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*In this chapter, you'll learn how to manage core inventory processes in SAP S/4HANA. You'll get step-by-step instructions to perform inventory monitoring, stock identification and transfer, reversals, physical inventory, and more using key SAP Fiori applications.*



**“Core Inventory Management”**



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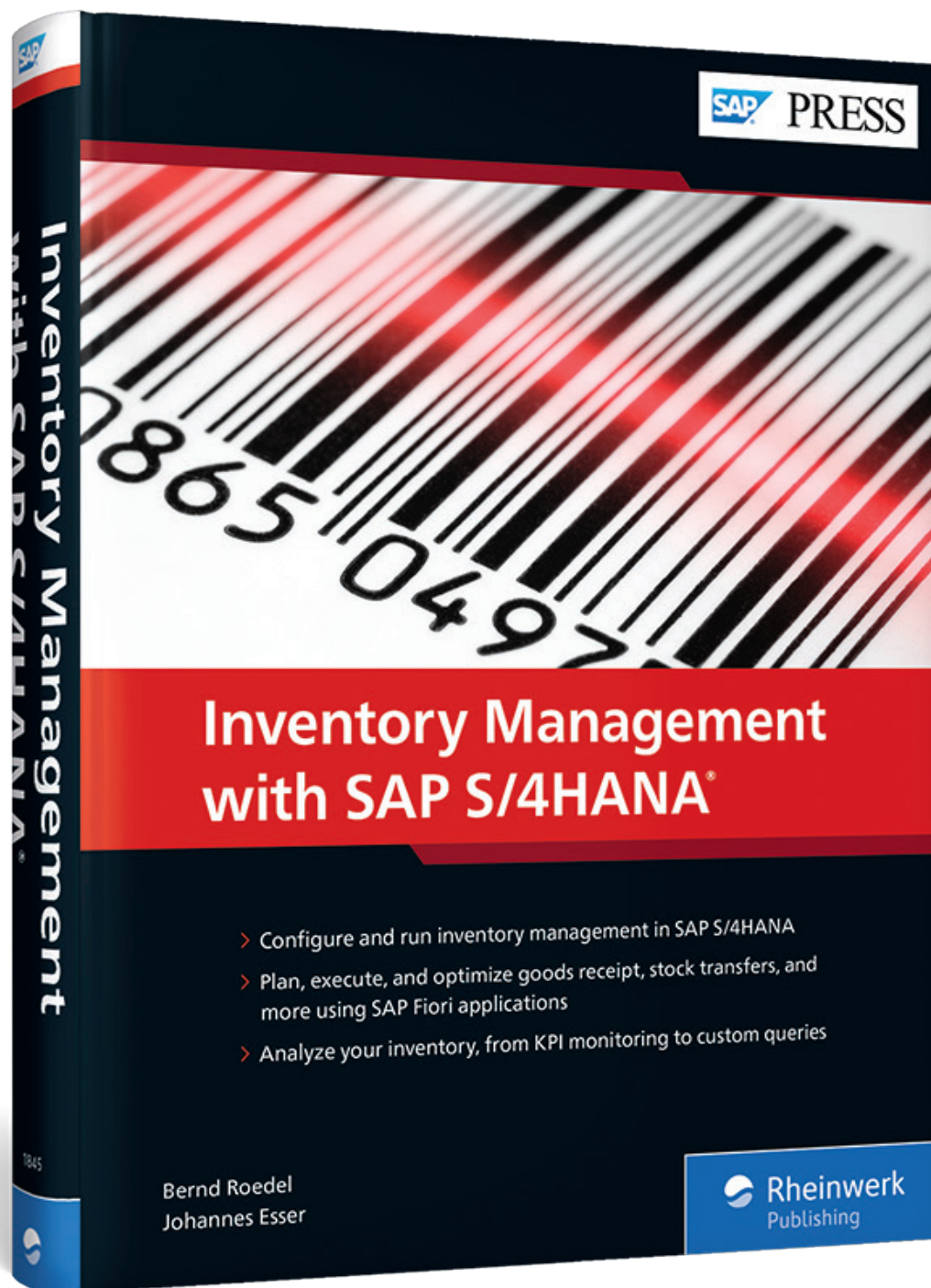
### **Inventory Management with SAP S/4HANA**

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## Chapter 6

# Core Inventory Management

*This chapter gives step-by-step instructions for performing “core” inventory processes in SAP S/4HANA: inventory monitoring, exception handling, physical inventory, transfers, scrapping, and so on.*

In the previous chapter, we discussed the required steps and available SAP Fiori app to control the inward flow of goods. After the required goods are received, they have to be managed accordingly. To do so, we'll now focus on the core inventory management capabilities to manage the available goods.

All material movements take place based on a material document. In this chapter, we'll begin with a look at the available SAP Fiori apps to monitor these documents. We'll move on to the quantity and value of available materials, and how they are shared between different stock types, with a discussion of stock identification capabilities. In addition, we'll see how stock can be moved between different stock types or organizational entities, such as plants.

Sometimes, new storage locations or plants are set up, which makes an initial entry necessary, or goods have to be scrapped because they reach their shelf-life date or are damaged. We'll describe the handling of these special cases in this chapter as well. In addition, if an incorrect material document posting is made—for instance, you entered a wrong quantity—you might want to reverse the related material document, which is also described in this chapter.

After discussing the physical inventory process and available apps required to keep the stock and financial information up to date, we'll conclude by covering what's ahead for core inventory.

## 6.1 Monitoring Core Inventory Documents

The central entity in inventory management in SAP S/4HANA is the material document. For each material movement, a material document is created and stored in the database to ensure seamless documentation of a company's stock situation.

The following sections describe in more detail how to monitor the material document and the document flow in the different inventory management applications.

### 6.1.1 Material Document Components

A material document consists of a material document header and related material document items.

The material document header contains the following information:

- Document Date
- Posting Date
- Created by
- Document Type
- Inventory Transaction Type
- Delivery Note
- Bill of Lading
- Note

On the material document item level, a lot of information is stored that is dependent on the transaction type (movement type):

- Material Document Number
- Material Document Item Number
- Material Document Year
- Material
- Goods Movement Type
- Quantity
- Plant
- Storage Location
- Stock Type

- Batch
- Customer
- Purchase Order
- Sales Order

Basically, the movement type controls which fields are mandatory to be filled.

### 6.1.2 Use Enterprise Search to Identify Inventory Documents

The enterprise search functionality is embedded in the SAP Fiori launchpad and provides a “Google-like” search pattern to easily search for business object instances, such as a material document. This search also allows a fuzzy search, meaning that the search term doesn't necessarily have to be a material document. Plant or material names can also be search terms for identifying material documents via enterprise search. You can access enterprise search by clicking on the magnifier icon (see Figure 6.1).

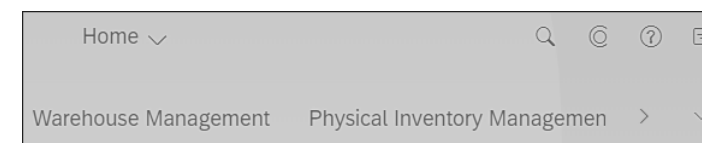


Figure 6.1 Enterprise Search: Magnifier Icon

After the search term is entered (“Plant 1010”, in our example), the related result is displayed, as shown in Figure 6.2, in a list format, including the total number for search results. In addition, the value that was found is highlighted by the enterprise search functionality. Depending on the given user authorizations (part of business catalogs, see Chapter 3, Section 3.5), navigation targets are provided to the end user. In general, the search result for the material document provides a navigation to the Material Document Overview app in SAP Fiori (discussed in the next section) for accessing more detailed information about the material document, such as accounting assignment information that isn't given in the search result list directly. The search result for the material document is based on the material document header data. The fields used for searching the material document also include important fields related to the material document item (see previous list), such as material, plant, or storage location.

| Results (5,969)   |   |                              |
|---|---|------------------------------|
| <b>5000003591 2018</b> Material Document                |   |                              |
| Document Type:<br>WE (Goods Receipt)                    | Trans./Event Type:<br>WE (Goods Receipt for Purchas...) | Created On:<br>11/28/2018    |
| Created By:<br>SAP_WFRT (SAP Workflow Run...)           | Posting Date:<br>11/28/2018                             | Document Date:<br>11/28/2018 |
| Reference:<br>-   | Bill of Lading:<br>-                                    | Document Header Text:<br>-   |
| Delivery Note ID:<br>-                                  | Plant:<br><b>plant 1 de</b>                             |                              |
| Goods Movement Analysis   Material Documents Overview ^ |   |                              |
| <b>5000003590 2018</b> Material Document                |   |                              |
| Document Type:<br>WE (Goods Receipt)                    | Trans./Event Type:<br>WE (Goods Receipt for Purchas...) | Created On:<br>11/28/2018    |
| v   |   |                              |
| <b>5000003579 2018</b> Material Document                |   |                              |
| Document Type:<br>WE (Goods Receipt)                    | Trans./Event Type:<br>WE (Goods Receipt for Purchas...) | Created On:<br>11/28/2018    |
| v   |   |                              |

Figure 6.2 Material Document Search Result

Usually, productive systems contain a lot of material documents up to a high triple-digit million number of material documents. Therefore, sometimes the search provides a broad amount of material documents as a search result. To find the relevant data, the search framework provides additional drilldown and filter capabilities based on the given search result, as shown in Figure 6.3.

By just clicking on the relevant filter criteria (left-hand side of the screen), such as **Company Code** or **Plant**, the search result can be narrowed down to a reasonable result set.

