

# KDD012 - Product Costing Approach

|              |                                                                                                         |
|--------------|---------------------------------------------------------------------------------------------------------|
| Status       | Approved                                                                                                |
| Owner        | TAMIOLAKIS-ext, Emmanouel                                                                               |
| Stakeholders | BECHTER-ext, Alex ZAPONNE-ext, Antonio MADJARIAN, Gilles Stecik, Joseph Harris, Samantha Matos, Roberto |

## Issue

The purpose of this document is to provide a comprehensive assessment of the two Product cost valuation approaches currently utilized in Syensqo: the revaluation on actuals with the use of the Material Ledger and the Semi-standard approach. This evaluation aims to determine the most suitable approach to implement in the S4 system, based on a collaborative assessment by business stakeholders and the project finance team.

Key areas covered in this document include:

- Pros and cons of each the two Syensqo approaches and the pros and cons of the annual standard valuation method as an alternative
- Overview & Background
- Similarities and differences
- Options
- Evaluation
- Recommendation
- Constraints and risks

The key objective is to evaluate the various approaches by considering the pros and cons identified by both the business and project finance teams. This collaborative effort involved interactions between technical and business colleagues, as the decision focuses on methodologies rather than systems. Different groups of controllers, accountants, and senior managers are attached to their respective methods, making the final decision sensitive due to valid reasoning on both sides. Both methods are strong, and our goal was to identify the stronger one based on set criteria, project objectives for standardization, streamlined processes, and SAP official recommendations. We aimed to remain impartial and non-judgmental. Additionally, interactions with business stakeholders confirmed that both methods have been deemed compliant by Syensqo's auditors.

## Recommendation

The revaluation on actuals with Material Ledger, also known as **actual valuation**, should be the single future valuation approach at Syensqo.

- Despite its complexity and impact on system performance, its alignment with future SAP roadmap, Universal Parallel Accounting (UPA) and support for transfer pricing functionality make it the most suitable choice for ensuring comprehensive and precise financial reporting and analysis.
- This option uniquely allows the use of an actual cost system in addition to the standard cost system, providing a dynamic and flexible approach to inventory valuation and cost analysis.
- The approach supports transfer pricing with global valuation and global P&L at the product selling level, which enhances transparency and accuracy in financial assessments across different segments of the organization.

## Background & Context

As mentioned above, each system has its own distinct stock and COGS valuation method, along with corresponding configurations. However, a critical aspect to consider is the existence of separate financial controller teams for each method, which has led to the development of distinct ways-of-working (cultures). These ways-of-working have, in turn, influenced the underlying cost structures and the integration with manufacturing processes.

As we will elaborate on in the next paragraph, the two approaches share certain overarching similarities as well as notable differences. One approach primarily focuses on standard costs and variances, while the other places greater emphasis on historical costs. Additionally, one method tends to clearly separate fixed and variable costs in its reporting, whereas the other approach absorbs all costs into COGS and ending stock. Still allowing, however, to identify separately variable costs, fixed and depreciation after COGS splitting.

## As-Is Summary

From a finance and controlling perspective Syensqo currently operates in at least two systems (SAP WP1 and SAP PF1) with two, as explained above, different valuation approaches and ways of working. These differences arose from mergers and acquisitions (M&As), where the acquired organizations used a different valuation methodology. Additionally, there were fiscal requirements (e.g Brazil and Korea) that necessitated deviations from a standard operating procedure. In this document, the two approaches are referred to as follows:

- Re-valuation on actuals with Material ledger for PF1
- Semi-standard for WP1

From manufacturing perspective, WP1 uses process manufacturing, while PF1 uses mainly process manufacturing and in one case repetitive manufacturing. Please see: [SAP PP vs SAP PP-PI for Discrete Manufacturing](#). Manufacturing plants are using Manufacturing Execution Systems (MES) as well as planning systems, specifically Dynasys, and in the future, Kinaxis. MES and in some instances spreadsheets and manual input feeds SAP processes and production orders with confirmations and consumptions. More in particular, in PF1, the confirmation and consumption process relies on standard quantities for material components, standard hours for activities and a raw materials consumption adjustment based on a monthly inventory count. Conversely, within WP1, the manufacturing plants mainly confirm actual quantities and hours. Additionally, plan activity prices are manually entered across both systems. Despite WP1 incorporating an activity calculation process, the loading of capacities remains a manual task.

Currently Syensqo has two different approaches for assigning company codes to controlling areas in the two systems. These are:

- PF1: single controlling area
- WP1: Four controlling areas by Region (Europe, APAC, North America, South America) + one for Financial companies, total five controlling areas

## Opportunity

The opportunity is clear: to standardize processes and conduct business with a single valuation approach.

