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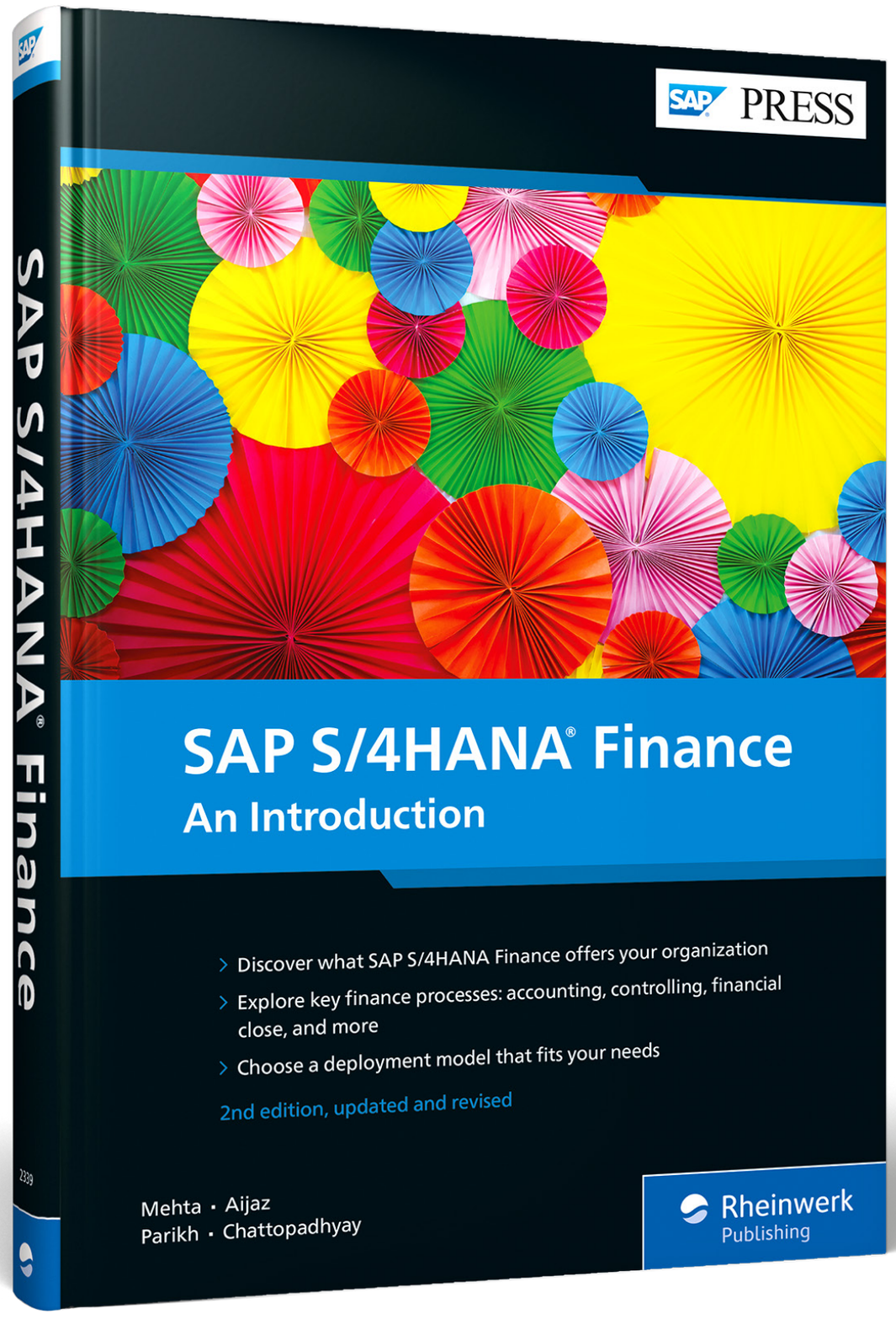

Reading Sample

In this chapter excerpt, you'll discover management accounting with SAP S/4HANA Finance. You'll explore core functionalities including cost element accounting, overhead cost controlling, product cost controlling, and more, with insight into the latest SAP Fiori apps and reports.

"Management Accounting"

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An Introduction

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Chapter 4
Management Accounting

This chapter details the available management accounting functionality in SAP S/4HANA Finance, including the architecture, key SAP Fiori apps, and enhancements. We'll break down management accounting by subareas, covering a comprehensive view of controlling in SAP S/4HANA.

Management accounting refers to internal reporting that supports management decision-making. This is different from financial accounting, which refers to external accounting. Management accounting is represented in SAP within the controlling functionality, and encompasses cost element accounting, overhead cost controlling, product cost controlling, and profitability analysis.

SAP S/4HANA introduces a number of simplifications and enhanced features to management accounting, thereby improving your management reporting capabilities. Most significant is the integration between financial accounting and controlling with the Universal Journal (introduced in Chapter 2 and discussed in detail in Chapter 3), which creates consistency across internal and external reporting. This chapter details the changes across the subareas of controlling in SAP S/4HANA.

Here's a preview of the impact SAP S/4HANA has on management accounting:

- Unified master data maintenance across financial accounting and controlling (internal and external accounting is in sync) with the integration of cost elements as general ledger accounts
- Controlling allocations are now a single allocation across financial accounting and controlling, including cost center, profit center, cross-company postings, and customer fields
- Flexible hierarchies are enabled for profit center and cost center hierarchies
- Cost of goods sold (COGS), work in process (WIP), and variance analysis reporting are enhanced
- Enhanced inventory reporting with the Material Ledger
- Market segment reporting provided within margin analysis

As we discussed in Chapter 3, Section 3.2.2, the Universal Journal (table ACDOCA) merges controlling data across cost center accounting, profit center accounting, profitability analysis, materials management, and order management.

The core controlling functionalities that we'll explore in this chapter are cost element accounting (Section 4.1), overhead cost controlling (Section 4.2), product cost controlling (Section 4.3), the Material Ledger (Section 4.4), and margin analysis (Section 4.5). We'll also take a brief look at central projects functionality in Section 4.6.

4.1 Cost Element Accounting

Cost element accounting refers to the internal management reporting of costs and revenue during direct postings, allocations, settlements, and distributions. There are several key features in cost element master data in SAP S/4HANA that enable enhanced reporting across financial and management accounting with the Universal Journal, which are described in this section, including relevant reports.

4.1.1 Process Overview

A *cost element* is a term used to describe general ledger accounts that are part of the profit and loss (P&L) financial statement. While not required, generally P&L accounts in financial accounting have an associated cost element in controlling.

Cost element master data has been affected by the merge of financial and management accounting. Cost element master data is now part of the chart of accounts represented as general ledger accounts, enabling a single master data element for reporting at the general ledger account/cost element level. The changes to cost element accounting have an impact on controlling processes, including overhead cost controlling, product costing, the Material Ledger/actual costing, profitability analysis, and reporting.

Cost element accounting helps record the accounting transactions in the management reporting books. Tracking costs for various internal accounting and reporting processes needs a general ledger account equivalent (the cost element) to record the events that have an impact on financial position of an organization either internally or externally.

4.1.2 Primary and Secondary Cost Elements

There are two key types of cost element master data:

- *Primary cost elements* refer to costs and revenues that are directly posted to via a general ledger account posting, whether manual or automated, in a business process. This could include COGS and sales revenue posted during a sales transaction with a customer, or a marketing expense recorded when a purchase order goods receipt is posted.
- *Secondary cost elements* refer to costs and revenues that result from value flows within an organization, for example, allocations and settlements.

Prior to SAP S/4HANA, cost elements were maintained as separate master data from general ledger accounts. Primary cost elements were created one-to-one with the respective general ledger account. Secondary costs elements weren't directly associated to general ledger accounts but rather were mapped in configuration to general ledger accounts. Often, SAP customers chose to map multiple secondary cost elements to a single general ledger account. This created a dependency on management reports based on cost elements separate from financial statement reports (based on financial accounting) using general ledger accounts in order to analyze internal value flows.

In SAP S/4HANA, primary and secondary cost element master data merge into the chart of accounts, with the cost elements defined as general ledger accounts, reducing dual maintenance issues. Rather than creating cost elements separately and then linking them via configuration to map to a controlling/financial accounting reconciliation account in the general ledger, cost elements are simply created as primary costs or revenue, or as secondary cost (general ledger accounts). The general ledger account master data contains settings to indicate the type of cost element.

The cost elements are categorized by a cost element category and there are different cost element categories for primary and secondary cost elements. Let's walk through the primary cost element categories first, as shown in Figure 4.1:

- **01: Primary costs/cost-reducing revenues**
  This cost element category is used for all operational expense general ledger accounts.
- **03: Accrual/deferral per surcharge**
  This cost element category is used in cost center accounting with the percentage method of accrual calculation. Instead of using actual costs posted in financial accounting, the accrual cost will be calculated based on a certain percentage.
- **04: Accrual/deferral per debit = actual**
  This cost element category is used only in the target = actual method of accrual calculation with cost center accounting. The system uses this cost element category to post accrued costs in cost center accounting.
- **11: Revenues**
  This cost element category is used for all operational revenue general ledger accounts.
- **12: Sales deduction**
  This cost element category is used for sales deductions required to post against to sales and distribution.
- **22: External settlement**
  This cost element category is used for cross-functionality settlement from different functionalities to finance, like settlement from controlling to finance.

- **90: Cost elements for balance sheet accounts in financial accounting**
  This cost element category (not shown) is used for asset balance sheet accounts. The functionality of cost element category 90 is enabled though marking the checkbox for **Record Account Assignment**, as shown in Figure 4.2. This field will be available only for the asset reconciliation general ledger account and the cost element 90 category will be applicable only for asset general ledger accounts.

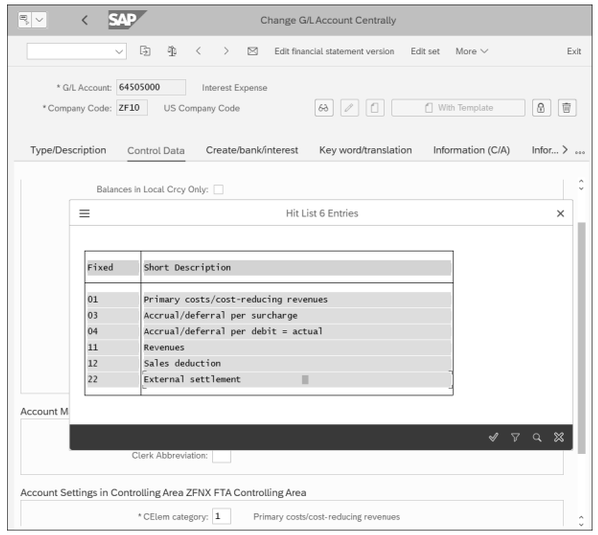


Figure 4.1 Primary Cost Elements

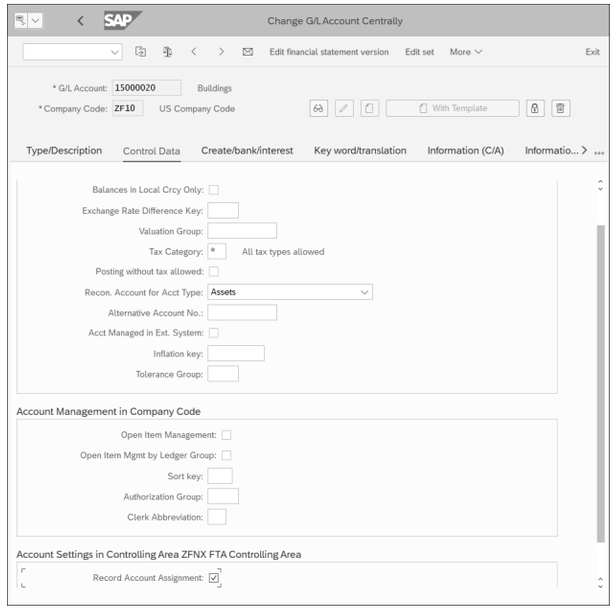


Figure 4.2 Activation of Account Assignment for Cost Element 90

Next, the following cost element categories can be used for secondary cost elements, as shown in Figure 4.3:

- **21: Internal settlement**
  This cost element category is used to settle order or project costs to controlling internal objects.
- **31: Order/project results analysis**
  This cost element category is used to save the order/project results analysis data on the relevant order/project.
- **41: Overhead Rates**
  This cost element category is used to further allocate overhead costs using overhead rates from cost centers to orders.
- **42: Assessment**
  This cost element category is used to allocate costs using the assessment method.
- **43: Internal activity allocation**
  This cost element category is used during internal activity allocation and in activity-based costing.
- **50: Project-related incoming orders: Sales revenue**
  This cost element category is used for sales revenues from sales orders with incoming orders in the current period of the project-related incoming order.

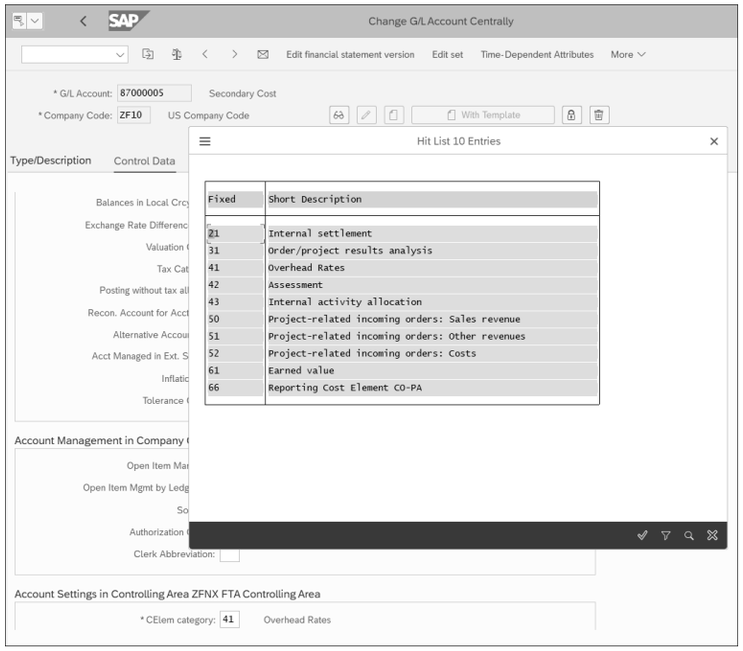


Figure 4.3 Secondary Cost Element Categories

- **51: Project-related incoming orders: Other revenues**
  This cost element category is used for other revenues, such as imputed interest, from sales orders with incoming orders in the current period of the project-related incoming order.
- **52: Project-related incoming orders: Costs**
  This cost element category is used for costs from sales orders with incoming orders in the current period of the project-related incoming order.
- **61: Earned value**
  This cost element category is used for the earned values from the earned value analysis in Project System.
- **66: Reporting Cost Element CO-PA**
  This cost element category is used for assignment of value fields to cost elements in profitability analysis.