After the relevant search result is found, you can get a more detailed view of the material document by navigating to the material document object page, which is part of the Material Documents Overview app described in the next section.

| Search In                                  |       |
|--|-------|
| All  |       |
| Material Documents                         | 5,969 |
| Filter By <span>▽</span>                   |       |
| Company Code <span>☰</span>                |       |
| <input type="checkbox"/> Company Code 1710 | 9     |
| <input type="checkbox"/> Company Code 1110 | 4     |
| Show More                                  |       |
| Plant <span>☰</span>                       |       |
| <input type="checkbox"/> Plant 1 DE        | 5,969 |
| <input type="checkbox"/> Plant 1 US        | 9     |
| <input type="checkbox"/> Plant 1 CN        | 4     |
| <input type="checkbox"/> Plant 1 GB        | 4     |
| <input type="checkbox"/> Plant 1 FR        | 1     |
| Show More                                  |       |

Figure 6.3 Filters for the Search Result

### 6.1.3 Material Documents Overview

The Material Documents Overview app (F1077) in SAP Fiori is the central method for accessing material document information. The app can be started standalone from the related tile on the SAP Fiori launchpad home screen. In this case, the app is started with a filter bar so that you can select the required material documents according to your needs. The filter fields shown in Figure 6.4 can be adapted according to your needs via the **Adapt Filters** functionality. Click the **Adapt Filters** button to open the related popup in which you can choose additional filter fields. The adjusted filter bar settings can also be saved as variants so that every time you start the application, the relevant filter fields are displayed directly.

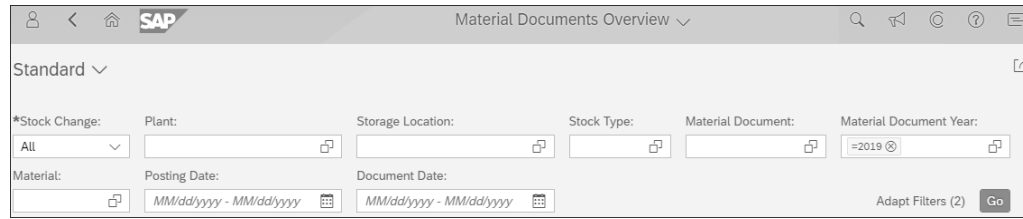


Figure 6.4 Filter Bar

As described in the preceding chapters, the movement type is one central attribute controlling the relevant information and fields of a material document. The movement type is a three-digit number, for example, 101 for goods receipt. A lot of movement types exist in the system, so it might be hard at times to remember the right movement type that you're searching for. Therefore, the **Stock Change** filter was introduced in SAP S/4HANA that combines categories of movement types with regards to their stock impact, as shown in Figure 6.5:

- **No Stock Change**  
Material document postings that don't change the stock level (e.g., goods movement type 340, batch revaluation).
- **Stock Decrease**  
Material document postings that lower the stock level (e.g., goods movement type 201, goods issue to cost center).
- **Stock Increase**  
Material document postings that increase the stock level (e.g., goods movement type 101, goods receipt).
- **Transfer Posting**  
Material document postings within an issuing and receiving organizational unit (e.g., goods movement type 311, one-step storage location to storage location).

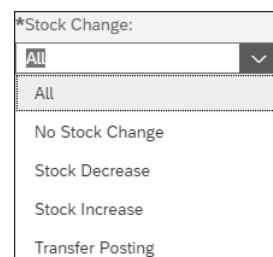


Figure 6.5 Stock Change Filter

After the right filter values are set and you click the **Go** button, the system outlines the related material documents, as shown in Figure 6.6. The columns displayed in the result list can be adjusted to your needs via the table settings feature by clicking the gear icon at the top of the results table.

**Note**

The result list shows one line per material document item. This means if the material document contains two items, both are outlined in the result if the search criteria meet both material documents' items.

The example in Figure 6.6 shows the breakdown of material documents items for **Material Document 4900008750**.

| Material Document | Material Document Year | Material                                    | Plant             | Storage Location      | Posting Date | Stock Type                  |
|-------------------|------------------------|---|-------------------|-----------------------|--------------|-----------------------------|
| 4900008750        | 2019                   | Trading Good,Reorder PointTG-D010 (TG-D010) | Plant 1 KR (4310) | Std. storage 1 (431A) | 01/03/2019   | Unrestricted-Use Stock (01) |
| 4900008750        | 2019                   | Trading Good,Reorder PointTG-D060 (TG-D060) | Plant 1 KR (4310) | Std. storage 1 (431A) | 01/03/2019   | Unrestricted-Use Stock (01) |
| 4900008750        | 2019                   | Trading Good,Reorder PointTG-D010 (TG-D010) | Plant 1 KR (4310) | Std. storage 1 (431A) | 01/03/2019   | Unrestricted-Use Stock (01) |
| 4900008750        | 2019                   | Trading Good,Reorder PointTG-D060 (TG-D060) | Plant 1 KR (4310) | Std. storage 1 (431A) | 01/03/2019   | Unrestricted-Use Stock (01) |
| 4900008751        | 2019                   | Trading Good,Reorder PointTG-D060 (TG-D060) | Plant 1 KR (4310) | Std. storage 1 (431A) | 01/03/2019   | Unrestricted-Use Stock (01) |
| 4900008752        | 2019                   | Trading Good,Reorder PointTG-D060 (TG-D060) | Plant 1 KR (4310) | Std. storage 1 (431A) | 01/03/2019   | Unrestricted-Use Stock (01) |

Figure 6.6 Material Document Result List

You can navigate to the material document object page by selecting one of the material document items.

In the header of the material document object page, the related material document number and the material document year are shown. In addition, information about reversed items is displayed here (see Figure 6.7). More information about how a material document can be reversed is provided in Section 6.5.

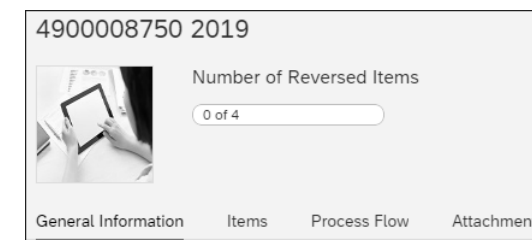


Figure 6.7 Object Page Header

The material document object page consists of four different tabs:

■ **General Information**

This tab was already described at the beginning of the chapter and provides the material document header data.

■ **Items**

This tab offers the related material document item information. For the given example of material document 4900008750, this means that four material document items are displayed in a table format, as shown in Figure 6.8. In addition, this table's columns can be adjusted via the gear icon at the top of the table.

| Material Document Item | Material                                    | Goods Movement Type        | Quantity  | Plant             | Storage Location      | Stock Type                  | Batch |
|------------------------|---|----------------------------|-----------|-------------------|-----------------------|-----------------------------|-------|
| 1                      | Trading Good,Reorder PointTG-D010 (TG-D010) | GD goods issue:delvy (601) | 39.000 ST | Plant 1 KR (4310) | Std. storage 1 (431A) | Unrestricted-Use Stock (01) | >     |
| 2                      | Trading Good,Reorder PointTG-D060 (TG-D060) | GD goods issue:delvy (601) | 17.000 ST | Plant 1 KR (4310) | Std. storage 1 (431A) | Unrestricted-Use Stock (01) | >     |
| 3                      | Trading Good,Reorder PointTG-D010 (TG-D010) | GD goods issue:delvy (601) | 50.000 ST | Plant 1 KR (4310) | Std. storage 1 (431A) | Unrestricted-Use Stock (01) | >     |
| 4                      | Trading Good,Reorder PointTG-D060 (TG-D060) | GD goods issue:delvy (601) | 53.000 ST | Plant 1 KR (4310) | Std. storage 1 (431A) | Unrestricted-Use Stock (01) | >     |

Figure 6.8 Object Page Item List

A detail page for each material document can be accessed by clicking on a material document item.

Beside the header information of the material document number and material document number item, the detail page contains two tabs. The **Output Management** tab, shown in Figure 6.9, offers information if the material document items included an output-related activity such as a print form or an email. The related output can be displayed accordingly.

| Item ID | Status             | Dispatch Time   | Output Type           | Channel | Form Language | Form Template       | Changed On | Display        |
|---------|--------------------|-----------------|-----------------------|---------|---------------|---------------------|------------|----------------|
| 1       | In Preparation (1) | Immediately (1) | GOODS_RECEIPT_PO_SLIP | PRINT   | English (EN)  | MMIM_GRPPO_IND_SLIP | 09.03.2019 | Output Details |

Figure 6.9 Output Management Tab in the Material Document Item Detail Page

In addition, a tab with more detailed **Accounting** information is given, as shown in Figure 6.10. Here, you can find the related financial accounting information for the general ledger account and cost center, for instance.

| Quantity | G/L Account   | Cost Center           | Functional Area | Profit Center |
|----------|---|-----------------------|-----------------|---------------|
| 5,000    | PC1 Inventory change - sale company manufactured goods (893010) | SAP dummy (SAP-DUMMY) |                 |               |

Figure 6.10 Accounting Tab in the Material Document Item Detail Page

■ **Process Flow**

In this tab, you gain a graphical illustration of the predecessor and successor business documents of the current material document. We'll walk through it in detail in the next section.

■ **Attachment**

This tab shows the attached items of the material document (see Figure 6.11). It's possible to display the attached items in detail, attach additional items, or remove existing ones.

Attachment

Attachments (1)

export.XLSX  
 Uploaded By: Johannes Esser · Uploaded On: 09-03-2019 17:21:05 · File Size: 5,76 KiB  
 Source: GOS

Figure 6.11 Attachment Tab

Material Documents Overview is the central application of inventory management in SAP S/4HANA due to the importance of the material document entity. Therefore, the material document object page can also be reached via direct navigation from several apps on the SAP Fiori launchpad. To give a simple example, look at Chapter 5, where we considered the different SAP Fiori-based goods receipt processes. If a goods receipt is successfully posted in the system, and the related material document is created accordingly, the system shows a popup outlining the newly created material document, as shown in Figure 6.12.

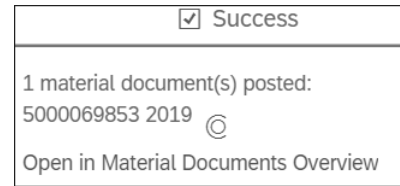


Figure 6.12 Success Popup with Material Document Number

Included in this popup is an implicit navigation that leads you directly to the material document object page without displaying the initial filter bar so that the material document information is directly displayed.

This navigation is based on the `MaterialMovement` semantic object so that it's centrally embedded in the SAP Fiori launchpad. This also enables apps that aren't part of the inventory management area to provide a navigation to the material document object page. You must have sufficient authorization to display material documents, however.