## Assumptions

- In S/4HANA we anticipate having a uniform enterprise structure. Especially on lower level controlling objects like cost centers, profit centers, segments etc
- In S/4HANA we will have a single costing approach for all Legal entities. Local deviations are expected due to local fiscal requirements. Parallel COGM functionality and in the future Universal Parallel accounting can value inventory by considering the local GAAPs depreciations.
- The product cost system will be S/4HANA
- The implications of Universal Parallel Accounting, whether positive or negative, on the valuation question are not considered in this KDD. There will be another KDD to address Universal Parallel Accounting's new features and their overall implications for product costing. See [KD D on Universal Parallel Accounting](#)
- In S4 material ledger is mandatory. But This does not imply that actual cost is mandatory.

## Constraints

- If the transfer price functionality is implemented then actual costing has to be activated. *Transfer price functionality is addressed to a separate KDD [Transfer Pricing](#)*
- The business units transitioning to the new valuation method may have objections to the decision.

### Risks

Statistical moving average price is not supported in Universal parallel accounting. Which means that the Semi-standard method might become obsolete according to the SAP future roadmap and if Syensqo will decide to implement the Universal Parallel Accounting.

Check [scope note 3191636](#) for UPA under CO-PC-ML (Material Subledger) area. Further information will be requested by SAP on this restriction.

## Impacts

- Changing the valuation approach for the affected legal entities will impact their balance sheets. Stock values will be debited or credited according to the new valuation method.
- Moreover, there will be an impact on the P&L. For a more detailed analysis, please see the example in the paragraph: *Valuation Methods Comparisons and Examples*
- Half of the organization will essentially have to change the way it currently conducts business.

Specialty Polymers operates with actual costing, whereas all other units use the semi-standard method. Despite this, Specialty Polymers accounts for 40% of the Sales and 60% of the EBITDA.

## Business Rules

The new approach will apply to all business units (GBUs). Consequently, those transitioning to the new valuation method will need to change their operational practices.

## Options considered

### Option A: Revaluation on actuals with Material Ledger

The Material Ledger consists of two main functionalities: actual costing and parallel valuation. A common misconception about the Material Ledger is that it refers solely to actual costing because actual costing tends to get the most attention. Therefore, when hearing the term "Material Ledger," many immediately think of actual costing, not parallel valuation. Conversely, when the actual costing functionality is mentioned, it's usually referred to generically as a "Material Ledger functionality." Furthermore, the Material Ledger falls within the CO menu, but it has as much impact on the FI module as it does in the CO module because of its impact on the inventory transactions that are posted to the general ledger. The Revaluation on Actuals program with Material Ledger (ML) creates postings to the general ledger and relevant cost objects. It posts to both the ending inventory and COGS (or other consumption) accounts. These ML journal entries are posted on the last day of the closing period and are reversed on the first day of the opening period.

The purpose of actual costing is to use the transactions that occur for a material during the month to calculate its actual cost. This actual cost is typically the addition of the standard cost of the material plus the variances that occurred for the month. These variances can be purchase price variances, over/under absorptions and production variances. It sounds simple when mentioned that way, but it can get complicated depending on the processes that occur for the material, such as goods receipts, invoice receipts, process order confirmations, consumptions, and so on. In addition, if the material is maintained in multiple currencies or is used in several other materials, more layers of complexity are added to the calculation. Syensqo has products with up to ten levels of production as well as several production versions. [See also the Manufacturing AS-IS questionnaire](#)

The actual price for each material, is calculated at the end of the period and it is called the periodic unit price (PUP) and is used to revalue the ending inventory (stock) and COGS (or other consumptions) for the period to be closed. This actual price can also be used as the standard price for the next period (Not the opening period). The Actual costing program determines the portion of the variance debited to the next-highest level using material consumption. Variances are rolled up over multiple production levels to the finished product.

The revaluation on Actuals with Material Ledger makes it possible to use an actual cost system in addition to the standard cost system. As mentioned above, ML revaluation on actuals returns to standard costing in the following month. Moreover, the periodic unit price (actual price) can become the standard price for the following month. Financial controllers can continue to monitor purchase price variances and, more critically, production variances at the production/process order level. By doing so, controllers will be able to monitor the manufacturing plant's efficiency, the suppliers' consistency, and the purchasing department's performance. They will also be able to take appropriate actions when they observe favorable and unfavorable variances. This assumes that consumptions and confirmations are properly posted and monitored, and that BOMs and routings are kept up to date and accurate.

## Option B: Semi-Standard

The semi-standard approach, developed by Syensqo, closely resembles the typical standard cost approach but deviates in how it determines the standard price for all materials. Specifically, on the first day of each opening month, a new standard price for all materials (marked with price control S) is calculated based on the statistical moving average price.

In terms of financial reporting, this approach distinguishes between fixed and variable costs. Variable costs primarily include purchase price variances, while fixed costs encompass depreciations, salaries, etc.

