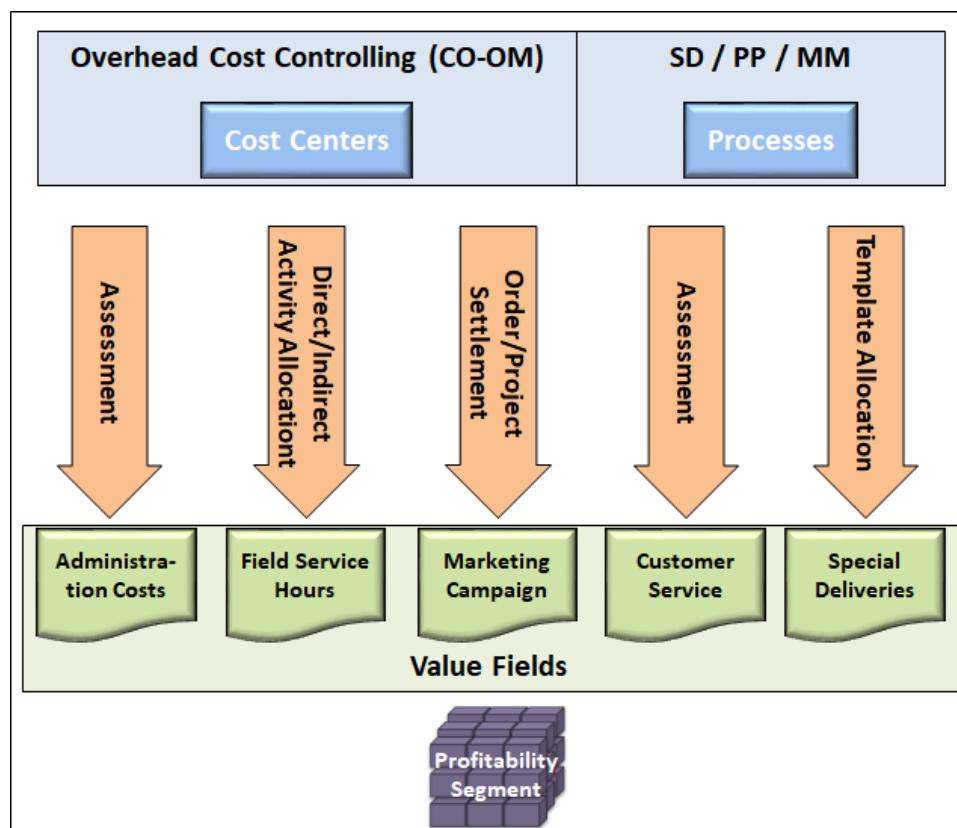


Figure 41: Assigning Overhead Costs

Allocation of Internal Activities

Internal activities from cost centers can be allocated to CO-PA using direct or indirect activity allocation. To do though, you must enter the sender (cost center) and receiver (profitability segment) as well as the quantity of the activity that the cost center provides.

The system then will valuate the quantity using the price of the activity type (planned price on the cost center) and credit the sender with the calculated value, while debiting the profitability segment that receives the activity quantity. This means, for instance, that an activity can be posted directly to a specific customer without having to post it to a cost center or an order first.

Assessment of Cost Center and Process Costs

You can allocate costs from cost centers and processes to profitability segments using assessment in the same way as it is done in Overhead Cost Controlling. Therefore, you define cycles – which contain the cost center or process as sender and the profitability segment as receiver – and execute them on a periodic basis. These cycles contain the control information required for assessment and are maintained in Customizing. Once the assessment cycle has been executed, the cost centers and processes are credited with the allocated amount and the profitability segment is debited.

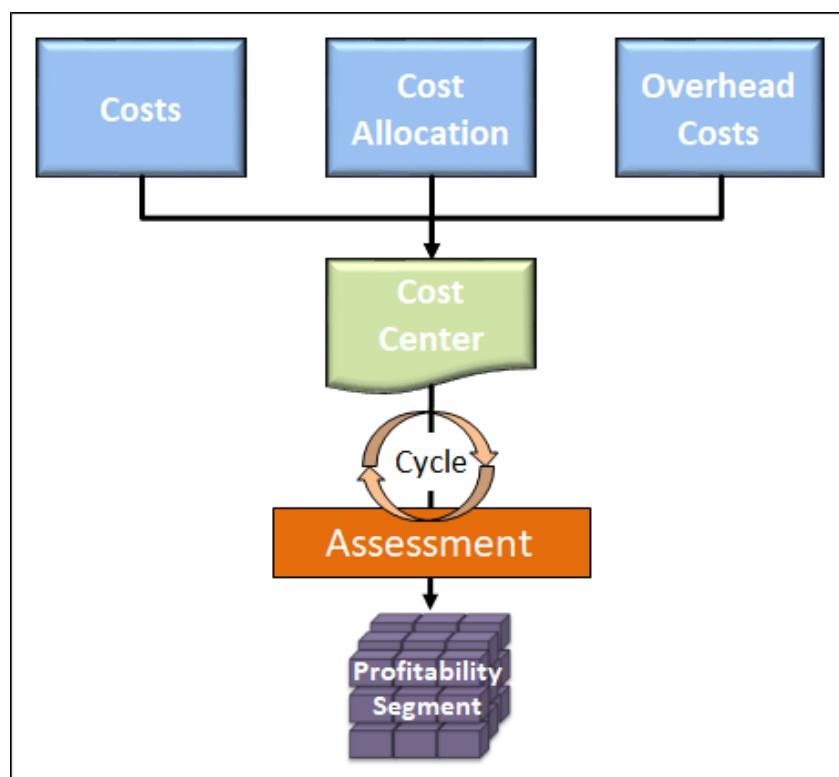


Figure 42: Assessment of Cost Center and Process Costs

Order Settlement to Profitability Analysis

Orders and projects can be used for various functions relevant to CO-PA. For instance, a profitability segment can be used as settlement receiver in the settlement process of these objects. In the SAP system, internal orders (CO), sales orders (SD), projects (PS) and production orders (PP) can settle costs – which they have collected while they were processed – to a profitability segment.

For instance, in the Make-to-Order business process, an internal order (with revenue postings), a sales order, a project or a production order can be used to post all costs and revenues occurring during the production process. Examples of costs are costs of goods manufactured, sales and administration costs, etc. After the production process is finished, the costs and revenues posted to the cost collector are settled to CO-PA. It is also possible to transfer accrued values (particularly important for milestone billing) such as sales and reserves for imminent losses to CO-PA.

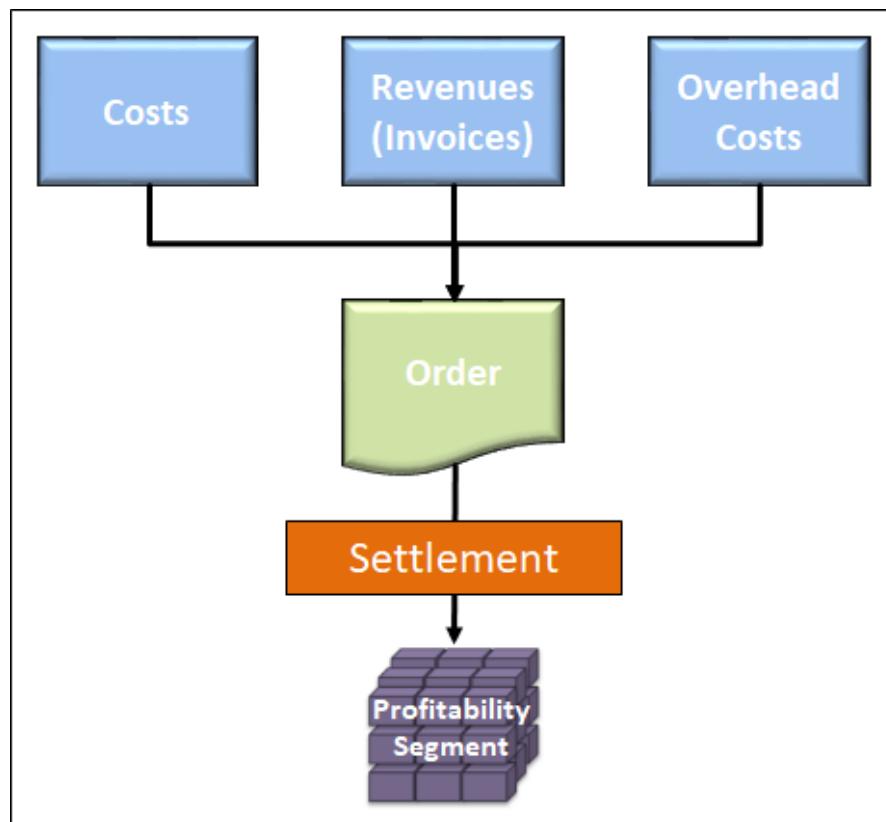


Figure 43: Order Settlement to Profitability Analysis

3.1.3.3.3 Financial Accounting (SAP FI)

Direct assignments can also be made manually from Financial Accounting to Profitability Analysis. When the FI document is posted, the system creates a line item in CO-PA and updates the segment level for each posting line assigned to a profitability segment. The values and quantities that have been posted are transferred to the corresponding value and quantity fields in Profitability Analysis.

Profitability Analysis Characteristics in Table ACDOCA

It is also possible to report the Costs of Goods Sold (COGS) in the income statement (P&L). If the elements of the Cost Component Split have been assigned to defined G/L accounts, the COGS can also be shown in the income statement, for example in CO-PA.

Therefore, in SAP S/4HANA, the billing of a sales order item is stored in table ACDOCA. This enables the reporting of market segments not only within CO-PA, but also within financial accounting. This makes it possible to generate a profit and loss account based on characteristics such as the following:

- Customer
- Distribution Channel
- Plant
- Sales Organization

Reporting on market segments and with COGS and, if required, with contribution margin in SAP S/4HANA can take place in the following areas:

- Financial Accounting
- CO-PA Accounting Based
- CO-PA Costing Based (such as in the ERP environment)

To use Drill-Down reporting in Financial Accounting, the Trial Balance Reporting must be utilized.

3.1.4 Profit Center Accounting in New G/L

The purpose of Profit Center Accounting (PCA) is to determine profits and losses for company-internal areas of responsibility, so called **profit centers**, using either *period accounting* or the *cost-of-sales approach*. The results generated by profit centers is displayed in over-absorption and under-absorption reports (e.g. cost center reports). Furthermore, balance sheet and profit & loss statement can be generated on the level of profit centers in Financial Accounting.

In previous SAP system releases, Profit Center Accounting was part of the Management Accounting (CO)/ Enterprise Controlling (EC-PCA). As of SAP ERP 6.0 this is not the case anymore. Instead, in the **new General Ledger Accounting**, profit centers are part of Financial Accounting (FI).

Even after migration to the New General Ledger Accounting, it is possible to choose to run PCA in Financial Accounting and EC-PCA in parallel. However, this approach is not recommended by SAP, specifically, if Document Splitting is used in the New G/L with the Profit Center as a Document Splitting Characteristic of the General Ledger. In this case, PCA must be used in the New G/L as part of SAP FI.

3.1.4.1 Profit Center Master Data and Assignments

When Profit Center Accounting is active in the system, you can define profit centers in transaction KE51 or the Fiori App *Manage Profit Centers*. The profit center master data encompasses all basic data that describes the profit center and its usage, such as address, telephone number, fax number, person responsible, FI segment and validity periods.

| Controlling Area: | NA00 |
|------------------------|------------------|
| Profit Center: | PROF-9995 |
| * Name: | Bicycle-9995 |
| Long Text: | Bicycle-9995 |
| Validity Period: | 01.01.2017 |
| To: | 31.12.9999 |
| Analysis Period: | 01.01.2017 |
| To: | 31.12.9999 |
| User Responsible: | [User Selection] |
| * Responsible Person: | Khatami |
| * Profit Center Group: | H1 |

Figure 44: Profit Center Master Data: SAP-System-Screenshot

For using Profit Center Accounting (PCA), you assign a profit center to each controlling object for which costs or revenues are incurred in the system. Controlling objects are:

- Orders
 - o Internal orders
 - o Production orders
 - o Sales orders
 - o Service orders
 - o Maintenance orders
 - o Purchase orders

- ...
- Profitability segments
- Cost centers
- Business processes
- WBS-Elements
- (General) cost objects
- Materials

The following figure illustrates real costing objects (different order types, projects, assets) to which costs and revenues are posted during business processes. You divide your company into profit centers by assigning all the objects that contain profit-related data to your profit centers. Note that profit centers themselves are *not real* account assignment objects but only receive *statistical* postings.

In transaction 1KE4 you can access the **assignment monitor** which provides an overview of all the assignments of profit centers to different cost assignment objects. Here, you can display all orders, business processes, cost centers, cost objects, materials and work breakdown structures (WBS) that are assigned or not assigned to a profit center. This monitor is specifically useful when changes to assignments were made.

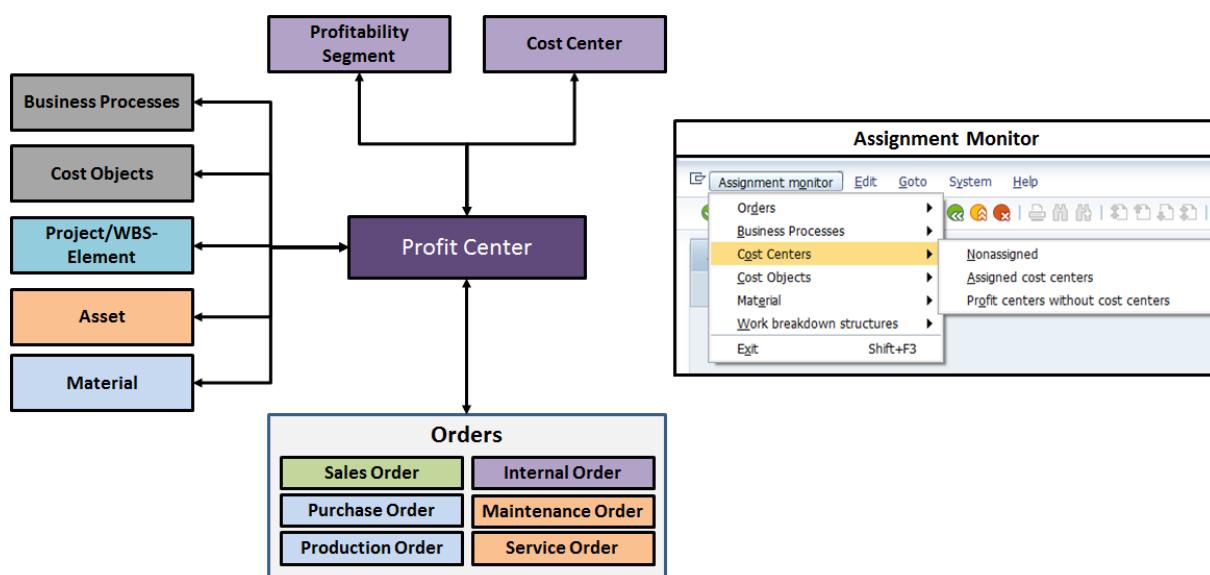


Figure 45: Profit Center Accounting: Account Assignment Objects

The assignment of these SAP CO costing objects is maintained using the profit center field that all the objects possess in their data structure. When PCA is active, the various CO costing objects can be assigned to a profit center by entering the profit center – that is responsible for the particular costing object – in that profit center field of the costing object. Examples for such assignments are:

- **Project:** Complex projects, e.g., the construction of a ship or plane, generally involve more than one profit center (engine design, hull construction, wings construction, etc.). Accordingly, the different operating structures of the project (e.g., work breakdown structure elements, network headers, and networks) can be assigned to separate profit centers.

- **Sales Order:** A sales order can be assigned to a profit center on the accounting tab, in order to transfer revenue postings of the sales order to PCA.
- **Profitability Segment:** A profitability segment does not have a master record, as it combines different characteristics such as customer, product, plant, or distribution channel. The profit center is always one of the characteristics and can be derived automatically from the material and plant, or from other characteristics. The profit center can also be entered manually.
- **Fixed Asset:** Fixed assets are assigned indirectly to profit centers using the cost centers stored in the fixed asset master record. This means that a profit center is the summary of all posted values for all assigned account assignment objects. Additional allocations between the profit centers are possible.

This assignment leads to the generation of a statistical posting (additional posting) in PCA to that profit center whenever there is a debit or credit posting to the costing object to which the profit center is assigned.

The following figure illustrates different order types (purchase order, internal order, service order, sales order) in the SAP system with the respective **Profit Center** field being occupied or left empty depending on if a profit center assignment is desired or not.

For instance, the purchase order contains an item that is purchased for consumption and, thus, is assigned to a real account assignment object (cost center). If PCA is active, the purchase order's item can at the same time be assigned to a profit center (here: 9999). This assignment in the field *Profit Center* can either occur automatically, based on the system settings, or it can be entered manually by the employee in charge.

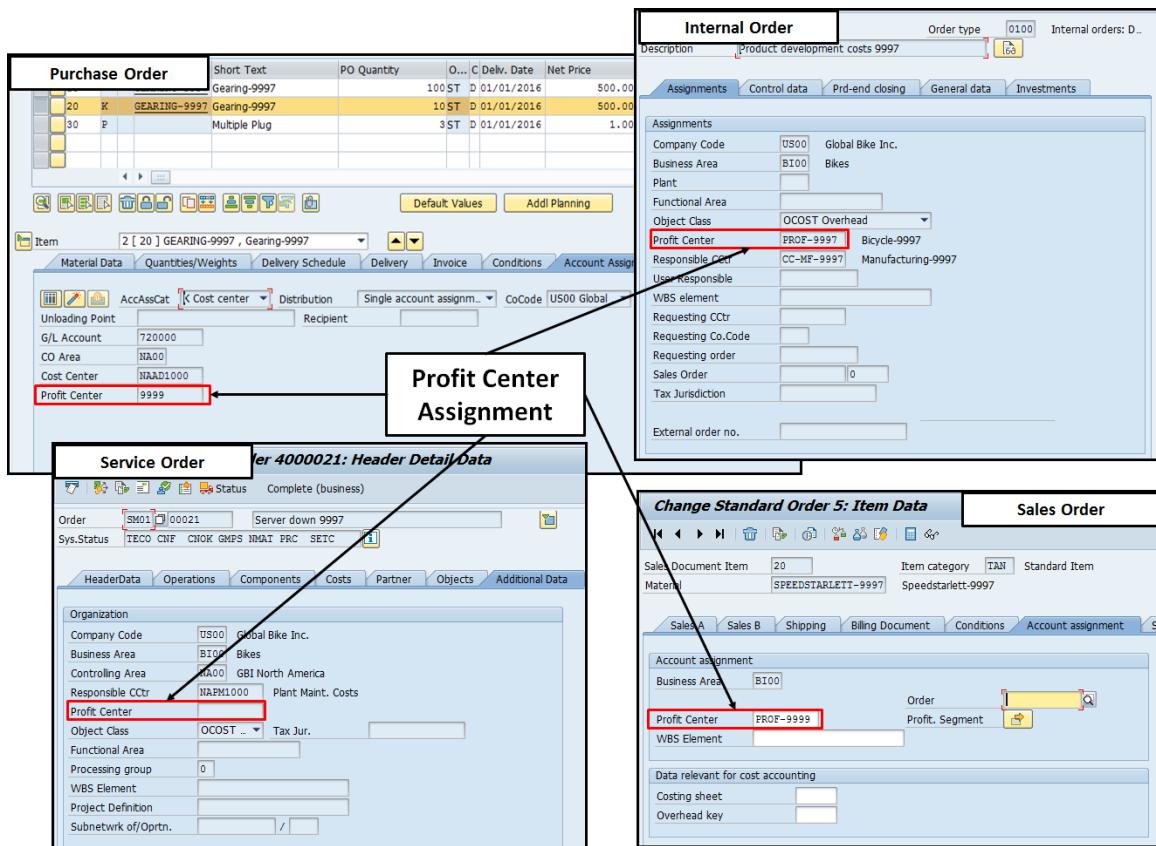


Figure 46: Profit Center Field in different Order Types: SAP-System-Screenshot

3.1.4.2 Data Flow to Profit Center Accounting in New G/L

One important aspect of profit centers is that (in contrast to, e.g., cost centers) any posting to a profit center is only **statistical** and serve only for **analyses (reporting) purposes**. This means that every time a real posting (e.g., costs, revenues, etc.) in Controlling is made to a real (accounting-relevant) object (e.g., cost center, cost element/account, internal order, etc.), the same posting is made automatically to the profit center – which is assigned to the real controlling object – at the same time. As a result, the actual data for the real objects is also updated to the profit center as a statistical posting.