#### 6.1.4 Analyze the Document Flow via the Material Document Object Page

While the material document is a rather central entity in the system, from a business process perspective, there are several possible predecessors and successors (also called follow-up documents) of a material document.

A predecessor document of a material document could be a purchase order or a delivery for instance. After a goods receipt is posted, and the related material document is created, the material document contains the information about the predecessor document.

Inventory management in SAP S/4HANA automatically triggers the creation of the required successor documents, such as relevant accounting documents.

The Material Documents Overview app, which we discussed in the previous section, offers a graphic illustration of the business process document flow in the **Process Flow** tab.

The process flow contains separate steps for each relevant predecessor and successor document, such as accounting documents that include the document number to give the user a context of the given material document, as shown in Figure 6.13.

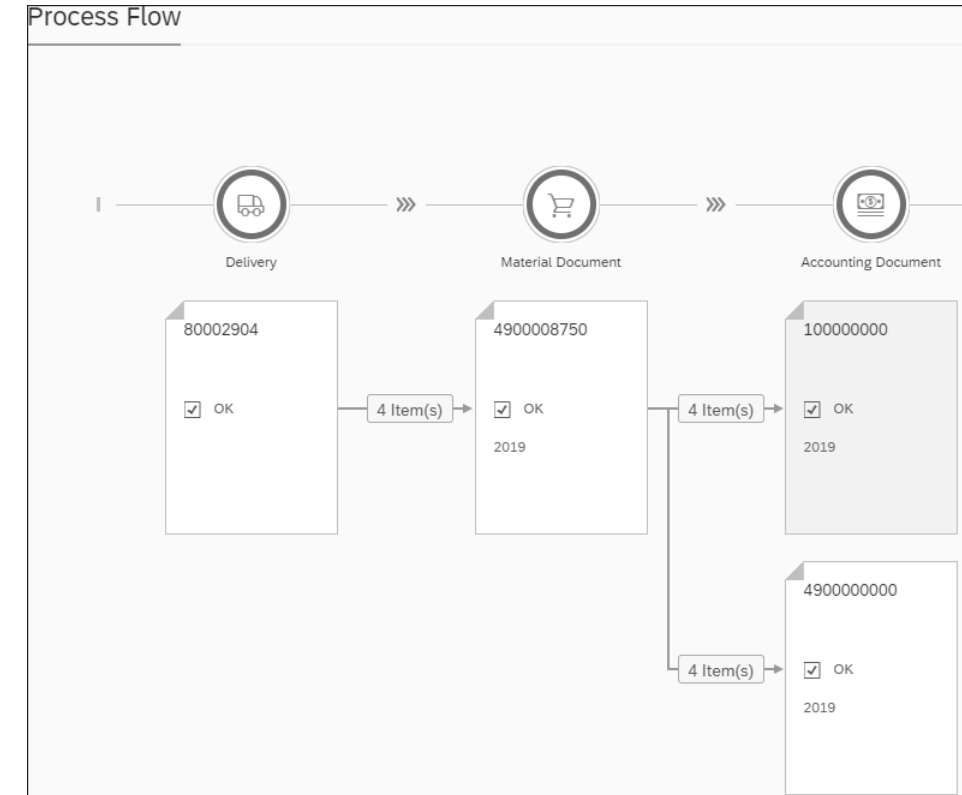


Figure 6.13 Process Flow

In addition, the functionality of the process flow and the related business documents isn't restricted to just displaying the related documents. It also provides an embedded navigation in the SAP Fiori launchpad that you can access by simply clicking on the business document, as you can see in Figure 6.14.

#### Note

A display authorization is required for the business document in the process flow to be enabled for using the related navigation target.

In general, the business process flow provides a comprehensive process and process steps view, including the environment of the chosen material document, in a graphical way.

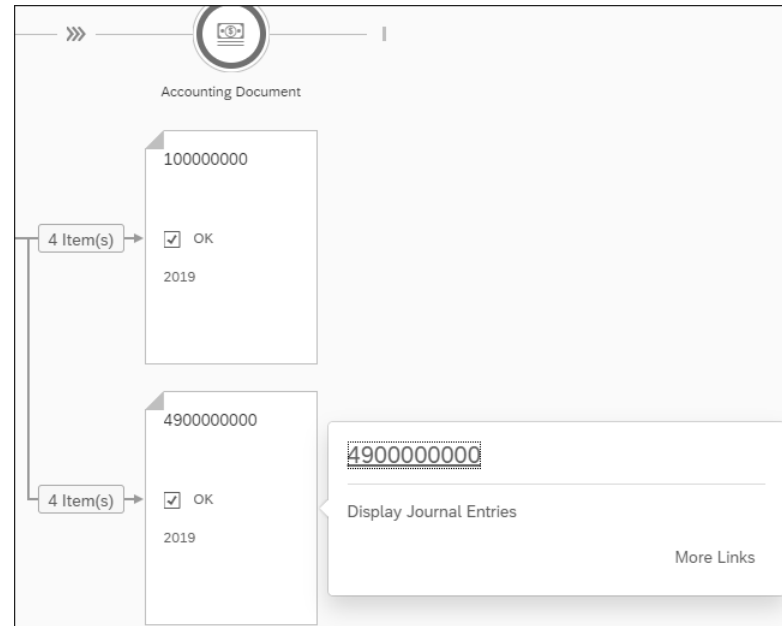


Figure 6.14 Navigation Out of the Process Flow

## 6.2 Stock Identification

One of the most critical and important functionalities of inventory management is to provide up-to-date and accurate information regarding a company’s stock situation as the basis for daily work.

The current stock and the stock level over time for different reporting dates and time frames might be of interest. Supplementary stock values may also help in making the right decisions. Finally, all these figures have to be provided in a timely and performant manner.

### Note

It’s important to distinguish the daily stock information requirements faced by the warehouse clerk and inventory manager, which are described in this chapter, from the requirements faced by an inventory analyst. These analytical requirements are described in Chapter 8.

In this section, we’ll walk through how to identify stock using key SAP Fiori apps for both a single material and multiple materials, before discussing the stock overview.

### 6.2.1 Stock – Single Material

The Stock – Single Material app (F1076) provides a view of the stock situation for a single material. The stock types that can be accessed by this app are configured in database table T200A, as shown in Figure 6.15. If an entry for a stock type is given in the table, the SAP Fiori app provides the related column to be displayed in the results table. So, if you want to hide a certain stock type permanently because it’s never used in your company, you can simplify the SAP Fiori app output by removing (or not adding) the related stock type in table T200A. The mechanism of table T200A and its entries are used in several SAP Fiori apps for inventory management. For each app, we’ll mention whether it makes use of the table T200A mechanism. You can access the data maintenance of table T200A by running Transaction SM30 in your SAP S/4HANA backend and entering “T200A” as the maintenance object.

| View for allowed Stock Types         |                          |
|--------------------------------------|--------------------------|
| Stock Type                           |                          |
| Unrestricted-Use Stock               | <input type="checkbox"/> |
| Stock in Quality Inspection          | <input type="checkbox"/> |
| Returns                              | <input type="checkbox"/> |
| Stock Transfer (Storage Location)    | <input type="checkbox"/> |
| Stock Transfer (Plant)               | <input type="checkbox"/> |
| Stock in Transit                     | <input type="checkbox"/> |
| Blocked Stock                        | <input type="checkbox"/> |
| Restricted-Use Stock                 | <input type="checkbox"/> |
| Tied Empties                         | <input type="checkbox"/> |
| Valuated Goods Receipt Blocked Stock | <input type="checkbox"/> |

Figure 6.15 Table T200A Entries for Stock Types

After opening the app from the SAP Fiori launchpad, enter the material you want to check the stock situation for, as shown in Figure 6.16.

The app offers type-ahead search and standard value help for getting the required material out of the system. Of course, the app can also be started via SAP Fiori launchpad navigation. In this case, a material is passed as a parameter, and the application directly loads the stock figures for the material.



Stock - Single Material ▼

Material:

Figure 6.16 Material Input Field

When the material is entered, the application provides some general header data of the material, such as material number, material name, material type, and base unit of measure, as shown in Figure 6.17.

Trad.Good 10,PD,Third Party TG10 Open in ... ▼

Material Type: Trading Goods (HAWA)

Base Unit of Measure: Piece (ST)

Figure 6.17 Material Header Data

Below the header data, the stock figures are provided in a hierarchical view (see Figure 6.18). The organizational levels plant and storage location are provided in the table.

| Plant | Storage Location      | Unrestrict-<br>d-Use<br>Stock | Blocked<br>Stock | Quality<br>Inspection<br>Stock | Restricted-<br>Use Stock | Returns  | Stock in<br>Transit | Tied<br>Empties<br>Stock | Transfer<br>Stock<br>(Plant) | Transfer<br>Stock<br>(Storage<br>Location) | Valuated<br>GR<br>Blocked<br>Stock | Stock<br>History |
|-------|-----------------------|-------------------------------|------------------|--------------------------------|--------------------------|----------|---------------------|--------------------------|------------------------------|--|------------------------------------|------------------|
| >     | Plant 1<br>DE<br>1010 | 85,000 ST                     | 3,000 ST         | 3,000 ST                       | 0,000 ST                 | 0,000 ST | 0,000 ST            | 0,000 ST                 | 0,000 ST                     | 0,000 ST                                   | 0,000 ST                           |                  |
| >     | Plant 1<br>GB<br>1110 | 0,000 ST                      | 0,000 ST         | 0,000 ST                       | 0,000 ST                 | 0,000 ST | 0,000 ST            | 0,000 ST                 | 0,000 ST                     | 0,000 ST                                   | 0,000 ST                           |                  |
| >     | Plant 1<br>FR<br>1210 | 0,000 ST                      | 0,000 ST         | 0,000 ST                       | 0,000 ST                 | 0,000 ST | 0,000 ST            | 0,000 ST                 | 0,000 ST                     | 0,000 ST                                   | 0,000 ST                           |                  |