In WP1, different types of materials are controlled under different price controls: Raw materials, trading goods, semi-finished and finished products, and packaging fall under Price Control S (standard price), whereas spare parts are managed under Price Control V (moving average price). The Moving Average Price (MAP) is updated with every goods receipt, calculated by considering the stock's existing quantities and values alongside the newly received goods quantities and purchase prices. If discrepancies arise between the invoice and the goods receipt, these variances are also included in the MAP calculation, assuming stock availability at the time of invoice verification.

Each month, a new standard price is recalculated for raw materials, packaging, semi-finished and finished products, and trading goods based on the statistical moving average price. Once recalculated, this price is released, subsequently revaluing the inventory to reflect these adjustments. There are exceptions, notably in Brazil and Korea, where raw materials are valued at the moving average price (Price Control V) to meet local tax requirements. Additionally, strategic raw materials may have their prices manually adjusted if the MAP does not suitably reflect the semi-standard cost for the period.

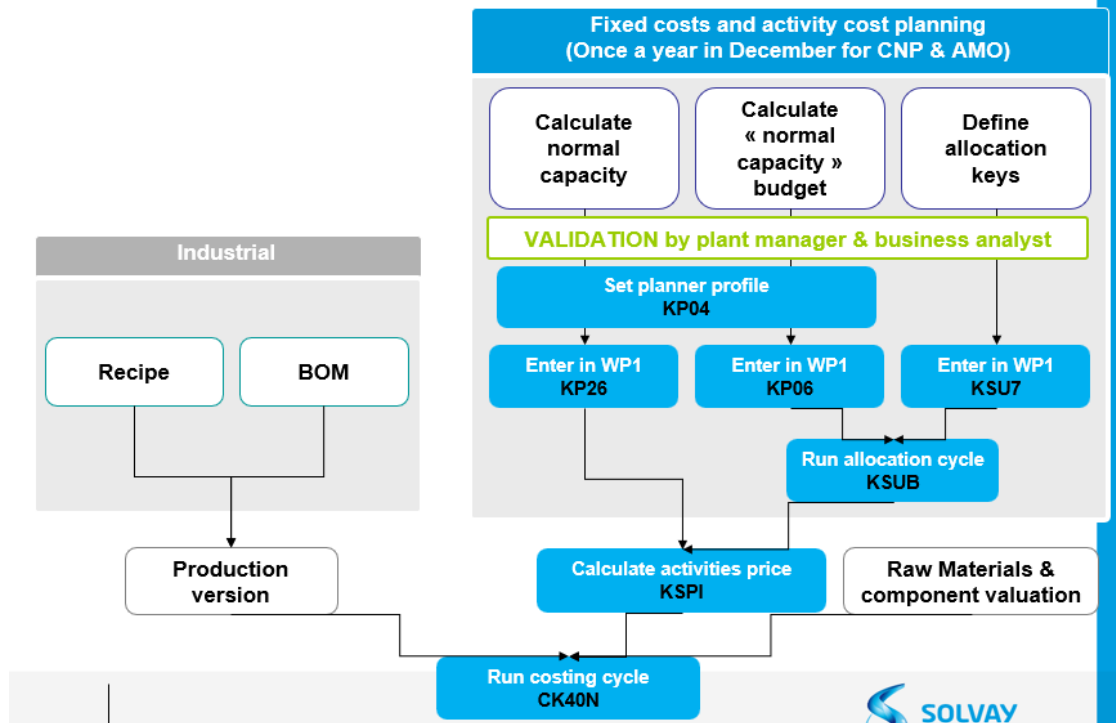
## Valuation strategy

In particular, the strategy sequence used in the semi-standard approach (WP1) is as follows:

- Commercial price (filled manually, only when more relevant)
- MAP (Moving Average Price) plus any additive cost
- Purchase price (info-record)
- Standard price

This valuation strategy ensures that with the new standard price calculation, the Moving Average Price becomes the standard price for raw materials, trading goods, and packaging. Using the cost roll-up method, these new standard prices for the Bill of Materials (BOM) components will roll over multiple production levels all the way to the Semi Finished and finished products

## Semi-Standard Cost calculation



### (Alternative) Option C: Annual Standard

An alternative option is to shift to an annual standard cost approach, typically preferred by most European companies. This method will not be described in detail as it is well known. A standard price is calculated at the fiscal year opening and remains unchanged throughout the year. COGS and stock will always be valued at this standard cost. Production variances and over/under absorptions will be reported to the P&L in a manner similar to the semi-standard approach.

## Similarities and differences

The two methods (A and B) might sound different but are quite similar in a way. ML Actual valuation allocates cost variances from lower levels of production to higher levels, whether these variances come from purchasing or production. Similarly, the semi-standard approach does something similar but instead of allocating variances, it recalculates the standard prices by using the statistical moving average price.