The same can also be done for planning data. This means that Profit Center Accounting is not limited to actual postings made in Management Accounting. It is also possible to run cost and revenue **planning** for profit centers. That is, if a cost object is assigned to a profit center and the cost and revenue planning for future periods is performed for the cost object, then the assigned profit center will also receive this planning data as a statistical posting. This allows running plan and actual comparisons later on, when the actual costs and revenues are generated during business process execution. However, planning data can also be derived as a summary from planning in the Management Accounting components, if required.

Before profits can be analyzed by profit center, the system must summarize all the profit-related postings in PCA. During process execution, these profit-center-related data is transferred to and summarize in Profit Center Accounting in the **New General Ledger** in the following way:

- All posting that are made in Financial Accounting (FI) can be assigned to a profit center either with or without a controlling object.
- Posting costs and revenues in Financial Accounting (FI) that involve a controlling object such as cost center, internal order, or WBS (Work Breakdown Structure) element (project) – that are assigned to a profit center – lead to an assignment of the posted value to a profit center.
- Postings to a cost object in Management Accounting (CO) lead to an assignment to the corresponding profit center that is assigned to that cost object.

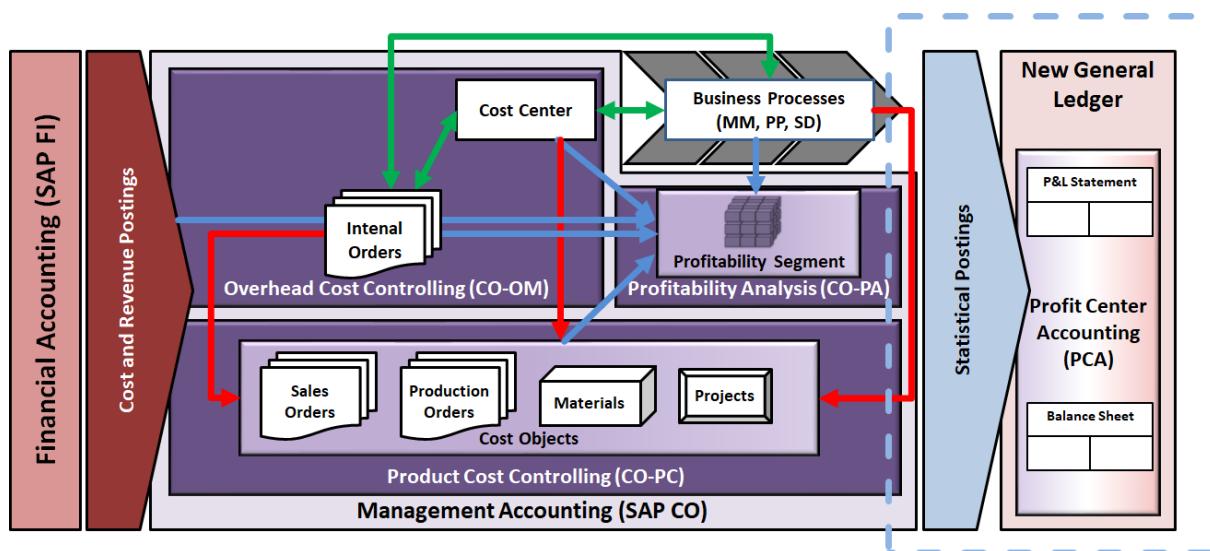


Figure 47: Data Flow to Profit Center Accounting in New G/L

3.1.4.3 Distribution and Assessment for Profit Centers

In some cases, a company may want to allocate revenues and sales deductions from one profit center to other profit centers. Even though postings to profit centers are statistical posting, SAP FI allows allocating balance sheet items (raw materials, fixed assets, etc.) that were originally posted to a profit center to various receiver profit centers using the Distribution or Assessment method in a similar way as it is used in Cost Center Accounting (Overhead Cost Controlling). Assessing or distributing Profit Center Accounting data makes only sense after all period-end closing activities in the components that supply Profit Center Accounting with data (FI, CO, SD and MM) have been completed.

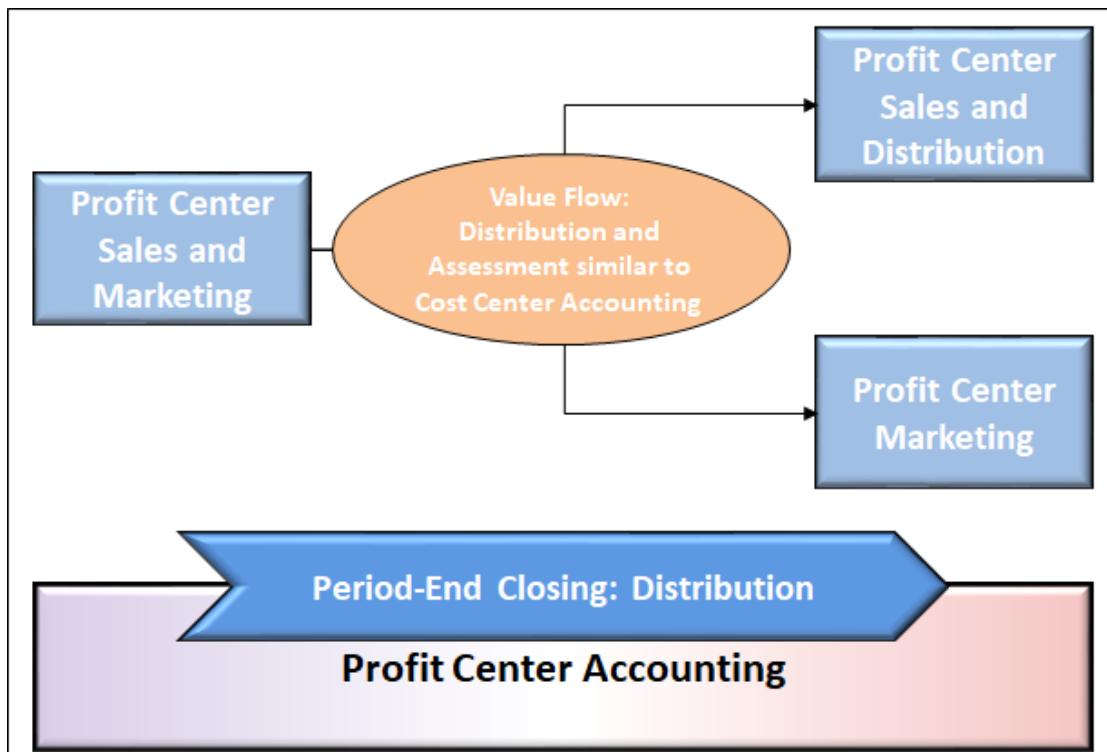


Figure 48: Distribution and Assessment for Profit Centers

3.2 Practice: Business Processes in Management Accounting



PRACTICE

A new department is supposed to be set up that is in charge of technical maintenance of work centers and that is supposed to internally allocate its services with the other work centers. This decision has been in place for quite some time now but the actual set up was postponed. Additionally, the two new work centers receive their own cafeteria, the costs of which they have to bear. Each work center will have an own cost center for cost controlling. The cafeteria will also receive its own cost center.



NOTE

*You will only create one work center (SAP PP point of view), which will be responsible for manufacturing. All other structures will be created in Controlling (SAP CO point of view). Thus, we only pretend that a **work center** (SAP PP) for maintenance exists for which the **cost center** (SAP CO) maintenance is responsible.*

3.2.1 Cost Center Accounting (CO-OM-CCA): Cost Center Planning

Now, you will carry out **cost center planning**. This task consists of several steps that are visualized in the following figure. In the previous sections, you created the basis for your cost allocation.

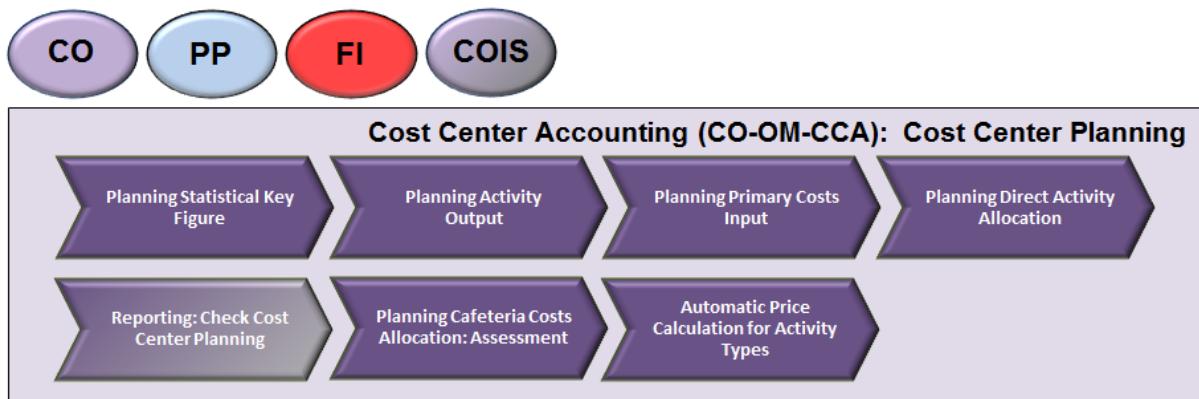


Figure 49: Process Overview: Cost Center Accounting: Cost Center Planning

You have already created:

- The statistical key figure number of employees (**EMxyyy**) that you can use to assign the number of employees to the respective cost centers (manufacturing and maintenance) so that you can use this number as basis for cafeteria cost assessment.
- The activity types **MFxyyy** and **MTxyyy** that are used to describe the provided activities of the two corresponding cost centers.
- The secondary Cost Elements **MFTxyyy** and **MNTxyyy** that are used to allocate your activity types as well as the cost element **CAFxyyy** to assess cafeteria costs.
- The cost center group **Group-xyyy**, which is the cost receiver for the cafeteria costs and which contains the corresponding cost centers **CC-MF-xyyy** and **CC-MT-xyyy**.

In the following sections, you will merge these components and fill the result with concrete numbers.

3.2.1.1 Planning the Statistical Key Figure

The management and the marketing department predict sales of 15000 units of the Speedstarlett for the first fiscal year of its launch. To fulfill the management's demand, 20 new employees are hired for the manufacturing cost center. The maintenance cost center, which is not only in charge of maintaining manufacturing machines but is also supposed to support other business areas, will get five new employees. Cafeteria services are provided externally, i.e., via external procurement. Thus, the required employees are not considered in cost calculation and, therefore, not created in the system.

Before you continue, please make sure that the planner profile SAPALL was selected. Therefore, within the tile group **Script 6 – Controlling** select the app **Set Planner Profile**.

Enter **Planner profile SAPALL**, click on **User master record** and confirm with **Continue**.

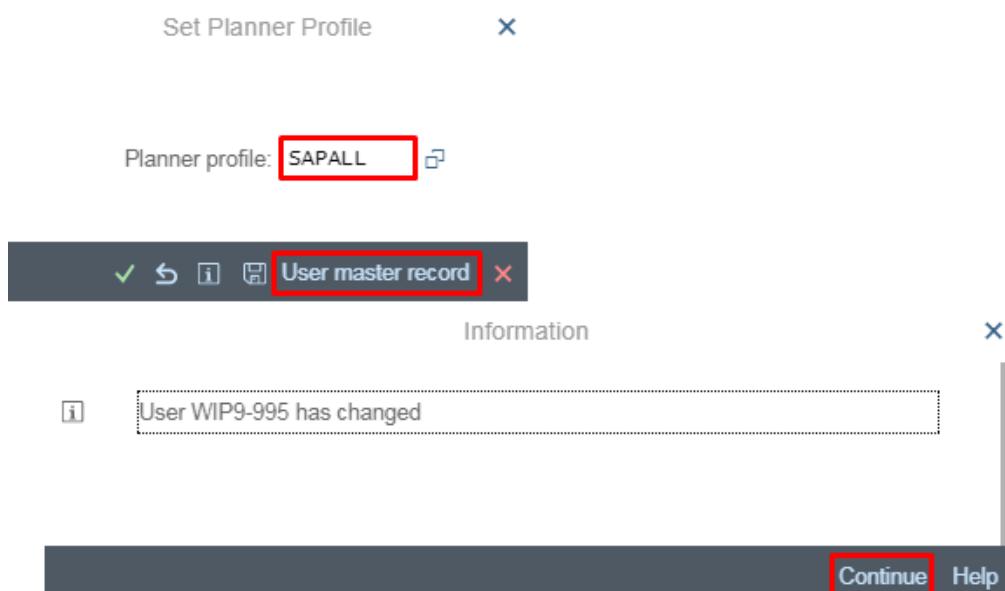


Figure 50: Set Planner Profile: SAP-System-Screenshot

Now, within the tile group **Script 6 – Controlling** select the app **Change Statistical Key Figure**.

1. If prompted, enter **NA00** as Controlling Area.
2. You can see the **Statistical Key Figures: Standard** screen (**1-301**). Enter the following data:
 - **Version** **0**
 - **From Period** **1**
 - **To Period** **12**
 - **Fiscal year** **Current Year**
 - **Cost Center** **CC-MF-xxxx**
 - **Stat. key figure** **EMxxyy (Number of employees)**
 - Ensure that all other fields are empty, especially both **or Group** fields.
3. Click on **Overview Screen** or press **F5**.

4. Enter the **Current Plan Value 20** and post with **Post**. The system issues the confirmation "Changed data has been posted."
5. Repeat step 1 to 3 for cost center **CC-MT-xyyy**. Enter the **Current Plan value 5**. Post this planning as well and finally, press **Exit**.

3.2.1.2 Planning Activity Output

In this section, you will plan the total output of maintenance and manufacturing. The employees work 2000 hours a year each, i.e., the overall performance is 10000 hours (maintenance) and 40000 hours (manufacturing). Since cafeteria services are procured externally, there is no activity output planned.



Pay attention to entering the correct combinations of activity type and cost centers in the following sections. Read the instructions carefully, since careless mistakes happen quite often at this point.

CAUTION

Now, within the tile group **Script 6 – Controlling** select the app **Enter Prices for Activity Types**.

1. You can see the **Activity Types with Prices: Standard** screen (1-201). Enter the following data:

| | |
|---|---------------------|
| - Version | 0 |
| - From Period | 1 |
| - To Period | 12 |
| - Fiscal year | <i>current year</i> |
| - Cost Center | CC-MT-xyyy |
| - Activity type | MTxyyy . |
| - Again, make sure that all other fields are empty! | |
2. Then, click on **Overview Screen** or press **F5**.
3. Enter **10000** hours in the **Plan Activity** field. Post the planning (**Post**).
4. Repeat step 1 to 3 for cost center **CC-MF-xyyy** with **Activity Type MFxyyy**. This time, enter **40000** hours in the **Plan Activity** field. Post the planning and finally, press **Exit**.

With this, you have determined how much of the specified activities the cost centers plan to provide.

3.2.1.3 Planning Primary Costs Input

All three cost centers cause primary costs. You have to plan these costs now.

The primary costs for the externally procured cafeteria services amount to 150000 USD, the costs for salaries in maintenance amount to 150000 USD and the manufacturing wages amount to 600000 USD.

| | | |
|-----------------------|-------------------------------------|--------------------------------------|
| Cost Center Cafeteria | Cost Center Maintenance | Cost Center Manufacturing |
| External Procurement | Employees: 5 Output: 10.000 hrs. | Employees: 20 Output: 40.000 hrs. |
| Service: 150.000 \$ | Salaries: 150.000 \$ | Wages: 600.000 \$ |

Figure 51: Overview Primary Cost Input



Pay attention to entering the correct **combinations** of activity type, cost element, and cost centers in the following sections. Read the instructions carefully, since careless mistakes happen quite often at this point.

CAUTION

Now, within the tile group **Script 6 – Controlling** select the app **Change Cost Element/Activity Input Planning**.

Cafeteria costs: You purchase the cafeteria service externally (outsourced)

1. Now, you can see the **Cost Elements Activity Independent/ Activity Dependent** screen (**1-101**). Enter the following data:

| | |
|--|--|
| - Version | 0 |
| - From Period | 1 |
| - To Period | 12 |
| - Fiscal year | current year |
| - Cost Center | CC-CA-xxxx |
| - Cost Element | 720200 (Trading Good Consumption Expense) |
| - Again, make sure that all other fields are empty (first and foremost the activity type field). | |
2. Click on **Overview Screen** or press **F5**.
3. Enter **150000** into the **Plan Fixed Costs** column. Post your entries (**Post**).

Maintenance costs: You pay a combined 150.000 \$ Salaries to the 5 employees of the maintenance cost center. Note that you must not enter an activity type here, since the salaries are fixed.

1. Enter the following data:

| | |
|--|--|
| - Version | 0 |
| - From Period | 1 |
| - To Period | 12 |
| - Fiscal year | current year |
| - Cost Center | CC-MT-xxxx |
| - Cost Element | 740500 (Payroll Expense-Office) |
| - Again, make sure that all other fields are empty (foremost the activity type field). | |
2. Click on **Overview Screen** or press **F5**.

3. Enter **150000** into the **Plan Fixed Costs** column. Post your entries ([Post](#)).



HINT

By adding an activity type, primary cost input can be planned activity dependently in the following, i.e., with a fixed and a variable price. This is done, since you pay **Wages** to your employees of the production cost center manufacturing. Wages are paid on basis of the activity output. Correspondingly, the planned costs are **variable**.

1. Enter the following data:

- Version 0
- From Period 1
- To Period 12
- Fiscal year current year
- Cost Center CC-MF-**xyyy**
- Activity Type (!) **MF****xyyy**
- Cost Element **700000 (Labor Expense)**
- Again, make sure that all other fields are empty

2. Click on [Overview Screen](#) or press **F5**.

3. Enter Plan **Variable Costs** of **600000**. Post your entries ([Post](#)).

3.2.1.4 Planning Direct Activity Allocation

The manufacturing department (manufacturing cost center) plans to let the internal maintenance team (maintenance cost center) regularly check their machines in the current fiscal year. You calculate 1000 working hours. The hourly price has not yet been determined. That is, you do not know how much an activity of type maintenance (MT**xyyy**) allocated with the cost element type (MNT**xyyy**) costs. This will be carried out later.

You could calculate the activity cost as $150000\$/10000 \text{ hours} = 15\$/\text{hour}$ at this point, but that would not account for the cafeteria costs that the maintenance cost center will have to pay, too.

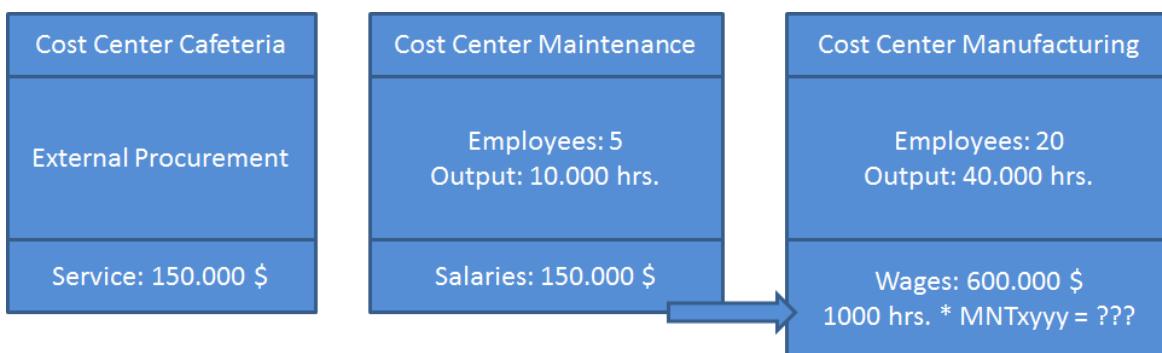


Figure 52: Overview Activity Allocation



Pay attention to entering the correct **combinations** of activity type, cost element and cost centers in the following sections. Read the instructions carefully, since careless mistakes happen quite often at this point.

CAUTION

To plan this scenario, select within the tile group **Script 6 – Controlling** the app **Change Cost Element/Activity Input Planning**.