4.1.3 General Ledger Account Types

When creating general ledger account master data, you select an account type that indicates the type of balance sheet or P&L account. The account type designation drives the general ledger account used based on the configuration settings, including whether the general ledger account can be represented as a cost element.

General ledger master data will have the following attributes according to the nature of the general ledger accounts:

- **Chart of accounts information**
  Chart of accounts information is valid for all the company codes, such as name of the general ledger accounts, account number, group account number, and so on.
- **Company code information**
  Company code information is valid for the respective company code, and it may be different from one company code to another company code.
- **Controlling area information**
  Controlling area information is valid for the respective controlling area, and it may be different from one controlling area to another controlling area. Usually, there will be only one controlling area since the controlling area information remains same for all the company codes under one controlling area. This controlling area information is required only for primary and secondary cost elements.

There are four general ledger account types in SAP S/4HANA:

- Balance sheet accounts
- Nonoperating expenses/revenues

- Primary cost elements
- Secondary cost elements

As shown in Figure 4.4, SAP S/4HANA provides a general ledger account type for secondary cost elements.

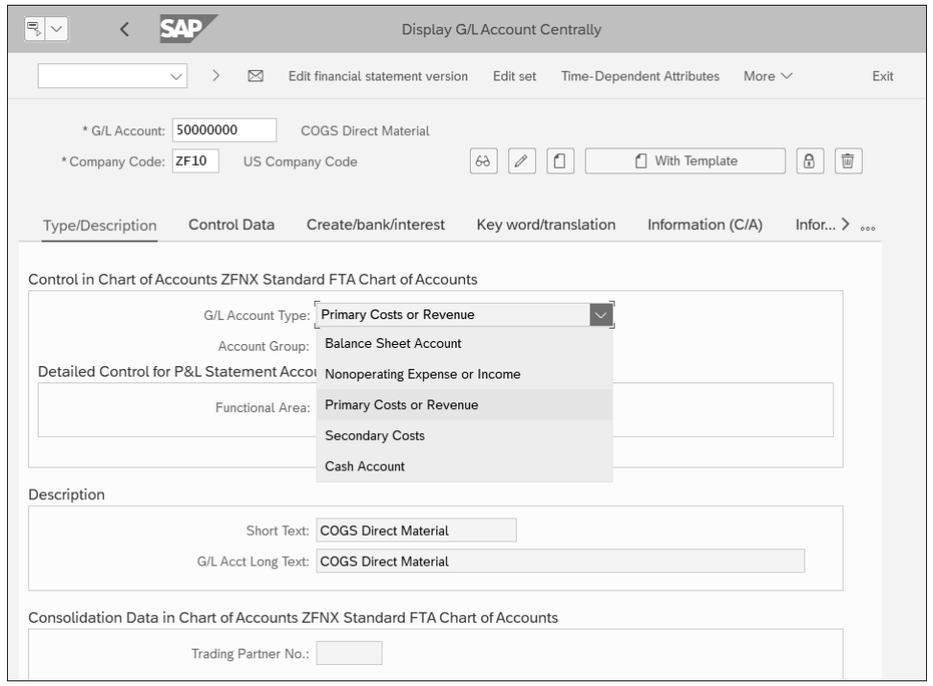


Figure 4.4 General Ledger Account Type for Secondary Costs

The classification of primary and secondary cost elements as general ledger accounts has several impacts:

- Secondary cost elements appear in general ledger reports.
- Secondary cost elements always balance to zero.
- Default account assignments previously maintained in cost element master data are now maintained in configuration for the default account assignment (Transaction OKB9).
- A time dependency for cost elements no longer exists.
- The cost element attribute mix no longer exists.
- Cost element groups still exist, but cost element master data transactions (Transactions KA01, KA02, KA03, and KA06) no longer exist (these will launch Transaction FS00 for general ledger account master record maintenance).

Definition of Secondary Cost Elements/General Ledger Accounts

When defining secondary cost elements as general ledger accounts, consider compromising on the level of detail to ensure the chart of accounts isn't expanded unnecessarily. Especially if you're converting from another SAP system to SAP S/4HANA, rationalize the needs of internal and external reporting to find a compromise rather than simply mapping secondary cost elements to general ledger accounts. As your company decides to move to SAP S/4HANA, it's an ideal time to rationalize your existing chart of accounts so accounts that are no longer in use aren't brought into the SAP S/4HANA system.

Role Considerations for Cost Elements

Merging financial accounting, controlling reporting, and cost element master data within the chart of accounts may require changes to master data approvals within your organization. Ensure that users have authorization to general ledger accounts and cost elements if they'll maintain primary or secondary cost elements. Additionally, there are implications to the controlling business transactions maintained in Transaction OKP1. Ensure that postings are allowed for general ledger accounts and their respective controlling business transactions.

4.1.4 Profit and Loss Account Types

Specific to P&L financial statements, nonoperating expenses/revenues and primary and secondary cost element general ledger account types are further broken out by P&L account types in the general ledger master data.

SAP S/4HANA defines P&L general ledger accounts in three ways:

- P&L accounts with no reference to controlling (no associated cost element)
- P&L accounts for postings to cost centers, orders, projects, margin analysis dimensions, and so on (formerly primary cost elements)
- P&L accounts to document cost flows from senders to receivers (formerly secondary cost elements)

Further, there's now controlling-specific settings within the **Control Data** tab in the general ledger account master data, as shown in Figure 4.5. The cost element category is maintained here, similar to the cost element categories within the separate cost element master data that once existed.

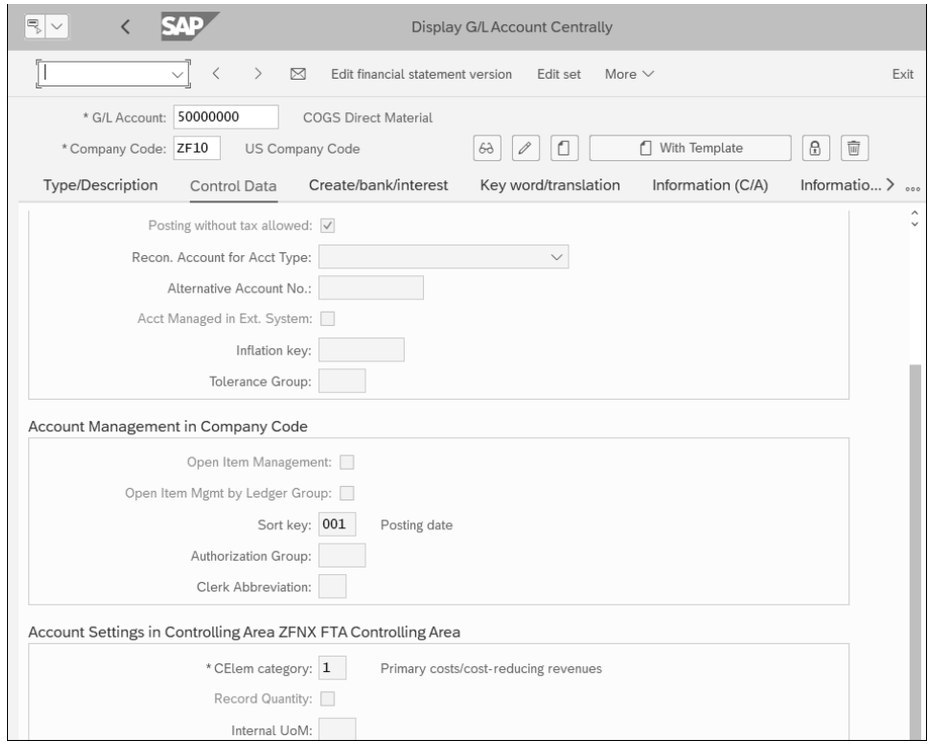


Figure 4.5 Cost Element Category within the General Ledger Account Master Data

4.1.5 Cost Element Accounting Reporting

Cost element accounting reports are used to evaluate one or more business processes in detail by cost element. The cost element reports contain the information on costs and revenues and the standard cost element reports includes the periodic plans and actual comparison reports. We'll discuss a few key reports in the following sections.

Cost Element Breakdown by Company Code

The breakdown of cost elements by company codes (Transaction S_SLO_21000007) is one of the reports that can be used for the reconciliation of controlling and financial accounting. In the selection criteria, you can select the controlling area, the period, the company codes, and the cost elements. After execution of the report, you can see an overview of all the characteristics, such as company codes, cost elements, and cost centers. You have flexibility for the display of these characteristics. If there are postings on different account assignment objects, they will be listed in this report as well.

Figure 4.6 shows the cost element balance with the combination of cost objects for which an actual cost was posted under the respective company code and controlling area.

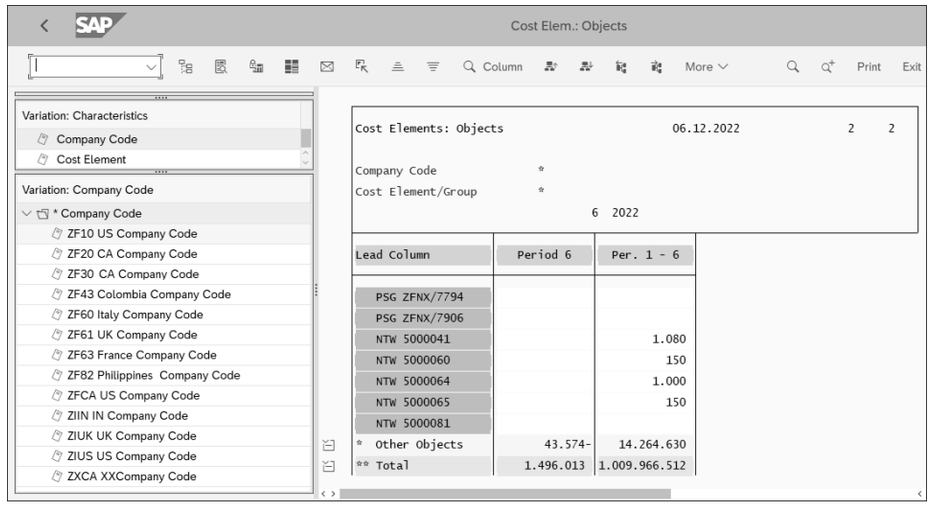


Figure 4.6 Cost Element Breakdown by Company Code

Display of Actual Cost Documents

The actual cost controlling documents (which will be posted to a specific cost element) can be displayed using the Display Actual Cost Documents SAP Fiori app or Transaction KSB5N. Controlling documents generate when you post actual/plan postings, such as settlements, transfers, or activity allocations, in controlling objects. You can display these documents and the original documents recorded in financial accounting.

The controlling document, as shown in Figure 4.7, always shows the complete document, regardless of whether the relevant partner object meets the selection criteria. This means that both debit and credit line items are displayed, even if any of these line items belong to different partner objects.

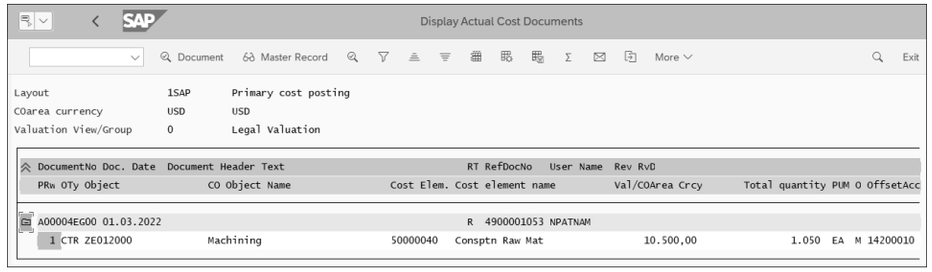


Figure 4.7 Display of Actual Cost Controlling Document

4.2 Overhead Cost Controlling

Overhead cost controlling impacts and integrates with planning, allocating, controlling, and monitoring overhead costs. Overhead costs are typically collected in cost

centers. Through appropriate allocation processes, these costs are then allocated to receivers. At the end of the period, the planned overhead costs can be compared against the actuals for target/actual variance analysis. With the merge of financial accounting and controlling in SAP S/4HANA, there are a number of features in overhead cost controlling.

We'll start with a process overview of overhead cost controlling in the next section, and then walk through the key overhead cost controlling functionalities in SAP S/4HANA. We'll also discuss key overhead cost controlling reports.

4.2.1 Process Overview

Overhead is the business cost that is incurred in daily business processes. The overhead costs can't be assigned directly to cost objects or products and are divided into direct and indirect overhead costs. Any business process will have several types of overheads fixed and variable overheads. *Fixed overhead costs* remain constant every period and won't change according to the production process, whereas *variable overhead costs* are expenses that may vary according to production process level.

Overhead controlling applies to all industries since all organizations need to monitor and control their operational expenses and assign costs to the products and services with which they earn their revenue, irrespective of whether these are physical or financial products and irrespective of the nature of the service provided.