Here below are listed some important similarities and differences between the two approaches that we need to look at closely. The similarities are not about the system used (which is SAP in both cases) but more about the accounting and financial controlling aspects. On the other hand, there are also some key differences between the two approaches. It is worthwhile to examine what can remain the same irrespective of the final choice.

| Similarities                                                                                                                                                                                                                                                                                                                   | Differences                                                                                                                                                                                                                                                                                                                                   |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| In the day-to-day operations, raw materials, trading goods, semi-finished and finished products, and packaging are controlled (and consumed) under Price Control S (standard price), while spare parts use Price Control V (moving average price).                                                                             | When revaluing on actuals with ML, both COGS, other consumptions and ending inventory is revaluated. Whereas with the semi-standard approach only Stock is revaluated. Moreover, the opening stock of the opening period, rather than the closing stock of the previous period, is revaluated.                                                |
| ML Actual valuation allocates cost variances from lower levels of production to higher levels, whether these variances come from purchasing or production. Similarly, the semi-standard approach does the same but instead of allocating variances, it is recalculating the standard prices by using the moving average price. | In PF1, standard hours and standard consumptions are confirmed and a raw materials consumption adjustment is performed on period end based on a monthly inventory count. Whereas in WP1, mainly, actual hours and material consumptions are confirmed.<br><br><i>This is a systems difference of course but it is worthwhile to be noted.</i> |
| Both are standard SAP solutions in the sense that they do not rely on major enhancements                                                                                                                                                                                                                                       | ML Revaluation on actuals is facilitated through a set of standard programs, while the semi-standard approach is more methodological in nature.                                                                                                                                                                                               |

## Valuation Methods Comparisons and Examples

### Example 1: Standard cost vs Semi-Standard vs Periodic Unit price (PUP). A simple example.

| Standard pricing       |         |          | Semi standard                                                                                                                                             |         |          | Actual costing         |         |                     |   |     |        |   |     |        |                             |  |  |
|------------------------|---------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|---------|----------|------------------------|---------|---------------------|---|-----|--------|---|-----|--------|-----------------------------|--|--|
| material stock account |         |          | Purchasing material stock account                                                                                                                         |         |          | material stock account |         |                     |   |     |        |   |     |        |                             |  |  |
| 1                      | €100.00 | €70.00 3 | 1                                                                                                                                                         | €100.00 | €70.00 3 | 1                      | €100.00 | €70.00 3            |   |     |        |   |     |        |                             |  |  |
| 2                      | €50.00  |          | 2                                                                                                                                                         | €50.00  |          | 2                      | €50.00  |                     |   |     |        |   |     |        |                             |  |  |
| 4                      | €80.00  |          | 4                                                                                                                                                         | €80.00  |          | 4                      | €80.00  |                     |   |     |        |   |     |        |                             |  |  |
|                        |         |          |                                                                                                                                                           | €160.00 |          |                        | €160.00 |                     |   |     |        |   |     |        |                             |  |  |
|                        |         |          | 5                                                                                                                                                         | €178.7  |          | 5                      | €14.61  |                     |   |     |        |   |     |        |                             |  |  |
|                        |         |          |                                                                                                                                                           |         |          |                        | €174.61 | Booked on Month end |   |     |        |   |     |        |                             |  |  |
| Std price: €10.00      |         |          | <table><tr><td>1</td><td>MAP</td><td>€10.00</td></tr><tr><td>2</td><td>MAP</td><td>€10.33</td></tr><tr><td>4</td><td>MAP</td><td>€11.17</td></tr></table> |         |          | 1                      | MAP     | €10.00              | 2 | MAP | €10.33 | 4 | MAP | €11.17 | Periodic Unit Price: €14.55 |  |  |
| 1                      | MAP     | €10.00   |                                                                                                                                                           |         |          |                        |         |                     |   |     |        |   |     |        |                             |  |  |
| 2                      | MAP     | €10.33   |                                                                                                                                                           |         |          |                        |         |                     |   |     |        |   |     |        |                             |  |  |
| 4                      | MAP     | €11.17   |                                                                                                                                                           |         |          |                        |         |                     |   |     |        |   |     |        |                             |  |  |
| Price difference       |         |          | Price difference                                                                                                                                          |         |          | Price difference       |         |                     |   |     |        |   |     |        |                             |  |  |
| 2                      | €5.00   |          | 2                                                                                                                                                         | €5.00   |          | 2                      | €5      | €21 5               |   |     |        |   |     |        |                             |  |  |
| 4                      | €16.00  |          | 4                                                                                                                                                         | €16.00  |          |                        | €16     |                     |   |     |        |   |     |        |                             |  |  |
| Consumption            |         |          | Consumption                                                                                                                                               |         |          | Consumption            |         |                     |   |     |        |   |     |        |                             |  |  |
| 3                      | €70.00  |          | 3                                                                                                                                                         | €70.00  |          | 3                      | €70.00  |                     |   |     |        |   |     |        |                             |  |  |
|                        |         |          |                                                                                                                                                           |         |          | 5                      | €6.39   |                     |   |     |        |   |     |        |                             |  |  |
|                        |         |          |                                                                                                                                                           |         |          |                        | €76.39  |                     |   |     |        |   |     |        |                             |  |  |