1. Now, you can see the **Cost Elements Activity Independent/ Activity Dependent** screen (**1-101**). Since this layout applies only to Cost Elements, go to the next screen. Therefore, click on [Next Layout](#).
2. You are now on the **Activity Input Activity Independent/ Activity Dependent** screen (**1-102**). Enter the following data:

| | |
|-------------------------------|---------------------|
| - Version | 0 |
| - From Period | 1 |
| - To Period | 12 |
| - Fiscal year | <i>current year</i> |
| - Cost Center | CC-MF-xxxx |
| - Sender cost center | CC-MT-xxxx |
| - Sender Activity Type | MTxxxx |

- Again, make sure that all other fields are empty (**All other fields must be empty, especially the *Activity Type* field!!!**)
3. Click on [Overview Screen](#) or press **F5**.
4. Enter a **plan fixed consumption** of **1000** hours. Post your entries ([Post](#)). Finally, press **Exit**.

| Variables | | | |
|-----------------------|--|--------------------|--|
| Version: | <input type="text" value="0"/> | Plan/Act - Version | <input type="text" value="January"/> |
| From Period: | <input type="text" value="1"/> | To Period: | <input type="text" value="12"/> December |
| Fiscal year: | <input type="text" value="2017"/> | | |
| Cost Center: | <input type="text" value="CC-MF-9995"/> Cost Center Manufacturing 9995 | | |
| to: | <input type="text"/> | | |
| or group: | <input type="text"/> | | |
| Activity Type: | <input type="text"/> | | |
| to: | <input type="text"/> | | |
| or group: | <input type="text"/> | | |
| Sender cost center: | <input type="text" value="CC-MT-9995"/> CC-MT-9995 | | |
| to: | <input type="text"/> | | |
| or group: | <input type="text"/> | | |
| Sender Activity Type: | <input type="text" value="MT9995"/> MT9995 | | |
| to: | <input type="text"/> | | |
| or group: | <input type="text"/> | | |

Cost Center **CC-MF-xxxx**
will receive (plan) from
Sender Cost Center CC-MT-xxxx
1000 units of Sender Activity Type MTxxxx

You see that it is not specified yet, how much this activity type will cost. The allocation cost element type (MNTxxxx) is already included, since it is derived from the activity type's master data record.

| | | | | | | | | | |
|---|--|--|---|---|---|---|---|--|---|
| Version: | <input type="text" value="0"/> | Plan/Act - Version | <input type="text" value="To: 12"/> | | | | | | |
| Period: | <input type="text" value="1"/> | Fiscal Year: | <input type="text" value="2017"/> | | | | | | |
| Cost Center: | <input type="text" value="CC-MF-9995"/> Cost Center Manufacturing 9995 | | | | | | | | |
| Sender Co... <input type="checkbox" value="CC-MT-9995"/> | Send... <input type="checkbox" value="MT9995"/> | Plan fixed consu... <input type="checkbox" value="1000"/> | Dist... <input type="checkbox" value="2"/> | Plan vbl consump... <input type="checkbox" value="0,0"/> | Dist... <input type="checkbox" value="2"/> | Unit <input type="checkbox" value="HR"/> | Plan fixed costs <input type="checkbox" value="0,00"/> | Plan Variable Costs <input type="checkbox" value="0,00"/> | Alloc. cost <input type="checkbox" value="MNT9995"/> |

Figure 53: Plan Activity Input for Cost Center Manufacturing: SAP-System-Screenshot

3.2.1.5 Reporting: Check Cost Center Planning

Now, within the tile group **Script 6 – Controlling** select the app **Cost Center Planning Report**. Check the three cost centers (**CC-CA-xxxx**, **CC-MT-xxxx**, and **CC-MF-xxxx**) by clicking the **Execute** symbol or by pressing **F8**. Leave each report by pressing **Exit**.



CAUTION

If your cost center overviews differ from the figures below, contact your tutor immediately and **do not** carry out the following steps, since it might cause errors for further processing of the case studies! Note that each highlighted entry should be exactly at its place

| Controlling Area NA00 GBI North America Fiscal Year 2017 Period 1 To 12 Version 000 Plan/Act - Version Cost Center CC-MT-9995 Maintenance-9995 | | | | | | | | | | You have planned fixed Salaries for the Cost Center Maintenance | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|------------------------|---------------------|-------------------|----------------------|----------------------|-----------|--------------------|---------|--|---|-------------|----------------|-------------------|----------------------|----------------------|-----------|--------------------|--------|------------------------|---------------------|----------|-----|------------|------------|---------|--|--|---------------|--|--|--|----|------------|----|------------|--|----------------------------|--|--|--|----|------------|----|------------|--|-------|--|--|--|-----|------------|-----|------------|--|------------------------------|--|--|--|--|------|------|---------|---------|------------------------------|-----|------------|--|--|------|------|---------|---------|-------------------------------|--|--|--|----|------|----|------|--|---------------------|--|--|--|----|------|----|------|--|--------|--|--|--|-----|------|-----|------|--|------------------------------|--|--|--|------|------------|------|------------|--|--|--|--|--|
| <table border="1"> <thead> <tr> <th>Cost Element/Description</th><th>OTy</th><th>Partner Object</th><th>P...</th><th>Val.in CoCdCur</th><th>Fxd Value In</th><th>Total Qty</th><th>Fixed Qty</th><th>Unit</th></tr> </thead> <tbody> <tr> <td>740500 Payroll Expense</td><td></td><td></td><td></td><td>150.000,00</td><td>150.000,00</td><td></td><td></td><td></td></tr> <tr> <td>Primary Costs</td><td></td><td></td><td></td><td>..</td><td>150.000,00</td><td>..</td><td>150.000,00</td><td></td></tr> <tr> <td>Activity-Independent Costs</td><td></td><td></td><td></td><td>..</td><td>150.000,00</td><td>..</td><td>150.000,00</td><td></td></tr> <tr> <td>Debit</td><td></td><td></td><td></td><td>...</td><td>150.000,00</td><td>...</td><td>150.000,00</td><td></td></tr> <tr> <td>MNT9995 Maintenance-All-9995</td><td></td><td></td><td></td><td></td><td>0,00</td><td>0,00</td><td>9.000,-</td><td>0,00 HR</td></tr> <tr> <td>MNT9995 Maintenance-All-9995</td><td>CTR</td><td>CC-MF-9995</td><td></td><td></td><td>0,00</td><td>0,00</td><td>1.000,-</td><td>0,00 HR</td></tr> <tr> <td>MT9995 Maintenance-hours-9995</td><td></td><td></td><td></td><td>..</td><td>0,00</td><td>..</td><td>0,00</td><td></td></tr> <tr> <td>Activity Allocation</td><td></td><td></td><td></td><td>..</td><td>0,00</td><td>..</td><td>0,00</td><td></td></tr> <tr> <td>Credit</td><td></td><td></td><td></td><td>...</td><td>0,00</td><td>...</td><td>0,00</td><td></td></tr> <tr> <td>Under/Over-Absorbed Overhead</td><td></td><td></td><td></td><td>....</td><td>150.000,00</td><td>....</td><td>150.000,00</td><td></td></tr> </tbody> </table> | | | | | | | | | | Cost Element/Description | OTy | Partner Object | P... | Val.in CoCdCur | Fxd Value In | Total Qty | Fixed Qty | Unit | 740500 Payroll Expense | | | | 150.000,00 | 150.000,00 | | | | Primary Costs | | | | .. | 150.000,00 | .. | 150.000,00 | | Activity-Independent Costs | | | | .. | 150.000,00 | .. | 150.000,00 | | Debit | | | | ... | 150.000,00 | ... | 150.000,00 | | MNT9995 Maintenance-All-9995 | | | | | 0,00 | 0,00 | 9.000,- | 0,00 HR | MNT9995 Maintenance-All-9995 | CTR | CC-MF-9995 | | | 0,00 | 0,00 | 1.000,- | 0,00 HR | MT9995 Maintenance-hours-9995 | | | | .. | 0,00 | .. | 0,00 | | Activity Allocation | | | | .. | 0,00 | .. | 0,00 | | Credit | | | | ... | 0,00 | ... | 0,00 | | Under/Over-Absorbed Overhead | | | | | 150.000,00 | | 150.000,00 | | | | | |
| Cost Element/Description | OTy | Partner Object | P... | Val.in CoCdCur | Fxd Value In | Total Qty | Fixed Qty | Unit | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 740500 Payroll Expense | | | | 150.000,00 | 150.000,00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Primary Costs | | | | .. | 150.000,00 | .. | 150.000,00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Activity-Independent Costs | | | | .. | 150.000,00 | .. | 150.000,00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Debit | | | | ... | 150.000,00 | ... | 150.000,00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MNT9995 Maintenance-All-9995 | | | | | 0,00 | 0,00 | 9.000,- | 0,00 HR | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MNT9995 Maintenance-All-9995 | CTR | CC-MF-9995 | | | 0,00 | 0,00 | 1.000,- | 0,00 HR | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MT9995 Maintenance-hours-9995 | | | | .. | 0,00 | .. | 0,00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Activity Allocation | | | | .. | 0,00 | .. | 0,00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Credit | | | | ... | 0,00 | ... | 0,00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Under/Over-Absorbed Overhead | | | | | 150.000,00 | | 150.000,00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th>Acty Type</th><th>Description</th><th>Unit</th><th>Activity Quantity</th><th>Capacity</th><th>Un</th><th>Output</th><th>Activity scheduled</th></tr> </thead> <tbody> <tr> <td>MT9995</td><td>Maintenance-hours-9995</td><td>HR</td><td>10.000,0</td><td>0,0</td><td></td><td></td><td>1.000,0</td></tr> </tbody> </table> | | | | | | | | | | Acty Type | Description | Unit | Activity Quantity | Capacity | Un | Output | Activity scheduled | MT9995 | Maintenance-hours-9995 | HR | 10.000,0 | 0,0 | | | 1.000,0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Acty Type | Description | Unit | Activity Quantity | Capacity | Un | Output | Activity scheduled | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MT9995 | Maintenance-hours-9995 | HR | 10.000,0 | 0,0 | | | 1.000,0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th>StatKeyFig</th><th>Acty Type</th><th>Description</th><th>Unit</th><th>Statistical quantity</th><th>Max. Statistical Qty</th><th> </th><th> </th></tr> </thead> <tbody> <tr> <td>EM9995</td><td></td><td>Number of employees</td><td>EA</td><td>5</td><td>0</td><td>←</td><td>→</td></tr> </tbody> </table> | | | | | | | | | | StatKeyFig | Acty Type | Description | Unit | Statistical quantity | Max. Statistical Qty | | | EM9995 | | Number of employees | EA | 5 | 0 | ← | → | You have planned 5 Employees for the cost center | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| StatKeyFig | Acty Type | Description | Unit | Statistical quantity | Max. Statistical Qty | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EM9995 | | Number of employees | EA | 5 | 0 | ← | → | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Figure 54: Planning Overview Cost Center Maintenance: SAP-System-Screenshot

| Controlling Area NA00 GBI North America Fiscal Year 2017 Period 1 To 12 Version 000 Plan/Act - Version Cost Center CC-MF-9995 Manufacturing-9995 | | | | | | | | | | You have planned variable Wages for the Cost Center Manufacturing | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--------------------------|---------------------|-------------------|----------------------|----------------------|-----------|--------------------|------------|--|---|-------------|----------------|-------------------|----------------------|----------------------|-----------|--------------------|--------|------------------------------|---------------------|------------|--------|---|------|------|---|------------|----------------|--|--|--|----|------|----|------|--|----------------------------|--|--|--|----|------|----|------|--|----------------------|--|--|--|------------|------|--|--|--|----------------------------|--|--|--|----|------------|----|------|--|--------------------------|--|--|--|----|------------|----|------|--|-------|--|--|--|-----|------------|-----|------|--|------------------------------|--|--|--|--|------|------|----------|---------|----------------------------|--|--|--|----|------|----|------|--|---------------------|--|--|--|----|------|----|------|--|--------|--|--|--|-----|------|-----|------|--|------------------------------|--|--|--|------|------------|------|------|--|--|--|--|--|
| <table border="1"> <thead> <tr> <th>Cost Element/Description</th><th>OTy</th><th>Partner Object</th><th>ParActivity</th><th>Val.in CoCdCur</th><th>Fxd Value In</th><th>Total Qty</th><th>Fixed Qty</th><th>Unit</th></tr> </thead> <tbody> <tr> <td>MNT9995 Maintenance-All-9995</td><td>ATY</td><td>CC-MT-9995</td><td>MT9995</td><td></td><td>0,00</td><td>0,00</td><td>1.000,0</td><td>1.000,0 HR</td></tr> <tr> <td>Activity Input</td><td></td><td></td><td></td><td>..</td><td>0,00</td><td>..</td><td>0,00</td><td></td></tr> <tr> <td>Activity-Independent Costs</td><td></td><td></td><td></td><td>..</td><td>0,00</td><td>..</td><td>0,00</td><td></td></tr> <tr> <td>700000 Labor Expense</td><td></td><td></td><td></td><td>600.000,00</td><td>0,00</td><td></td><td></td><td></td></tr> <tr> <td>MF9995 Manufacturing-hours</td><td></td><td></td><td></td><td>..</td><td>600.000,00</td><td>..</td><td>0,00</td><td></td></tr> <tr> <td>Activity-Dependent Costs</td><td></td><td></td><td></td><td>..</td><td>600.000,00</td><td>..</td><td>0,00</td><td></td></tr> <tr> <td>Debit</td><td></td><td></td><td></td><td>...</td><td>600.000,00</td><td>...</td><td>0,00</td><td></td></tr> <tr> <td>MFT9995 Manufacture-All-9995</td><td></td><td></td><td></td><td></td><td>0,00</td><td>0,00</td><td>40.000,-</td><td>0,00 HR</td></tr> <tr> <td>MF9995 Manufacturing-hours</td><td></td><td></td><td></td><td>..</td><td>0,00</td><td>..</td><td>0,00</td><td></td></tr> <tr> <td>Activity Allocation</td><td></td><td></td><td></td><td>..</td><td>0,00</td><td>..</td><td>0,00</td><td></td></tr> <tr> <td>Credit</td><td></td><td></td><td></td><td>...</td><td>0,00</td><td>...</td><td>0,00</td><td></td></tr> <tr> <td>Under/Over-Absorbed Overhead</td><td></td><td></td><td></td><td>....</td><td>600.000,00</td><td>....</td><td>0,00</td><td></td></tr> </tbody> </table> | | | | | | | | | | Cost Element/Description | OTy | Partner Object | ParActivity | Val.in CoCdCur | Fxd Value In | Total Qty | Fixed Qty | Unit | MNT9995 Maintenance-All-9995 | ATY | CC-MT-9995 | MT9995 | | 0,00 | 0,00 | 1.000,0 | 1.000,0 HR | Activity Input | | | | .. | 0,00 | .. | 0,00 | | Activity-Independent Costs | | | | .. | 0,00 | .. | 0,00 | | 700000 Labor Expense | | | | 600.000,00 | 0,00 | | | | MF9995 Manufacturing-hours | | | | .. | 600.000,00 | .. | 0,00 | | Activity-Dependent Costs | | | | .. | 600.000,00 | .. | 0,00 | | Debit | | | | ... | 600.000,00 | ... | 0,00 | | MFT9995 Manufacture-All-9995 | | | | | 0,00 | 0,00 | 40.000,- | 0,00 HR | MF9995 Manufacturing-hours | | | | .. | 0,00 | .. | 0,00 | | Activity Allocation | | | | .. | 0,00 | .. | 0,00 | | Credit | | | | ... | 0,00 | ... | 0,00 | | Under/Over-Absorbed Overhead | | | | | 600.000,00 | | 0,00 | | | | | |
| Cost Element/Description | OTy | Partner Object | ParActivity | Val.in CoCdCur | Fxd Value In | Total Qty | Fixed Qty | Unit | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MNT9995 Maintenance-All-9995 | ATY | CC-MT-9995 | MT9995 | | 0,00 | 0,00 | 1.000,0 | 1.000,0 HR | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Activity Input | | | | .. | 0,00 | .. | 0,00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Activity-Independent Costs | | | | .. | 0,00 | .. | 0,00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 700000 Labor Expense | | | | 600.000,00 | 0,00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MF9995 Manufacturing-hours | | | | .. | 600.000,00 | .. | 0,00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Activity-Dependent Costs | | | | .. | 600.000,00 | .. | 0,00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Debit | | | | ... | 600.000,00 | ... | 0,00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MFT9995 Manufacture-All-9995 | | | | | 0,00 | 0,00 | 40.000,- | 0,00 HR | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MF9995 Manufacturing-hours | | | | .. | 0,00 | .. | 0,00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Activity Allocation | | | | .. | 0,00 | .. | 0,00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Credit | | | | ... | 0,00 | ... | 0,00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Under/Over-Absorbed Overhead | | | | | 600.000,00 | | 0,00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th>Acty Type</th><th>Description</th><th>Unit</th><th>Activity Quantity</th><th>Capacity</th><th>Un</th><th>Output</th><th>Activity scheduled</th></tr> </thead> <tbody> <tr> <td>MF9995</td><td>Manufacturing-hours-9995</td><td>HR</td><td>40.000,0</td><td>0,0</td><td></td><td></td><td>0,0</td></tr> </tbody> </table> | | | | | | | | | | Acty Type | Description | Unit | Activity Quantity | Capacity | Un | Output | Activity scheduled | MF9995 | Manufacturing-hours-9995 | HR | 40.000,0 | 0,0 | | | 0,0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Acty Type | Description | Unit | Activity Quantity | Capacity | Un | Output | Activity scheduled | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MF9995 | Manufacturing-hours-9995 | HR | 40.000,0 | 0,0 | | | 0,0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th>StatKeyFig</th><th>Acty Type</th><th>Description</th><th>Unit</th><th>Statistical quantity</th><th>Max. Statistical Qty</th><th> </th><th> </th></tr> </thead> <tbody> <tr> <td>EM9995</td><td></td><td>Number of employees</td><td>EA</td><td>20</td><td>0</td><td>←</td><td>→</td></tr> </tbody> </table> | | | | | | | | | | StatKeyFig | Acty Type | Description | Unit | Statistical quantity | Max. Statistical Qty | | | EM9995 | | Number of employees | EA | 20 | 0 | ← | → | You have planned 20 Employees for the cost center | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| StatKeyFig | Acty Type | Description | Unit | Statistical quantity | Max. Statistical Qty | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EM9995 | | Number of employees | EA | 20 | 0 | ← | → | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Figure 55: Planning Overview Cost Center Manufacturing: SAP-System-Screenshot

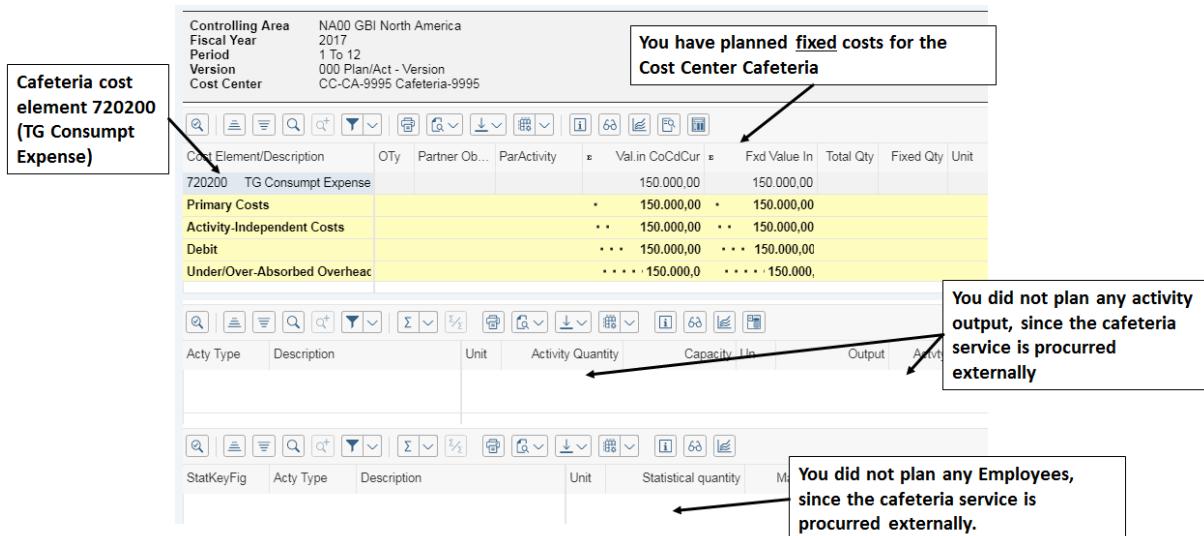


Figure 56: Planning Overview Cost Center Cafeteria: SAP-System-Screenshot

3.2.1.6 Planning Cafeteria Costs Allocation: Assessment

Next, you will allocate the cafeteria costs to the individual cost centers, according to their number of employees (since they use the cafeteria service). Thus, the number of employees per receiving cost center is the *Tracing Factor*.