Overhead cost controlling deals with planning, allocating, controlling, and monitoring overhead costs. Overhead is important to having strong financial planning and determining the precise costing of a particular product within cost object controlling. Overhead costs are typically collected in cost centers. Through appropriate allocation processes, these costs are then allocated to receivers. At the end of the period, the planned overhead costs can be compared against the actuals for target/actual variance analysis.

All financial transactions, including primary and secondary postings, take place in financial or general ledger accounting outside of controlling; these business transaction results are then posted in controlling. All primary costs posted on P&L accounts will have assignment of cost objects, like cost center, profit center, functional area, profitability segment, and so on.

Unlike the primary cost posting, the secondary cost postings are generated within controlling as part of the month-end process. Secondary cost postings have no impact on the financial accounts; however, a secondary cost posting switches the results of the profit centers, functional areas, and cost centers. The secondary cost postings will always have a sender/receiver relationship in management accounting. Secondary cost postings move costs within the P&L statement, but in some cases, there will be a value added in the sense that the costs can be capitalized within the balance sheet.

Sometimes the primary expenses might be posted on the incorrect cost objects, and they need to be assigned to the right cost objects. Controlling provides an allocation mechanism to correct the assigned cost object. The cost of the source object can be allocated to target cost objects by using allocation methods like distribution, assessment, periodic reposting, and indirect activity allocation.

Another key process within overhead cost controlling is the *overhead calculation*. The purpose of overhead calculation is to charge the costs from the cost center to the production or manufacturing orders based on a percentage; for example, it might be required to assign the warehousing costs to a production order based on the underlying material costs. There are two different methods of overhead calculation:

- **Costing sheet application usage**
  The costing sheet functionality helps to determine how the overhead will be applied:
  - Basis for the calculation (e.g., all relevant raw material costs)
  - Conditions under which overhead is applied (e.g., within a particular plant or when manufacturing a particular material)
  - Percentage to be applied (e.g., 10% on all raw material costs)
  - Cost center that's the sender of the charge (e.g., the warehouse cost center)
- **Template allocation application usage**
  Template allocation is used in more complex scenarios and to clear all the costs on the cost centers at the period end.

Finally, the settlement process is used to move the overhead costs from the sender object to the relevant receiver.

4.2.2 Cost Allocations

As discussed in Section 4.1, cost element accounting primary and secondary cost elements are now defined as general ledger account master data in the chart of accounts. This enables the integration of financial accounting and management accounting with the Universal Journal. This single source of truth for financial reporting impacts how cost allocations are performed and reported.

In order to achieve management reporting that aligns expenses with the appropriate cost objects, costs are allocated between cost objects based on percentages, fixed amounts, or statistical key figures. Secondary cost elements are used to facilitate cost allocations. The sender cost object is credited with a secondary cost element and the receiver is debited with a secondary cost element.

An example of cost allocation is the allocation of an indirect overhead expense like fringe benefit expenses. Fringe benefit expenses may be captured at an overhead cost

center and can be allocated to the corresponding cost objects (work breakdown structure [WBS] elements, orders, or cost centers) based on headcount or salaries (depending on which cost is the proper driver of the cost). Headcount is referred to as a statistical key figure.

SAP S/4HANA provides a new universal allocation feature that covers the profit center allocation, cost center allocation, and top-down distribution. *Universal allocation* includes multiple ledgers in multiple currencies with line items in the Universal Journal. There are still functional gaps in universal allocation, so it isn't yet possible to run cumulative cycles that combine data from several periods or iterative cycles that take costs to build cyclical relationships in which one cost center is both the sender and the receiver in the same cycle. It's also not possible to use a source structure to distinguish the costs to be allocated by type. The allocations take place within a single company code, whereas the classic transactions can allocate between senders and receivers in several company codes, provided they all belong to the same controlling area.

This new universal allocation process consists of the following SAP Fiori apps:

- **Manage Allocations**
  You can use the Manage Allocations app, as shown in Figure 4.8, to define the cycle that acts as the framework for the allocation and the segments within this cycle that determine the senders and receivers of the allocation. You can then define the drivers to be used to capture the relative weightage between the different receivers.

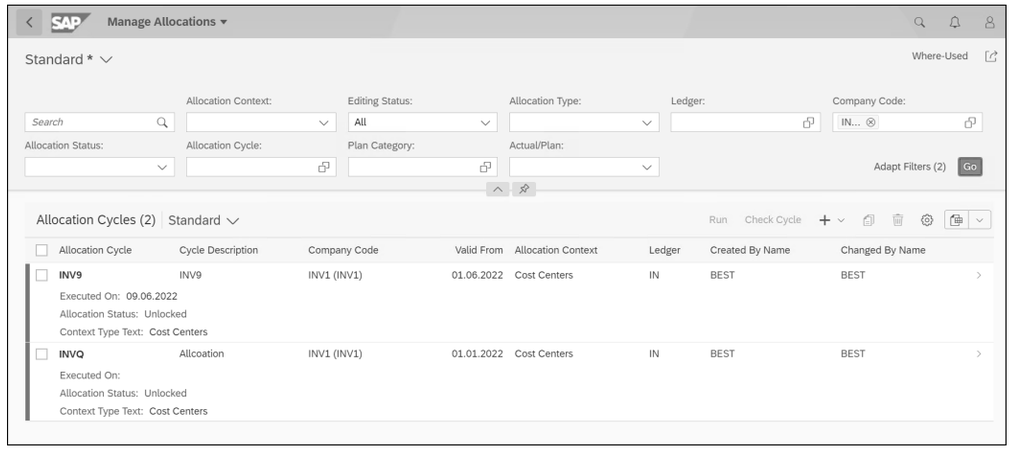


Figure 4.8 Manage Allocations

- **Run Allocations**
  You can use the Run Allocations app, as shown in Figure 4.9, to create a run and then trigger the allocation cycles either immediately or at a scheduled time.

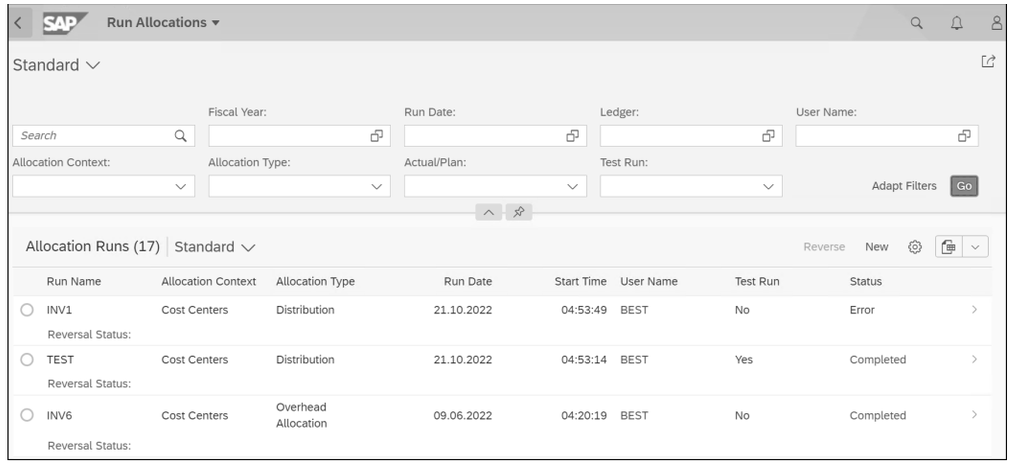


Figure 4.9 Run Allocations

- **Allocation Result**
  You can use the Allocation Result app, as shown in Figure 4.10, to display the result of the allocation in list form and to access the Allocation Flow app.

Figure 4.10 Display Allocation Results

- **Allocation Flow**
  You can use the Allocation Flow app, as shown in Figure 4.11, to display the flow of costs from the sender to the receivers. This differs from the Allocation Result app in that you select an individual cost center and can then see all allocations to and from that cost center; whereas the Allocation Results app shows the flow between the senders and receivers in a single allocation run.

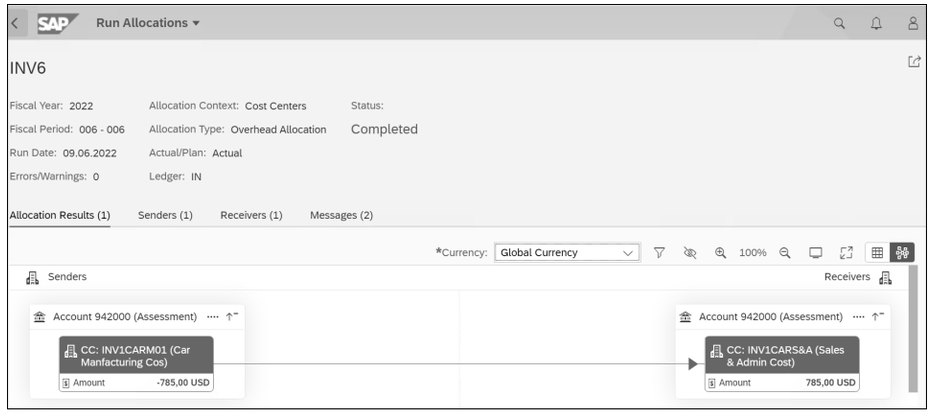


Figure 4.11 Display Allocation Flow

4.2.3 Internal Orders

There's often a need for costs and revenues to be planned, collected, and settled at a dimension other than the cost center. While cost centers provide a mechanism for reporting departmental expenses over the long term, internal orders are ideal for shorter-term, simple projects.

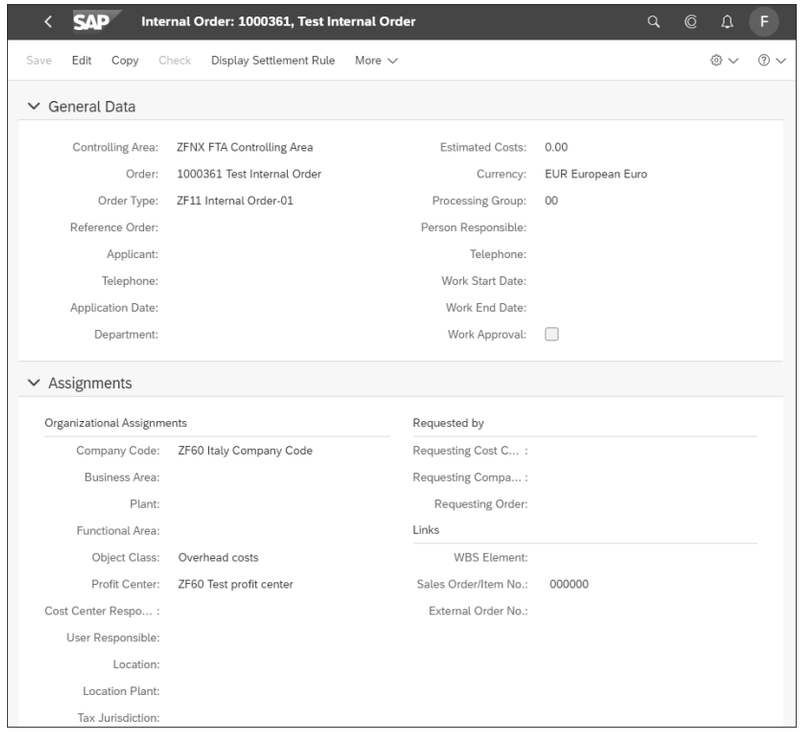


Figure 4.12 Internal Orders

Internal orders are cost objects in controlling that can be used for the purpose of management reporting on expenses and revenues for basic internal projects. Examples of internal orders include marketing projects like tradeshows or capital projects like system implementations. Internal orders can be contrasted with work WBS elements, which are part of the Project System functionality. While internal orders are single-dimensional cost objects that can be grouped with internal order groups, WBS elements have a project/network structure that can be represented as a hierarchy.

The Internal Order app, shown in Figure 4.12, provides an overall view of internal order master data, including links to navigate to relevant data such as customer, profit center, fixed asset, and WBS element. This app provides significant benefit by offering navigation links to quickly retrieve information about the internal order.

4.2.4 Project Cost Reporting

Projects are a cost object available for reporting on complex projects. As discussed in the previous section, projects are in contrast to internal orders as they provide a task-oriented, hierarchical structure for reporting on internal or customer-facing project expense and revenue. WBS elements are often more appropriate for complex internal projects with tasks and timelines. Examples include internal projects like research and development (R&D) for a new product line, or customer-facing projects like servicing customer equipment based on scheduled maintenance.

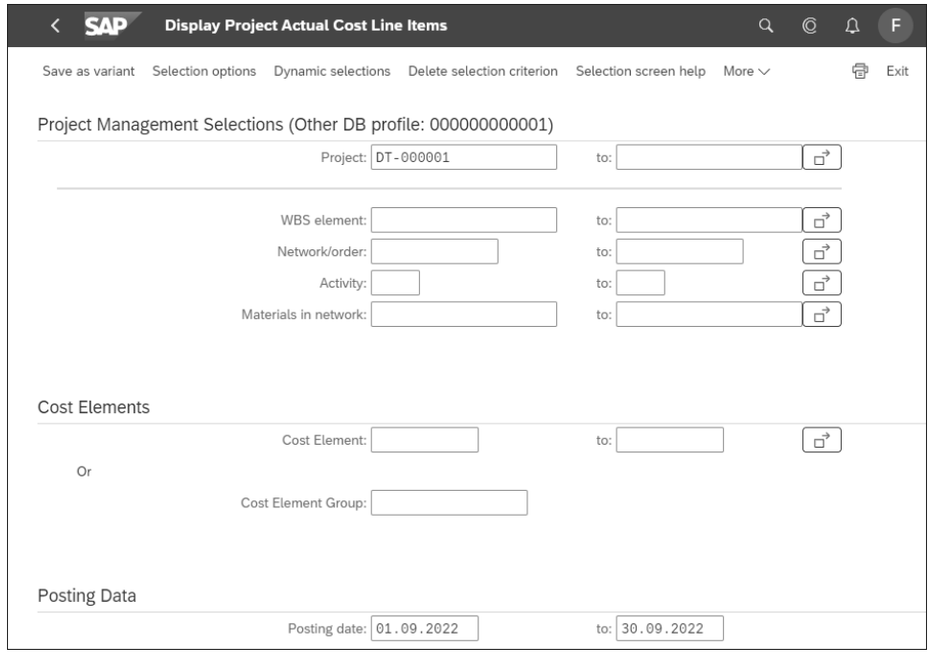


Figure 4.13 Project Cost Report – Line Item

The Project Costs Report – Line Items app, shown in Figure 4.13, provides a means of monitoring project costs for WBS elements and of comparing plan and actual cost data. The app enables filtering and drilldown, including navigation to specific journal entries to further analyze costs. An overview version of the app exists as well, providing a summarized view of the same data. This line-item reporting capability is an improvement over pre-SAP S/4HANA reporting as its drilldown capability permits easy navigation to source transactions down to the journal entry level.