This is the MAP after the last GR and will be the MAP on the first day of M+1. It will also be the standard for M+1

| 5 phases |                                                                                                                                                                                                                                                                                                                                                                                                 |
|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1        | Opening inventory of 10 PMs at € 10                                                                                                                                                                                                                                                                                                                                                             |
| 2        | Goods receipt of 5 PMs at € 11. So 15 PMs in stock                                                                                                                                                                                                                                                                                                                                              |
| 3        | Consumption of 7 PMs Purchasing materials. So, 8 PMs in stock                                                                                                                                                                                                                                                                                                                                   |
| 4        | Goods receipt of 8 PMs at € 12. So the ending inventory is 16PMs                                                                                                                                                                                                                                                                                                                                |
| 5        | Actual costing with revaluation on actuals with ML and new std price calculation for Semi-standard                                                                                                                                                                                                                                                                                              |
|          | <b>Actual valuation: Variances are allocated proportionally to ending stock and COGS (or other consumptions)</b><br><b>Moving average price: Each time you perform a goods receipt or invoice receipt, the moving average price is updated based on taking the total inventory value (i.e., taking the latest purchased price into account) and dividing it by the total inventory quantity</b> |

| Closing ratios |      |
|----------------|------|
| Stock          | 0.70 |
| COGS           | 0.30 |

### Example 2: A more detailed comparison and example

We are considering a purchased raw material that is consumed in the production of a finished product. Both the raw material and the finished product have a standard price control. The standard prices for both are provided in the assumptions box. Additionally, 50 units of raw material and 1 unit of Activity type are required for the production of 50 units of finished product.

We are considering that the price control is standard for all materials. Even if for Raw materials the price control was Moving average price the example would not change drastically.

The purchase price variances of the raw material are posted to the manufacturing cost center. This is the cost center that has been assigned to the work center of the finished product.

There are over/under absorptions, meaning the actual production expenses exceed the confirmed activities value. Please check the manufacturing cost center balance.

We are considering that we are running all valuation approaches and have maintained both the balance sheet (stock) records and the P&L. All transactions are registered in June.

For actual revaluation, the logic is that the variances are allocated proportionally to the ending stock and COGS when revaluating on actuals.

For semi-standard, the moving average price forms the basis for the new standard price in the opening month (July).

The depreciation expense debited to the Manufacturing cost center is a random value to show over/under absorptions in the cost center balance

We are considering only fixed cost activity (salaries, maintenance etc). We do not consider variable costs related activity in this example.

|      | Assumptions                                                          | UNIT | EUROS | SUM  |
|------|----------------------------------------------------------------------|------|-------|------|
|      | Standard price for Raw Materials (RM) is                             | 1    | 5     |      |
|      | Standard price for Finished product (FP) is                          | 1    | 17    |      |
|      | Purchased price is                                                   | 1    | 7     |      |
|      | The stat. Moving Average price of the RM after Goods receipt becomes | 1    | 7     |      |
|      | Accounting events                                                    |      |       |      |
| June | Purchased RM                                                         | 100  | 5     | 500  |
|      | PPV                                                                  | 100  | 2     | 200  |
|      | Consumed to production (GI)                                          | 60   | 5     | 300  |
|      | Ending stock RM                                                      | 40   |       |      |
|      | Produced Finished Product                                            | 50   | 17    | 850  |
|      | Production variances (10 more Raw materials consumed)                | 10   | 5     | 50   |
|      | Sold FP - Revenue                                                    | 25   | 40    | 1000 |
|      | Ending stock FP (50% of FPs are sold (consumed))                     | 25   |       |      |
| June | Depreciation debited to the manufacturing cost center                |      | 530   |      |
|      | Maintenance debited to the manufacturing cost center                 |      | 200   |      |
|      | The plan activity price is                                           | 1    | 600   |      |
|      | The over/under absorption in the manufacturing cost center is        |      | 130   |      |

| Manufacturing cost center |     |     |                                                         |
|---------------------------|-----|-----|---------------------------------------------------------|
| Salaries                  | 530 | 600 |                                                         |
| Maintenance               | 200 |     |                                                         |
|                           | 730 | 600 |                                                         |
|                           | 130 |     | Over/under absorption - Fixed cost variance for Syensqo |
| Process order (TECO)      |     |     |                                                         |
| Raw Materials             | 300 | 850 | Finished Product                                        |
| Activity 1 (fixed cost)   | 600 |     |                                                         |
|                           | 900 | 850 |                                                         |
|                           | 50  |     | Prod. Variance after settlement                         |
|                           |     |     | Usage variance - Variable cost for Syensqo              |

It should be noted that the statement below reports at the profit center or plant level. Only the revaluation on actuals approach is capable of reporting at the more granular level of the Selling (Finished) product below CM1. The other two options do not provide this level of detail. Additionally, the revaluation on actuals approach can also report the split into columns C, D, and E following the COGS split.