Figure 6.18 Stock Figures on the Plant Level

The storage location level can be expanded or collapsed via the arrows at the top of the results table, providing the view shown in Figure 6.19. A search functionality is also provided if the material has a wide variety of organizational assignments to plants and or storage locations so that you can easily find your best fitting result.

| Plant                 | Storage Location          | Unrestrict-<br>d-Use<br>Stock | Blocked<br>Stock | Quality<br>Inspection<br>Stock | Restricted-<br>Use Stock | Returns  | Stock in<br>Transit | Tied<br>Empties<br>Stock | Transfer<br>Stock<br>(Plant) | Transfer<br>Stock<br>(Storage<br>Location) | Valuated<br>GR<br>Blocked<br>Stock | Stock<br>History |
|-----------------------|---------------------------|-------------------------------|------------------|--------------------------------|--------------------------|----------|---------------------|--------------------------|------------------------------|--|------------------------------------|------------------|
| Plant 1<br>DE<br>1010 |                           | 85,000 ST                     | 3,000 ST         | 3,000 ST                       | 0,000 ST                 | 0,000 ST | 0,000 ST            | 0,000 ST                 | 0,000 ST                     | 0,000 ST                                   | 0,000 ST                           |                  |
|                       | Std.<br>storage 1<br>101A | 84,000 ST                     | 1,000 ST         | 3,000 ST                       | 0,000 ST                 | 0,000 ST |                     |                          |                              | 0,000 ST                                   |                                    |                  |
|                       | Returns<br>101R           | 1,000 ST                      | 2,000 ST         | 0,000 ST                       | 0,000 ST                 | 0,000 ST |                     |                          |                              | 0,000 ST                                   |                                    |                  |

Figure 6.19 Stock Result Expanded to the Storage Location Level

If a batch will be assigned to the material, its batch name is provided in a separate column after the **Storage Location** column. The columns of the different stock types can be adjusted according to your needs via the gear icon at the top-right of the table. This setting allows you to decide, per stock type, if the related stock type should be shown in the results table and if it should be shown in the micro chart of the **Stock History**. In addition, the app provides three general settings via the application settings in the Me Area that you can adjust to get a more focused view on the stock figures:

- 1. Expand list by default**  
If this setting is active, the organizational entities are expanded in the results table once the data is loaded.
- 2. Hide all empty columns**  
If this setting is active, stock types with an empty result for all organizational entities are hidden.
- 3. Hide all empty rows**  
If this setting is active, rows with an empty result are hidden.

The given stock figures are determined with the current date as the reporting date when the material is selected. If you need to get the stock figures from the past to a certain date, you just change the **Reporting Date** to the required date in the past. The system then determines the historical stock figures. If the **Reporting Date** is left empty, the final stock of the current posting period is determined.

In addition, you might need to convert the stock figures to a different unit measure by changing the **Unit Of Measure**. Only the unit of measure in the same dimension and the parallel units of measures that are maintained in the material master record are provided as alternatives to the base unit of measure. Both capabilities are included in the header of the results table as illustrated in Figure 6.18.

The app not only provides the stock figures as numbers but also contains a **Stock History** chart outlining the stock level for the different stock types for the last year. This chart includes 12 different data points, one each for every month in the past year, starting from the given reporting date.

If you don't rely on the stock figures and require a more graphical view, the results table can be toggled into a stock chart by selecting the upper right-hand icon, depicting the different stock types in chart, as shown in Figure 6.20.

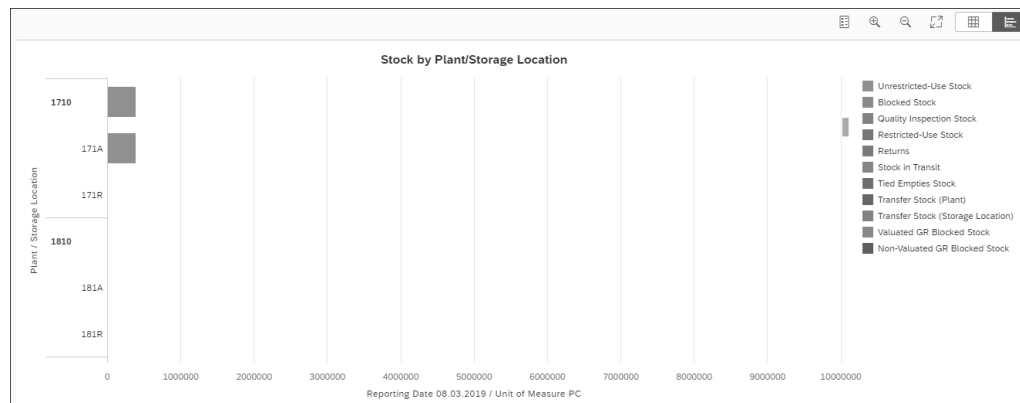


Figure 6.20 Chart View of Stock Figures

By clicking on the **Stock History** chart in the last column of the results table, you access more detailed stock information of the selected item, as shown in Figure 6.21. A popup window provides the stock figures as a chart with the different stock types and allows you to select data points in the graphic for a deeper drill down.

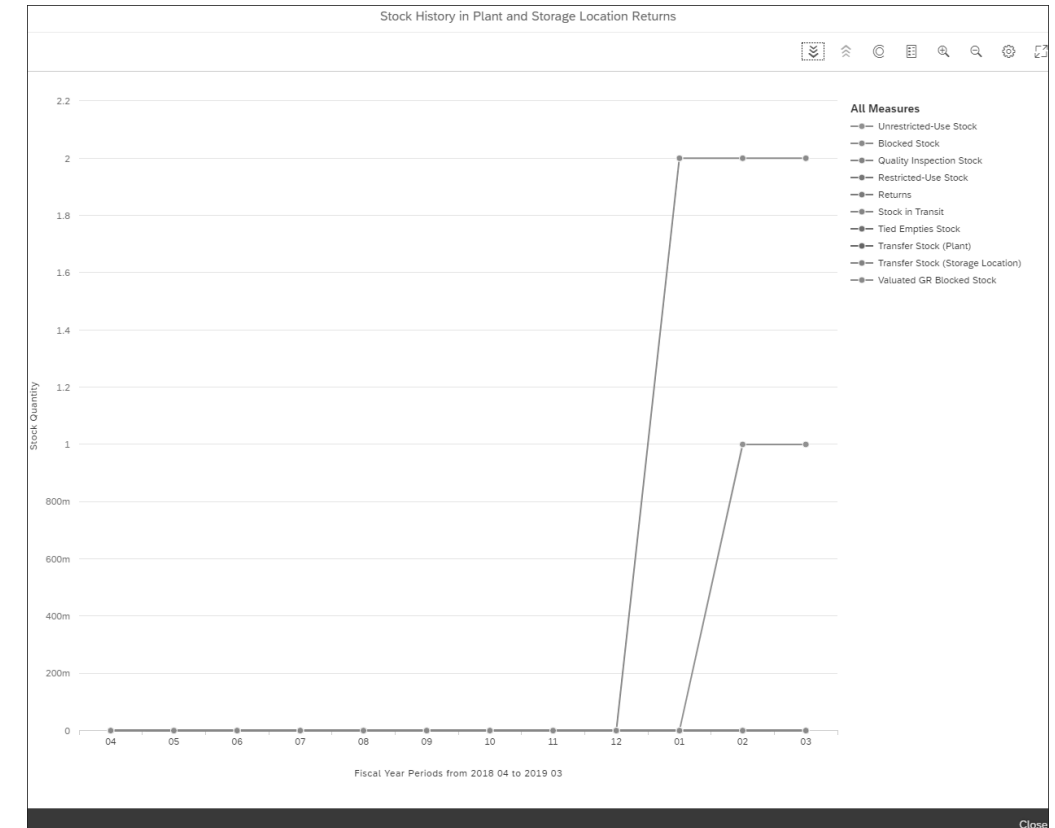


Figure 6.21 Stock History Chart

The **Stock History** chart not only contains the drilldown feature but also offers an SAP CoPilot integration by clicking the **Add to Co-Pilot** button shown in Figure 6.22 so that you can share the given information within your inventory management team. In this case, the team members can access the same chart and drilldown level by just selecting the shared information in the SAP CoPilot team chat. For more about SAP CoPilot, see Chapter 1, Section 1.4.3.

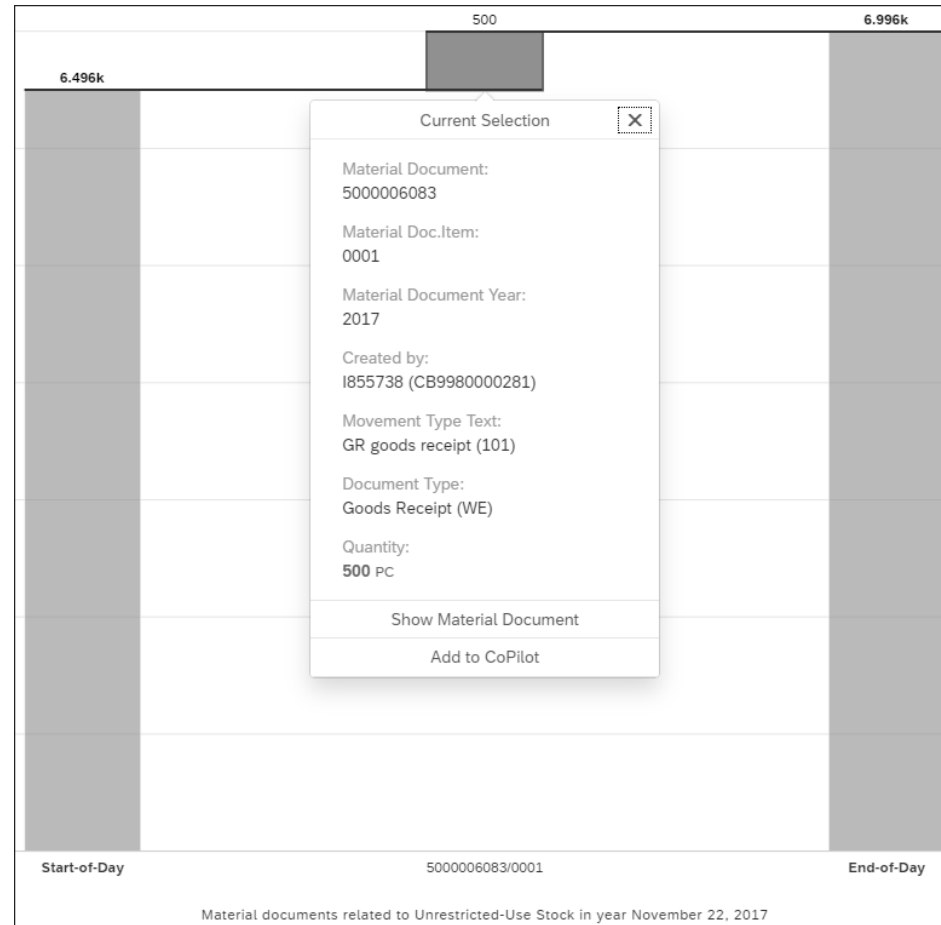


Figure 6.22 Drilling Down to Material Documents in the History Chart

With this drilldown functionality, you can step down into the selected data point and break down the stock information into the different days in the past and the underlying material documents that cause certain stock situations you want to analyze.