4.2.5 Flexible Hierarchies

A new concept introduced in SAP S/4HANA is the ability to maintain profit center and cost center hierarchies more flexibly. Maintenance of cost center and profit center hierarchies is burdensome for many organizations, as the hierarchy levels are maintained manually and aren't necessarily representative of a specific data element. Flexible hierarchies offer the ability to build cost center and profit center hierarchies using attributes on the associated master data.

Let's explore an example including flexible hierarchies. If cost centers are to be rolled up using geographical dimensions like city, region, or country, then these three dimensions on cost center master data could be used to represent these three levels of the cost center hierarchy.

The Manage Flexible Hierarchies app, shown in Figure 4.14, provides a means of determining the structure of hierarchy levels using existing fields on cost center or profit center master data. The fields provided in the app are standard, but they can be amended with customer-specific details.

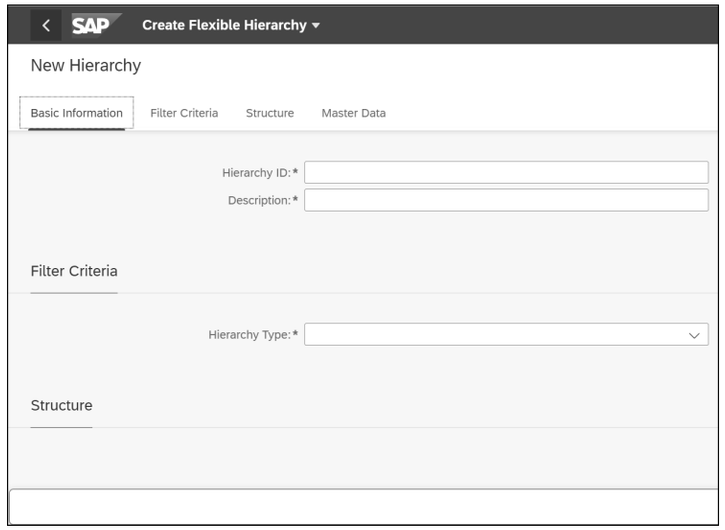


Figure 4.14 Flexible Hierarchy Maintenance

4.2.6 Overhead Cost Controlling Reporting

This Display Line Items – Cost Accounting app, as shown in Figure 4.15, displays all the business transactions posted from the allocation processes with business transaction types. Some of the transaction types get posted while allocations process, which will reflect in the Display Line Items – Cost Accounting app: RKIU (assessment), RKIV (distribution), RKIB (reposting), and RKIL (indirect activity allocation).

The assessment allocation process is used when you plan to allocate the costs from both primary and secondary cost elements. While using the assessment allocation process, the transaction type RKIU will be used to post the controlling document. Here in the assessment, the original cost element won't be recorded on the receiver, but there will be a specific assessment cost element with category 42.

On the other hand, the distribution allocation process is used when you plan to run the allocation for only primary cost elements. Here in distribution, the same original cost element will be recorded on the receiver, and in this process, transaction type RKIV will be used.

Reposting a transaction from one combination of key figure characteristics to another combination, while reposting the controlling document, gets generated with transaction type RKIB.

With the indirect activity allocation, both plan and actual activities are allocated based on the receiver quantity of activities; while performing this allocation process, transaction type RKIL will be used.

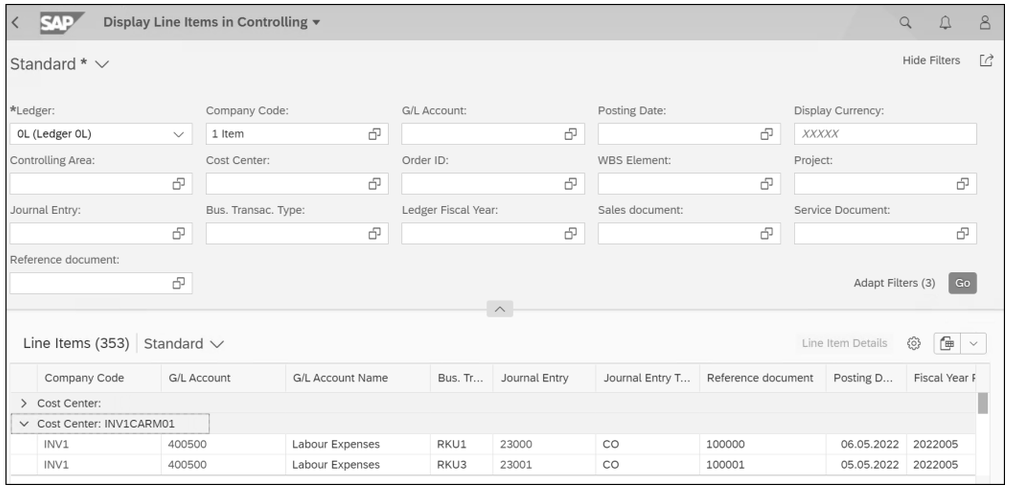


Figure 4.15 Display Line Items

4.3 Product Cost Controlling

Product cost controlling analyzes planning costs for new products, including fixed and variable costs for each component. Cost controlling starts from the product design phase and continues through the entire lifecycle of the product, all the way to manufacturing.

The key product cost controlling features in SAP S/4HANA include:

- Costing run enhancements
- Production cost analysis enhancements
- COGS split by standard or actual cost component split
- WIP analysis
- Production variances split by variance category
- SAP Fiori apps for material valuation, material price analysis, and production cost analysis

We'll begin with a process overview in the next section, and then walk through these key features for product cost controlling in SAP S/4HANA. We'll also cover key product cost controlling reports.

4.3.1 Process Overview

Product cost controlling is used to calculate the internal cost of materials represented as inventory on the balance sheet and the COGS on the P&L statement, which is used in profitability analysis. Product costs are also used in comparing target versus actual costs during production variance analysis.

Costs are planned prior to the next period or year as part of the monthly or annual costing process. *Activity type rates* are the mechanism for valuing internal activities to produce products (like production labor). Activity type rates can be manually entered (if rates are known or calculated elsewhere) or calculated based on planned expenses and quantities.

Once activity rates are calculated, costs are calculated in a costing run. Product costs are calculated based on the materials specified on the bill of materials (BOM) and routing (in discrete manufacturing) or a master recipe (in process manufacturing). The material component of product cost is based on the material quantities specified in the BOM, multiplied by the standard or moving average price of the component materials. The activity component of product cost is based on the activity quantities specified in the routing or master recipe multiplied by the activity rate entered or calculated for the period.

Additional costs can be included in the product cost using a costing sheet configured with rates or dollar amounts based on an overhead key, or with additive costs applied manually by material and plant.

Within a routing or master recipe, the production activities are broken out by the physical location where the work occurs. A work center (in a routing) or resource (in a master recipe) identifies a machine or work area where a production process is performed. Repetitive manufacturing uses rate routings to specify production activities and product cost collectors to capture costs. Product cost collectors are created per production version and track costs per period rather than per order.

Production versions indicate a combination of a BOM and routing or master recipe required to produce a material, since there may be multiple ways to produce a material. The most common production scenario should be the first production version. Unless otherwise specified, the first production version is used in product costing. Production versions can be used in discrete, repetitive, and process manufacturing.

At period end, WIP, variance, and settlement are calculated. Variances between actual and target costs may result in changes to product costs for subsequent periods. Costs on orders are settled and the financial and material period is closed during period-end close to restrict material movements and accounting postings in the prior period.

SAP S/4HANA enhances product cost controlling processes and reporting by providing additional insight into inventory valuation, COGS, WIP, and production variances. This section will highlight these additional capabilities, as well as SAP Fiori apps that demonstrate the enhanced reporting for product cost controlling.

4.3.2 Costing Runs

On an annual or monthly basis, materials are costed in a costing run. The Costing Run SAP Fiori app is used to execute costing runs, analyze results, and mark and release costs. The costing run must be created using a costing variant, costing version, controlling area, company code, and transfer control. Therefore, a costing run can only be created for one company code at a time. The costing run is also created for a particular date range.

The costing run contains five steps:

1. **Selecting**
   Parameters are entered that indicate which materials should be costed, and selected materials are exploded to pick up component materials from BOMs.
2. **Costing**
   Materials selected from the previous step are costed based on their BOM and routing or master recipe.
3. **Analysis**
   Costing results are analyzed by comparing current standards to estimated standards and including expected inventory revaluation.
4. **Marking**
   Costs are marked, or held, to be released.

5. **Release**
   Costs are made current and inventory is revalued.

The Manage Costing Runs – Estimated Costs SAP Fiori app provides a way to manage costing runs for mass material costing. This app, as shown in Figure 4.16, allows you to calculate cost estimates and mark and release materials across multiple plants and company codes.

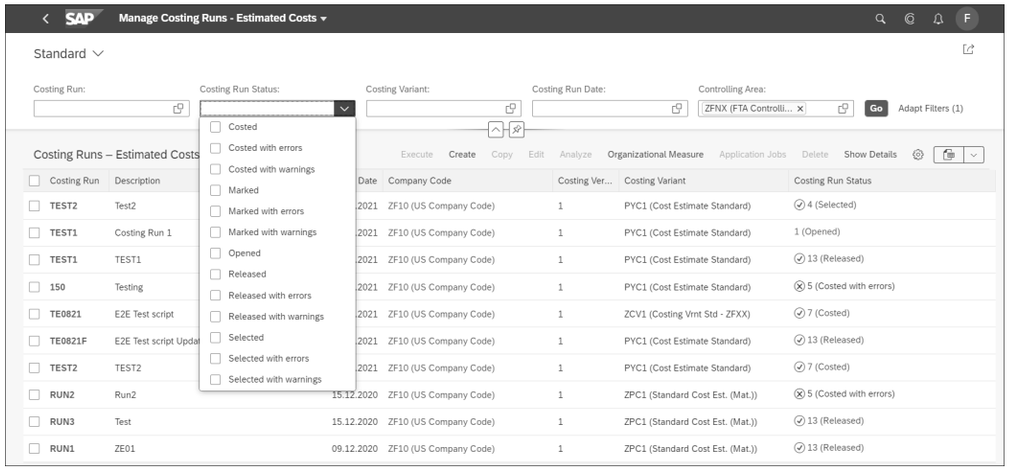


Figure 4.16 Manage Costing Runs – Estimated Costs

The recurrence for costing runs allows you to recreate a costing run based on a set frequency (monthly, quarterly, or annually) without manually recreating the costing run. The recurrence feature permits you to select frequency as well as the steps that should execute automatically. For example, you may want to process a costing run monthly for a given set of materials in a plant, but you want the system to stop at the analysis step. This allows a cost accountant to analyze the cost estimates, then mark and release the cost estimates manually.

Another key SAP S/4HANA feature for costing runs is the consolidation of quantity structure explosion as part of the selection step in the costing run. Quantity structure explosion is now triggered in the selection step using the multilevel quantity structure explosion option. The quantity structure explosion feature takes the materials selected in the selection step of the costing run and ensures the component materials specified on the BOM are included in the costing run.

4.3.3 COGS Split by Cost Component

When goods are issued to a customer, COGS is posted to the general ledger. COGS can be split into multiple accounts based on cost components during goods issue and other processes in SAP S/4HANA. This functionality allows ease of reporting; in many

manufacturing businesses, it's required to break up COGS by cost components, whereas prior to SAP S/4HANA, users would have to run multiple reports to get this information.

Figure 4.17 shows the configuration for COGS accounts, where you can indicate the specific general ledger accounts for cost components.

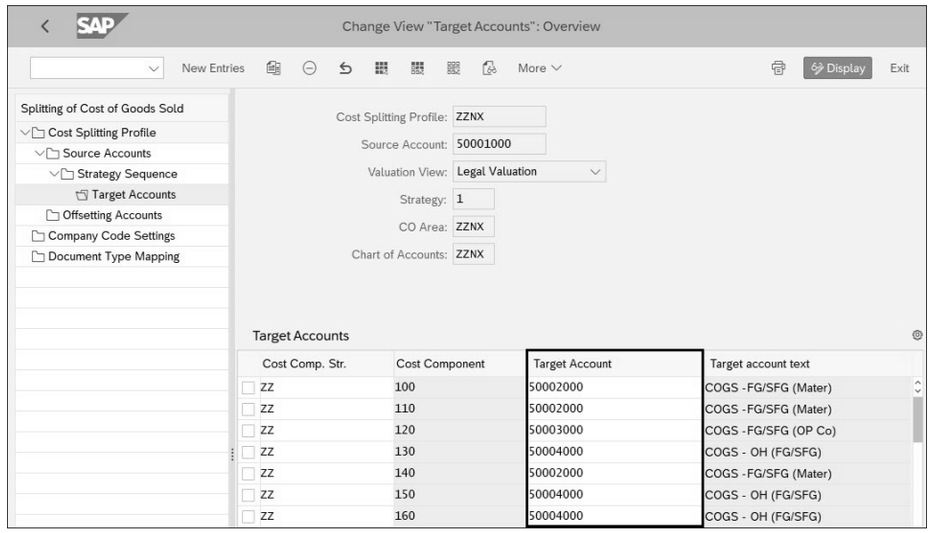


Figure 4.17 COGS Split Configuration

Figure 4.18 is an example of an accounting document posted with COGS split, showing the breakdown of separate general ledger accounts by cost component.