|                                |                                           | Balance sheet                        |                                      |                                |                                | Margin Analysis (P&L) |      |                                                          |                                                          |                                 |                                                          |                                         |
|--------------------------------|-------------------------------------------|--------------------------------------|--------------------------------------|--------------------------------|--------------------------------|-----------------------|------|----------------------------------------------------------|----------------------------------------------------------|---------------------------------|----------------------------------------------------------|-----------------------------------------|
| Valuation Method               | Price control is S for all material types | RM Inventory in June (closing month) | RM Inventory in July (opening month) | FP Inventory in June (closing) | FP Inventory in July (opening) | A                     | B    | C                                                        | D                                                        | E                               |                                                          |                                         |
|                                |                                           |                                      |                                      |                                |                                | Revenue               | COGS | Purchase Price Variances (VC variances)                  | Usage (production) Variances (VC variances)              | Contribution Margin 1 (A-B-C-D) | Over/under absorption (FC variances)                     | Below CM 1 (A-B-C-D-E)                  |
| Semi-Standard                  | S                                         | 200                                  | 280                                  | 425                            | 475                            | 1000                  | 425  | 200                                                      | 50                                                       | 325                             | 130                                                      | 195                                     |
| Annual standard cost           | S                                         | 200                                  | 200                                  | 425                            | 425                            | 1000                  | 425  | 200                                                      | 50                                                       | 325                             | 130                                                      | 195                                     |
| Revaluation on actuals with ML | S                                         | 280                                  | 200                                  | 575                            | 425                            | 1000                  | 575  | Have been already allocated to COGS and ending inventory | Have been already allocated to COGS and ending inventory | 425                             | Have been already allocated to COGS and ending inventory | Remains the same to the previous column |

## Evaluation

As mentioned, this KDD must also rely on the evaluation provided by the Syensqo stakeholders. Therefore, it has been divided into two parts. The first part is a brief summary of the pros and cons addressed by the business stakeholders, and the second part is the pros and cons matrix from the project finance team. The final recommendation and qualitative evaluation are provided by the project finance team.

Anyone can recognize that the evaluation by the business stakeholders has more of a Syensqo flavor, while the project finance team's evaluation provides the S4 perspective of Syensqo.

### Business stakeholders summary for Actuals

Actual costing offers significant advantages. It enables businesses to consider their real costs and inventory valuations. Tools like CKM3 enhance transparency regarding material costs and inventory values, while the reduced dependency on exact Bill of Materials (BOMs) and routings removes some operational time-consuming processes.

From a future compatibility perspective, actual costing aligns well with SAP standards and ensures ongoing support from platforms like SAP S/4HANA.

Despite these benefits, actual costing presents some challenges. The complexity and training required to correct errors due to wrong inputs can be cumbersome. Maintaining discipline in posting to ensure costs stay within the production and material ledger is essential to avoid inaccuracies. Additionally, enhancements are needed in tools like CKM3 for more effective analysis by product groups. Moreover, monthly Fixed cost adjustments might be necessary for low-volume plants to prevent overvaluation.

In conclusion, while actual costing offers substantial benefits in terms of future compatibility and financial analysis, it requires disciplined management and improvement of analytical tools to overcome its operational challenges. Addressing these issues can significantly enhance its effectiveness in financial management and reporting.

### Business stakeholders summary for Semi-standard

Semi-standard costing avoids monthly noise because it is easier to spot the variances on a day-to-day basis. However, it presents significant challenges in explaining fixed cost variations, as fixed costs remain constant throughout the year and do not reflect in the inventory. Additionally, maintaining precise Bill of Materials (BOMs) and master data is critical but resource-intensive, especially for products with multiple recipes.

In conclusion, while the method offers medium-impact benefits in customer profitability analysis, the operational challenges and resource demands must be addressed to improve its overall efficiency and effectiveness in financial management.

The semi-standard is a Syensqo-developed approach and might become incompatible if the organization wishes to remain consistent with the future SAP roadmap.

## Project team evaluation

| Priority Sorting of Categories Based on Weighing Factor | Option A - Revaluation on actuals with Material Ledger | Option B - Semi standard | Option C - Annual standard | Stronger option |
|---------------------------------------------------------|--------------------------------------------------------|--------------------------|----------------------------|-----------------|
|                                                         |                                                        |                          |                            |                 |