The navigation to the Material Documents Overview app is also embedded in the stock history chart (the **Show Material Document** button) so that you can directly navigate further to the material document object page to gain more insight into the material document in question or just add the material document to SAP CoPilot for sharing it with your inventory management team.

### 6.2.2 Stock – Multiple Materials

In comparison to the Stock – Single Material app just discussed, the Stock – Multiple Materials app (F1595) provides a filter bar with a wide variety of possible filter values beyond the **Material Number** and **Plant** filters. Figure 6.23 depicts the filter fields of the standard variant. Of course, you can add additional filter fields by using the **Adapt Filters** functionality, as we discussed in Section 6.1.3. Same as before, fill in the filter for **Reporting Date** to determine the key date for which the application displays the stock information.

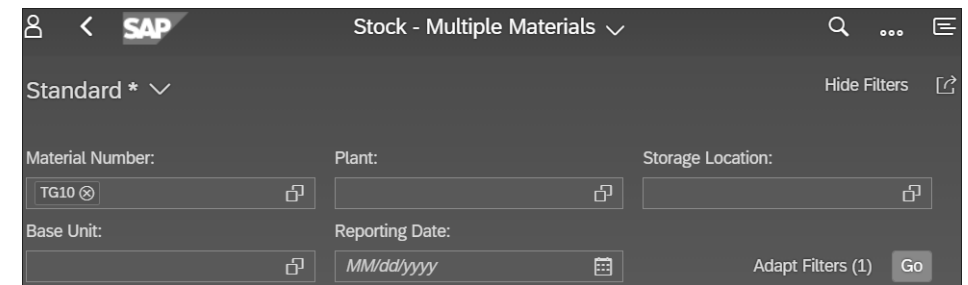


Figure 6.23 Filter Bar of the Stock – Multiple Materials App

Click the **OK** button to see the standard results table, which is based on the standard SAP Fiori table control and provides a more detailed granular result set regarding attributes, as shown in Figure 6.24. In addition, standard table features, such as grouping, sorting, and exporting to Excel, are supported. In comparison to the Stock – Single Material app, no graphical information is provided in this application.

| Line Items (12) |                             |       |            |        |                    |
|-----------------|-----------------------------|-------|------------|--------|--------------------|
| Material Nu...  | Material Description        | Plant | Plant Name | Sto... | Unrestricted Stock |
| G10             | Trad.Good 10,PD,Third Party | 1010  | Plant 1 DE |        | 0.000 PC           |
| G10             | Trad.Good 10,PD,Third Party | 1010  | Plant 1 DE | 101A   | 0.000 PC           |
| G10             | Trad.Good 10,PD,Third Party | 1010  | Plant 1 DE | 101R   | 0.000 PC           |
| G10             | Trad.Good 10,PD,Third Party | 1110  | Plant 1 GB |        | 0.000 PC           |
| G10             | Trad.Good 10,PD,Third Party | 1110  | Plant 1 GB | 111A   | 0.000 PC           |
| G10             | Trad.Good 10,PD,Third Party | 1110  | Plant 1 GB | 111R   | 0.000 PC           |
| G10             | Trad.Good 10,PD,Third Party | 1710  | Plant 1 US |        | 0.000 PC           |
| G10             | Trad.Good 10,PD,Third Party | 1710  | Plant 1 US | 171A   | 6,997.000 PC       |
| G10             | Trad.Good 10,PD,Third Party | 1710  | Plant 1 US | 171R   | 0.000 PC           |
|                 |                             |       |            |        | 6,997.000 PC       |

Figure 6.24 Result List with Stock Figures

Besides the stock information in Stock – Multiple Materials, you can also provide stock value information for the different stock types. Figure 6.25 shows the supported stock values that can appear as columns in the results table. The screen can be accessed by clicking on the gear icon in the upper-right corner of the table. Select the stock value you want to display, and click **OK** to see the screen shown in Figure 6.26.

|                          |   |
|--------------------------|---|
| <input type="checkbox"/> | Valuated GR Blocked Stock                     |
| <input type="checkbox"/> | Value of Blocked Stock                        |
| <input type="checkbox"/> | Value of Blocked Stock Returns                |
| <input type="checkbox"/> | Value of Restricted Stock                     |
| <input type="checkbox"/> | Value of Stock in Quality Inspection          |
| <input type="checkbox"/> | Value of Stock in Transfer (Plant)            |
| <input type="checkbox"/> | Value of Stock in Transfer (Storage Location) |
| <input type="checkbox"/> | Value of Stock in Transit                     |
| <input type="checkbox"/> | Value of Tied Empties Stock                   |
| <input type="checkbox"/> | Value of Valuated GR Blocked Stock            |

Figure 6.25 Configuration of Different Stock Values

| Line Items (12) |                             |       |            |        |                     |                             |  |
|-----------------|-----------------------------|-------|------------|--------|---------------------|-----------------------------|--|
| Mat...          | Material Description        | Plant | Plant Name | Sto... | Unrestricted Stock  | Value of Unrestricted Stock |  |
| TG10            | Trad.Good 10,PD,Third Party | 1010  | Plant 1 DE |        | 0.000 PC            | 0.00 EUR                    |  |
| TG10            | Trad.Good 10,PD,Third Party | 1010  | Plant 1 DE | 101A   | 0.000 PC            | 0.00 EUR                    |  |
| TG10            | Trad.Good 10,PD,Third Party | 1010  | Plant 1 DE | 101R   | 0.000 PC            | 0.00 EUR                    |  |
| TG10            | Trad.Good 10,PD,Third Party | 1110  | Plant 1 GB |        | 0.000 PC            | 0.00 GBP                    |  |
| TG10            | Trad.Good 10,PD,Third Party | 1110  | Plant 1 GB | 111A   | 0.000 PC            | 0.00 GBP                    |  |
| TG10            | Trad.Good 10,PD,Third Party | 1110  | Plant 1 GB | 111R   | 0.000 PC            | 0.00 GBP                    |  |
| TG10            | Trad.Good 10,PD,Third Party | 1710  | Plant 1 US |        | 0.000 PC            | 0.00 USD                    |  |
| TG10            | Trad.Good 10,PD,Third Party | 1710  | Plant 1 US | 171A   | 6,997.000 PC        | 90,303.03 USD               |  |
| TG10            | Trad.Good 10,PD,Third Party | 1710  | Plant 1 US | 171R   | 0.000 PC            | 0.00 USD                    |  |
|                 |                             |       |            |        | <b>6,997.000 PC</b> | <b>Show Details</b>         |  |

Figure 6.26 Result List That Includes Stock Values

Stock values can be provided in different currencies because the result set shows cross-plant stock information and values. If these plants are assigned to different company codes, which might have different currencies, the result set can provide more than one currency.

In this case, the SAP Fiori app automatically provides a detailed view breaking down the different stock values for the given currency of the stock values, as shown in Figure 6.27. You can access this by clicking the **Show Details** option at the lower-left corner of the screen.

|                     |    |
|---------------------|----|
| Totals              | 3P |
| 0.00 AUD            | 3P |
| 0.00 EUR            | 3P |
| 0.00 GBP            | 3D |
| 90,303.03 USD       | 3D |
| <b>Show Details</b> |    |

Figure 6.27 Stock Values Listed by Currency

**Note**

Initially, in the standard display, the stock value filters and columns in the results table are hidden and have to be added manually to be displayed. This setting can be saved as an individual variant afterward.

More details about how stock values are calculated are provided in Chapter 8, Section 8.1.1 for value-based analytics and the related organizational units in Chapter 3, Section 3.1.2.

**6.2.3 Display Stock Overview**

The Display Stock Overview web-based SAP GUI app is based on Transaction MMBE. This app’s stock information overview provides some more information, like the native SAP Fiori apps do, for special cases (e.g., reservations).

After you've opened the Display Stock Overview app in the SAP Fiori launchpad (based on Transaction MMBE), fill out your **Database Selections**, as shown in Figure 6.28. This includes your **Material**, **Plant**, **Storage Location**, and **Batch**, if applicable.

The screenshot shows a 'Database Selections' form with the following fields and controls:

- Material:** A search field with a magnifying glass icon.
- Plant:** A text input field followed by a 'to:' field and a right-pointing arrow icon.
- Storage Location:** A text input field followed by a 'to:' field and a right-pointing arrow icon.
- Batch:** A text input field followed by a 'to:' field and a right-pointing arrow icon.

Figure 6.28 Stock Overview Selection Criteria

The remaining criteria to fill out are shown in Figure 6.29. With this more detailed selection criteria, the list output can be adjusted to your needs. In this example, entries with zero stock quantity are hidden to optimize the list output by checking the **No Zero Stock Lines** box.