The cafeteria costs must be allocated to two cost centers at a ratio of 5 (maintenance) to 20 (manufacturing), since the tracing factor is the number of employees per cost center.

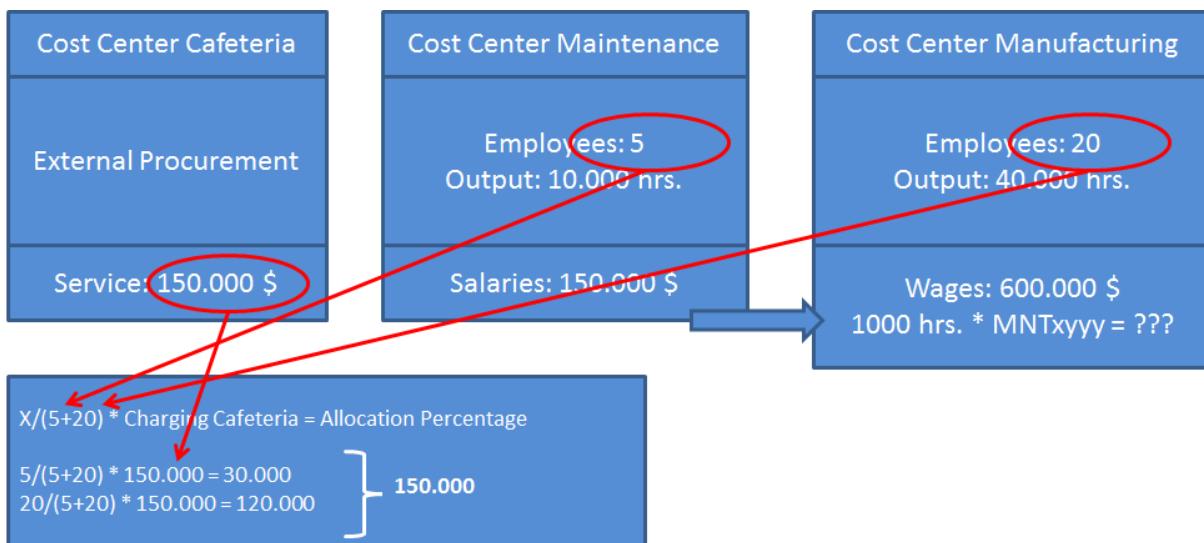


Figure 57: Overview Cafeteria Assessment

3.2.1.6.1 Create Cafeteria Assessment

Now, within the tile group **Script 6 – Controlling** select the app **Execute Plan Assessment**.

1. If prompted, enter **NA00** as **Controlling Area**.
2. Select **More** → **Extras** → **Cycle** → **Create**. Enter the following data:
 - **Cycle** CYxyyy
 - **Start Date** 01.01. of the current year
 - Press **Enter**.

3. Enter **Assessment-Cycle-CC-CA-xxxx** as **Text** and click on **Attach segment**.
 4. Enter **Segment Name SEGM-xxxx** and **Description Segment-xxxx**.
 5. In the **Segment Header** tab, enter **CAFxxxx** in the **Assessment CEle** field.

You specify the Assessment Cost Element

| Controlling Area: | NA00 | GBI North America | |
|-----------------------|--------------------------|-----------------------------|-------------------------|
| Cycle: | CY9995 | Assessment-Cycle-CC-CA-9995 | |
| * Segment Name: | SEGM-9995 | Segment-9995 | |
| Segment Header | Senders/Receivers | Sender Values | Receiver Tracing Factor |
| Assessment CEEl: | CAF9995 | <input type="checkbox"/> | |
| Allocation Structure: | <input type="checkbox"/> | | |

Figure 58: Assessment Cost Element: SAP-System-Screenshot

6. Go to the **Senders/Receivers** tab. For the **Sender**, enter in the **Cost Center** row and in the **From** column the value **CC-CA-xyyy**. For the **Receiver**, enter in the **Cost Center** row and in the **Group** column the created **Group-xyyy**.

You specify the Sender Cost Center

| Segment Header | Senders/Receivers | Sender Values | Receiver Tracing Factor | > ... |
|------------------|---|----------------------|-------------------------|---|
| | From | To | Group | |
| Sender: | | | | |
| Cost Center: | <input type="text" value="CC-CA-9995"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |
| Functional Area: | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |
| Cost Element: | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |
| Receiver: | | | | |
| Order: | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |
| Cost Center: | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text" value="GROUP-9995"/> |
| Functional Area: | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |
| Cost Object: | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |
| WBS element: | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |

You specify the Receiver Cost Objects by entering your Group

Figure 59: Sender and Receiver: SAP-System-Screenshot

7. Select the **Receiver Tracing Factor** tab. Select **Plan Stat. Key Figures** from the **Variable Portion Type** field. Confirm the following request with **Continue**. Enter **Version 0** and **EMxyyy** in the **Statistical key figure** row and the **From** column.

You specify the Type of Tracing Factor

| Segment Header | Senders/Receivers | Sender Values | Receiver Tracing Factor | > ... |
|--|-------------------|---------------|-------------------------|-------|
| Tracing Factor | | | | |
| Var.Portion Type: Plan Stat. Key Figures Scale Neg. Tracing Factors: No scaling | | | | |
| Selection Criteria | | | | |
| Version | From 0 | To | Group | |
| Stat. key fig. | EM9995 | | | |
| Activity Type | | | | |

Figure 60: Tracing Factor: SAP-System-Screenshot

8. All members of the Group are presented in the tab **Receiver Weighting Factors** (if necessary, click on to display the tab).

| < Receiver Weighting Factors | | | ... |
|------------------------------|--|-------------|-----|
| Receivers | | | |
| Cost Ctr | | Factor per: | 100 |
| CC-MF-9995 | | | 100 |
| CC-MT-9995 | | | 100 |

All members of the Group are presented in tab *Receiver Weighting Factors*. You can additionally specify different Weighting Factors here.

Figure 61: Weighting Factors: SAP-System-Screenshot

9. *Save* your entries.



*This time and while further processing: If you receive a **Prompt for Customizing request**, check the **Request** field: If there is an entry within the field, confirm with Enter. Otherwise click on the **Create Request** ()-button and enter any description in the **Short Description** field. Save the Customizing request and confirm with .*

10. Choose **More → Goto → Cycle run group** from the menu and then press (**Create Group**).
11. Enter Cycle run group **xyyy** and enter the text **Group xyyy** in behind.
12. Confirm all system notifications and *save*.
13. Click on , until you are again in the **Execute Plan Assessment: Initial Screen** view.

3.2.1.6.2 Performing Assessment for Cafeteria Costs

In case you already left the previous screen, call up the **Execute Plan Assessment** app again.

1. You can see the **Execute Plan Assessment: Initial Screen** dialogue. Enter the following data:
 - **Period from** 01
 - **Period to** 12
 - **Fiscal Year** *current year*
 - Enter in the first line in the cycle field the **cycle CYxyyy**
 - Deselect **Test Run**
2. Click the on **Execute** or press **F8**. The system executes the assessment.



At this point, an error notification might occur due to system capacity. In this case, try the operation again later.

CAUTION

3. The system notifies you that the operation was completed without errors. The number of **Senders** should be **1** and the **Number of receivers** should be **2**.
4. You can check the way the costs were allocated by using the **Segments** button.
5. Then double click on the row with your segment. You can see the Sender and Receiver.
6. Leave the transaction by pressing **Exit** three times.

The screenshot shows the SAP Fiori Execute Plan Assessment app. At the top, there's a toolbar with icons for sorting, filtering, and search. Below it is a table with various parameters:

| | |
|--------------------|--|
| Controlling Area | NA00 |
| Version | 0 |
| Period | 001 To 012 |
| Fiscal Year | 2017 |
| Value Date | 01.01.2017 |
| Exchange rate type | M Standard translation at average rate |
| Document Number | 200000310 |
| Processing Status | UpdateRun |

Below this, a message says "Processing completed without errors".

Then, there's a table for segments:

| Cycle | Start Date | Text | P | Senders | Number of Receivers | No. of Messages |
|--------|------------|-----------------------------|---|---------|---------------------|-----------------|
| CY9995 | 01.01.2017 | Assessment-Cycle-CC-CA-9995 | I | 1 | 2 | 0 |

A red arrow points from the "Segments" button in the toolbar down to this table. Below the segments table is a detailed view of the segment data:

| | |
|-----------------|-----------------------------|
| ICO Area | NA00 |
| Version | 0 |
| Fiscal Year | 2017 |
| Period | 1 To 12 |
| Cycle | CY9995 Assessment-Cycle-CC- |
| Valid From | 01.01.2017 |
| COarea currency | USD US Dollar |

Finally, there's a table for cost allocation:

| Segment N... | Cost Element | O... | Object | PTy | Partner Object | Ttl Fx+Vbl Value CAC | Total Fixed/Var. Qty | UM |
|--------------|--------------|------|------------|-----|----------------|----------------------|----------------------|----|
| SEGM-9995 | CAF9995 | CTR | CC-CA-9995 | CTR | CC-MF-9995 | 120.000,00- | | |
| SEGM-9995 | CAF9995 | | | CTR | CC-MT-9995 | 30.000,00- | | |
| SEGM-9995 | CAF9995 | | CC-MF-9995 | CTR | CC-CA-9995 | 120.000,00 | | |
| SEGM-9995 | CAF9995 | | CC-MT-9995 | CTR | CC-CA-9995 | 30.000,00 | | |

The total value at the bottom is 0,00.

Figure 62: Sender and Receiver Cost Allocation: SAP-System-Screenshot

3.2.1.6.3 Check Effects of the Assessment

Next, check the effects of the assessments on the three cost centers in the following transaction that you are already familiar with:

Within the tile group **Script 6 – Controlling** select the app *Cost Center Planning Report*.

Carry out the report for the three cost centers ***CC-MF-xyyy***, ***CC-MT-xyyy*** and ***CC-CA-xyyy***. Each time enter version ***planned/actual (0)***.



If your cost center overviews differ from the figures below, contact your tutor immediately and do not carry out the following steps, since it might cause errors for further processing of the case studies! Note that each highlighted entry should be exactly at its place.

You can see that the maintenance cost center was debited with 30000 USD and the manufacturing cost center was debited with 120000 USD by the cafeteria assessment. Contrastingly, the cafeteria cost center was balanced. Leave each report with **Cancel**.

Cafeteria costs are allocated with secondary cost element CAFxyyy

| Controlling Area | NA00 GBI North America | | | | | | | |
|-------------------------------------|-------------------------------|----------------|-------------|-------------------|-------------------|-----------|-----------|------|
| Fiscal Year | 2017 | | | | | | | |
| Period | 1 To 12 | | | | | | | |
| Version | 000 Plan/Act - Version | | | | | | | |
| Cost Center | CC-MF-9995 Manufacturing-9995 | | | | | | | |
| | | | | | | | | |
| Cost Element/Description | OTy | Partner Object | ParActivity | Val.in CoCdCur | Fxd Value In | Total Qty | Fixed Qty | Unit |
| CAF995 Assess. CC-CA-9995 | CTR | CC-CA-9995 | | 120.000,00 | 120.000,00 | | | |
| Assessment | | | | 120.000,00 | 120.000,00 | | | |
| MNT995 Maintenance-All-9995 | ATY | CC-MT-9995 | MT9995 | 0,00 | 0,00 | 1.000,0 | 1.000,0 | HR |
| Activity Input | | | | 0,00 | 0,00 | | | |
| Activity-Independent Costs | | | | 120.000,00 | 120.000,00 | | | |
| 700000 Labor Expense | | | | 600.000,00 | 0,00 | | | |
| MF9995 Manufacturing-hours | | | | 600.000,00 | 0,00 | | | |
| Activity-Dependent Costs | | | | 600.000,00 | 0,00 | | | |
| Debit | | | | 720.000,00 | 120.000,00 | | | |
| MFT9995 Manufacture-All-9995 | | | | 0,00 | 0,00 | 40.000,0- | 0,0 | HR |
| MF9995 Manufacturing-hours | | | | 0,00 | 0,00 | | | |
| Activity Allocation | | | | 0,00 | 0,00 | | | |
| Credit | | | | 0,00 | 0,00 | | | |
| Under/Over-Absorbed Overhead | | | | 720.000,00 | 120.000,00 | | | |

The Manufacturing Cost Center receives 120000 \$ of the Cafeteria costs

Total debit is now 720000 \$ for the cost center

Figure 63: Planning Overview Cost Center Manufacturing: SAP-System-Screenshot

Figure 64: Planning Overview Cost Center Maintenance: SAP-System-Screenshot

| <p>Cafeteria costs are allocated with secondary cost element CAFxyyy</p> | <p>Controlling Area NA00 GBI North America Fiscal Year 2017 Period 1 To 12 Version 000 Plan/Act - Version Cost Center CC-CA-9995 Cafeteria-9995</p> | <p>The Cafeteria Cost Center allocates all 150000 \$ to the other cost centers</p> | | | | | | |
|---|---|---|-------------|----------------|--------------|-----------|-------------|--------|
| | | | | | | | | |
| Cost Element/Description | Oty | Partner Object | ParActivity | Val.in CoCdCur | Fxd Value In | Total Qty | Fixed Qty | Unit . |
| 720200 TG Consumpt Expense | | | | 150.000,00 | 150.000,00 | | | |
| Primary Costs | | | | • | 150.000,00 | • | 150.000,00 | |
| Activity-Independent Costs | | | | •• | 150.000,00 | •• | 150.000,00 | |
| Debit | | | | ••• | 150.000,00 | ••• | 150.000,00 | |
| CAF9995 Assess. CC-CA-9995 | CTR | CC-MF-9995 | | 120.000,00- | 120.000,00- | | | |
| CAF9995 Assess. CC-CA-9995 | CTR | CC-MT-9995 | | 30.000,00- | 30.000,00- | | | |
| Assessment | | | | • | 150.000,00- | • | 150.000,00- | |
| Credit | | | | •• | 150.000,00- | •• | 150.000,00- | |
| Under/Over-Absorbed Overhead | | | | ••• | 0,00 | ••• | 0,00 | |

Figure 65: Planning Overview Cost Center Cafeteria: SAP-System-Screenshot

You will note that **activity inputs** and **activity allocations** are still valued with zero \$, although quantities were specified. The reason for this is that prices for the corresponding activity types have not been planned (calculated) yet. This is the next step.

3.2.1.7 Automatic Price Calculation for Activity Types

Automatic price calculation is next. Please pay attention to the correct development of prices in your company.

| Cost Center Cafeteria | Cost Center Maintenance | Cost Center Manufacturing |
|--|---|--|
| External Procurement | Employees: 5 Output: 10.000 hrs. | Employees: 20 Output: 40.000 hrs. |
| Service: 150.000 \$ Sum of Charges: 150.000 \$ | Salaries: 150.000 \$ Allocation: 30.000 \$ Sum of Charges: 180.000 \$ | Wages: 600.000 \$ 1000 hrs. * 18 \$ = 18.000 \$ Allocation: 120.000 \$ |
| Allocation: 150.000 \$ Sum of Discharge: 150.000 \$ | Charging: 180.000 \$ Sum of Discharge: 180.000 \$ | |
| ----- Balance: 0 \$ | ----- Balance: 0 \$ | |

Figure 66: Overview Price Calculation for Activity Types

3.2.1.7.1 Check the current Planned Activity Prices

First of all, check the current activity prices. Therefore, within the tile group **Script 6 – Controlling** select the app ***Enter Prices for Activity Types***.

1. You can see the **Activity Types with Prices: Standard** screen (1-201). Enter the following data:
 - Version 0

- **From Period** 1
 - **To Period** 12
 - **Fiscal Year** current year
 - **Cost Center** CC-MT-xxxx / CC-MF-xxxx
 - **Activity Type** MTxxxx / MFxxxx
 - Again, make sure that all other fields are empty.
2. Click on **Overview Screen** or press **F5**.
3. You see that the prices (fixed and variable part of the price) are not specified yet. You could plan the prices manually in this transaction, but we will rather let the system do this. Make sure that the pricing unit is set to **00001** for both activity types.

The price unit specifies the number of activity quantity units using the price in controlling area currency.

Examples

The price unit is 10 for activity type "MTxxxx" with unit "Hours".
The price is 100 \$ and applies to 10 hours of MTxxxx.
Thus, one unit would cost 10 \$

Figure 67: Planned Prices for Activities: SAP-System-Screenshot

4. Leave the transaction by pressing **Exit**.

3.2.1.7.2 Execute Price Calculation

To let the system execute automatic price calculation, c within the tile group **Script 6 – Controlling** select the app **Execute Plan Price Calculation**.

1. Complete the following:
 - Select the radio button **Cost center group**
 - Enter **Group-xxxx**
 - **Version** 0
 - **From Period** 1
 - **To Period** 12
 - **Fiscal Year** current year
 - Deselect **Test Run**.
 - Press **Execute**. The system now posts the price calculation.
2. After successful calculation, the request **concerning successful completion** appears. Confirm it with **Continue**. A basic list with prices is displayed. List the prices determined by the system for the activity types.

Total price for CC-MF-xyyy and activity type MFxyyy:

Total price for CC-MT-xyyy and activity type MTxyyy:



If no data is displayed, use the zoom function of your browser to minimize the view. Alternatively, you can adjust the view via CTRL + scrolling the mouse wheel at the same time.

NOTE



You might get ridiculously high activity prices. Pay attention to the price unit used by the system. The system tends to change the price unit sometimes. However, this is not an error.

NOTE

3.2.1.7.3 Check the new Planned Activity Prices

Again, check the activity prices. The automatically calculated prices are transferred to the planning data of the cost center.

Within the tile group **Script 6 – Controlling** select the app **Enter Prices for Activity Types**.

1. You can see the **Activity Types with Prices: Standard** screen (**1-201**). Enter the following data:

| | |
|------------------------|--------------------------------|
| - Version | 0 |
| - From Period | 1 |
| - To Period | I2 |
| - Fiscal Year | current year |
| - Cost Center | CC-MT-xyyy / CC-MF-xyyy |
| - Activity Type | MTxyyy / MFxyyy |

 - Again, make sure that all other fields are empty, especially both **or Group** fields.
2. Click on **Overview Screen** or press **F5**.
3. You see that the prices (fixed and variable part of the price) have been updated. Probably you also got a new pricing unit.
4. You also see that the manufacturing price consists of a variable price and a fixed price part, whereas the maintenance price is only fixed. At this point, you must consider that the maintenance cost center only had fixed costs assigned.
5. In the **price unit** column, you can find the unit that the price refers to.
 - 00001 means that a unit was calculated at a price of 18.45 \$
 - 00010 means that the price is based on 10 units, resulting in an overall price of 184.50\$
 - 00100 means that the price is based on 100 units, resulting in an overall price 1845.00\$

The amount of the price unit is not crucial, since it only results in marginal rounding errors. You can change the price unit manually, but consider that in that case you also have to adjust the price amount manually by the same factor.

Plan/Act - Version

| Activit... | Plan Activity | Dist... | Capacity | Dist... | Unit | Price (Fixed) | Variable price | Price ... | Pl... | Pl... | A... | Alloc. cost |
|---------------------------------|---------------|---------|----------|---------|------|---------------|----------------|-----------|-------|--------------------------|--------------------------|-------------|
| <input type="checkbox"/> MF9995 | 40.000,0 | 2 | | 2 | HR | 3,45 | 15,00 | 00001 | 1 | <input type="checkbox"/> | <input type="checkbox"/> | MFT9995 |

New planned prices with pricing unit 1 as basis

Plan/Act - Version

| Activit... | Plan Activity | Dist... | Capacity | Dist... | Unit | Price (Fixed) | Variable price | Price ... | Pl... | Pl... | A... | Alloc. cost ... |
|---------------------------------|---------------|---------|----------|---------|------|---------------|----------------|-----------|-------|--------------------------|--------------------------|-----------------|
| <input type="checkbox"/> MT9995 | 10.000,0 | 2 | | 2 | HR | 18,00 | | 00001 | 1 | <input type="checkbox"/> | <input type="checkbox"/> | MNT9995 |

Figure 68: New Planned Prices: SAP-System-Screenshot

6. Leave the transaction.

3.2.1.7.4 Check Effects on Planning

You can display the effects of the price calculation for Maintenance and Manufacturing cost centers by using app **Cost Center Planning Report**.