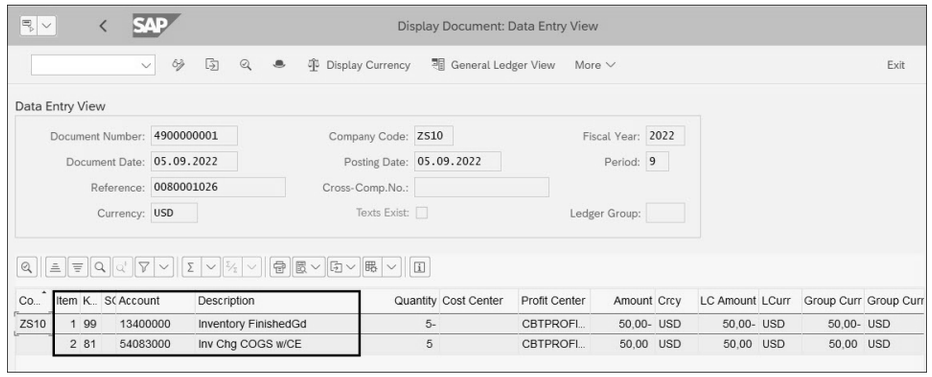


Figure 4.18 COGS Split Posting

This functionality is further enhanced with the COGS split that's based on the actual cost component split. Prior to SAP S/4HANA, COGS could be split by the cost component based on the standard cost estimate. Now, COGS can be revalued based on the

actual cost components during the revaluation run in the post-closing step after actual costing (see Section 4.4.3 for more information on actual costing runs).

The actual COGS split functionality is possible for additional processes with internal order or project specified as the account assignment. Previously, this COGS splitting functionality was only possible for goods movements with reference to a sales order.

4.3.4 Work in Process Analysis

At period end, several processes must be executed to value production costs not yet received into inventory. When an order is still active at period end, the cost remaining on the order is considered WIP. These orders remain open during period end, assuming further production will occur on the order in the next period.

The system calculates WIP at target cost for product cost collectors, production orders, and process orders. Orders must not be in a status with the deletion flag (DLFL) or deleted (DLT) to be included in WIP calculation.

In *product cost by period* (repetitive manufacturing), the quantities confirmed are valued at target cost based on the valuation variant configured for WIP and scrap. In *product cost by order* (discrete manufacturing), WIP is the difference between the debit and credit of an order that hasn't been fully delivered.

In *product cost by order* (production orders), SAP S/4HANA values WIP based on the total target debits (material issuances and activity confirmations) minus total credits (finished inventory received into stock). If WIP is calculated as a negative value, the system creates a reserve for unrealized costs.

WIP is calculated via Transaction KKAO or the SAP Fiori app Calculate Work in Process – Orders – Collective.

In SAP S/4HANA, WIP positions are now available with a higher granularity that shows the underlying primary and secondary costs. The analysis is achieved by linking general ledger WIP line items with settlement line items via the order number in the general ledger line items.

4.3.5 Production Variances Split by Variance Category

Production variances are calculated during period-end close or production/process order completion based on the target versus actual costs. Variances can only be calculated after WIP is calculated on relevant orders. The system won't calculate variances on an order classified as active (with WIP balances) since it's considered in-process. Variances are calculated based on actual debits minus actual credits minus WIP minus scrap.

Variances are calculated via Transaction KKS2 or the SAP Fiori app Run Variance Calculation – Order – Single.

SAP offers variance analysis on inputs and outputs to orders. Input variances include the following:

- **Input price variance**
  Differences between plan and actual material and activity prices. Only calculated if material origin is selected on material master.
- **Resource-usage variance**
  Different materials and activities than were planned in BOMs and routings/master recipes.
- **Material quantity variance**
  Different material quantities issued than were planned in BOMs.
- **Remaining input variance**
  Costs are entered without a quantity or when overhead rates are changed.
- **Scrap variance**
  Differences between operation scrap in routing and actual scrap confirmed.

The output variances include the following:

- **Mixed price variance**
  Caused when the system determines a different mixed cost than the released cost estimate. Must be selected in the variance variant to appear.
- **Output price variance**
  Standard price changed between delivery to stock and when variances are calculated or moving average price materials aren't delivered to stock at standard price.
- **Lot size variance**
  Differences between the planned and actual costs that don't vary with lot size.
- **Remaining variance**
  Differences between target and allocated actual costs that cannot be assigned to any other category. Also, this is used when no variance categories are defined in the variance variant.

SAP S/4HANA offers production variance split by variance category. With this functionality, production variances can be split into multiple accounts based on variance categories during order settlement. This provides significant benefit for analyzing production variances at the general ledger level and with general ledger-based reports.

4.3.6 Manage Material Valuations

The Manage Material Valuations app, as shown in Figure 4.19, provides an overview of valuation data or materials, including sales order stocks. Valuation details include quantities, prices, and total values by currency type and period for given materials, plants, and company codes. This app provides price history, tax and commercial prices,

and standard cost estimates, and allows you to change inventory prices and release planned prices based on thresholds.

This app replaces the functionality of the following four apps:

- Release Planned Price Changes
- Enter Future Prices
- Change Material Costs
- Debit/Credit Inventory Values

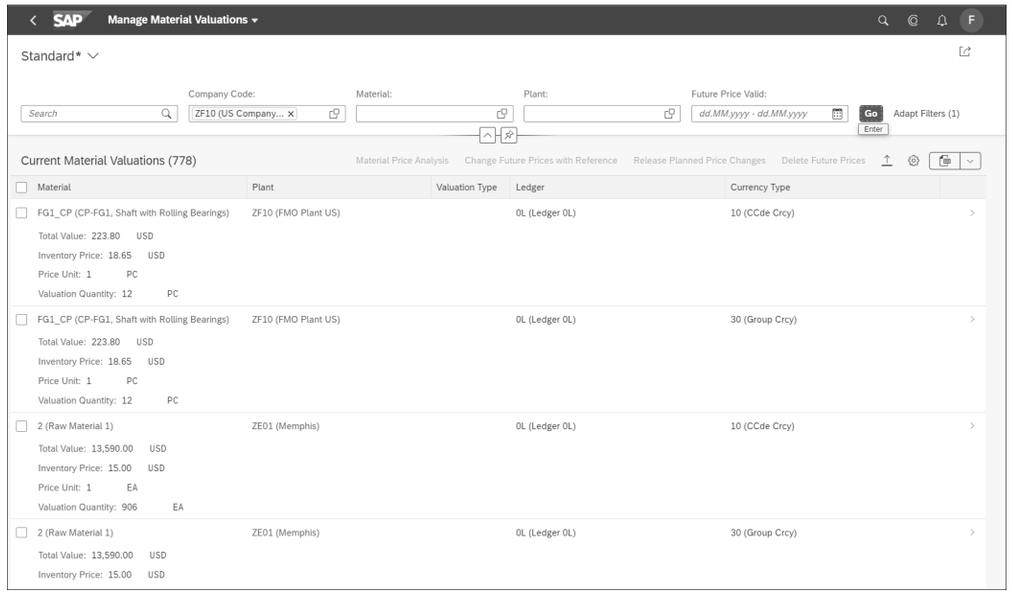


Figure 4.19 Manage Material Valuations

4.3.7 Material Inventory Values: Balance Summary

Inventory valuation is based on the standard cost or current moving average price of a product multiplied by the valuated inventory on hand. In SAP S/4HANA, inventory valuation is stored in the Universal Journal as journal entries are posted to the general ledger with the integrated use of the Material Ledger. For that reason, inventory valuation is directly in sync with the general ledger, and reporting on material inventory values can now be retrieved at an accounting document level.

The Material Inventory Values – Balance Summary app provides balance details on inventory value and quantity of material inventory for a particular period using posted journal entries. This app is a balance version of the Material Inventory Values – Line Items app, which provides line-item level detail. In the Material Inventory Values – Line Items app, you can view inventory value and quantity by company code, general ledger

account, material group, material, business transaction type, posting date, document number, and many more criteria. The Material Inventory Values – Balance Summary app, shown in Figure 4.20, provides company code, plant, valuation area, material, material group, profit center, general ledger account, segment, and key figures like quantity and amount in the general ledger currencies.

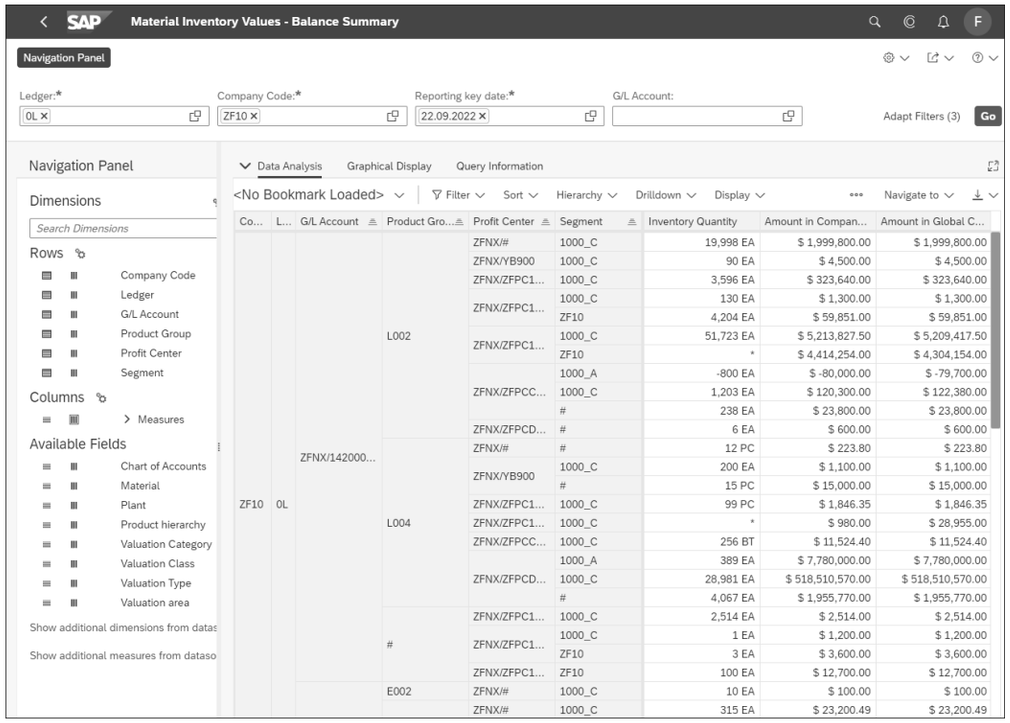


Figure 4.20 Material Inventory Values – Balance Summary

4.3.8 Material Price Analysis

Reporting on prices at a material level with the Material Ledger is improved in SAP S/4HANA with the Material Price Analysis app. This app, shown in Figure 4.21, removes the plan/actual comparison formerly in Transaction CKM3. Additionally, there's no longer a separate view for cost components; they're instead integrated into the main screen.

Other changes to the material price analysis include the flag for selecting cost components not relevant for material valuation, or only cost components relevant for material valuation. By default, selection of inventory relevant cost components is split. Technically, data is now retrieved from tables `MLDOC`, `MLDOCCCS`, and `MLDOC_EXTRACT`, and, for the material price analysis report, table `MLDOCCCS_EXTRACT`. In addition to the status of the materials, the status of the activity types is displayed in the **Processing** section.

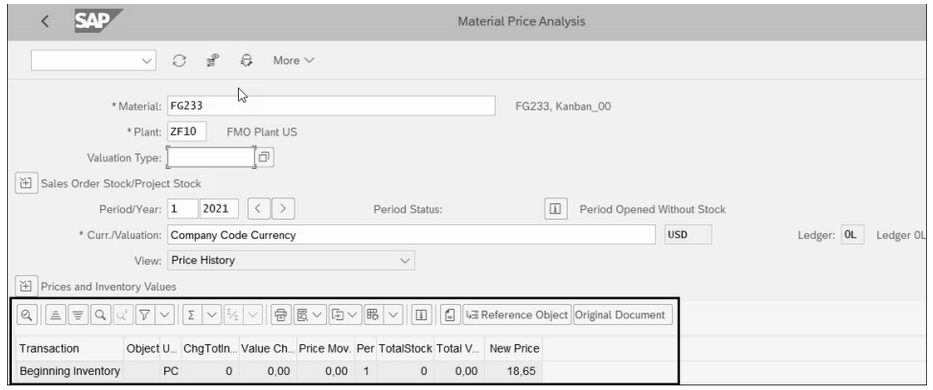


Figure 4.21 Material Price Analysis

4.3.9 Production Cost Analysis

Once orders have gone through the period-end close steps of WIP, variance, and settlement, production order costs are analyzed to ensure orders are fully settled and to identify root causes of large variances. Production order costs were previously analyzed in Transaction KOC4. Now, SAP S/4HANA offers the Production Cost Analysis app, shown in Figure 4.22, which offers enhanced analysis capabilities at a more granular level.

The app provides a summary and detail view of production costs for production orders, comparing plan versus target versus actual costs. The Production Cost Analysis app enables order analysis at an overall and detailed level, as well as cost component analysis, including that of cost component groups. This app supports variance analysis by including the variance categories to further analyze target versus actual variances.