The screenshot shows the 'Stock Type Selection' and 'List Display' sections of the application:

- Stock Type Selection:**
  - Also Select Special Stocks:
  - Also Select Stock Commitments:
- List Display:**
  - Special Stock Indicator: [ ] to: [ ]
  - Display version:\* **1**
  - Display Unit of Measure: [ ]
  - No Zero Stock Lines:
  - Decimal Place as per Unit:
  - Aggregated Stock:
- Selection of Display Levels:**
  - Company Code:
  - Plant:
  - Storage Location:
  - Batch:
  - Special Stock:
- Additional Selection Criteria:**
  - MRP Area: [ ] to: [ ]

Figure 6.29 Stock Overview Detailed Selection Criteria

To access the results, click **Execute**. The application result header contains the standard material information and allows you to change the **Unit of Measure** in which the stock information is displayed, as shown in Figure 6.30.

The screenshot shows the 'Selection' header with the following information:

- Material:** TGI0
- Description:** Trad.Good 10,PD,Third Party
- External Manufacturer:** [ ]
- Material Type:** HAWA
- Trading Goods:** [ ]
- Unit of Measure:** ST
- Base Unit of Measure:** [ ]
- ST:** [ ]

Figure 6.30 Stock Overview Result Header

Like the SAP Fiori stock information apps, the Stock Overview app shows the different stock figures for the different stock types. In addition, reservations available for the given material are shown in this application. More information about material reservations is provided in Chapter 7, Section 7.1.

In addition, the result set contains information about stock that isn't managed by inventory management directly, such as **On-Order Stock**, as shown in Figure 6.31.

The screenshot shows a table with the following columns and data:

| Client/Company Code/Plant/Storage Location/Batch/Special Stock | Unrestricted use | Qual. inspection | Reserved | Rcpt reservation | On-Order Stock |
|--|------------------|------------------|----------|------------------|----------------|
| Full   | 100,110.000      | 3.000            | 10.000   | 10.000           | 2,207.005      |
| 1010 Company Code 1010   | 85.000           | 3.000            | 10.000   | 10.000           | 2,161.005      |
| 1010 Plant 1 DE  | 85.000           | 3.000            | 10.000   | 10.000           | 2,161.005      |
| 101A Std. storage 1  | 84.000           | 3.000            |          | 10.000           | 165.005        |
| 101R Returns   | 1.000            |                  |          |                  |                |
| 105W Warehouse   |                  |                  |          |                  | 200.000        |

Figure 6.31 Different Stock Types in the Display Stock Overview App

Let's move on to the material movements and related postings available in SAP S/4HANA with a focus on native SAP Fiori apps.

### 6.3 Stock Transfer

We'll begin with stock transfers. The essence of each stock transfer posting is that two organizational units are affected by the material posting so that an issuing and a

receiving organizational unit are involved. The issuing organizational unit is the place where the goods are taken from, and the receiving organizational unit is where the goods are received.

Generally, transfer postings might occur between two storage locations in the same plant (discussed in Section 6.3.1). Materials stock transfer between plants is covered in Section 6.3.2. Stock transfers with materials that have certain attributes to take care of (e.g., serial numbers) which aren't yet supported in the native SAP Fiori apps have to be performed with the Post Goods Movement web-based SAP GUI app, which is described in Section 6.3.3. Finally, transfer postings might need a stock transfer order as a reference document, which is discussed in Section 6.3.4.

### 6.3.1 Stock Transfer – In-Plant

The Stock Transfer – In-Plant app (F1061) opens after you click the **Stock Transfer – In-Plant** tile. Select your **Material** and **Plant**, as shown in Figure 6.32.



Figure 6.32 Transfer Stock – In-Plant App: Material and Plant Information

After you select the material, a micro chart showing the material master information for three major stock types appears, as shown in Figure 6.33:

- **Unrestricted-Use Stock**
- **Blocked Stock**
- **Stock in Quality Inspection**

A calculation of an important inventory key performance indicator (KPI) is included in the header by calculating the range of coverage on the fly when the material is selected. In the given example, the range of coverage is calculated with 870 days. This feature is an example of embedded analytics, which are part of transactional applications, and outlines one major benefit of SAP S/4HANA and SAP Fiori apps.

The transfer posting within the same plant is based on a touch-enabled usability concept by providing buttons for selecting the source and target storage location. This enables the app to be easily used on mobile devices.

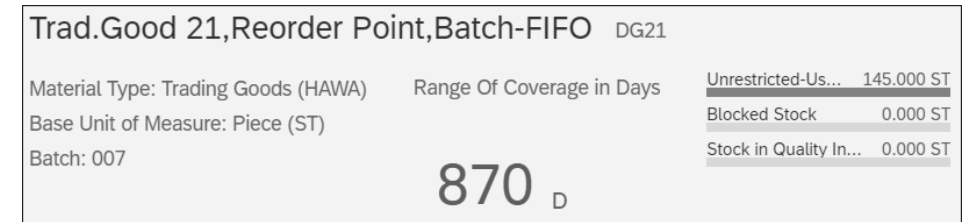


Figure 6.33 Header with Range of Coverage KPI

After you enter the **Material** and **Plant**, the results table is shown (see Figure 6.34) and contains all storage locations and their stock information for the selected plant and material combination. In addition, an overall sum of each stock type is shown at the end of each column.

| Storage Location      | Unrestricted-Use Stock | Blocked Stock | Stock in Quality Inspection | Returns  | Stock Transfer (Storage Location) |
|-----------------------|------------------------|---------------|-----------------------------|----------|-----------------------------------|
| Warehouse (105W)      | 132.000 ST             | 0.000 ST      | 0.000 ST                    | 0.000 ST | 0.000 ST                          |
| Std. storage 1 (101A) | 13.000 ST              | 0.000 ST      | 0.000 ST                    | 0.000 ST | 0.000 ST                          |
|                       | 145.000 ST             | 0.000 ST      | 0.000 ST                    | 0.000 ST | 0.000 ST                          |

Figure 6.34 Results Table Including Touch-Based Transfer Posting

The columns for the stock types are based on the configuration in table T200A. If a stock type is maintained in table T200A, the related column is displayed accordingly.

A result line for a storage location is shown when the material master record for the material is already maintained for the storage location. If the material master record isn't maintained accordingly yet, the application offers a **Add Storage Location** feature to select storage locations that aren't assigned to the material in the material master record as of now. Click **Add Storage Location** (top of table) to access the **Select Storage Location** screen shown in Figure 6.35, and select the appropriate checkbox.

With the first material movement into this storage location, the material master record is updated automatically. As a prerequisite, you must set the **Create Storage Location Automatically** option in Customizing. In this setting, you can define whether this feature should be enabled on the plant and/or storage location level.

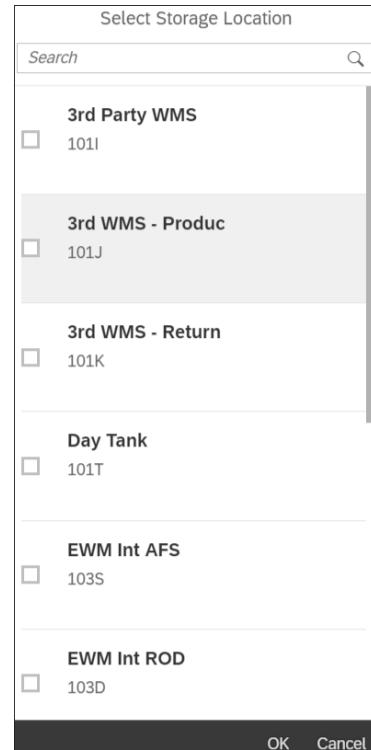


Figure 6.35 Creating the Storage Location Assignment Automatically

#### Note

This setting is available in SAP S/4HANA as an IMG activity and in SAP S/4HANA Cloud as Self-Service Configuration UI (SSCUI). Refer to Chapter 3, Section 3.1.3, for more details about the **Create Storage Location Automatically** setting.

Now let's discuss how a transfer posting is performed. As described, the results table contains buttons for selecting the sending storage location. You just have to click the related button as outlined in Figure 6.36. After the selection is made, the button is marked as active and the allow transfer posting target buttons are kept active so that you can select the target location by just selecting the second button.

The selection of the button implicitly includes the selection of a certain movement type because the button is located in a specific column for a certain stock type (in the **Unrestricted-Use Stock** column, in our example).

| Storage Location      | Unrestricted-Use Stock | Blocked Stock |
|-----------------------|------------------------|---------------|
| Warehouse (105W)      | 132.000 ST             | 0.000 ST      |
| Std. storage 1 (101A) | 13.000 ST              | 0.000 ST      |
|                       | 145.000 ST             | 0.000 ST      |

Figure 6.36 Transfer Posting by Button Selection

After the target storage location is selected (second button clicked), a popup appears containing the input fields for required information for the material movement, as shown in Figure 6.37. Enter your **Quantity** and date information (**Document Date** and **Posting Date**) in the mandatory fields.

Transfer Stock - In-Plant

Issuing Storage Location: Std. storage 1 (101A)  
 Stock Type: Unrestricted-Use Stock  
 Current Quantity: 13.000 ST

Receiving Storage Location: Std. storage 1 (101A)  
 Stock Type: Blocked Stock  
 Current Quantity: 0.000 ST

\*Quantity:

\*Document Date:

\*Posting Date:

Printing:

Attachments:

Figure 6.37 Input for Transfer Posting

If you choose the wrong direction for the storage locations, you can just exchange the target and source storage location by using the exchange button (the two arrows) in the middle of the popup screen.

This app supports special stock types such as **E** (orders on hand), **K** (vendor consignment), and **Q** (project stock). The selection of the special stock happens implicitly

when a source storage location is chosen via the popup, which only appears when the stock contains special stock, as shown in Figure 6.38.