You see that the activity output of the cost centers is now valued with the calculated activity price and, thus, the activity price is considered in the planning. Also note that the planned Total Costs of the cost centers is now Zero, since the planning assumes that all activity quantities planned will be provided and, thus, the costs will be allocated to other cost centers. Leave each report by pressing **Exit**.

Important: This far, we only have planned costs. We did not post any actual costs yet.

| | | | | | | | | |
|--------------------------------------|---|--|--|-----------------|----------------|----------|-----|----|
| Controlling Area | NA00 GBI North America | | | | | | | |
| Fiscal Year | 2017 | | | | | | | |
| Period | 1 To 12 | | | | | | | |
| Version | 000 Plan/Act - Version | | | | | | | |
| Cost Center | CC-MT-9995 Maintenance-9995 | | | | | | | |
| | | | | | | | | |
| Cost Element/Description | OTy Partner Object ParActivy Val.in CoCdCur Fxd Value In Total Qty Fixed Qty Unit | | | | | | | |
| 740500 Payroll Expense | | | | 150.000,00 | 150.000,00 | | | |
| Primary Costs | | | | • 150.000,00 | • 150.000,00 | | | |
| CAF9995 Assess. CC-CA-9995 | CTR CC-CA-9995 | | | 30.000,00 | 30.000,00 | | | |
| Assessment | | | | • 30.000,00 | • 30.000,00 | | | |
| Activity-Independent Costs | | | | •• 180.000,00 | •• 180.000,00 | | | |
| Debit | | | | ••• 180.000,00 | ••• 180.000,00 | | | |
| MNT9995 Maintenance-All-9995 | | | | 162.000,00- | 162.000,00- | 9.000,0- | 0,0 | HR |
| MNT9995 Maintenance-All-9995 | CTR CC-MF-9995 | | | 17.999,96- | 17.999,96- | 1.000,0- | 0,0 | HR |
| MT9995 Maintenance-hours-9995 | | | | • 179.999,96- | • 179.999,96- | | | |
| Activity Allocation | | | | •• 179.999,96- | •• 179.999,96- | | | |
| Credit | | | | ••• 179.999,96- | ••• 179.999,96 | | | |
| Under/Over-Absorbed Overhead | | | | •••• 0,04 | •••• 0,04 | | | |

Figure 69: Effect of Price Calculation (1): SAP-System-Screenshot

| | | | | | | | | |
|-------------------------------------|---|--------|--|-----------------|-----------------|-----------|---------|----|
| Controlling Area | NA00 GBI North America | | | | | | | |
| Fiscal Year | 2017 | | | | | | | |
| Period | 1 To 12 | | | | | | | |
| Version | 000 Plan/Act - Version | | | | | | | |
| Cost Center | CC-MF-9995 Manufacturing-9995 | | | | | | | |
| | | | | | | | | |
| Cost Element/Description | OTy Partner Object ParActivity Val.in CoCdCur Fxd Value In Total Qty Fixed Qty Unit | | | | | | | |
| CAF9995 Assess. CC-CA-9995 | CTR CC-CA-9995 | | | 120.000,00 | 120.000,00 | | | |
| Assessment | | | | • 120.000,00 | • 120.000,00 | | | |
| MNT9995 Maintenance-All-9995 | ATY CC-MT-9995 | MT9995 | | 17.999,96 | 17.999,96 | 1.000,0 | 1.000,0 | HR |
| Activity Input | | | | • 17.999,96 | • 17.999,96 | | | |
| Activity-Independent Costs | | | | •• 137.999,96 | •• 137.999,96 | | | |
| 700000 Labor Expense | | | | 600.000,00 | 0,00 | | | |
| MF9995 Manufacturing-hours | | | | • 600.000,00 | • 600.000,00 | | | |
| Activity-Dependent Costs | | | | •• 600.000,00 | •• 600.000,00 | | | |
| Debit | | | | ••• 737.999,96 | ••• 737.999,96 | | | |
| MFT9995 Manufacture-All-9995 | | | | 737.999,96- | 138.000,00- | 40.000,0- | 0,0 | HR |
| MF9995 Manufacturing-hours | | | | • 737.999,96- | • 737.999,96- | | | |
| Activity Allocation | | | | •• 737.999,96- | •• 737.999,96- | | | |
| Credit | | | | ••• 737.999,96- | ••• 737.999,96- | | | |
| Under/Over-Absorbed Overhead | | | | •••• 0,00 | •••• 0,04 | | | |

Figure 70: Effect of Price Calculation (2): SAP-System-Screenshot

3.2.2 Cost Center Accounting (CO-OM-CCA): Manual Actual Posting

You have only planned costs and planned to allocate activities for your cost center, so far. Therefore, the calculated prices are also planned prices. After you have successfully completed cost center planning for the current year, enter the actually occurred costs at the cost centers. That is, you will now post **real** costs and activities.

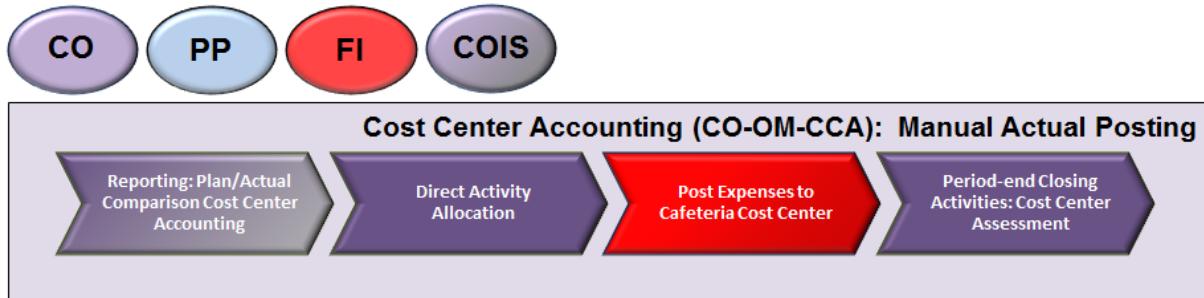


Figure 71: Process Overview: Cost Center Accounting: Manual Actual Posting

3.2.2.1 Reporting: Plan/Actual Comparison Cost Center Accounting

Now, carry out a cost report to recall the planning data for your cost center group. Therefore, within the tile group **Script 6 – Controlling** select the app **Cost Center: Actual/Plan/Variance**.

1. Enter the following data:

| | |
|--|----------------------------|
| - Controlling Area (Kostenrechnungskreis) | NA00 |
| - Fiscal Year (Geschäftsjahr) | <i>current fiscal year</i> |
| - From Period (Von Periode) | 1 |
| - To Period (Bis Periode) | 12 |
| - Plan Version (Planversion) | 0 |
| - Cost Center Group (Kostenstellengruppe) | Group-xyyy |
2. Choose *Execute*.
3. The planned costs at both cost centers that are part of cost center group Group-xyyy are displayed. Until now, no actual costs incurred.

The screenshot shows the SAP system interface for the 'Variation: Cost Center' report. On the left, a tree view shows 'GROUP-9995 GROUP-9995' expanded, with 'CC-MT-9995 Maintenance-9995' and 'CC-MF-9995 Manufacturing-9995' listed. A callout box on the left says 'Actual postings are displayed in this column' pointing to the 'Istkosten' (Actual Costs) column header. On the right, the main report area displays cost center data for 'GROUP-9995'. The header includes 'Kostenstellen: Ist/Plan/Abweichung', 'Date: 01.11.2017', 'Page: 2 / 4', and 'Column: 1 / 2'. The report details cost center information like 'Person responsible: Khatami' and 'Reporting period: 1 to 12 2017'. The data table has columns: Belastung, Istkosten, Plankosten, Abw (abs), and Abw (%). A callout box on the left says 'Planned costs and activities are displayed in this column' pointing to the 'Belastung' (Allocation) column header. The table data includes rows for various cost centers and activities, such as 'Labor Expense', 'Payroll Expense', and 'Assess. CC-FA-9995'.

Figure 72: Plan/Actual Comparison Cost Center Accounting (1): SAP-System-Screenshot

- Leave the cost report by pressing **Exit** twice.

3.2.2.2 Direct Activity Allocation

Some works were already carried out in the current period. The maintenance center worked 200 hours for maintaining machines of the manufacturing cost center. Post the 200 hours that the maintenance cost center worked for the manufacturing cost center. Since it is a simple and direct cost allocation, you can use the transaction-based, direct manual method, Direct Activity Allocation.

Therefore, within the tile group **Script 6 – Controlling** select the app **Enter Activity Allocation**.

- In case you are prompted to do so, enter controlling area **NA00**.

- Enter the following data:

| | |
|------------------------------|---------------------|
| - Document Date | <i>current date</i> |
| - Posting Date | <i>current date</i> |
| - Screen variant (Scrn var.) | <i>Cost center</i> |
| - Input Type | <i>List Entry</i> |
| - Send.CCtr | <i>CC-MT-xyyy</i> |
| - SAtyTyp | <i>MTxyyy</i> |
| - Rec.CCtr | <i>CC-MF-xyyy</i> |
| - Total Quantity | <i>200</i> |
| - Confirm with Enter | |

The screenshot shows the SAP Fiori interface for 'Enter Activity Allocation'. The top section is the 'Entry Data' tab, containing fields for CO Area (NA00), Doc. Date (01.11.2017), Postg Date (01.11.2017), Doc. Type (empty), Val. Date (empty), Period (11), Ref. Doc. (empty), and Doc. Text (empty). Below this is a 'Confirm' button. The bottom section is the 'Items' table, showing a single row with Item No. 0001, Send. CCtr CC-MT-9995, SAtyTyp MT9995, Rec. CCtr CC-MF-9995, Total Quantity 200,0, UM HR, and Text empty. The 'Scrn var.' dropdown is set to 'Cost center' and the 'Input Type' dropdown is set to 'List Entry', both highlighted with red boxes.

Figure 73: Direct Activity Allocation: SAP-System-Screenshot

- Save (Post) your document and list the document number on your data sheet. Finally, press **Exit**.

Activity Allocation (Maintenance):

Execute the cost report for the current period again to display the planning data for your cost center group again. This time, run the report for the **current period** only. Therefore, within the tile group **Script 6 – Controlling** select the app **Cost Center: Actual/Plan/Variance**.

1. Enter the following data:

- **Controlling Area (Kostenrechnungskreis)** *NA00*
- **Fiscal Year (Geschäftsjahr)** *current fiscal year*
- **From Period (Von Periode)** *current period*
- **To Period (Bis Periode)** *current period*
- **Plan Version (Planversion)** *0*
- **Cost Center Group (Kostenstellengruppe)** *Group-xyyy*

2. Choose *Execute*.

You can see that the actually incurred costs were posted to the corresponding cost center using cost element (MNTxxxx). Moreover, activities are documented in the lower table. The actual values in the planned columns refer, in both tables (activity types and Cost Elements), to the monthly average regarding the costs (or activity output) expected (planned) for the year.

| Kostenstellen: Ist/Plan/Abweichung | | Date: 01.11.2017 | Page: 2 / 4 |
|------------------------------------|---------------|------------------|---|
| | | Column: 1 / 2 | |
| Cost Center/Group | GROUP-9995 | | |
| Person responsible: | Khatami | | |
| Reporting period: | 11 to 11 2017 | | |
| Belastung | Istkosten | Plankosten | Abw (abs) |
| 700000 Labor Expense | | 50.000,00 | 50.000,00- |
| 740500 Payroll Expense | | 12.500,00 | 12.500,00- |
| CAF9995 Assess. CC-CA-9995 | | 12.500,00 | 12.500,00- |
| MNT9995 Maintenance-All-99 | 3.600,00 | 1.500,01 | 2.099,99 140,00 |
| " Debit | 3.600,00 | 76.500,01 | 72.900,01- 95,29- |
| MFT9995 Manufacture-All-99 | | 61.500,01- | 61.500,01 |
| MNT9995 Maintenance-All-99 | 3.600,00- | 15.000,01- | 11.400,01 |
| " A,H,L | 3.600,00- | 76.500,02- | 72.900,02 95,29- |
| " " | | 0,01- | 0,01 |
| | | | 100,00- |

| Kostenstellen: Ist/Plan/Abweichung | | Date: 01.11.2017 | Page: 3 / 4 |
|------------------------------------|---------------|------------------|---|
| | | Column: 1 / 2 | |
| Cost Center/Group | GROUP-9995 | | |
| Person responsible: | Khatami | | |
| Reporting period: | 11 to 11 2017 | | |
| Ivk1SIP-001 Zeile | 0006 | Istlstg | Planlstg |
| MF9995 Manufacture-9995 | | | 3.333,3 HR |
| MT9995 Maintenance-hours-9995 | 200,0 HR | 833,3 HR | 633,3- HR 100,00- |

Figure 74: Plan/Actual Comparison Cost Center Accounting (2): SAP-System-Screenshot

For example, an overall activity output of 1000 hours was planned concerning the maintenance activities for the manufacturing cost center. Breaking this down, you can calculate a monthly average of 83.33 hours activity. Multiplied by the automatically calculated price of 18 USD, this means a monthly cost of 1500 USD for the manufacturing cost center. These planned costs were exceeded 140 % (3600 \$ or 200 hrs.) in the current period. The last column of the table shows the deviation from the planned value in percent.

3.2.2.3 Post Expenses to Cafeteria Cost Center

Next, you will enter the costs at the cafeteria cost center (cost element 720200). Please bear in mind that in an actual business environment many different Cost Elements occur at a cost center. In our example, however, you will only learn about the basic principle and, therefore, complexity was simplified.



We won't post any cost entries at the other cost centers (manufacturing and maintenance) at this point. Generally, it would also not be logical to do so, especially for the manufacturing cost center, since its costs are allocated via wages.

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Employees at the manufacturing cost center are paid via wages, i.e., if they work they generate activity that is then allocated directly to, for example, a production order. Thereby, the SAP S/4HANA system uses the automatically calculated prices in combination with the provided activities (activity types) and then calculates the costs for the credit rows. After that, a posting (Enter G/L Account Document) must be entered on the corresponding account (700000) of the general ledger. These costs are then displayed in the debit rows. Contrastingly, the employees of the maintenance center receive activity-independent salary, i.e., they would not have to work in principle.

You have already carried out activity allocation for maintenance in the previous section. For manufacturing, you would need a production order (or different posting assignment) as posting assignment (to remain in the logic of the case study scenario) to allocate (credit) the activities provided by the manufacturing center (the cost center is supposed to produce bicycles). However, you do not want to produce anything in this case study (reduction of complexity) and, thus, we will do without this, at this point. In the next section (internal orders), you will focus on the principle in more detail.

Summary of the principle:

1. *The manufacturing department provides activities for a production order that are entered by using activity type MFxyyy.*
2. *The costs of this activity are calculated by using the price (automatically calculated), the activity type and the provided working units (x hours).*
3. *The costs are allocated to the production order or to the customer order and are, thus, considered in cost calculation of the order (how expensive is the production of a bicycle?). These costs are then transferred to the customer with the sales price.*
4. *Since these costs are allocated on the order, the cost center is credited.*
5. *On the other hand, the employees at the manufacturing work center want to be paid. The costs (wages) of the employees are entered with a posting in the general ledger (Enter G/L Account Document). These costs appear in the cost report in the debit row.*

6. In an optimal cost- and activity accounting, credit and debit balance each other so that the balance is zero in the end at this internal cost center.
7. This balance is independent of any profits. The profit achieved by a company is the difference of costs (e.g., from a sales order/production order) and the revenue (price * quantity sold) for this order. This balance should be positive.

The externally provided service for the cafeteria generates costs of 12500 \$. Since cost element 720200 is a primary cost element, i.e., the company receives activities externally, a posting in **SAP FI** is required.

Now, within the tile group **Script 6 – Controlling** select the app **Enter G/L Account Document**.

1. In case you are prompted to do so, enter company code **US00**.
2. Enter the following data:

| | |
|--|--|
| - Document Date | current date |
| - Posting Date | current date |
| - G/L account | 720200 |
| - D/C | Debit |
| - Amount in doc.curr. | 12500 |
| - Cost center | <u>CC-CA-xyyy (?)</u> (scroll to the right) |
| - G/L account (second row) | <i>100000 (bank account from which the liability is paid)</i> |
| - D/C | Credit |
| - Amount in doc. curr. | 12500 |
| - Confirm with Enter . If the cursor jumps to the bottom of the table, scroll up to display the entries within the table. | |

| Basic Data | | Details | | Amount Information | | | | | | | | | | | | |
|---------------------------------------|--|-------------------------|--------|---------------------|-----------------|--------------------------|------------|--------------------------|------------|--|-------|-------|-----|-------|--------|-------------|
| Document Date: 01.11.2017 | | Currency: USD | | Total Dr. | | | | | | | | | | | | |
| Posting Date: 01.11.2017 | | | | 12.500,00 USD | | | | | | | | | | | | |
| Reference: | | | | Total Cr. | | | | | | | | | | | | |
| Doc.Header Text: | | | | 12.500,00 USD | | | | | | | | | | | | |
| Cross-CC Number: | | | | | | | | | | | | | | | | |
| Company Code: US00 | | Global Bike Inc. Dallas | | | | | | | | | | | | | | |
| 2 Items (No entry variant selected) | | | | | | | | | | | | | | | | |
| St... | G/L acct | Short Text | D/C | Amount in doc.curr. | Loc.curr.amount | T... | ... | ... | Value date | Text | Lo... | Co... | ... | Bu... | Par... | Cost center |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> 720200 | TG Consu... | Debit | 12.500,00 | 12.500,00 | <input type="checkbox"/> | 01.11.2017 | <input type="checkbox"/> | US00 | <input checked="" type="checkbox"/> BI00 | | | | | | CC-CA-9995 |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> 100000 | Bank | Credit | 12.500,00 | 12.500,00 | <input type="checkbox"/> | 01.11.2017 | <input type="checkbox"/> | US00 | | | | | | | |

Figure 75: Expenses Cost Center Cafeteria: SAP-System-Screenshot

3. **Save (Post)** the document.
4. List the document number on your data sheet and leave the view by pressing **Exit**.

Cafeteria Expense:

Call up the cost report again for the **current period** and your hierarchy area **N3xyyy** to display the planned and actual data for **all** cost centers within your hierarchy again. Therefore, within the tile group **Script 6 – Controlling** select the app **Cost Center: Actual/Plan/Variance**.

- Enter the following data:

| | |
|--|----------------------------|
| - Controlling Area (Kostenrechnungskreis) | NA00 |
| - Fiscal Year (Geschäftsjahr) | current fiscal year |
| - From Period (Von Periode) | current period |
| - To Period (Bis Periode) | current period |
| - Plan Version (Planversion) | 0 |
| - Cost Center Group (Kostenstellengruppe) | <u>N3xyyy</u> |

- Choose *Execute*.

You can see that the corresponding expenses were posted to the cafeteria. Only cost element CAFxyyy does not show an actual posting. Although you defined an allocation cycle, this was only applicable to planning. To actually cause the allocation of the cafeteria expenses, you need to create an allocation cycle in the period-end closing in the next step of this case study.