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| Financial Reporting and Analysis | <p>  Makes it possible to use an actual cost system in addition to the standard cost system. ML revaluation on actuals, returns back to standard costing on the following month. Financial controllers can carry on monitoring purchase price variances and more critically production variances on production /process order level. Moreover, the periodic unit price (actual price) can become the standard price of the following month. To summarize, it is possible to have the semi standard practices with the actual valuation on Month end</p> <p> Revaluates both ending inventory and closing COGS</p> <p> This enables transfer pricing with global valuation and global P&amp;L at the product selling (at least) level.</p> <p> Facilitates more detailed M argin analysis/Profitability analysis at the Selling product level because it absorbs all variances at the COGS level for selling materials (Finished and semi finished products). In a nutshell, you can have actual Contribution Margin and Gross Margin on Selling product level.</p> <p> The aforementioned advantage can also be considered disadvantages, as all variances are allocated to Cost of Goods Sold (COGS). Nevertheless with the COGS split you can split actual COGS to the cost component groups. e.g Fixed costs, Variable costs ,depreciations etc .</p> <p> Revaluation on actuals enables the use of the Parallel COGM functionality and allows for inventory valuation based on local GAAP depreciations. Universal parallel accounting also achieves this with actual costing.</p> | <p> Semi-standard has created a more standard cost-oriented approach and ways of working (culture), enabling quicker reactions to high production variances. Same for the purchase price variances. This way of working, it does allow you to measure purchasing efficiency by comparing actual prices with planned purchase prices and making informed decisions about your purchasing strategy.</p> <p>  In the semi-standard approach, the contribution margin for selling (finished and semi-finished) products includes only the COGS and usage (production) variances. Other variances, such as manufacturing cost center over /under absorptions (e.g., fixed variances), are not allocated to these products. This may result in a higher or lower contribution margin compared to using actual costs.</p> <p>However, these additional variances can be allocated at the profit center level. Since the profit center structure for Syensqo aligns with the product level, running the P&amp;L at the profit center level effectively provides the product's contribution margin.</p> <p>  Semi-standard is based on the statistical moving average price (MAP). Frequent updates to the MAP based on the latest purchase price can potentially affect the true value of inventory, particularly if the most recent period-end purchases are significantly higher or lower than previous prices. <i>See also the two examples in the above paragraph.</i></p> <p>  Closing COGS is not revalued, only stock is subject to revaluation. Moreover, This revaluation occurs at the beginning of the opening period, not at the end, which seems uncommon practice</p> <p> It does not support the Transfer pricing functionality</p> | <p> <i>Similar to the semi-standard</i></p> <p> Standard costs that do not reflect actual purchase prices can distort inventory valuation, affecting the accuracy of financial statements.</p> <p> Any operational changes, like improvements in efficiency or changes in supplier contracts, are not captured until the next standard cost update, resulting in a misalignment between actual and standard costs.</p> <p>  It does not provide any actual reporting. Except from statistical Moving average price which has been proved weak to meet specific regulatory requirements for actuals</p> <p>  It is not strong in meeting IFRS requirements for fiscal year end inventory valuation</p> | A |
| Complexity and Training          | <p>  Working with ML revaluation on actuals can be complex, requiring careful planning and execution. The complexity is mostly related to the account determination related to ML closing. Typically, it requires training for the accountants to understand the closing entries. Sometimes it's easy to be overwhelmed by the volume of postings created by the Material Ledger's closing entry and what they mean.</p> <p> There is a higher level of complexity involved in the configuration and maintenance of this functionality</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <p> Semi-standard simplifies the process of inventory valuation. There is no accounting complexity during period end closing, as there are no complex stock related accounting entries generated (like in the case on ML actual valuation) during period-end closing, streamlining the process significantly.</p> <p> The semi-standard approach is a methodology "developed" by Syensqo, not found in other organizations. Consequently, new employees will require training to familiarize themselves with this method</p> <p> Maintaining Bills of Materials (BOM) and Routings at a mature status demands considerable effort. It should be noted, however, that even with actual valuation, BOM and Routings must be kept up to date to effectively monitor variances.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <p> Less complex</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | C |
| System Performance               | <p>  Can impact system performance due to the extensive data processing required, particularly for large volumes of transactions. Especially during actual valuation.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <p> The statistical moving average price update is recalculated and locked during the processing of goods movements, which can slow down the throughput of inventory transactions.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <p> The less system intensive approach. Once per fiscal year standard cost calculation.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | C |
| Future Compatibility             | <p> It is consistent with the future SAP roadmap, and upcoming solutions like Universal Parallel Accounting can further enhance the capabilities of this option</p> <p> It does support the Transfer prices functionality</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <p>  Statistical moving average price is not supported in Universal parallel accounting. Which means that this method might become obsolete according to the SAP future roadmap</p> <p><i>Check scope note for UPA under CO-PC-ML (Material Subledger) area. Further information will be requested by SAP on this restriction.</i><br/><a href="https://me.sap.com/notes/0003191636">https://me.sap.com/notes/0003191636</a></p> <p> It does not support the Transfer prices functionality</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <p> It is consistent with the future SAP road map</p> <p> It does not support the Transfer prices functionality</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | A |

## Qualitative Analysis

Given the importance of Financial Reporting and Analysis, **Option A - Revaluation on actuals with Material Ledger** stands out as the most robust approach. This option uniquely allows the use of an actual cost system in addition to the standard cost system, providing a dynamic and flexible approach to inventory valuation and cost analysis. Despite its complexity and impact on system performance, its alignment with future SAP roadmap, Universal Parallel Accounting (UPA) and support for transfer pricing functionality make it the most suitable choice for ensuring comprehensive and precise financial reporting and analysis. The approach supports transfer pricing with global valuation and global P&L at the product selling level, which enhances transparency and accuracy in financial assessments across different segments of the organization.