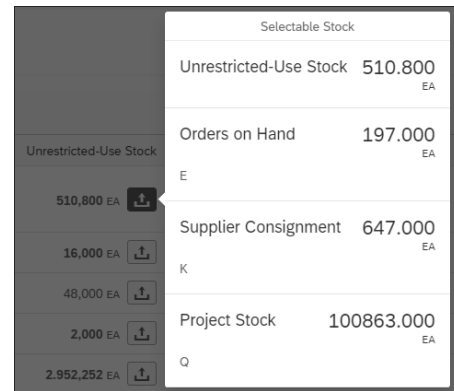


Figure 6.38 Special Stock Popup

Special transfer postings in the same storage location but between the same special stock indicators are also possible: from **E** to **E** or from **Q** to **Q**. The related information for the special stock type, such as a sales order item for special stock type **E**, can be entered in the posting popup. The related fields are displayed based on the chosen special stock.

### 6.3.2 Transfer Stock – Cross-Plant

The Transfer Stock – Cross-Plant app (F1957) is structured in a similar way as the Transfer Stock – In-Plant app. However, in this app, the **Plant** filter isn't available. You only need to choose a **Material**, as shown in Figure 6.39.



Figure 6.39 Material Selection

Once you select the material, the app loads the related data and provides stock figures for the most important stock types in the app header via a micro chart, as shown in Figure 6.40.

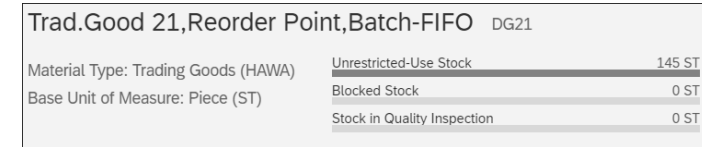


Figure 6.40 Header Information

After selection of a certain material, the results table shown in Figure 6.41 breaks down the stock information for all relevant plants, including a **Batch** column on the left-hand side for separation of batch-related stock information.

| Transfer Stock |                   |                        |               |                             |          |                        |                                   |
|----------------|-------------------|------------------------|---------------|-----------------------------|----------|------------------------|-----------------------------------|
| Batch          | Plant             | Unrestricted-Use Stock | Blocked Stock | Stock in Quality Inspection | Returns  | Stock Transfer (Plant) | Stock Transfer (Storage Location) |
|                | Plant 1 DE (1010) | 0.000 ST               | 0.000 ST      | 0.000 ST                    | 0.000 ST | 0.000 ST               | 0.000 ST                          |
| 007            | Plant 1 DE (1010) | 145.000 ST             | 0.000 ST      | 0.000 ST                    | 0.000 ST | 0.000 ST               | 0.000 ST                          |
|                |                   | 145.000 ST             | 0.000 ST      | 0.000 ST                    | 0.000 ST | 0.000 ST               | 0.000 ST                          |

Figure 6.41 Results Table with Plant and Batch Breakdown

Again, the selection of source and target location is based on button navigation as in the Transfer Stock – In-Plant app. Select the issuing button according to your chosen movement type (e.g., **Unrestricted-Use Stock** in Figure 6.42).

| Batch | Plant             | Unrestricted-Use Stock | Blocked Stock |
|-------|-------------------|------------------------|---------------|
|       | Plant 1 DE (1010) | 0.000 ST               | 0.000 ST      |
| 007   | Plant 1 DE (1010) | 145.000 ST             | 0.000 ST      |
|       |                   | 145.000 ST             | 0.000 ST      |

Figure 6.42 Transfer Posting via Button Selection

If a material movement isn't allowed, the target button gets deactivated so that you can't select it. Deactivation might occur due to insufficient authorizations for movement types or missing Customizing for the transfer posting between different plants. After you select a receiving button, the popup shown in Figure 6.43 appears. Enter your quantity and date information to post your material document.



Figure 6.43 Transfer Posting Popup

The stock transport order settings for this app are described in Section 6.3.4.

### 6.3.3 Post Goods Movement

In SAP S/4HANA, the Post Goods Movement web-based SAP GUI app, based on Transaction MIGO (or in this case, Transaction MIGO\_TR), is available for processing stock transfer postings.

Some features, such as support for serial numbers, aren't available in the preceding SAP Fiori app. In this case, the Post Goods Movement web-based SAP GUI app can be used instead.

The web-based SAP GUI app renders the SAP GUI transaction in a browser HTML environment. Execute the Post Goods Movement app from the SAP Fiori launchpad (Transaction MIGO) to access the app entry screen shown in Figure 6.44.

Figure 6.44 Transaction MIGO Rendered in the Web-Based SAP GUI Environment

Here, the movement type for transfer posting can be entered or selected via search help in the **TF trfr plnt to plnt** box in the upper-right corner. Other fields to fill out include the issuing and receiving plant and the related quantity.

After the entered data is checked or posted (**Post** button at the bottom of the screen), an error log might appear outlining whether erroneous data was entered. An example is given in Figure 6.45.

| Typ | Item | Message text                               | LTxt |
|-----|------|--|------|
|     | 1    | Material TG10 not maintained in plant 1730 | ?    |

Figure 6.45 Error Log in the Post Goods Movement App

Compared to the new SAP Fiori apps, this is a different behavior. The inventory management SAP Fiori apps try only to offer available and valid data for further processing. In the web-based SAP GUI apps, you can enter data that isn't consistent in an

attempt to process the data; you're only warned or stopped after entering all data and trying to check/post your input.

### 6.3.4 Working with Stock Transport Orders

In the Transfer Stock – Cross Plant app, you can post transfer postings between different plants. From a business perspective, there are several ways to do this. The direct posting is possible without a stock transport order, as described in Section 6.3.2.

Transfer posting can also be based on a stock transport order, which is a business document containing all relevant information about the stock transfer that acts as a hook for dependent business objects, such as delivery or accounting. The Transfer Stock – Cross Plant app also allows the creation of a stock transport order via the **Create Stock Transport Order** button shown in the posting popup in Figure 6.46.

The screenshot shows the 'Transfer Stock - Cross-Plant' interface. It includes the following fields and values:

- Issuing Plant: Plant 1 US (1710)
- Issuing Storage Location: Std. storage 1 (171A)
- Stock Type: Unrestricted-Use Stock
- Current Quantity: 6,997.000 PC
- Receiving Plant: Plant 1 DE (1010)
- Receiving Storage Location: Std. storage 1 (101A)
- Stock Type: Unrestricted-Use Stock
- Current Quantity: 0.000 PC
- \*Quantity: 1,000 PC
- \*Document Date: 03/11/2019
- \*Posting Date: 03/11/2019
- Forecast Delivery Date: 03/11/2019
- Attachments: (empty)

At the bottom, there are three buttons: 'Post', 'Create Stock Transport Order', and 'Cancel'.

Figure 6.46 Stock Transport Order Creation

The button becomes active if the Customizing for the involved plants is present. For the related Customizing settings, refer to Chapter 3, Section 3.1.4.

In addition, in the **Application Settings** shown in Figure 6.47, a machine learning functionality can be activated that enables the delivery date to be forecasted and pre-filled with a proposal provided by the predictive model. Check both boxes to activate this feature.

The screenshot shows the 'Application Settings' dialog box with the following options checked:

- Use default value for storage location
- Use predictive model for forecast delivery date

Buttons for 'OK' and 'Cancel' are visible at the bottom right.

Figure 6.47 Predictive Forecast Delivery Date

Figure 6.48 shows the stock transport order process in SAP S/4HANA, which supports the internal movement of one material from one plant to another. Several variants of the process exist. They all have in common that the process is initiated by a stock transport order as the special type of purchase order and is completed by a goods receipt. During the process, the inventory stock has the stock in transit stock type (see Chapter 2, Section 2.1). Stock transport orders can be created automatically by material requirements planning (MRP) runs or manually by end users (see Chapter 7, Section 7.1).

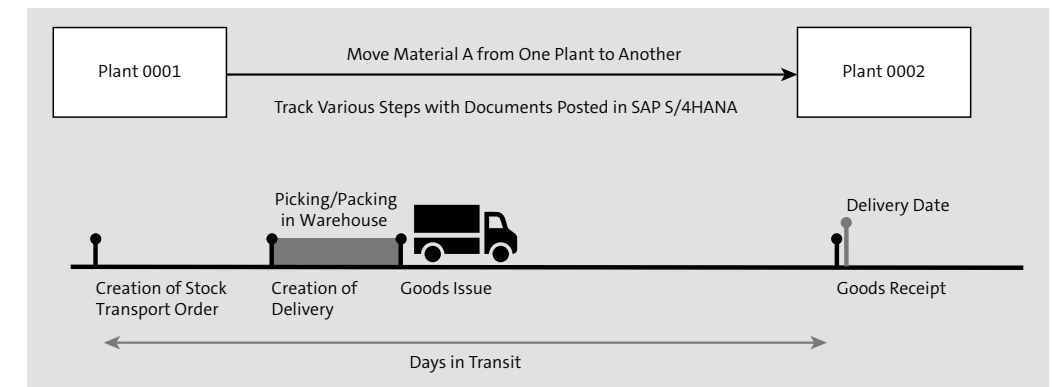


Figure 6.48 Stock Transport Order Process and Timeline

For creation and monitoring, it's crucial to know whether the stock transport order process timeline is on track or delayed. SAP S/4HANA contains a predictive model, which can be trained based on completed stock transport orders to predict the duration of future stock transport orders.

Figure 6.49 shows the Predictive Models app to manage training of the predictive models. Training, retraining, and activation are carried out centrally within this application. You can create multiple versions of one model by training, but only one can be the active version.

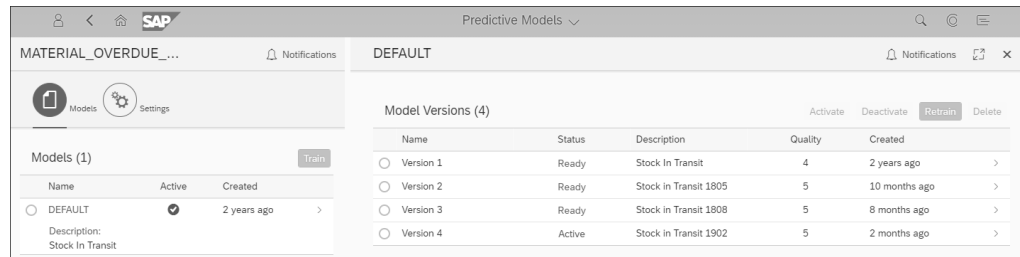


Figure 6.49 Predictive Model Overdue Stock in Transit: Training Overview

To train a model, click the **Train** button on the left side of the screen shown in Figure 6.49. Afterwards, your trained model appears on the right side with the **Trained** status (not shown).