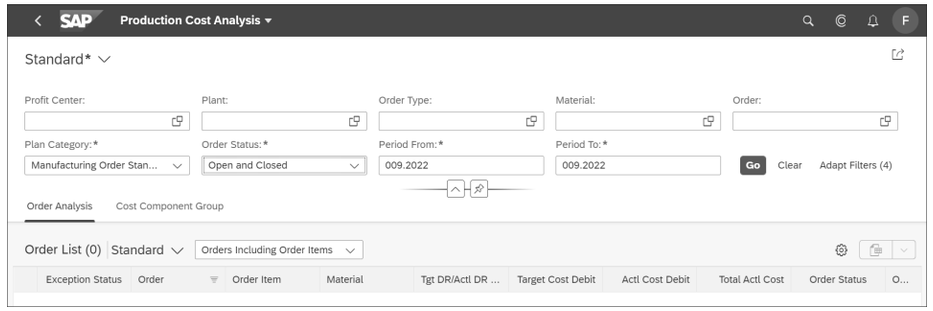


Figure 4.22 Production Cost Analysis

One useful feature of the Production Cost Analysis app in SAP S/4HANA is the ability to analyze production costs at an operation and work center level. Costs can also now be planned at a work center/operation level, which enables plan/actual analysis with more granularity than before. This is provided by a new planning solution, using table `ACDOCP`, which allows planning costs for manufacturing orders. This functionality supports decision-making and accountability at a detailed responsible area level.

4.3.10 Product Cost Controlling Reporting

SAP S/4HANA provides multiple reports to analyze the plan and actual values of the standard price costing. We'll discuss them in the following sections.

Material Cost versus Cost Estimate

The Material Cost versus Cost Estimate app is used if there's a larger volume of data, and a costing run is run in the background overnight. For this reason, it's important to quickly receive an overview of the results of a costing run. The standard system supplies the following three variants of this report:

- **Results of Costing Run**
  You can display the results of one or more costing runs.
- **Price versus Cost Estimate**
  You can compare the selected cost estimates against a material master price that you select.
- **Variances between Costing Runs**
  You can compare costing runs with each other.

Each of these report variants has its own selection screen where you can specify the criteria by which you want the system to select objects or data for the report.

You can execute the report by inputting the costing run parameters that you want to compare. In Figure 4.23, for example, we have **Costing Run ID**, **Costing Date**, **Plant**, and **Costing Status**.

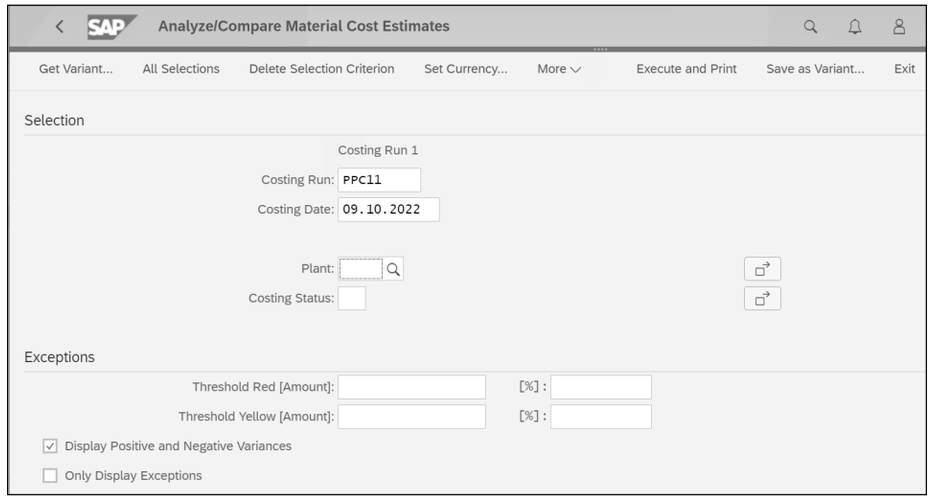
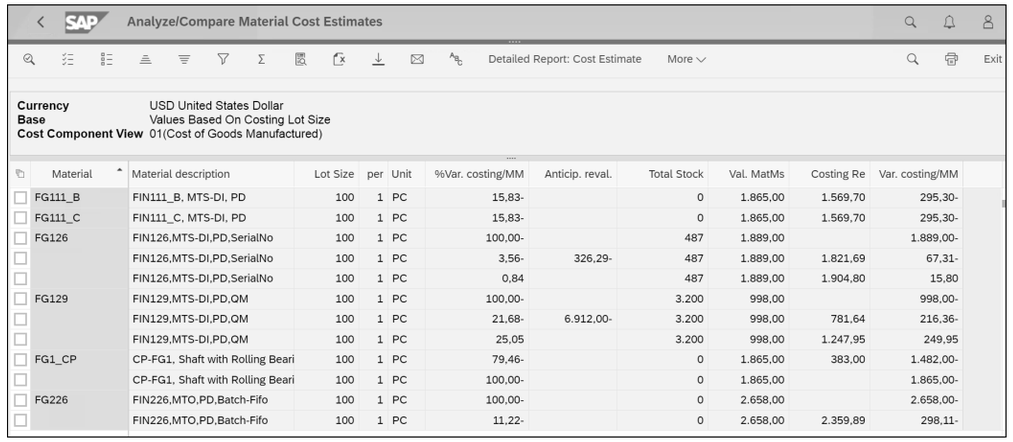


Figure 4.23 Material Cost versus Cost Estimate Selection Screen

The report output, as shown in Figure 4.24, indicates the variation and percentage of change from a previously existing material price to a new material price coming from the new costing run with a combination of parameters like material, lot size, total stock,

and so on. Based on the variation, you can further analyze the respective BOM, routing, and other parameters that contribute to costing.



Material	Material description	Lot Size	per	Unit	%Var. costing/MM	Anticip. reval.	Total Stock	Val. MatMs	Costing Re	Var. costing/MM
FG111_B	FIN111_B, MTS-DI, PD	100	1	PC	15,83-		0	1.865,00	1.569,70	295,30-
FG111_C	FIN111_C, MTS-DI, PD	100	1	PC	15,83-		0	1.865,00	1.569,70	295,30-
FG126	FIN126,MTS-DI,PD,SerialNo	100	1	PC	100,00-		487	1.889,00		1.889,00-
	FIN126,MTS-DI,PD,SerialNo	100	1	PC	3,56-	326,29-	487	1.889,00	1.821,69	67,31-
	FIN126,MTS-DI,PD,SerialNo	100	1	PC	0,84		487	1.889,00	1.904,80	15,80
FG129	FIN129,MTS-DI,PD,QM	100	1	PC	100,00-		3.200	998,00		998,00-
	FIN129,MTS-DI,PD,QM	100	1	PC	21,68-	6.912,00-	3.200	998,00	781,64	216,36-
	FIN129,MTS-DI,PD,QM	100	1	PC	25,05		3.200	998,00	1.247,95	249,95
FG1_CP	CP-FG1, Shaft with Rolling Beari	100	1	PC	79,46-		0	1.865,00	383,00	1.482,00-
	CP-FG1, Shaft with Rolling Beari	100	1	PC	100,00-		0	1.865,00		1.865,00-
FG226	FIN226,MTO,PD,Batch-Fifo	100	1	PC	100,00-		0	2.658,00		2.658,00-
	FIN226,MTO,PD,Batch-Fifo	100	1	PC	11,22-		0	2.658,00	2.359,89	298,11-

Figure 4.24 Material Cost versus Cost Estimate Report Output

Cost Components – Materials

The Cost Components – Materials app helps you understand the different cost components that are involved in cost calculations while executing a costing run. The cost estimate of a product basically breaks down into cost components like materials cost, activity cost, production cost, overhead cost, and so on.

Using the Cost Components – Materials app, as shown in Figure 4.25, the cost accountant can verify the different cost components that are involved for a particular material in a specific cost estimates run by passing the input parameters like material, plant, costing variant, costing version, and costing date valid from.

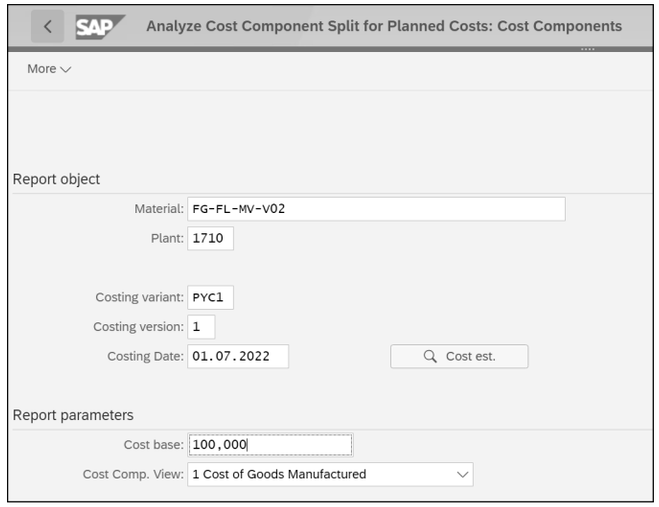


Figure 4.25 Cost Components Selection Parameter

The Cost Component – Materials app, as shown in Figure 4.26, also provides a list of components that contribute costs in the cost estimate of that material with the total overall values along with fixed and variable costs.

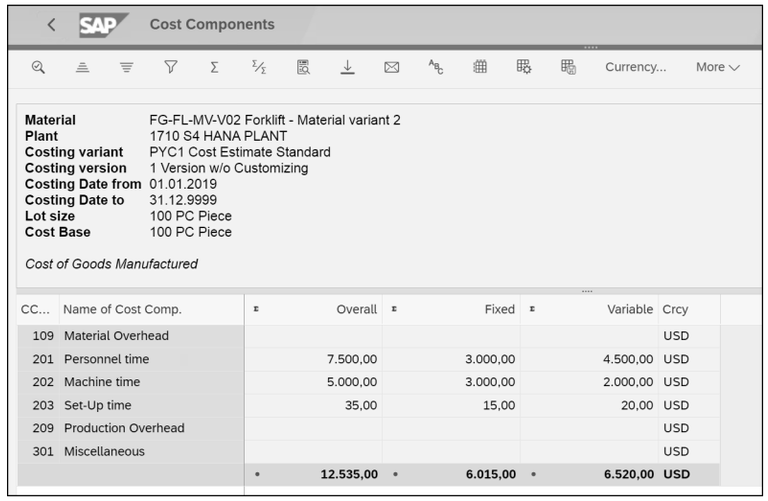


Figure 4.26 Cost Components Output

Costed Multilevel BOM

The Costed Multilevel BOM – Materials app (or Transaction CK86_99) displays a hierarchical overview of the values for all costing items of a material or sales order based on the BOM and routing or production version used for costing. If you want to see the costed multilevel BOM in the cost estimate and in the information system, select the itemization indicator when you save the cost estimate.

The costs for each component (assemblies and input materials) in the costed multilevel BOM are based on the structure and content of the BOM of the costed material.

Based on the component view, such as cost of goods manufactured (COGM), COGS, and stock valuation, the values will be displayed, as shown in Figure 4.27.

The app output displays the cost of each material coming from a multilevel BOM, and the component of each BOM in the levels will be displayed, as shown in Figure 4.28. The multilevel BOM will have child BOMs, and the app displays the cost subassemblies/subcomponents at each child BOM level. The cost of each child component rolls up to the next highest-level component, the lowest level BOM cost rolls up to the semifinished BOM, and then the cost rolls up to the final finished material.

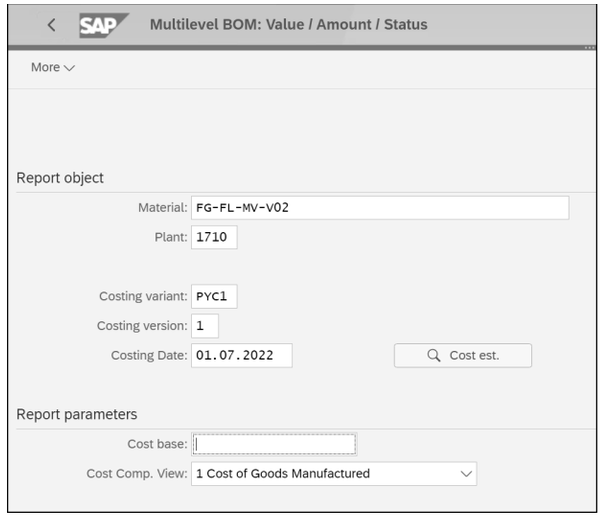


Figure 4.27 Costed Multilevel BOM Selection Parameters

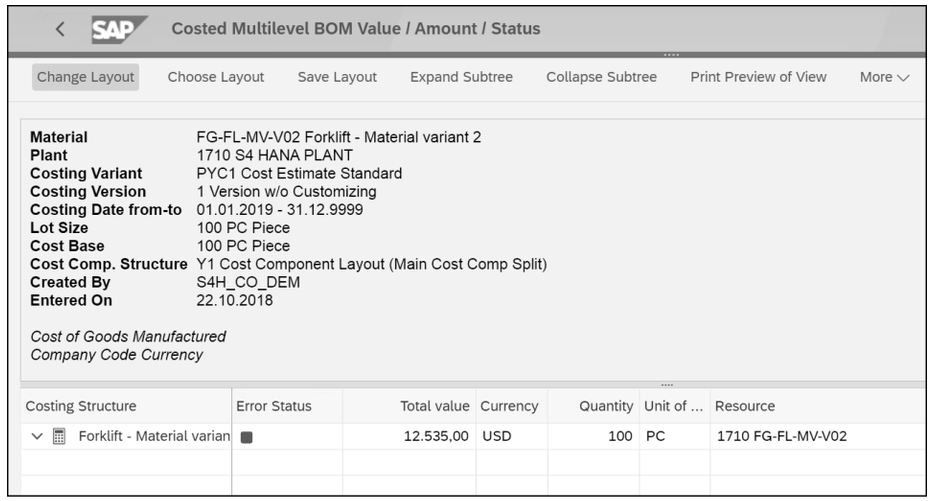


Figure 4.28 Costed Multilevel BOM Output

Production Cost Analysis

The Production Cost Analysis app, as shown in Figure 4.29, displays overall and detailed production costs for manufacturing orders, and it can be viewed according to accounts and business transactions. This app provides a cost comparison based on plan or target and actual costs.

This app provides the all the transactions and material movements against each production order in a consolidated view. It displays total plan costs, actual costs, and all variance categories of the production order.

