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# Practical Guide to SAP® Material Ledger (ML)

- ▶ SAP Material Ledger functionality and key integration points
- ▶ Tips for implementing and using SAP ML effectively
- ▶ The most important SAP Material Ledger reports, including CKM3N
- ▶ Detailed steps for executing a multilevel actual costing run

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## **2 Key design definitions and important considerations when implementing SAP Material Ledger**

**This chapter dives into discussing the main functions of SAP Material Ledger and how they relate and integrate with finance (FI) and logistic modules such as: MM, PP, and SD. It also covers key design definitions required for a sustainable SAP Material Ledger solution.**

This chapter will cover the main prerequisites and set the stage for the next chapter, which deals with configuring SAP Material Ledger with a focus on a long-term solution.

### **2.1 Driving factors to implement SAP Material Ledger**

In today's competitive business environment, companies demand higher productivity and better cost control to cope with market changes and constant competitive pressure. It is essential that companies have the appropriate tools to make decisions more readily.

Actual costing with SAP Material Ledger allows organizations to compare variances between their standards (best estimates) and their actual costs.

Actual costing provides visibility of up-to-date costs on a monthly basis, offering the company accurate information in up to three currencies and valuation views, which works very well, especially in companies with worldwide operations.

If your product prices are constantly fluctuating or if the region where your company is located is going through high inflation rates, then SAP Material Ledger can also be useful to address continuous variances to standards by providing current costs for decision-making.

Moreover, if your company is a manufacturing company which runs SAP, then SAP Material Ledger is the right tool for you to manage your costs. SAP Material Ledger is part of standard out-of-the-box SAP which is

available for all clients. You just need to configure and activate it according to your business requirements.

## 2.2 Choosing the best inventory valuation method for your company

Price control indicates the valuation method of a material in a specific plant. There are two types of *price control indicators*: Standard price (S) and moving average price (V). The price control is assigned to a material in the accounting 1 view of the material master.

- ▶ Standard cost is an estimated cost, which is fixed for a period of time according to the company's definition. Generally, it follows the budget cycle of the company and is determined based on a target of what the expected unit cost of a product is to be, but it can also be changed more often based on internal decisions. Standard price and standard cost terminologies are used interchangeably in this book and is also common in companies that run SAP.
- ▶ *Moving average price (MAP)* is a weighted average cost that changes according to each goods receipt and/or invoice receipt (if invoice differs from purchase price).

Although moving average price reflects the most up-to-date data, it can cause other valuation problems when there is a stock shortage or the stock level is too low for the price difference to be posted, which can lead to unrealistic price as the remaining inventory is adjusted with the total invoice price difference.

Whenever there is a stock shortage, the system cannot allocate the variance (which can be positive or negative), and it remains on the purchase price difference account in the G/L as the system cannot allocate it to the inventory.

When working with moving average price, the timing on which the transaction occurs is critical. For an adequate valuation of the transaction at actual cost, there is a high dependency on the time at which the goods receipt and invoice receipt are posted and a material is issued from inventory.

The same principle applies for variances related to a settlement of a manufacturing order.

As mentioned earlier, when using SAP Material Ledger, materials with standard price control will be adjusted to an actual weighted moving average price at month end, which becomes your periodic unit price (PUP). PUP is discussed in detail during the actual costing closing in Section 5.4.

In an SAP Material Ledger environment, typically all raw materials, semi-finished products, or packaging materials used in a multilevel production structure, such as materials used in a manufacturing process (components of a Bill of Materials) are set as standard price (price control S). Maintenance, repairs, and operations (MRO) materials are set as moving average price (price control V) as they are not used in a manufacturing process and therefore not relevant for standard cost valuation.

These definitions and related settings are extremely important to prevent over/under absorption balances on cost centers after the month-end closing. As you will see in Section 5.4, SAP Material Ledger revalues the consumption of materials at month end when there is a price difference to be allocated. Revaluation of consumption is done using the original cost element or an alternate account, as you will see in the configuration Section 3.11.1.

Below is an example of the impact of a material with standard price control and price determination 3 being consumed to a manufacturing cost center.

### Revaluation of material with standard price control consumed to a non-manufacturing cost object.



Let's say you set a raw material with a standard price and then it gets consumed to a manufacturing cost center during the month. At month end, when actual costs are calculated and posted during the SAP Material Ledger post-closing step, the cost center will receive an additional amount related to the price difference apportionment. And the cost center that had already been completely absorbed will now have an under/over absorption balance, which requires a manual journal entry to clear out the cost center.

If you are using, or intend to implement SAP Material Ledger, make sure you have the right price control design in place and try not to include materials with standard price consumed to a cost center or to a non-manufacturing cost object to avoid rework at month end. Materials with a standard price should always be used in a production process along with an appropriate cost object such as production order, process order, sales order stock, etc., so that all price differences and revaluations of consumption are fully absorbed automatically by the system, preventing any additional manual clearing process.

### 2.3 Material price determination setup

The *material price determination* indicates how the valuation of a material should occur after each business transaction for a material relevant for valuation. If SAP Material Ledger is active, this field has to be set up in the material master using an appropriate combination of price control and material price determination.

If SAP Material Ledger is activated for a valuation area, the accounting 1 view looks slightly different than the regular screen without a material ledger. Additional fields become available when using SAP Material Ledger or split valuation.

The following two price indicator options are available in the material master (*accounting 1 view*) for price determination. Accounting 1 view contains current valuation data of a material.

- ▶ Transaction-based (2)

If you select this option, you can keep your inventory price control indicator as V (moving average) or S (standard price). If the material has price control S, the moving average is calculated for information purposes only, it is not used for valuation as the price control is standard. Materials with the transaction-based indicator option are not considered later in a multilevel actual costing.

- ▶ Single/Multilevel (3)

If you choose this option, the price control has to be S (standard price). A moving average (period unit price) is calculated at month end. Single/Multilevel price determination allows you to calculate single and multi-

level price differences and carry them over through a multiple level manufactured production structure.

An appropriate combination of price control and price determination for a multilevel actual costing is shown in Table 2.1.

Price control	Price determination indicator
V (Moving average)	2 (Transaction based)
S (Standard price)	3 (Single/Multilevel)

Table 2.1: Material price determination

## 2.4 Multiple currencies

Multiple currency definition is a very critical step when designing your product cost system with SAP Material Ledger. Choosing the appropriate valuation that meets the needs of the company has to be carefully decided. The multiple currency function is only available if SAP Material Ledger is active. Once the material ledger is configured and activated *you cannot change* the settings. So, make sure you have the correct currency and valuation combination *before* you activate SAP Material Ledger.

You can manage a maximum of three valuation approaches in two currencies in a parallel valuation. All valuation approaches that you maintain in the currency and valuation profile must also be managed in SAP Material Ledger. The system checks whether the valuation approaches in controlling, the material ledger, and financial accounting, as well as the settings for the company codes, depreciation areas, and plants are consistent with the valuation profile.

In SAP Material Ledger, you can use a combination of currency types defined in financial accounting and controlling.

As mentioned earlier, the combination of currency and valuation is called as a multiple valuation approach. The SAP recommendation is to use the group currency as the controlling area currency to ensure compatibility of information throughout the materials management, financial accounting, and controlling components.

For illustration purposes, a couple of examples of currency type and valuation combination setup are shown below. See Figure 2.1 for an exam-

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