The screenshot shows two SAP system screenshots for 'Kostenstellen: Ist/Plan/Abweichung' (Cost Centers: Actual/Plan/Variance) dated 01.11.2017. The first table displays costs for Marketing and SD Bicycle-9995 across various cost centers like 720200, 740300, 740500, CAF9995, and MNT9995. The second table shows a summary for IVK1SIP-001 Zeile. Annotations in red highlight specific rows: 'Real Cafeteria costs posted in SAP FI → Primary Costs' points to the CAF9995 row; 'Real costs allocated with direct activity allocation → Secondary Costs Thereby CC-MF-xyyy as Receiver was debited' points to the MFT9995 row; and 'Real costs allocated with direct activity allocation → Secondary Costs Thereby CC-MT-xyyy as Sender was credited' points to the MT9995 row. A box on the right states 'So far no credit posting from the Cafeteria Assessment'.

| Kostenstellen: Ist/Plan/Abweichung | | Date: 01.11.2017 | Page: 2 / 4 | |
|------------------------------------|-----------|------------------|-------------------------------|------------|
| Cost Center/Group | | N39995 | Marketing and SD Bicycle-9995 | |
| Person responsible: | | Khatami | | |
| Reporting period: | | 11 to 11 2017 | | |
| | | Column: 1 / 2 | | |
| Belastung | Istkosten | Plankosten | Abw (abs) | Abw (%) |
| 720200 TG Consumpt. Expens | 12.500,00 | 12.500,00 | | |
| 740300 Rent Expense | | | | |
| 740500 Payroll Expense | | 12.500,00 | 12.500,00- | 100,00- |
| CAF9995 Assess. CC-CA-9995 | | 12.500,00 | 12.500,00- | 100,00- |
| MNT9995 Maintenance-All-99 | 3.600,00 | 1.500,01 | 2.099,99 | 140,00 |
| = Debit | 16.100,00 | 89.000,01 | 72.900,01- | 81,91- |
| CAF9995 Assess. CC-CA-9995 | | 12.500,00- | 12.500,00 | 100,00- |
| MFT9995 Manufacture-All-99 | | 61.500,01- | 61.500,01- | 100,00- |
| MNT9995 Maintenance-All-99 | 3.600,00- | 15.000,01- | 11.400,01 | 76,00- |
| = A,H,L | 3.600,00- | 89.000,02- | 85.400,02 | 95,96- |
| == | 12.500,00 | 0,01- | 12.500,01 | *00100,00- |

| Kostenstellen: Ist/Plan/Abweichung | | Date: 01.11.2017 | Page: 3 / 4 | | |
|------------------------------------|------|------------------|-------------------------------|-------------|---------|
| Cost Center/Group | | N39995 | Marketing and SD Bicycle-9995 | | |
| Person responsible: | | Khatami | | | |
| Reporting period: | | 11 to 11 2017 | | | |
| | | Column: 1 / 2 | | | |
| IVK1SIP-001 Zeile | 0006 | Istlstg | Planlstg | Abw (abs) | Abw (%) |
| MF9995 Manufacture-9995 | | | 3.333,3 HR | 3.333,3- HR | 100,00- |
| MT9995 Maintenance-hours-9995 | | 200,0 HR | 833,3 HR | 633,3- HR | 76,00- |

Figure 76: Plan/Actual Comparison Cost Center Accounting (3): SAP-System-Screenshot



In case you have performed case study 5 (Financial Accounting) in the same month like the current script, the amount of 10.000 (rent) will be displayed additionally.

NOTE

3.2.2.4 Period-end Closing Activities: Cost Center Assessment

Period-end Closing in SAP CO-OM comprehends several methods that are used to allocate costs internally. Thereby, indirect, period-based, and automatic methods like Distribution, Assessment, Indirect Activity Allocation, and Template Allocation are provided.

With the Period-end Closing method Assessment, you will now allocate the **real** costs of the cafeteria cost center (12500 \$) to the Receiver cost centers, Manufacturing and Maintenance. Create an allocation cycle for period-end closing. Therefore, within the tile group **Script 6 – Controlling** select the app **Execute Actual Assessment**.



NOTE

*In Chapter 3.2.1.6 Planning Cafeteria Costs Allocation, you already have created and executed an Assessment for the planned costs in transaction KSUB. The only difference here is that you create the Assessment for the **actual** costs posted. Structure and logic of the Assessment are completely the same.*

1. You are now in the **Execute Actual Assessment: Initial Screen**. Choose **More → Extras → Cycle → Create**.
2. Enter the following data:
 - Cycle **PUxyyy**
 - Start Date **01.01. Of the current fiscal year.**
 - Press **Enter**.
3. In the **Text** field, enter **Real Assessment xyyy**

You have to assign your cycle to a *cycle run group* so that all the cycles created in the course can be carried out simultaneously.

4. Choose **More → Goto → Cycle run group** from the menu and then press (**Create Group**).
5. Enter Cycle run group **xyyy** and enter the text **Group xyyy** in behind.
6. Confirm all following popups.
7. Choose .
8. Enter **Segment Name SEGM-xyyy** and **Description Segment-xyyy**.
9. In the **Segment Header** tab, enter **CAFxyyy** in **Assessment CEle** field.
10. Go to the **Senders/Receivers** tab. For the **Sender**, enter in the **Cost Center** row and in the **From** column the value **CC-CA-xyyy**. For the **Receiver**, enter in the **Cost Center** row and in the **Group** column the created **Group-xyyy**.

| Segment Header | <u>Senders/Receivers</u> | Sender Values | Receiver Tracing Factor |
|-------------------------|--------------------------|---------------|-------------------------|
| From | To | Group | |
| Sender: | | | |
| Cost Center: CC-CA-9995 | | | |
| Functional Area: | | | |
| Cost Element: | | | |
| Receiver: | | | |
| Order: | | | |
| Cost Center: | | | Group-9995 |
| Functional Area: | | | |
| Cost Object: | | | |
| WBS element: | | | |

Figure 77: Sender-Receiver: SAP-System-Screenshot

11. Select the **Receiver Tracing Factor** tab. Select **Plan Stat. Key Figures** from the **Variable portion type** field. Confirm the following request with **Continue**. Enter **Version 0** and **EMxyyy** in the **Statistical key figure** row and the **From** column.
12. **Save** (**Without Check**) your entries and return to **Execute Actual Assessment: Initial Screen** view by pressing **Exit**.
13. Execute the Assessment to allocate the costs. Therefore, enter your cycle **PUxyyy**, the **current period** into the period field and in the **To** field the **current period** as well.
14. Deselect **Test Run** and choose **Execute**.
15. If the assessment cycle is completed successfully, the following screen appears.
16. You can check the way the costs were allocated by using the **Segments** button.
17. Then **double click** on the row with your segment. You can see Sender and Receiver.

The screenshot shows the SAP Fiori interface for the 'Period-end Closing Actual Assessment'. At the top, there's a toolbar with icons for search, refresh, and more. Below it is a summary table with fields like Controlling Area (NA00), Version (0), Period (011), Fiscal Year (2017), Document Number (300000218), and Processing Status (UpdateRun). A message below says 'Processing completed without errors'. Below this is a table with columns: cycle, Start Date, Text, P, Senders, Number of Receivers, and No. of Messages. A row for cycle PU9995, start date 01.01.2017, and text 'Real Assessment 9995' is selected. The 'P' column shows 'I', 'Senders' shows '1', 'Number of Receivers' shows '2', and 'No. of Messages' shows '0'. A red arrow points from the 'Segments' button in the top right to the detailed cost allocation table at the bottom. This table has columns: Per Segment N..., Cost Element, OTy, Object, PTy, Partner Object, Val/COArea Crcy. It lists four rows for cost elements CAF9995, CTR, CC-MF-9995, CTR, CC-CA-9995, CTR, CC-CA-9995, CTR, CC-MT-9995, and CTR, CC-CA-9995. The last row is highlighted in yellow. The total value is 0,00.

Figure 78: Period-end Closing Actual Assessment: SAP-System-Screenshot

18. Leave the view by pressing **Exit** three times.

Run the cost report for the **current period** and your Cost Center Group (**Kostenstellengruppe N3xxxx**). Therefore, within the tile group **Script 6 – Controlling** select the app **Cost Center: Actual/Plan/Variance**.

You can see that cost element, CAFxxxx, was now updated with the corresponding amount. Thereby, the Assessment has credited (minus sign) the cost center Cafeteria and debited the other two cost centers (plus sign).

You can display the items of the each cost center by clicking a cost center twice in the left column and check the *Cost Center: Actual Line Item* reports.

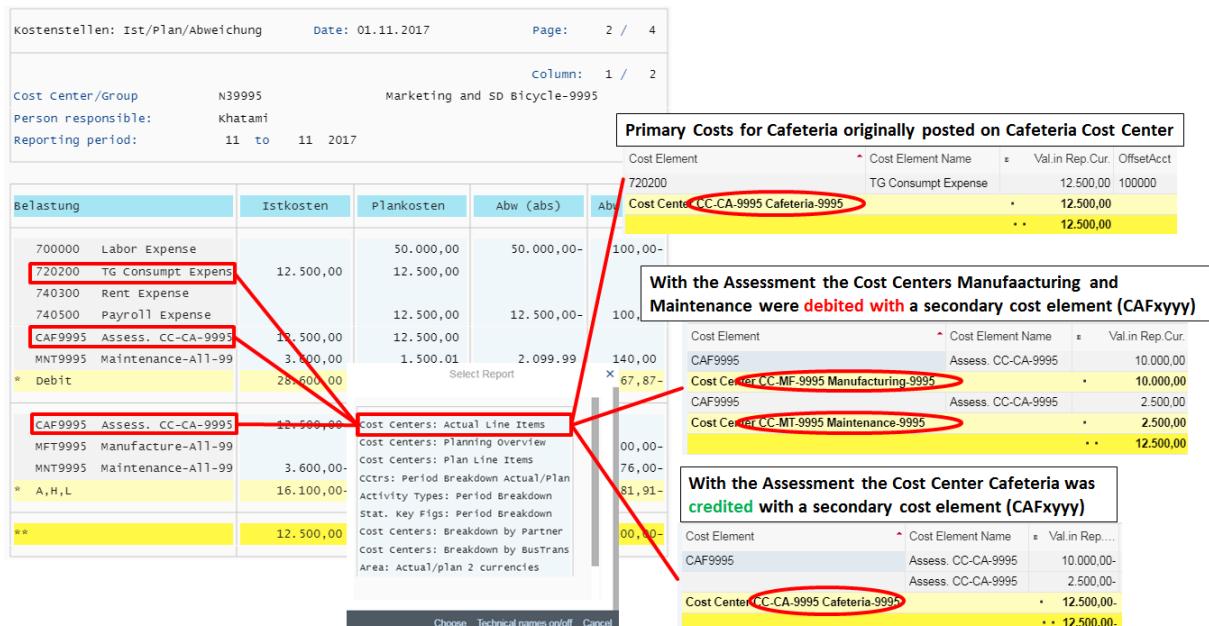


Figure 79: Plan/Actual Comparison Cost Center Accounting (4): SAP-System-Screenshot

3.2.3 Internal Orders (CO-OM-OPA)

The R&D department of your company wants to improve the Speedstarlett. Therefore, you must create an overhead order (internal order) to enter the costs incurred in product development. The costs are posted per posting period to cost center NARD1000 (R&D). Your manufacturing cost center will produce the prototype in this context and will be the responsible cost center for the work on the prototype.

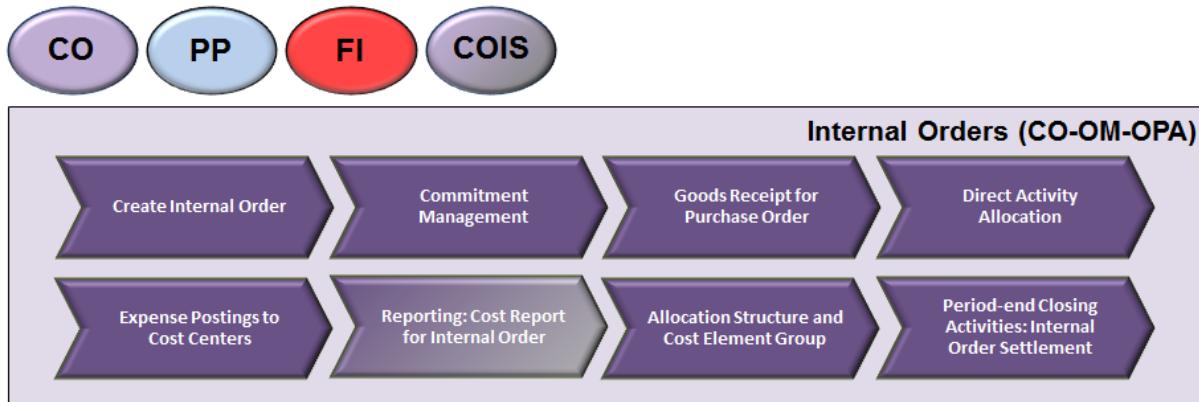


Figure 80: Process Overview: Internal Orders

3.2.3.1 Create Internal Order

Within the tile group **Script 6 – Controlling** select the app **Manage Internal Orders** to create internal orders.

1. Press **Create** to create a new internal order.
2. Within the **Internal Order: New** area, enter the following data:
 - **Controlling Area** **NA00**
 - **Order Type** **0100 (Internal orders: Development)**
 - Press **Continue**
3. Enter **Product development costs xyyy** as **Short Description** (next to **Order** into the editable field).

The screenshot shows the SAP interface for creating a new internal order. The top navigation bar includes Save, Edit, Copy, Check, Maintain Settlement Rule, and More. The main area is titled 'General Data' with the following fields:

| | | |
|-------------------|--------------------------------|------------------------------|
| Controlling Area: | NA00 | GBI North America |
| Order: | Product development costs 9995 | |
| Order Type: | 0100 | Internal orders: Development |
| Reference Order: | | |

Figure 81: Create Internal Order (1): SAP-System-Screenshot

4. Scroll down to the **Assignments** tab and enter the following data:
 - **Business Area** **BI00**
 - **Profit Center** **PROF-xyyy**
 - **Cost Center Responsible** **CC-MF-xyyy**
 - Press **Enter**.

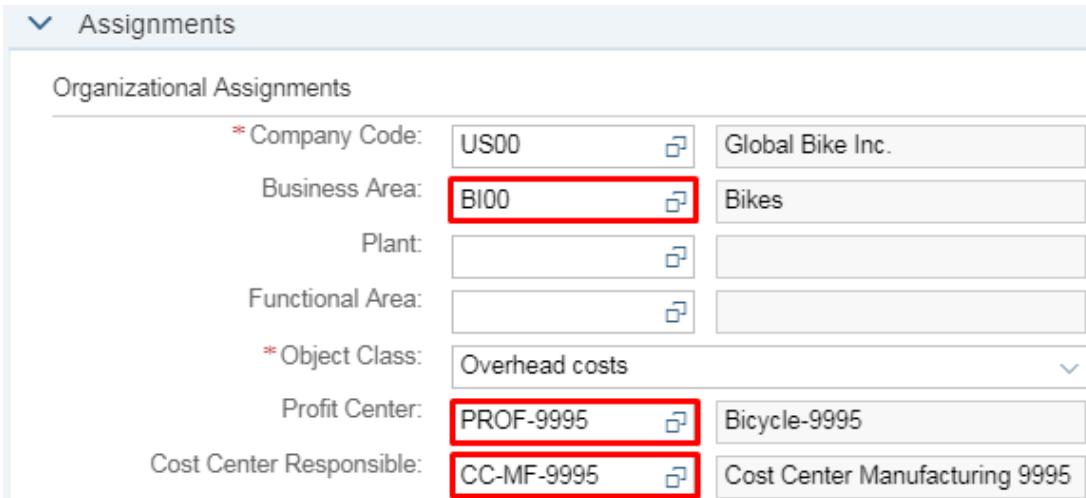


Figure 82: Create Internal Order (2): SAP-System-Screenshot

5. Scroll down to the **Status** area. The status of your internal order currently **Created**. Click on the *Change System Status* link and select **Release**. The system status should change to **released (REL)**.

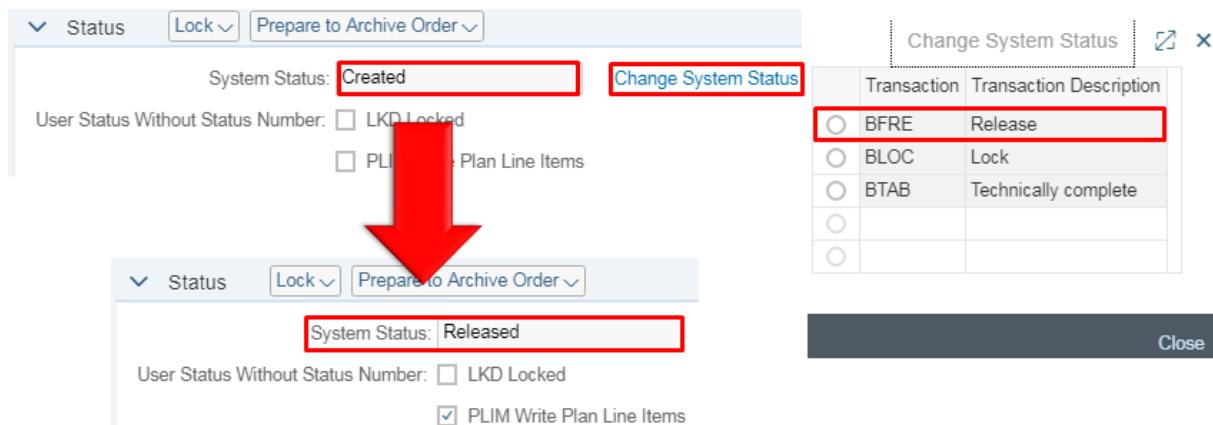


Figure 83: Create Internal Order (3): SAP-System-Screenshot

6. Now, define a settlement rule for periodic settlement to allocate 100% of the actual costs to the R&D cost center. Therefore, in the upper area press [Maintain Settlement Rule](#).
7. In the next view, select **Insert**.
8. Enter the following data:

| | |
|------------------------------|----------------------------|
| - Category | Cost center |
| - Settlement Receiver | NARD1000 |
| - % | 100 |
| - Settlement Type | Periodic Settlement |
9. Confirm by pressing **Check** and then, **Done**.

With this settlement rule you define that **100 %** of the costs you post on this internal order are allocated to **Cost Center NARD1000**



Figure 84: Settlement Rule for Internal Order: SAP-System-Screenshot

10. Save the order.
11. List the order number on your data sheet.

Internal Order:

3.2.3.2 Commitment Management

Personnel working in product development focus particularly on improving the gearing. To determine whether improvements are possible or not, the department wants to purchase some gearings (Gearing-xxxx). Create an internal order and check the posted commitment.

Therefore, within the tile group **Script 6 – Controlling** select the app **Create Purchase Order**.

1. In the order header, enter the subsequent data:

| | |
|---------------------------|--|
| - Vendor | <i>your vendor number from teaching unit 1</i> |
| - Press Enter | |
| - Purchasing Organization | US00 |
| - Purchasing Group | N00 |
| - Company Code | US00 |
2. In the **Item Overview** area, enter the following information:

| | |
|------------------------------|---------------------|
| - Account asset category (A) | F (Order) |
| - Material | <i>Gearing-xxxx</i> |
| - PO Quantity | 100 |
| - Delivery date | <i>current date</i> |
| - Plant (Plnt) | DL00 |

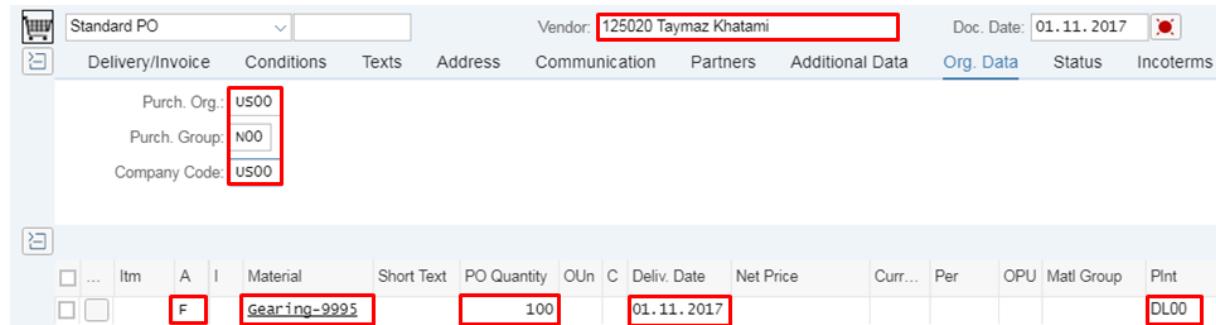


Figure 85: Create Purchase Order for Internal Order (1): SAP-System-Screenshot

3. Press **Enter**. The system issues an error message: “**Account 720000 requires an assignment to a CO object**“ and goes automatically to the **Account Assignment** tab.
4. In the **Order** field, enter *your internal order number* and press **Enter**.