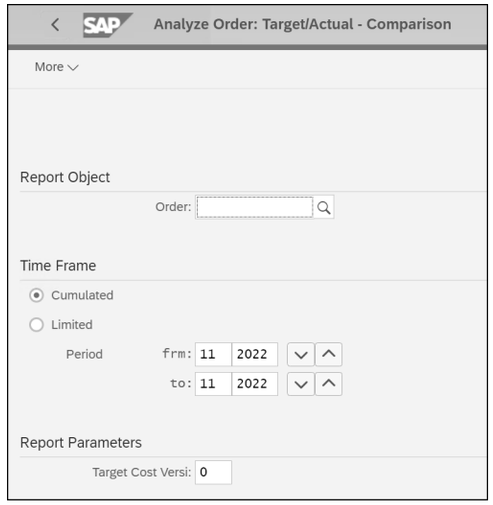


Figure 4.29 Production Cost Analysis Report

Display WIP at Actual Costs

The Display WIP at Actual Costs SAP Fiori app show the WIP at actual cost. The data is displayed according to manufacturing orders or product cost collectors. The values are accumulated up to the execution period.

Users can fill in input parameters, like company code, plant, material, and material type, and the app provides an output with the total WIP and change in WIP from previous periods, as shown in Figure 4.30.

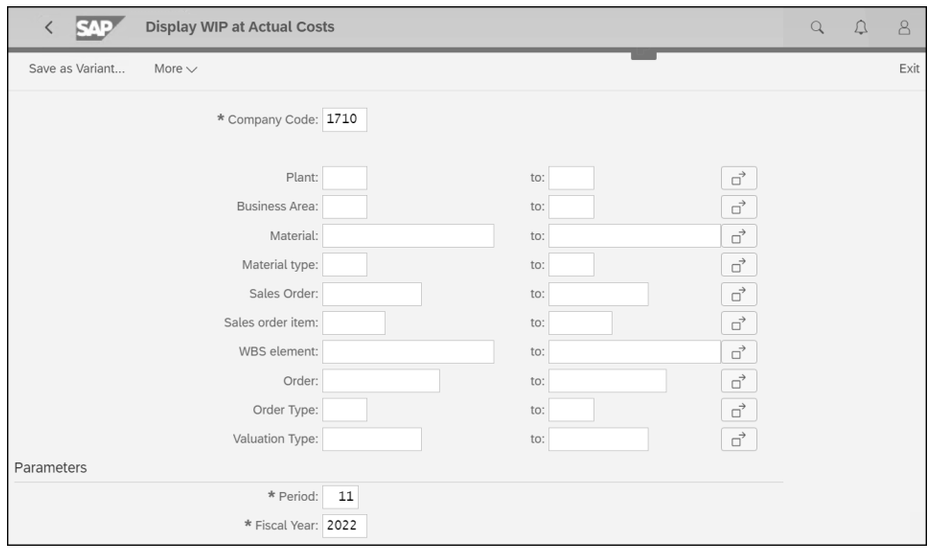
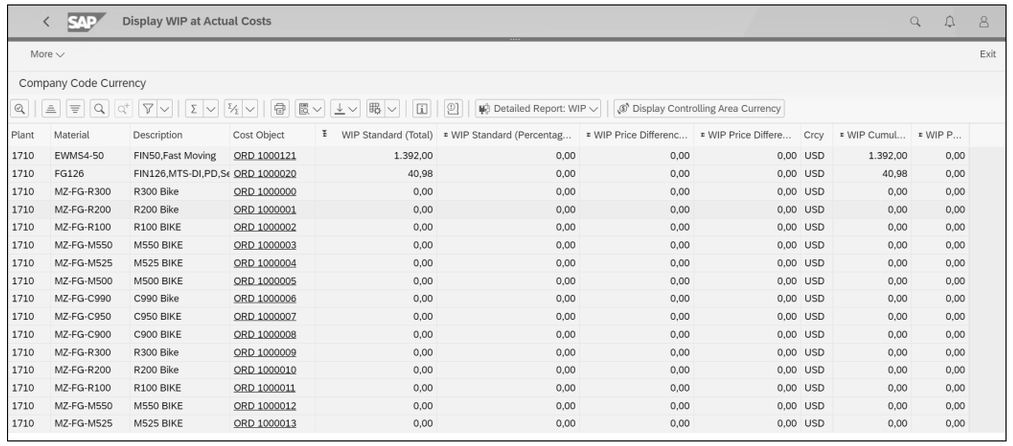


Figure 4.30 Display WIP at Actual Costs Selection Parameter

Figure 4.31 shows the report output. The following values are displayed for each material, plant, production, and manufacturing order:

- The WIP values of the WIP that was calculated are reflected in the report output. The WIP is calculated against each production order in cost object controlling (**WIP Standard (Total)**).
- If the order isn't completely delivered, even in the following period/month, then the program calculates the WIP and updates it as a change in WIP. This is then calculated in cost object controlling and compared to the previous period (**WIP Standard (Percentage Change)**).
- The total value of WIP calculated in machine learning is displayed (**WIP Price Difference (Current)**).
- The change in WIP calculated in machine learning compared to the previous period is displayed (**WIP Price Difference (Per. Change)**).
- The sum of **WIP Standard (Total)** and **WIP Price Diff. (Current) (WIP Cum.)** is displayed.
- The sum of **WIP Standard (Percentage Change)** and **WIP Price Diff. (Per. Change) (WIP Per)** is displayed.



Plant	Material	Description	Cost Object	WIP Standard (Total)	WIP Standard (Percentag...	WIP Price Differenc...	WIP Price Differe...	Crcy	WIP Cumul...	WIP P...
1710	EWMS4-50	FIN50,Fast Moving	ORD 1000121	1.392,00	0,00	0,00	0,00	USD	1.392,00	0,00
1710	FG126	FIN126,MTS-DI,PD,S<	ORD 1000020	40,98	0,00	0,00	0,00	USD	40,98	0,00
1710	MZ-FG-R300	R300 Bike	ORD 1000000	0,00	0,00	0,00	0,00	USD	0,00	0,00
1710	MZ-FG-R200	R200 Bike	ORD 1000001	0,00	0,00	0,00	0,00	USD	0,00	0,00
1710	MZ-FG-R100	R100 BIKE	ORD 1000002	0,00	0,00	0,00	0,00	USD	0,00	0,00
1710	MZ-FG-M550	M550 BIKE	ORD 1000003	0,00	0,00	0,00	0,00	USD	0,00	0,00
1710	MZ-FG-M525	M525 BIKE	ORD 1000004	0,00	0,00	0,00	0,00	USD	0,00	0,00
1710	MZ-FG-M500	M500 BIKE	ORD 1000005	0,00	0,00	0,00	0,00	USD	0,00	0,00
1710	MZ-FG-C990	C990 Bike	ORD 1000006	0,00	0,00	0,00	0,00	USD	0,00	0,00
1710	MZ-FG-C950	C950 BIKE	ORD 1000007	0,00	0,00	0,00	0,00	USD	0,00	0,00
1710	MZ-FG-C900	C900 BIKE	ORD 1000008	0,00	0,00	0,00	0,00	USD	0,00	0,00
1710	MZ-FG-R300	R300 Bike	ORD 1000009	0,00	0,00	0,00	0,00	USD	0,00	0,00
1710	MZ-FG-R200	R200 Bike	ORD 1000010	0,00	0,00	0,00	0,00	USD	0,00	0,00
1710	MZ-FG-R100	R100 BIKE	ORD 1000011	0,00	0,00	0,00	0,00	USD	0,00	0,00
1710	MZ-FG-M550	M550 BIKE	ORD 1000012	0,00	0,00	0,00	0,00	USD	0,00	0,00
1710	MZ-FG-M525	M525 BIKE	ORD 1000013	0,00	0,00	0,00	0,00	USD	0,00	0,00

Figure 4.31 Display WIP at Actual Costs Output

4.4 Material Ledger and Actual Costing

Material Ledger accounting refers to the ability to generate financial transactions at a material level, providing granular detail of inventory movement. Although it's called the Material Ledger, the material-level detail is actually stored as part of the Universal Journal in SAP S/4HANA.

Actual costing is an optional feature that can be activated as part of the Material Ledger to revalue materials at their actual cost as part of period-end close. It's important to understand that actual costing is an element of the Material Ledger, but requires additional transaction processing to calculate and revalue inventory based on actual costs.

In this section, we'll start with a process overview of the Material Ledger and actual costing, and then explore the key functionalities and reporting options.

4.4.1 Process Overview

One of the major changes in SAP S/4HANA in the area of management accounting (inventory valuation, to be specific) is that the Material Ledger is now mandatory in SAP S/4HANA. In other words, the Material Ledger and *finance* in SAP S/4HANA provide inventory valuation, rather than the Material Ledger and *materials management*, as was the case with prior SAP versions. Material valuation is now stored in Material Ledger tables rather than in materials management tables.

This change enables dynamic Material Ledger reporting, which is a powerful capability given the technical advancements of SAP HANA data. Additionally, the Material Ledger supports ad hoc reporting capabilities with SAP Fiori, as well as with other analytics tools. Now, inventory valuation is brought into the Universal Journal, serving as a single source of truth.

While the Material Ledger is required, activating actual costing is still optional. SAP has made it mandatory for the Material Ledger to be active, but the specific use of the Material Ledger can still be customized to suit your business's needs. This requirement also doesn't prevent you from using either the standard or moving average prices to value your inventory. In short, price control remains unchanged.

The actual costing process identifies the differences between the standard price and the real procurement price of the goods movement, which are recorded in the Material Ledger when the material movement takes place. At period end, all these recordings are used to calculate the periodic unit price (PUP) of the materials using actual costing. Furthermore, the calculated PUP can be used to revaluate the ending inventories and consumptions.

Implications of the Material Ledger in SAP S/4HANA

The fact that the Material Ledger is mandatory in SAP S/4HANA doesn't mean an additional effort on your part in terms of implementation, period-end close, or reporting. Rather, the activation of the Material Ledger in SAP S/4HANA enables inventory valuation reporting as part of the Universal Journal. Advanced reporting capabilities are just one of the benefits. The new solution enables inventory values to be stored in multiple currencies and, if you choose to activate multiple valuation views, according to several parallel accounting standards. Technical benefits include the elimination of redundant data since local currency inventory value is stored in both material master and Material Ledger tables. Additionally, this offers improved scalability through optimization of the locking mechanism when material documents are created.

There are two new Material Ledger document tables in SAP S/4HANA: `MLDOC` and `MLDOCCCS`. These tables replace the following periodic tables: `MLHD`, `MLIT`, `MLPP`, `MLPPF`, `MLCR`, `MLCRF`, `MLKEPH`, `CKMLPP`, `CKMLCR`, `MLCD`, `CKMLMV003`, `CKMLMV004`, `CKMLPPWIP`, and `CKMLKEPH`.

4.4.2 Transfer Pricing and Multiple Valuation Approaches

Transfer prices allow organizations to value goods and services exchanged between different organizational units within the corporation. By valuing the exchange of goods and services using transfer prices, you can significantly influence the actual success of your corporate divisions or profit centers.

For example, when company code A sells raw materials to company code B, company B pays company A a transfer price. This transfer price may be based on company code A's cost plus a markup or based on a market price. The transfer price provides company code A with a profit that aligns with legal reporting requirements and is represented in financial reporting. At a corporate level, the intercompany profit on company code A and intercompany cost on company code B are eliminated to represent a consolidated corporate financial report. The transfer pricing and multiple valuation approach functionality in SAP S/4HANA enables reporting on both of these views.

As in financial accounting, parallel valuation can be implemented in controlling to attribute valuation approaches to a particular ledger in the general ledger. You can manage up to three valuation approaches, or valuation views, in parallel to support transfer pricing: legal valuation view, group valuation view, and profit center valuation view.

Let's take a closer look at these valuation views:

- The *legal valuation view* provides a view of company codes as separate legal entities with transfer pricing between companies within the corporation. This view is aligned with the accounting principles of the leading ledger within the general ledger.
- The *group valuation view* provides a view of the organization as a group reporting entity rather than many legal entities (company codes). This view can be used to provide a reporting view without intercompany transfer pricing for decision-making at a corporate (group) level.
- The *profit center valuation view* enables reporting on profit centers when profit centers represent divisions within an organization and drive transfer pricing with different profits and profit margins.

Activating Valuation Views

Often, legal and group valuation are required for reporting, but profit center valuation is not. In this case, it's recommended to only activate the valuation views that are required or will be required in the future. Activating profit center valuation requires maintenance of additional configuration to map transfer prices at a profit center level. If not required, this additional configuration creates unnecessary additional system processing time and ongoing maintenance.

For your valuation views, you can either use separate ledgers or map multiple valuation views within a ledger, as follows:

- Parallel single valuation refers to the assignment of valuation approaches to a single ledger (i.e., legal valuation assigned to leading ledger). Parallel single valuation includes:
  - Valuation assigned to ledger
  - Option for new implementations
  - Simpler authorization concept
  - Separate close processing required by the valuation view
  - Multiple currencies in journal entries, allocations (assessments and distributions), and asset capitalization and depreciation
- Multi-valuation refers to the assignment of one ledger to all currency types and valuation views. The multi-valuation ledger includes:
  - Currency types of all valuation views that can be used in that ledger
  - No separate close required by valuation view
  - Optimized memory
  - Valuation view specified in reporting

You can select, per ledger, whether you want to enable a parallel single valuation or multi-valuation approach. The leading ledger can be used either with the legal valuation view or without restriction to one valuation view. However, it can't be configured exclusively with group or profit center valuation views.

Multiple Valuation Views

If you want to use multiple valuation views within a ledger, *don't* assign a valuation view to that ledger. This enables all currency types to be available for reporting within that ledger.

Figure 4.32 depicts how you can design your ledgers to coincide with valuation views.