See also

Relevant KDDs

[KDD008 - Transfer Pricing](#)

[KDD017 - Intercompany Processing in the new ERP Solution](#)

[KDD018 - GAAP Ledgers and Currency Types](#)

[KDD022 - Multi-dimensional Account-based P&L Reporting](#)

[KDD023 - Production Planning in SAP S/4HANA](#)

[MNF04 - strategy for MES systems and SAP Digital Manufacturing](#)

Technical reading

[SAP Note 2464029 - Changes in Statistical Moving Average Price - SAP ERP & SAP S/4 HANA](#)

[SAP Note 2267835 - S4TWL - Material Valuation - Statistical moving average price](#)

[SAP Note 3191636 - Universal Parallel Accounting: Scope Information](#)

[MNF04 - strategy for MES systems and SAP Digital Manufacturing](#)

## Change log

| Version                | Published                 | Changed By                                | Comment |
|------------------------|---------------------------|-------------------------------------------|---------|
| <b>CURRENT (v. 85)</b> | <b>Aug 07, 2024 18:12</b> | <b>TAMIOLAKIS-ext, Emmanouel</b>          |         |
| <a href="#">v. 84</a>  | Aug 07, 2024 17:58        | <a href="#">TAMIOLAKIS-ext, Emmanouel</a> |         |
| <a href="#">v. 83</a>  | Aug 07, 2024 14:00        | <a href="#">TAMIOLAKIS-ext, Emmanouel</a> |         |
| <a href="#">v. 82</a>  | Aug 05, 2024 14:11        | <a href="#">TAMIOLAKIS-ext, Emmanouel</a> |         |
| <a href="#">v. 81</a>  | Aug 05, 2024 10:29        | <a href="#">TAMIOLAKIS-ext, Emmanouel</a> |         |
| <a href="#">v. 80</a>  | Aug 02, 2024 14:18        | <a href="#">TAMIOLAKIS-ext, Emmanouel</a> |         |
| <a href="#">v. 79</a>  | Aug 02, 2024 14:17        | <a href="#">TAMIOLAKIS-ext, Emmanouel</a> |         |
| <a href="#">v. 78</a>  | Jul 30, 2024 10:17        | <a href="#">TAMIOLAKIS-ext, Emmanouel</a> |         |
| <a href="#">v. 77</a>  | Jul 29, 2024 17:36        | <a href="#">TAMIOLAKIS-ext, Emmanouel</a> |         |
| <a href="#">v. 76</a>  | Jul 29, 2024 17:22        | <a href="#">TAMIOLAKIS-ext, Emmanouel</a> |         |

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## Workflow history

| Title                             | Last Updated By | Updated | Status |
|-----------------------------------|-----------------|---------|--------|
| There are no pages at the moment. |                 |         |        |

## Workflow history

This view shows the 5 most recent entries. The complete workflow log is available from the 'Document Activity' menu item.

| Aug 21, 2024                           | Actor                                                                                                                | Type  | Activity                                                            | Version             |
|----------------------------------------|----------------------------------------------------------------------------------------------------------------------|-------|---------------------------------------------------------------------|---------------------|
| <a href="#">Approved</a>               |  <a href="#">FALL-ext, Cheikh</a> | State | changed state to <a href="#">Approved</a> at 11:19 am               | <a href="#">v85</a> |
| <a href="#">Pending SteerCo Review</a> |  <a href="#">FALL-ext, Cheikh</a> | State | gave <i>Final Approval</i> approval at 11:19 am                     |                     |
|                                        |                                                                                                                      | State | changed expiry date to '04 Sept, 2024 11:19 am' at 11:19 am         |                     |
|                                        |                                                                                                                      | State | changed state to <a href="#">Pending SteerCo Review</a> at 11:19 am | <a href="#">v85</a> |

|                                 |                                                                                                    |       |                                                           |     |
|---------------------------------|----------------------------------------------------------------------------------------------------|-------|-----------------------------------------------------------|-----|
| Pending Stakeholder Review      |  FALL-ext, Cheikh | State | gave <i>Stakeholder Review</i> approval at 11:19 am       |     |
| Aug 08, 2024                    |                                                                                                    |       |                                                           |     |
|                                 | WENNINGER-ext, Sascha                                                                              | State | changed expiry date to '15 Aug, 2024 08:32 am' at 8:32 am |     |
|                                 |                                                                                                    | State | changed state to Pending Stakeholder Review at 8:32 am    | v85 |
| Edited following DA Endorsement | WENNINGER-ext, Sascha                                                                              | State | gave <i>Minor change</i> approval at 8:32 am              |     |