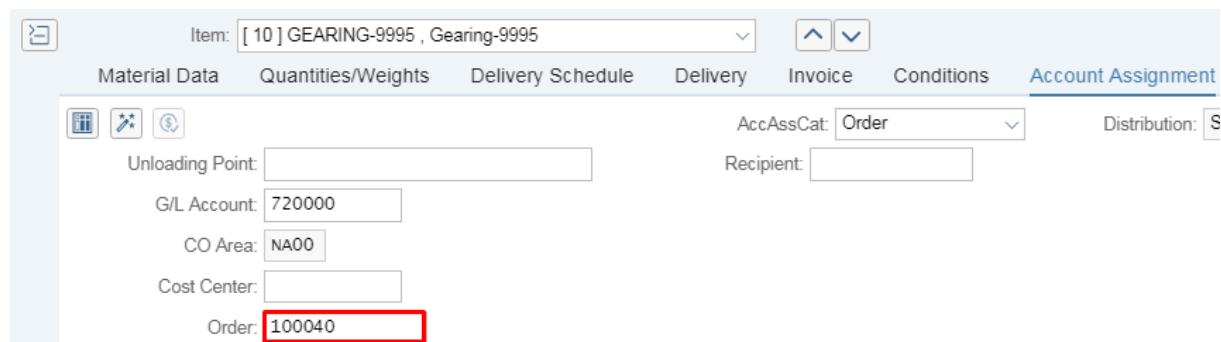


Figure 86: Create Purchase Order for Internal Order (2): SAP-System-Screenshot

5. The system retrieves the net price for the gearing form the conditions that you maintained for the vendor in the **Source-to-Pay** case study. Correspondingly, you are asked if you rather want to purchase a quantity of 500 order units to get a discount. Press **Enter** to skip the offer.
6. Confirm the next two messages regarding the quantity discount and the delivery date with **Enter** and save the delivery order.
7. Skip possible notifications with **Save**.
8. List the number of the standard purchase order and finally, press **Exit**.

Standard Purchase Order:

Check, whether the commitment for your internal order was posted or not. Therefore, within the tile group **Script 6 – Controlling** select the app **Order: Actual/Plan/Commitments**.

1. Enter the following information:
 - **Controlling Area (Kostenrechnungskreis)** **NA00**
 - **Fiscal Year (Geschäftsjahr)** *current fiscal year*
 - **From Period (Von Periode)** *current period*
 - **To Period (Bis Periode)** *current period*
 - **Plan Version (Planversion)** **0**
 - In the **first** field **Or value(s) (oder Wert(e))**, enter *your internal order number*.
 - Choose **Execute**

2. You can see that the corresponding purchase order value is listed for your internal order in the commitment column for cost element 720000 (the consumption account for OEM products). Thus, the commitment about 50.000 \$ is assigned to your internal order.

| Auftrag: Ist/Plan/obligo | | Date: 01.11.2017 22:16:13 | | Page: 2 / 4 | |
|----------------------------|--------------|--------------------------------|----------------|-------------|------------------|
| Order/Group | 100040 | Product development costs 9995 | | | |
| Reporting period | 11 - 11 2017 | | | | |
| Kosten | Ist | obligo | verfügt | Plan | verfügbar |
| 720000 RM Consumpt Expense | | 50.000,00 | 50.000,00 | | 50.000,00- |
| * H,S | | 50.000,00 | 50.000,00 | | 50.000,00- |
| ** | | 50.000,00 | 50.000,00 | | 50.000,00- |

| Auftrag: Ist/Plan/obligo | | Date: 01.11.2017 22:16:13 | | Page: 3 / 4 | |
|----------------------------|--------------|--------------------------------|-------------------|---------------|--|
| Order/Group | 100040 | Product development costs 9995 | | | |
| Reporting period | 11 - 11 2017 | | | | |
| Summe | Banf | Bestellung | reserviert | gesamt | |
| 720000 RM Consumpt Expense | | 50.000,00 | | 50.000,00 | |
| * * | | 50.000,00 | | 50.000,00 | |

Figure 87: Report for Internal Order/Commitment: SAP-System-Screenshot

3.2.3.3 Goods Receipt for Purchase Order

The vendor was very quick and delivered the gearings. Post the goods receipt for the purchase order. Within the tile group **Script 6 – Controlling** select the app **post Goods Movement**.

1. Select the operation **Goods Receipt** and the **Purchase Order** reference from the corresponding drop-down fields.
2. Make sure that movement type **101** is selected.
3. Enter the **purchase order** number for your Gearings (see current data sheet) and choose **Enter**.
4. Select **Item OK** at the bottom of the screen and enter * into the **Delivery Note** field.
5. Click the **Post** button.
6. List the material document number and finally, press **Exit**.

Material Document Gearing:

3.2.3.4 Direct Activity Allocation

The manufacturing department worked 100 hours for the construction order. This expense is supposed to be allocated to the internal order as cost bearer like the material order before. To carry out a direct activity allocation, within the tile group **Script 6 – Controlling** select the app **Enter Activity Allocation**.

1. If prompted, enter **NA00** as Controlling Area.
2. Select **Screen variant** (Scrn var.) ***Order*** and **Input Type List entry**.
3. Enter the following data:

| | |
|-----------------------------|-----------------------------------|
| - Document Date | <i>current date</i> |
| - Posting Date | <i>current date</i> |
| - Send. Ctr. | <i>CC-MF-xxxx</i> |
| - SAtyTyp | <i>MFxxxx</i> |
| - Rec.Order | <i>your internal order number</i> |
| - Total Quantity | <i>100</i> |
| - Confirm with Enter | |

| ItemNo. | Send. CCtr | SAtyTyp | Rec. order | Total Quantity | UM | Text |
|---------|------------|---------|------------|----------------|----|------|
| 0001 | CC-MF-9995 | MF9995 | 100040 | 100,0 | HR | |

Figure 88: Direct Activity Allocation on Order: SAP-System-Screenshot

4. **Save (Post)** the document and list the document number on your data sheet. Finally, press **Exit**.

Activity Allocation Manufacturing:

3.2.3.5 Expense Postings to Cost Centers

As described in the note in chapter 3.2.2.3, you have to post the corresponding expense for an activity output to the cost centers. That is, your maintenance cost center has delivered 200 hours of work to the manufacturing cost center and the manufacturing cost center has delivered 100 hours of work to the internal order. These costs, which really occurred (wages and salary of employees), must be paid from the bank account.

At this point, you will post the 100 hours (manufacturing) for R&D as well as the 200 hours (maintenance) from the **direct activity allocation** in **one** document. The employees of both departments receive an hourly rate of 15 \$ (manufacturing: 600.000 \$ for 20 employees that work 2000 hours each). The automatically determined price from planning is 18,45 \$ for manufacturing, however, this price considers the allocation of cafeteria costs as well. Thus, the employees let the receivers of their work (controlling objects: sales orders, production orders, internal orders, other cost centers, etc.) pay for their food.

Now, within the tile group **Script 6 – Controlling** select the app **Enter G/L Account Document**.

1. If prompted, enter **NA00** as Controlling Area.
2. Enter the following data:

| | |
|-----------------|--------------|
| - Document Date | current date |
| - Posting Date | current date |
3. On items level enter in the first row:

| | |
|------------------------|-------------------|
| - G/L account | 700000 |
| - D/C | Debit |
| - Amount in doc. curr. | 1845 |
| - Cost center | CC-MF-xyyy |
4. On items level enter in the second row:

| | |
|-------------------------------|-------------------|
| - G/L account (second row) | 740500 |
| - D/C | Debit |
| - Amount in document currency | 3600 |
| - Cost center | CC-MT-xyyy |
5. On items level enter in the third row:

| | |
|-------------------------------|--------|
| - G/L account (third row) | 100000 |
| - D/C | Credit |
| - Amount in document currency | 5445 |
6. Confirm with *Enter*

| Basic Data | Details | Amount Information | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|--|--------------------|--------|---------------------|-----------------|--------------------------|------|--------------------------|------|------|-------|------------|---------------------------------------|--------|--------|-------------|--|--|--|--|--|--|--|--|--|-------|----------|--------|-----|---------------------|-----------------|------|------|-----|-----|-----|-------|-------|-----|--------|--------|-------------|--------------------------|--|--------|-------|----------|----------|--------------------------|------|--------------------------|------|------|--|------------|--|--|--|--------------------------|--|--------|-------|----------|----------|--------------------------|------|--------------------------|------|------|--|------------|--|--|--|--------------------------|--|------|--------|----------|----------|--------------------------|------|--------------------------|------|--|--|--|--|--|--|
| Document Date: | 02.11.2017 | Currency: | USD | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Posting Date: | 02.11.2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Reference: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Doc.Header Text: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Cross-CC Number: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Company Code: US00 | Global Bike Inc. Dallas | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Activity provided by Manufacturing | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 100 hours * 18,45 \$ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Paying the 5445 \$ from Bank account | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Activity provided by Maintenance | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 200 hours * 18 \$ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1" style="width: 100%; border-collapse: collapse; font-size: small;"> <thead> <tr> <th colspan="13">3 Items (No entry variant selected)</th> </tr> <tr> <th>St...</th> <th>G/L acct</th> <th>Sho...</th> <th>D/C</th> <th>Amount in doc curr.</th> <th>Loc.curr.amount</th> <th>T...</th> <th>T...</th> <th>...</th> <th>...</th> <th>...</th> <th>Lo...</th> <th>Co...</th> <th>...</th> <th>Bus...</th> <th>Par...</th> <th>Cost center</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/> 700000</td> <td>Lab...</td> <td>Debit</td> <td>1.845,00</td> <td>1.845,00</td> <td><input type="checkbox"/></td> <td>0...</td> <td><input type="checkbox"/></td> <td>US00</td> <td>B100</td> <td></td> <td>CC-MF-9995</td> <td></td> <td></td> <td></td> </tr> <tr> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/> 740500</td> <td>Pay...</td> <td>Debit</td> <td>3.600,00</td> <td>3.600,00</td> <td><input type="checkbox"/></td> <td>0...</td> <td><input type="checkbox"/></td> <td>US00</td> <td>B100</td> <td></td> <td>CC-MT-9995</td> <td></td> <td></td> <td></td> </tr> <tr> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/> 100000</td> <td>Bank</td> <td>Credit</td> <td>5.445,00</td> <td>5.445,00</td> <td><input type="checkbox"/></td> <td>0...</td> <td><input type="checkbox"/></td> <td>US00</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> | | | | | | | | | | | | | 3 Items (No entry variant selected) | | | | | | | | | | | | | St... | G/L acct | Sho... | D/C | Amount in doc curr. | Loc.curr.amount | T... | T... | ... | ... | ... | Lo... | Co... | ... | Bus... | Par... | Cost center | <input type="checkbox"/> | <input checked="" type="checkbox"/> 700000 | Lab... | Debit | 1.845,00 | 1.845,00 | <input type="checkbox"/> | 0... | <input type="checkbox"/> | US00 | B100 | | CC-MF-9995 | | | | <input type="checkbox"/> | <input checked="" type="checkbox"/> 740500 | Pay... | Debit | 3.600,00 | 3.600,00 | <input type="checkbox"/> | 0... | <input type="checkbox"/> | US00 | B100 | | CC-MT-9995 | | | | <input type="checkbox"/> | <input checked="" type="checkbox"/> 100000 | Bank | Credit | 5.445,00 | 5.445,00 | <input type="checkbox"/> | 0... | <input type="checkbox"/> | US00 | | | | | | |
| 3 Items (No entry variant selected) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| St... | G/L acct | Sho... | D/C | Amount in doc curr. | Loc.curr.amount | T... | T... | ... | ... | ... | Lo... | Co... | ... | Bus... | Par... | Cost center | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> 700000 | Lab... | Debit | 1.845,00 | 1.845,00 | <input type="checkbox"/> | 0... | <input type="checkbox"/> | US00 | B100 | | CC-MF-9995 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> 740500 | Pay... | Debit | 3.600,00 | 3.600,00 | <input type="checkbox"/> | 0... | <input type="checkbox"/> | US00 | B100 | | CC-MT-9995 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> 100000 | Bank | Credit | 5.445,00 | 5.445,00 | <input type="checkbox"/> | 0... | <input type="checkbox"/> | US00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Figure 89: Expense Posting Maintenance and Manufacturing: SAP-System-Screenshot

7. **Save (Post)** the document and list the document number on your data sheet. Finally, press **Exit**.

Document Number (Expense Posting):

3.2.3.6 Reporting: Cost Report for Internal Order

Next, check the effects of the commitment posting (goods receipt) and of the direct activity allocation on your internal order. Therefore, within the tile group **Script 6 – Controlling** select the app **Order: Actual/Plan/Commitments**.

1. Enter the following data:
 - **Controlling Area (Kostenrechnungskreis)** *NA00*
 - **Fiscal Year (Geschäftsjahr)** *current fiscal year*
 - **From Period (Von Periode)** *current period*
 - **To Period (Bis Periode)** *current period*
 - **Plan Version (Planversion)** *0*
2. Enter your **internal order number** into the **first Or value(s) (oder Wert(e))** field.
3. Choose **Execute**.

You can see that for your order, there is a zero listed in the commitment column and the corresponding costs were posted to the **actual** column. Moreover, there is a new row in which the costs from the manufacturing department were posted.

Thus, you have posted all the costs for the R&D project (Material, work force) on the internal order.

| Auftrag: Ist/Plan/obligo | Date: 02.11.2017 13:44:35 | Page: 2 / 4 | | | |
|---|---------------------------|-------------|-----------|------|------------|
| Order/Group 100040 Product development costs 9995 | | | | | |
| Reporting period 11 - 11 2017 | | | | | |
| Kosten | Ist | obligo | verfügbar | Plan | verfügbar |
| 720000 RM Consumpt Expense | 50.000,00 | | 50.000,00 | | 50.000,00- |
| MFT9995 Manufacture-All-9995 | 1.845,00 | | 1.845,00 | | 1.845,00- |
| * | 51.845,00 | | 51.845,00 | | 51.845,00- |
| ** | 51.845,00 | | 51.845,00 | | 51.845,00- |

| Auftrag: Ist/Plan/obligo | Date: 02.11.2017 13:44:35 | Page: 3 / 4 | | |
|---|---------------------------|-------------|------------|--------|
| Order/Group 100040 Product development costs 9995 | | | | |
| Reporting period 11 - 11 2017 | | | | |
| Summe | Bank | Bestellung | reserviert | gesamt |
| 720000 RM Consumpt Expense | | | | |
| * | | | | |

Figure 90: Commitment cleared, Activities posted to Order: SAP-System-Screenshot

Again, take a look at the planned/actual cost comparison of your cost center group N3xyyy. Therefore, within the tile group **Script 6 – Controlling** select the app **Cost Center: Actual/Plan/Variance**.

1. Enter the following data:
 - **Controlling Area (Kostenrechnungskreis)** *NA00*
 - **Fiscal Year (Geschäftsjahr)** *current fiscal year*
 - **From Period (Von Periode)** *1*
 - **To Period (Bis Periode)** *12*
 - **Plan Version (Planversion)** *0*
 - **Cost Center Group (Kostenstellengruppe)** *N3xyyy*
2. Choose **Execute**.

You can see that additional 5.445 \$ were debited to the cost center and 5.445\$ were credited. If both cost centers manage to perform the planned activities of 3333.33 and 833.33 hours, respectively (see figure below), they would really deserve the food (allocation CC-CA-xyyy).

Primary costs (expenses) posted to the cost centers Manufacturing (Consumpt Expense) and Maintenance (Rent Expense)

| Belastung | Istkosten | Plankosten | Abw (abs) | Abw (%) |
|----------------------------|------------|---------------|---------------|----------|
| 700000 Labor Expense | 1.845,00 | 600.000,00 | 598.155,00- | 99,69- |
| 720200 TG Consumpt Expens | 12.500,00 | 150.000,00 | 137.500,00- | 91,67- |
| 740300 Rent Expense | 10.000,00 | | 10.000,00 | |
| 740500 Payroll Expense | 3.600,00 | 150.000,00 | 146.400,00- | 97,60- |
| CAF9995 Assess. CC-CA-9995 | 12.500,00 | 150.000,00 | 137.500,00- | 91,67- |
| MNT9995 Maintenance-All-99 | 3.600,00 | 17.999,96 | 14.399,96- | 80,00- |
| = Debit | 44.045,00 | 1.067.999,96 | 1.023.954,96- | 95,88- |
| CAF9995 Assess. CC-CA-9995 | 12.500,00- | 150.000,00- | 137.500,00 | 91,67- |
| MFT9995 Manufacture-All-99 | 1.845,00- | 737.999,96- | 736.154,96 | 99,75- |
| MNT9995 Maintenance-All-99 | 3.600,00- | 179.999,96- | 176.399,96 | 98,00- |
| = A,H,L | 17.945,00- | 1.067.999,92- | 1.050.054,92 | 98,32- |
| = | 26.100,00 | 0,04 | 26.099,96 | 49900,00 |

Internal allocation of the costs using secondary cost elements

Activities provided by cost centers Manufacturing and Maintenance

| Kostenstellen: Ist/Plan/Abweichung | Date: 02.11.2017 | Page: 3 / 4 | | |
|--|------------------|-------------|--------------|---------|
| Cost Center/Group N39995 Marketing and SD Bicycle-9995 | | | | |
| Person responsible: Khatami | | | | |
| Reporting period: 1 to 12 2017 | | | | |
| 1VK1SIP-001 Zeile 0006 | Istlstg | Planlstg | Abw (abs) | Abw (%) |
| MF9995 Manufacture-9995 | 100,0 HR | 40.000,0 HR | 39.900,0- HR | 99,75- |
| MT9995 Maintenance-hours-9995 | 200,0 HR | 10.000,0 HR | 9.800,0- HR | 98,00- |

Figure 91: Plan/Actual Comparison Cost Center Accounting: SAP-System-Screenshot

3.2.3.7 Allocation Structure and Cost Element Group

At this point, you can find another brief customizing excursion, since allocation cost element MFTxxyy will take a special role in settling the internal costs.

Within the SAP Easy Access Menu, select the transaction **SPRO** and then click on **SAP Reference IMG**. Go to:

IMG → Controlling → Product Cost Controlling → Cost Object Controlling → Product Cost by Order → Period-End Closing → Settlement → Create Allocation Structure

Select **Allocation Structure A1** and double-click the **Assignments** folder in the left window. Select the line with the entry **025 (Settlement)** and double-click on the **Source** folder in the left window. You can see that the cost element group **OAS_ORDERS** is listed for the allocation structure A1 and the assignment 025.

During settlement, costs incurred under the primary and secondary **Cost Elements** by a sender are allocated to one or more receivers. An **allocation structure** comprises one or several settlement assignments. An assignment shows which costs (origin: cost element groups from debit Cost Elements) are to be settled to which receiver type (for example, cost center, order, and so on). Allocation structure A1 will be relevant later in this case study.

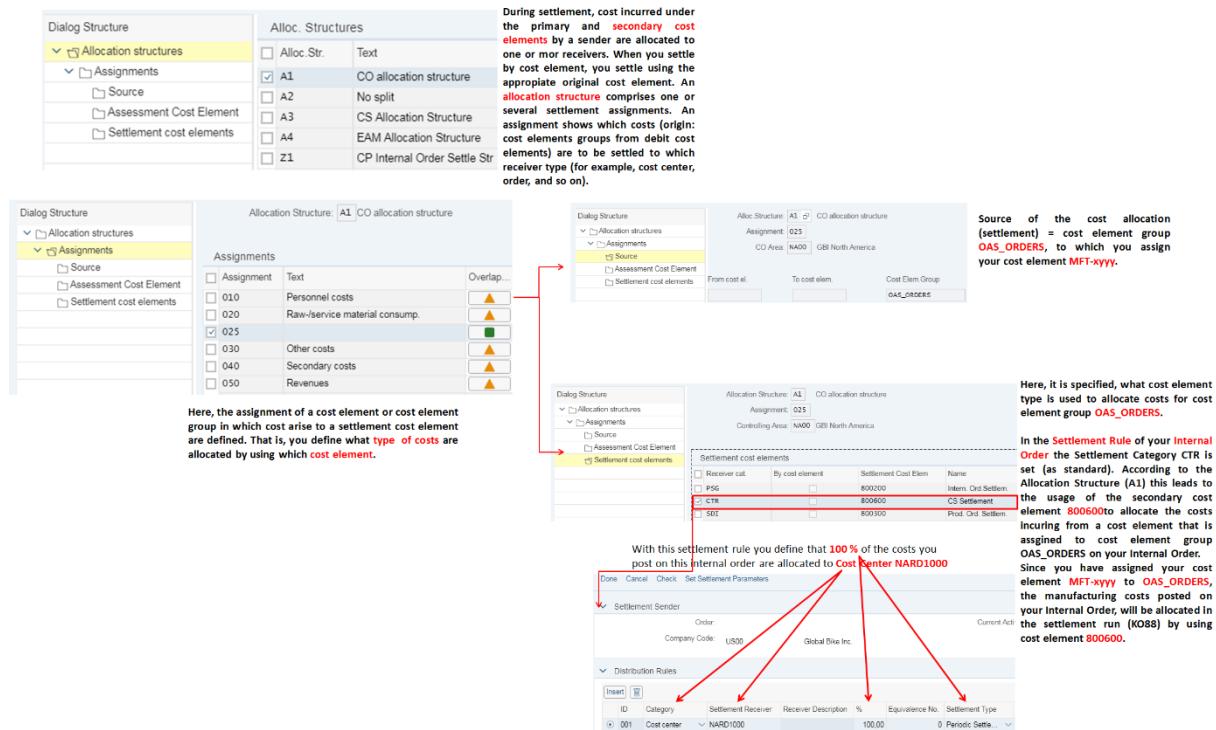


Figure 92: Allocation Structure A1 for Cost Object Accounting: SAP-System-Screenshot

Now, within the tile group **Script 6 – Controlling** select the app **Edit Cost Element Group**.