Ledger	Company	CURTP (Local)	CURTP (Global)	CURTP1	CURTP2	
0L	1000	10	30	...	...	Legal View
GR	1000	11	31	...	...	Group View
PC	1000	12	32	...	...	Profit Center View

Ledger	Company	CURTP (Local)	CURTP (Global)	CURTP1	CURTP2	CURTP3	CURTP4
0L	1000	10	30	11	31	12	32

Ledger View | Group View | Profit Center View

Figure 4.32 Parallel Valuation Approaches

4.4.3 Actual Costing Runs

The *actual costing cockpit* provides a way to perform the various steps included in actual costing runs. These steps include production and process order closure, overhead cost calculation, allocations, actual cost split, actual activity rate calculation, and actual costing.

The actual costing run functionality in SAP S/4HANA includes the following:

- A change of standard price for materials and activities within the period is supported
- If a material is reprocessed by settlement, the system automatically recognizes the dependent materials on higher costing levels that need to be reprocessed
- Consumption price differences are considered
- A two-dimensional distribution logic avoids rounding errors
- Price limiter logic is accurate on the cost component split level

Similar to costing run execution (Section 4.3.2), the actual costing cockpit requires that you create a costing run and enter parameters for execution.

The sequence of steps in the Material Ledger actual costing cockpit are as follows:

1. **Selection**
   Figure 4.33 shows the selection screen of the actual costing program execution. All material transactions and activities related to the materials for which the price determination is 3, and all activity types (if an activity type update of 2 is activated), will be selected for actual costing execution and will be in scope for calculation of the PUP. Parallel processing is available to run the actual costing based on the plant and other given parameters combinations.

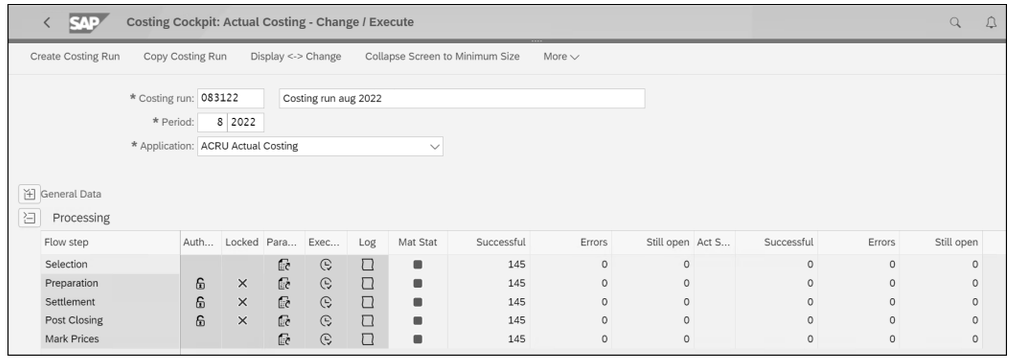


Figure 4.33 Material Ledger Actual Costing Cockpit: Selection Screen

2. **Preparation**
   In the preparation step, the settlement records are created. These settlement records will get updated with the values while the settlement process is executed. The different types of settlement records are used to differentiate types of value flows like revaluation of ending inventory, revaluation of single-level consumption, multilevel revaluation from input (material or activity), WIP input (material or activity) to output material, and WIP increase/reduction.
3. **Settlement**
   The processing steps that were previously performed previously in Transaction CKMLCP (single-level price determination, multilevel price determination, revaluation of consumption, and WIP revaluation) are replaced in SAP S/4HANA by a single settlement step. The settlement step performs cost allocations and actual price calculations.
4. **Post Closing**
   The post-closing step specifies whether the system should re-evaluate the ending inventory and consumption for the period to be closed with the prices calculated in the settlement process step, and to whether to post the closing adjustment documents.
5. **Mark Prices**
   If a business decides to use the PUP as the valuation price in the following period, then you can mark and release the price as standard price (S). Then, the system changes the price control indicator from S to moving average price (V) and updates the new PUP as the standard price.

There are several other features added to the Material Ledger's actual costing cockpit (Transactions CKMLCP and CKMLCPAVR):

- A new parameter, **Application**, makes it possible to process alternative valuation runs via Transaction CKMLCP and actual costing runs via Transaction CKMLCPAVR.

- In the toolbar of Transactions CKMLCP and CKMLCPAVR, there's a new button next to **Display <-> Change** to switch the application from **Costing Run** to **Run Reference** and vice versa.

4.4.4 Material Ledger Reporting

The Material Ledger provides a lot of reports to analyze the inventory values. We'll walk through a couple of important reports in the following sections.

Display Material Ledger Document

Every material movement records a separate transaction in the Material Ledger. The Display Material Ledger Document app displays the transactions relevant to material valuation in all preset currencies and valuations.

The Material Ledger document provides the information about the transaction with details like the material code, plant, quantity of transaction, units of measurement, and price at which the transaction takes place. In the Display Material Ledger Document report, you can select the Material Ledger document for a specific year, as shown in Figure 4.34.

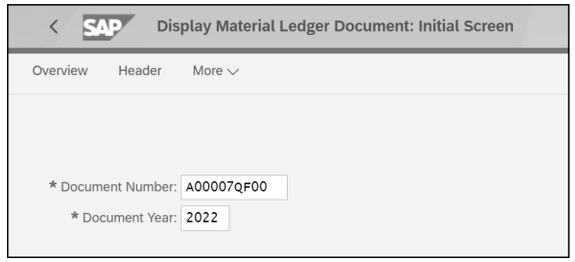


Figure 4.34 Material Ledger Document Display Initial Screen

The document displays, as shown in Figure 4.35, and you can further navigate to the accounting document and material price analysis of the respective material.

Figure 4.35 Material Ledger Document Display Output

Material Price Analysis

The Material Price Analysis app (or Transaction CKM3) displays the valuated transactions for a material in a plant during a certain period, and also the results of material price determination with price and exchange rate differences in a price determination structure.

This app shows the following information regarding the respective material and plant combination:

- Beginning inventory
- Receipts
- Cumulative inventory
- Consumption
- Ending inventory

The transactions that are controlled in Customizing using movement types are displayed in the other receipts/consumption or consumption categories.

After entering the input parameters, such as the plant, material, and period for which the material transaction history needs to be analyzed accordingly, the program gives a report output, as shown in Figure 4.36.

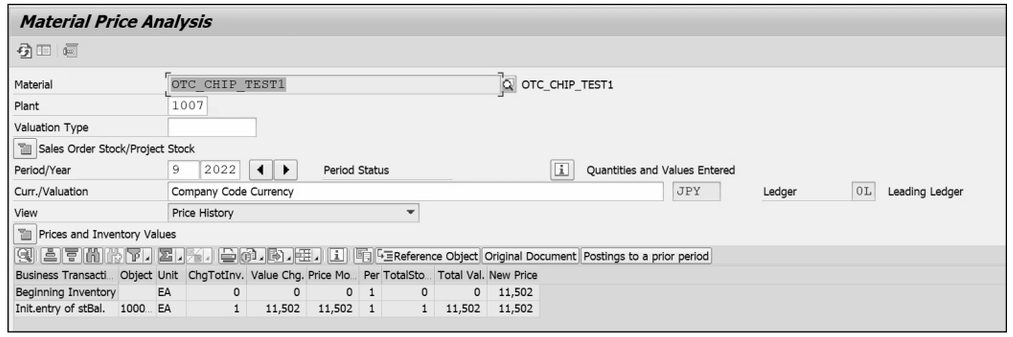


Figure 4.36 Material Price Analysis Output

Material Inventory Values – Balance Summary

The Material Inventory Values – Balance Summary app helps the accountant to perform the reconciliation between the inventory general ledger account balance versus the material master data. This report compares the total general ledger account balance with a combination of parameters like plant (valuation area) and valuation class. The value of the inventory general ledger account should tally with the total value at material master based on the outstanding quantity available, including different format of quantities like unrestricted, blocked and in transit, and so on.

Either the cost accountant or general ledger accountant can execute the SAP Fiori app to display the inventory general ledger account balance with combination of the input selection parameters for a particular key date, as shown in Figure 4.37.

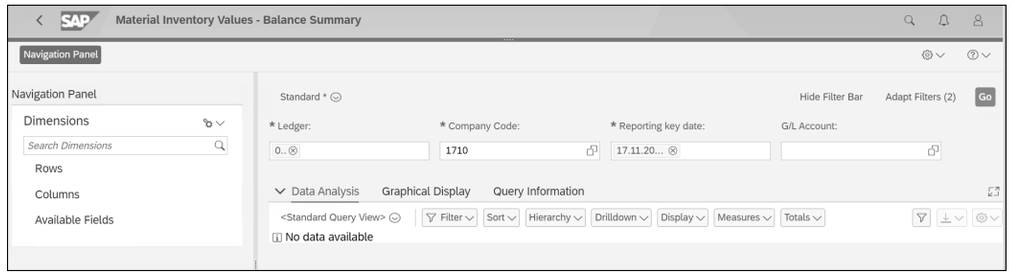


Figure 4.37 Material Inventory Values: Line Item and Balance Summary Input Selection

The app output provides the inventory values with different combinations of the parameters like ledger, company code, general ledger account, profit center, material and valuation area, and so on, as shown in Figure 4.38.

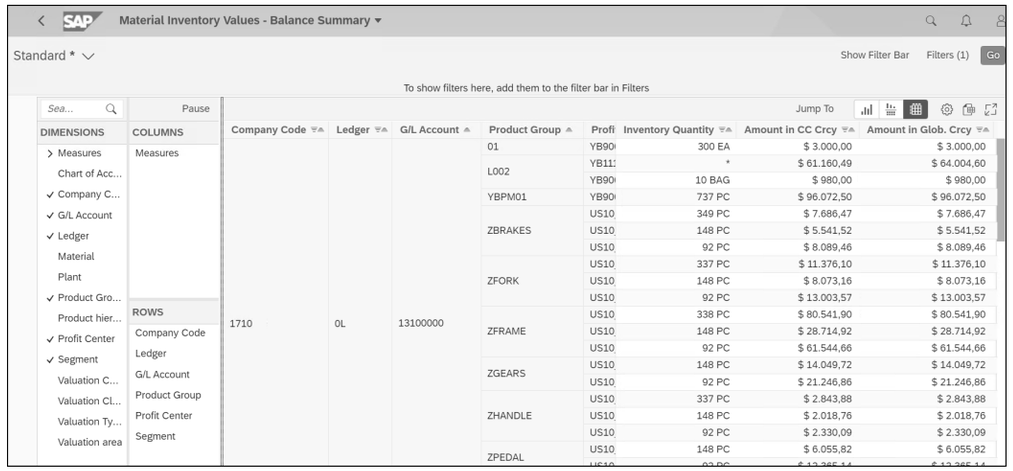


Figure 4.38 Material Inventory Values: Line Item and Balance Summary Output

4.5 Margin Analysis

Margin analysis, formally known as account-based profitability analysis, is the analysis of the profitability of a product within an organization. All the costs associated with manufacturing, storing, shipping, marketing, and selling a product are recorded in different cost categories, including direct and indirect costs. These are then analyzed against the revenue generated from selling the product to give a complete product profitability.

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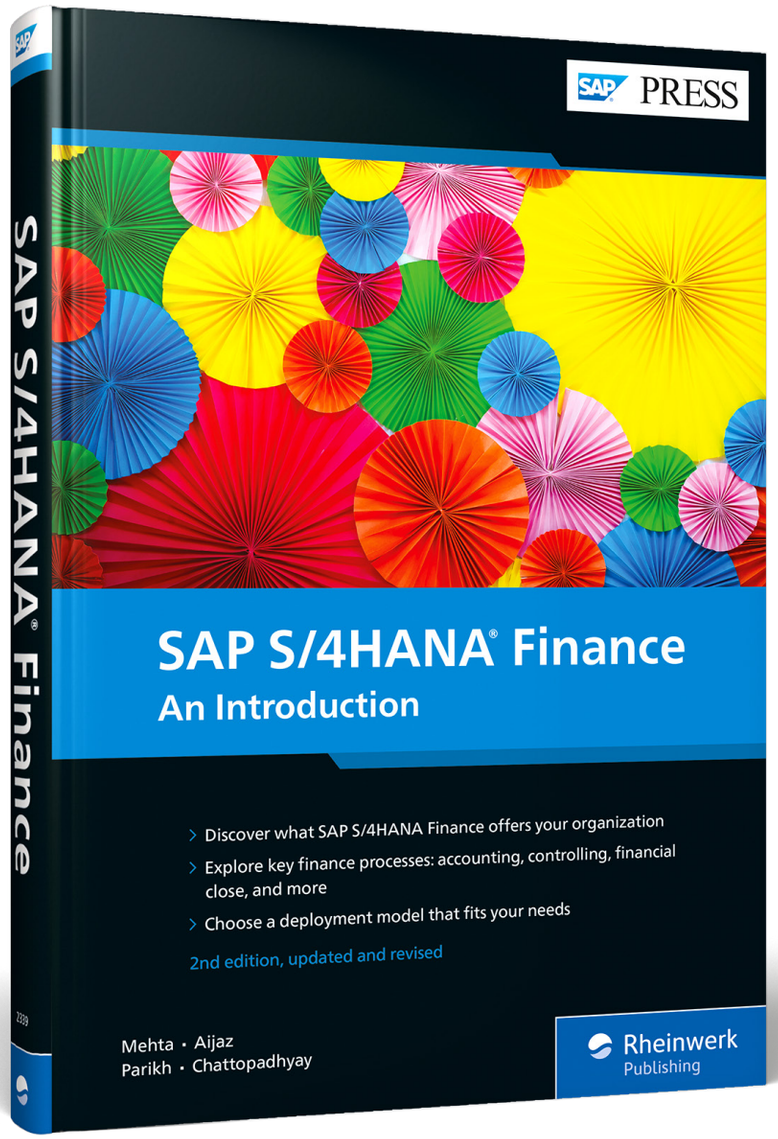

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