1. First, check whether your controlling area (NA00) is set or not. Therefore, select **More → Extras → Set Controlling Area**.
2. Enter the determined cost element group **OAS_ORDERS** (**Not OAS-ORDERS!**) into the **Cost element group** field and confirm with **Enter**.
3. Position your cursor on **OAS_ORDERS** and select **Cost Element** or **More → Cost Element**.
4. Enter your cost element **MFT-xyyy** into the first row and confirm with **Enter**.

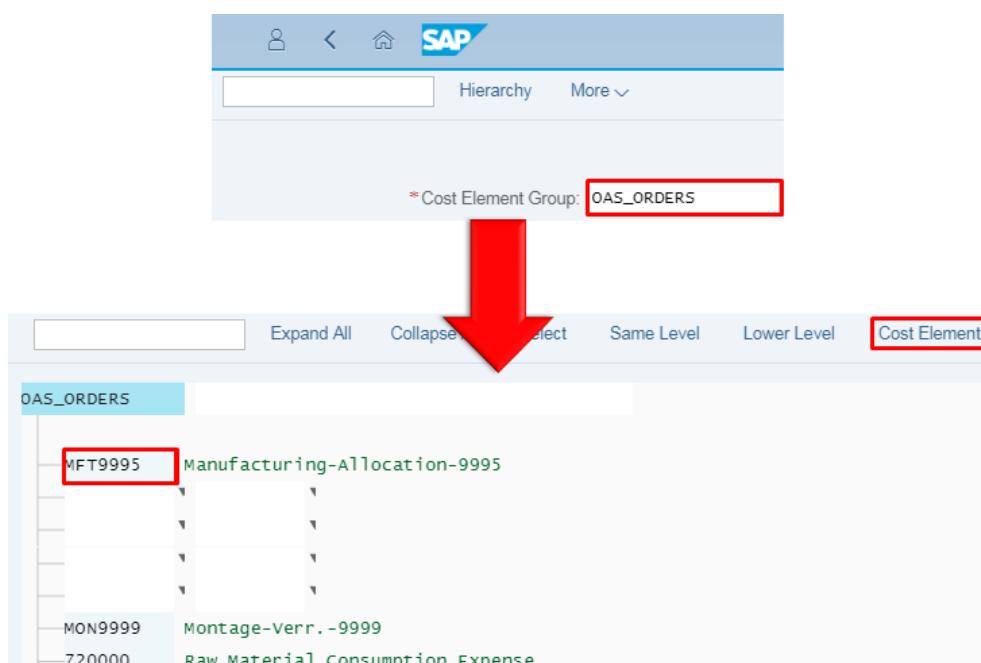


Figure 93: Cost Element Group OAS_ORDERS: SAP-System-Screenshot

5. Save your entries and then, press **Exit** twice.

With assigning your cost element type, MFTxyyy, to the cost element group, OAS_ORDERS, you consequently direct the system

- To post costs that are of the cost element type MFTxyyy.
- To the controlling object (CTR - cost center) that is assigned in the settlement rule of your internal order.
- By using the cost element (800600) that is assigned to the cost element group OAS_ORDERS in the allocation structure A1 in customizing.

This step is required to make sure that the costs of the internal order can be transferred to the account assignment object (cost center R&D) in the sense of object accounting.

3.2.3.8 Period-end Closing Activities: Internal Order Settlement

You posted costs for material (Gearing) and work force (100 hours manufacturing activity) on your internal order. The internal order acted as a cost collector for the R&D project. The settlement rule you entered in the internal order allocates all these costs to the cost center NARD1000. Now, carry out an actual costs settlement for your internal order. Use the current period as both: settlement and posting period.

Within the tile group **Script 6 – Controlling** select the app **Actual Settlement**.

1. Enter the following information:

| | |
|----------------------------|--------------------------------------|
| - Order | <i>Number of your internal order</i> |
| - Settlement Period | <i>Current period</i> |
| - Posting period | <i>Current period</i> |
| - Fiscal Year | <i>Current fiscal year</i> |
| - Processing type | <i>Automatic</i> |
| - Test Run | <i>Deselect</i> |

2. Choose **Execute**.

3. Choose the **Detail lists** () button.

4. In the **Senders** column, you can see your order number, in the **Receiver** column, the R&D cost center is listed (NARD1000).

5. Choose the **Receiver** () button to display details regarding cost allocation.

On the receiver details, you can see that the cost center NARD1000 (which you entered in your internal order) is debited with:

- The consumed materials (Gearing-xyyy) using the cost element 720000 (which you entered in your purchase order for account assignment category 'F').
- The activity costs (MFxyyy with cost element MFTxyyy) accomplished by your cost center CC-MF-xyyy for the internal order. These costs were settled using the cost element 800600 which is set in the Allocation Structure A1 for the cost element group OAS_ORDERS (to which you have assigned your cost element MFTxyyy).

The screenshot shows two SAP screens. The top screen is titled 'Detail list - Settled values' and displays a table with one row. The row shows a sender 'ORD 100040' with 'Product development costs 9995' and a receiver 'CTR NARD1000' with a value of '51.845,00'. A large blue arrow points from this table to the second screen. The second screen is titled 'Receiver debits' and also displays a table with one row. This row shows the receiver 'CTR NARD1000' with a value of '51.845,00' and a cost element group '800600'.

By settling your internal order, all the costs it carried were allocated to the cost center NARD1000. Thus, the internal order is balanced out now.

Figure 94: Settlement of Internal Order: SAP-System-Screenshot

Check one last time the effects on your internal order. Therefore, within the tile group **Script 6 – Controlling** select the app **Order: Actual/Plan/Commitments**.

1. Enter the following data:

| | |
|---|----------------------------|
| - Controlling Area (Kostenrechnungskreis) | NA00 |
| - Fiscal Year (Geschäftsjahr) | <i>current fiscal year</i> |
| - From Period (Von Periode) | <i>current period</i> |
| - To Period (Bis Periode) | <i>current period</i> |
| - Plan Version (Planversion) | 0 |
| - Enter your internal order number into the first Or value(s) (oder Wert(e)) field. | |
| - Make sure, that all other fields are empty (especially the Cost Element Group (Kostenartengruppe) field). | |
| - Choose Execute | |
2. You can see that the balance is zero in all tables. Thus, the internal order was allocated completely. The R&D cost center now bears the costs.

The screenshot shows an SAP report for an internal order. The header information includes 'Auftrag: Ist/Plan/obligo', 'Date: 02.11.2017 14:13:40', and 'Page: 2 / 4'. The report details an internal order with number 100040, product 'development costs 9995', and reporting period '11 - 11 2017'. Below this, a table shows various cost entries. One entry for 'RM Consumpt Expense' has a red box around its value '1.845,00' in the 'Ist' column. Another entry for 'Customer Service Settlement' has a red box around its value '51.845,00' in the 'Ist' column. The table columns are labeled 'Kosten', 'Ist', 'obligo', 'verfügbar', 'Plan', and 'verfügbar'.

Figure 95: Internal Order Report: SAP-System-Screenshot

Furthermore, you can check the actual costs report on cost center NARD1000 to see that this cost center is debited with the costs of your internal order. Therefore, within the tile group **Script 6 – Controlling** select the app **Display Cost Center Line Items**.

Enter cost center **NARD1000** in the **Cost Center** field and delete any entry in the **Cost Center Group** field and **Cost Element Group** field. Press *Execute*.

You see that the cost center NARD1000 is debited with two different cost elements by each user (student) that settles the costs of the internal order.

Use column configuration to add the field User Name. This allows you to see your own posting.

| Cost Element | Cost Element Name | Val in Rep.Cur. | Total quantity | PUM | OffsetAcct | Name of Offsetting Account | User Name |
|---------------|-------------------|-----------------|----------------|--------|---------------|----------------------------|---------------|
| 800600 | CS Settlement | 50.000,00 | S | 800600 | CS Settlement | WIP9-995 | |
| | CS Settlement | 1.845,00 | 100,0 | HR | S | 800600 | CS Settlement |
| Cost Center N | | 51.845,00 | | | | | |
| | | 51.845,00 | | | | | |

Figure 96: Cost Center Debited through Cost Settlement: SAP-System-Screenshot

3.2.4 Integration with Product Cost Controlling (SAP CO-PC)



The integration of Cost Center Accounting to production planning results from the assignment of work centers to cost centers. This is realized in the following, based on the PP case study.

PRACTICE

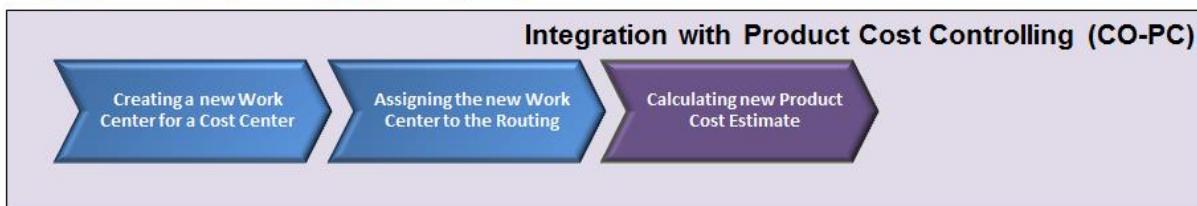
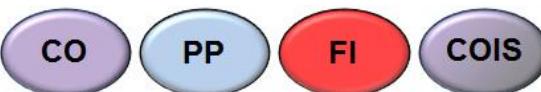


Figure 97: Process Overview: Product Cost Accounting

3.2.4.1 Creating a new Work Center for a Cost Center

Create a new work center to a cost center.

Work center:

The organizational unit work center (e.g., person, machine) determines where an operation is carried out and who carries out an operation. The work center features a particular capacity. The tasks performed at that work center are valuated with allocation rates that are set by cost centers and activity types.

Within the tile group **Script 6 – Controlling** select the app **Create Work Center**.

1. To create a work center, enter the following data:

| | |
|------------------------------|-------------------------------|
| - Plant | <i>DL00 (Dallas)</i> |
| - Work center | <i>PL-xxxx</i> |
| - Work Center Category | <i>0003 (Labor)</i> |
| - Copy from Plant | <i>DL00 (Dallas)</i> |
| - Copy from Ref. work center | <i>ASSY1000 (DL Assembly)</i> |
| - Press <i>Enter</i> . | |
2. In the following **Copy from** window, choose all **Data selection entries except costing**.
Click the button (copy) or press *Enter*.
3. Go to the **Costing** tab to assign your own cost center to your work center. Enter the following data:

| | |
|---|--|
| - Start date | <i>current date</i> |
| - Cost Center | <i>CC-MF-xxxx</i> |
| - Activity Type Setup | Select F4 , activity type MFxxxx should be displayed. Select it. |
| - In the Setup row, enter the formula key SAP001 (Prod. Setup time) . | |

| Plant: DL00 | Plant Dallas | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---------------|--------------------|--------------------------|---------------|---------------------|---------|---------------------|-----|-------|--------|--|--------------------------|--------|--|--|---------|--|--|--------------------------|--|--|--|-------|--|--|--------------------------|--|--|--|
| Work center: PL-9995 | DL Assembly | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Basic Data Default Values Capacities Scheduling Costing Technology | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Validity Start date: 02.11.2017 End Date: 31.12.9999 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Link to cost center/activity types Controlling Area: NA00 GBI North America * Cost Center: CC-MF-9995 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Activities Overview <table border="1"> <thead> <tr> <th>Alt. Activity Text</th> <th>Activity Type</th> <th>Activity Unit</th> <th>R...</th> <th>Form...</th> <th>Formula description</th> <th>Inc</th> </tr> </thead> <tbody> <tr> <td>Setup</td> <td>MF9995</td> <td></td> <td><input type="checkbox"/></td> <td>SAP001</td> <td></td> <td></td> </tr> <tr> <td>Machine</td> <td></td> <td></td> <td><input type="checkbox"/></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Labor</td> <td></td> <td></td> <td><input type="checkbox"/></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> | | Alt. Activity Text | Activity Type | Activity Unit | R... | Form... | Formula description | Inc | Setup | MF9995 | | <input type="checkbox"/> | SAP001 | | | Machine | | | <input type="checkbox"/> | | | | Labor | | | <input type="checkbox"/> | | | |
| Alt. Activity Text | Activity Type | Activity Unit | R... | Form... | Formula description | Inc | | | | | | | | | | | | | | | | | | | | | | | |
| Setup | MF9995 | | <input type="checkbox"/> | SAP001 | | | | | | | | | | | | | | | | | | | | | | | | | |
| Machine | | | <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Labor | | | <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | | | |

Figure 98: Create Work Center: SAP-System-Screenshot

4. **Save** your entries and skip a possible warning message with *Enter*.
5. Finally, press **Exit**.

3.2.4.2 Assigning the new Work Center to the Routing

Next, add your new work center that is valued with your activity type to the manufacturing routing of the Speedstarlett. Thus, the prices you have just calculated become effective. You will note that working at the new work center is more effective.

Within the tile group **Script 6 – Controlling** select the app **Change Routing**.

1. Enter **Material Speedstarlett-xxxx**.
2. Enter **Plant DL00 (Dallas)**.
3. Enter the **current date** as **Key date**. Press *Enter*.
4. Double-click on **operation 0010**.
5. Overwrite in the fields of the operation the field **work center ASSY1000** with your new **work center PL-xxxx**.
6. Additionally, delete any **Labor** entries within the **Ac.Type** columns.
7. In the **Act.Type** field of the **Setup** row enter **MFxxxx** and adjust the **Standard Value** to **15** minutes.



If an error message appears that is saying that activity type ASSY1000 was not created for cost center DL00 CC-MF-xxxx, the change of the activity type regarding the setup time was not recognized. Again, overwrite the default value with 15 and the activity type default value with MFxxxx. In addition, you might have to delete the activity type for Setup and Labor again.

Material SPEEDSTARLETT-9995 Speedstarlett-9995 Grp.Count1

Operation

| | | | |
|---|---------|---|---------------|
| *Activity: | 0010 | Suboperation: | |
| Work center / Plant: | PL-9995 | DL00 | DL Assembly * |
| * Control key: | ASSY | Routing/Ref. op. set - internal proc. * | |
| Standard text key: | | | |
| <input type="checkbox"/> Long text exists | | | |

Standard Values

| Conversion of Units of Measure | | | |
|--------------------------------|------|-------------|------------|
| Header | Unit | Operat. | Un |
| 1 | EA | * <=>: 1 EA | |
| Break: | | | |
| Std Value | un | Act. Type | Efficiency |
| Setup: 15 | MIN | MF9995 | |
| Machine: | MIN | | |
| Labor: | MIN | | |

Figure 99: Change Routing: SAP-System-Screenshot

8. Save your entries and press *Exit*.

3.2.4.3 Calculating new Product Cost Estimate

In the Plan-to-Produce case study, you already received a comprehensive introduction in product cost estimation. At that time, we brought a step of controlling forward because production would not have been possible due to the high standard of integration of the SAP S/4HANA system. To complete this case study, carry out a new product cost estimate and check the improvement resulting from the integration of the new work center.

Within the tile group **Script 6 – Controlling** select the app **Create Material Cost Estimate**.

1. Choose your material **Speedstarlett-xxxx** in plant **DL00**.
2. Enter in the **Costing Data** tab the **costing variant PPC1 (Standard Cost Estimates (Mat))**, the **costing version 01** and **costing lot size 1**. Confirm with *Enter*.
3. In the field **Costing Date From**, enter the **first of the next month** (!). Confirm with *Enter*.
4. The material cost is calculated. In upper part, the valued BOM is displayed and in the bottom part of the screen, the itemization is displayed. If this is not the case, choose **More → Costs → Itemization** from the menu or choose **F6**.

Solution:

As a result, you get the following product cost estimate at the end of the controlling case study. The new work center can produce for fewer costs than work center ASSY1000, which was previously responsible for the production of the Speedstarlett. As you can see, we were “successful” and the Speedstarlett can overall be produced cheaper.

What is the Total Value for the cost element MFTxxxx in the Product Cost Estimate?

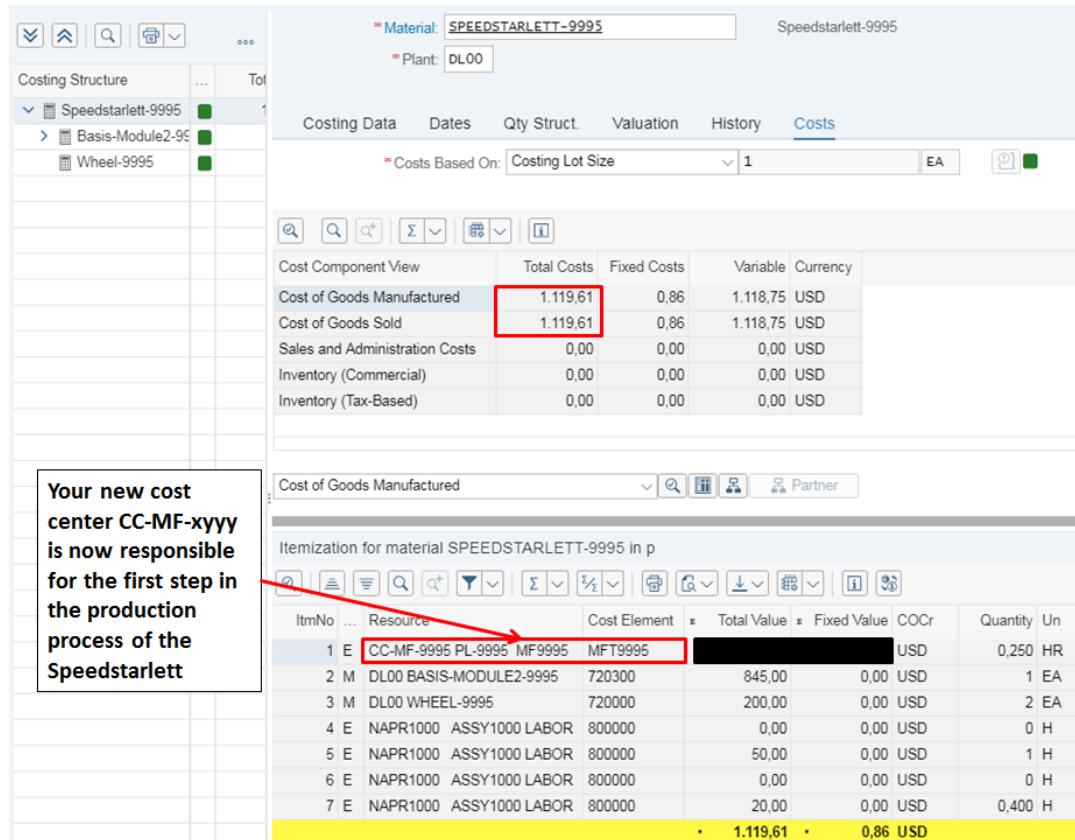


Figure 100: New Product Cost Estimate Speedstarlett: SAP-System-Screenshot

- Save the cost estimate (**Sichern** or **CTRL+S**) and leave the dialogue.

Data Sheet

Congratulations! You completed the **Management Accounting** case study.

The subsequent case studies are based on the results of this case study. In case your data differs from the description in the script, please contact your tutor prior to processing another case study.

Finally, please **submit the carefully completed data sheet** to your tutor (use support email address from the welcome mail) for the case study **Management Accounting**.

Please comply with the naming rules. Non-compliant data sheets will not be accepted; i.e., rename the document that you downloaded from this course's download area as follows:

06-Management_Accounting-xyyy-zzz-lastname.doc

Thereby, you need to replace **xxxx** with your user number **without** the “**WIP**“ and without the hyphen (WIPx-yyy) and replace **zzz** with the number of the client you are working on.

Example:

Your name is **Max Mustermann**, you are working on **client 700**, and your **user number is WIP9-999**. Then, name the document as follows:

06-Management_Accounting-9999-700-Mustermann.doc

List of Literature

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