Figure 6.50 shows a training run's results.

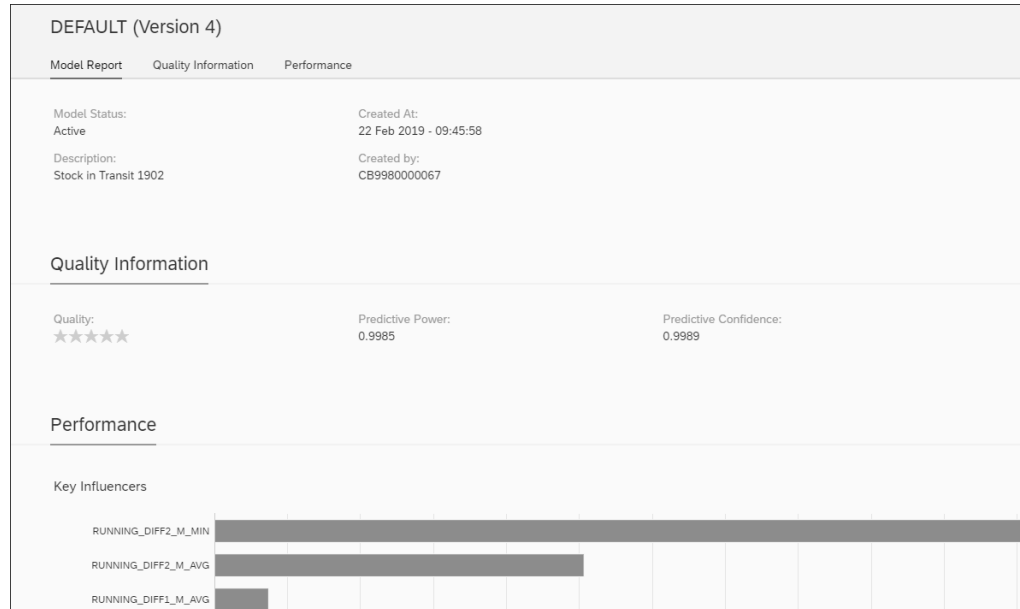


Figure 6.50 Predictive Model Overdue Stock in Transit: Training Results

You enter the training result screen by clicking on a model version shown in Figure 6.49. Besides administrative data, the quality of the training run is indicated, and the **Key Influencers** (model attributes that contributed most to the training results) are shown.

After posting by clicking **Create Stock Transport Order**, a stock transport order is created accordingly by the Transfer Stock – Cross Plant app.

These stock transport order can be monitored with a special Overdue Materials – Stock in Transit app (F2139), which we'll introduce in Chapter 8, Section 8.4.3.

## 6.4 Initial Entry and Scrapping

Initial entry and scrapping are two special cases in inventory management. *Initial entries* are often used to set up the stock information for new plants or storage locations. During normal business, initial entries should be avoided because they are nontransparent from a goods movement perspective.

*Scrapping* is used if a material is damaged or has reached its shelf life date to take it out of stock with a material document as reference. In SAP S/4HANA, there are two different applications available to post a scrapping for a certain material.

Both the SAP Fiori Manage Stock app (F1062) and the Post Goods Movement web-based SAP GUI app (Transaction MIGO) provide scrapping functionality, depending on your requirements. As of the time of writing (summer 2019), the Manage Stock app allows a single posting per material only. If you want to post scrapping or initial entries for more than one material at once, you must use the Post Goods Movement app to post material documents with more than one material document item.

We'll take a look at both apps in this section.

### 6.4.1 Manage Stock

The Manage Stock app in SAP Fiori has a similar layout to the Transfer Stock – In-Plant app, which we discussed in Section 6.3.1. First a **Material/Plant** combination has to be selected, as shown in Figure 6.51.

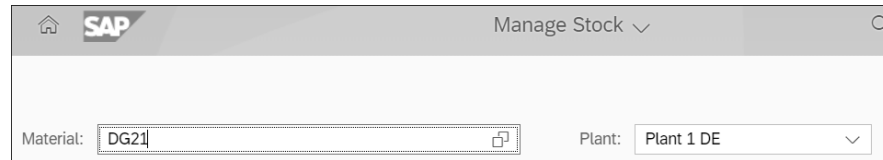


Figure 6.51 Input of Material and Plant

After material selection, the material header data is displayed as shown in Figure 6.52. Graphical stock information is shown as a micro chart for three important stock types. Additionally, the **Range of Coverage in Days** KPI is calculated on the fly based on the material consumptions of unrestricted-use stock in the past 30 days.

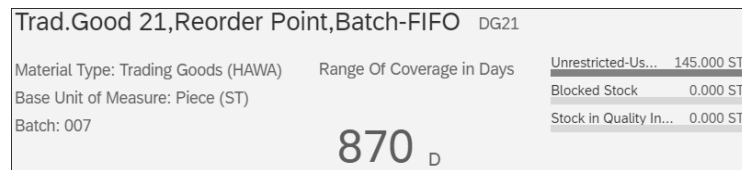


Figure 6.52 Material Header Data, Including the Range of Coverage KPI

After the material is selected, the results table shown in Figure 6.53 breaks down the stock information on the storage location level for the given plant and provides a button per stock type to take action. Again, the displayed stock type columns are controlled via the settings in table T200A.

| Storage Location      | Unrestricted-Use Stock | Blocked Stock | Stock in Quality Inspection |
|-----------------------|------------------------|---------------|-----------------------------|
| Warehouse (105W)      | 132.000 ST             | 0.000 ST      | 0.000 ST                    |
| Std. storage 1 (101A) | 13.000 ST              | 0.000 ST      | 0.000 ST                    |
|                       | 145.000 ST             | 0.000 ST      | 0.000 ST                    |

Figure 6.53 Selection of Material via Button

Clicking the button for a certain stock type in a storage location opens a popup, as shown in Figure 6.54, which offers different stock change capabilities.

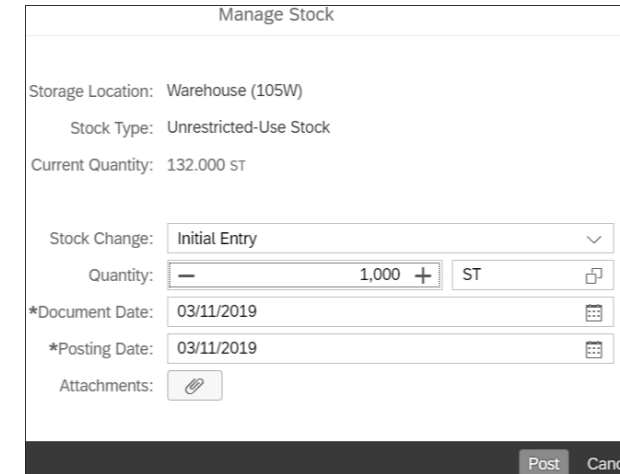


Figure 6.54 Posting Popup with the Stock Change Field

Depending on your authorizations, the **Stock Change** dropdown list contains the allowed stock change activities for certain movement types, as shown in Figure 6.55:

- 551: Scrapping from unrestricted-use stock
- 553: Scrapping from quality inspection stock
- 555: Scrapping from blocked stock
- 561: Initial entry of stock – unrestricted-use stock
- 563: Initial entry of stock – quality inspection stock
- 565: Initial entry of stock – blocked stock

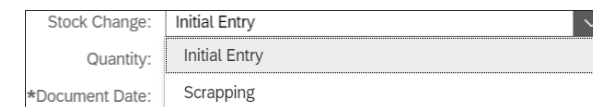


Figure 6.55 Selection of Stock Change Type

In addition, a **Reason Code** for the material movement posting can be selected, as shown in Figure 6.56, and is stored in the related material document.

|                 |                |
|-----------------|----------------|
| Stock Change:   | Scrapping      |
| Quantity:       | — 1,000 + ST   |
| *Document Date: | 03/11/2019     |
| *Posting Date:  | 03/11/2019     |
| *Cost Center:   | Cost           |
| Reason Code:    | Material Damag |
| Attachments:    |                |

Figure 6.56 Selection of Reason Code

**Note**

Reason codes can be defined in the following IMG activity: **Materials Management • Inventory Management and Physical Inventory • Movement Types • Record Reasons for Goods Movements**. They are also available as SSCUIs in SAP S/4HANA Cloud.

After clicking **Post**, the related material document is created, and the material document number is shown in a **Success** popup, providing a link navigation to the material document object page and an **Add to Co-Pilot** icon next to the creation message, as shown in Figure 6.57. If the storage location is managed via warehouse management, an outbound delivery is created instead of a material document, as in our example.

|   |
|---|
| <input checked="" type="checkbox"/> Success                     |
| <a href="#">Outbound delivery document 0080011947 created</a> © |
| OK  |

Figure 6.57 Successful Posting of Initial Entry

**6.4.2 Post Goods Movement**

To post a scrapping with the Post Goods Movement app, you must be aware of the required movement type. In the entry screen of the Post Goods Movement app, shown in Figure 6.58, enter the movement type in the **GI scrapping** field (“551”, in our example).

The screenshot shows the SAP Fiori 'Goods Issue Other' app interface. At the top, it says 'Goods Issue Other - John InventoryManager'. Below that are navigation options: 'Show Overview', 'Services for Object', and 'More'. The main area has two dropdown menus: 'Goods Issue' and 'Other'. To the right, there is a field for 'GI scrapping' with the value '551' and a small icon.

Figure 6.58 Entering the Movement Type

Press **Enter** to arrive at the screen shown in Figure 6.59. Here, you can enter the **Material** and plant information.

| Material  | Quantity | Where                                   | Partner | Account Assignment |
|-----------|----------|---|---------|--------------------|
| Material: |          |   |         |                    |
|           |          | Trad.Good 21, Reorder Point, Batch-FIFO |         | DG21               |

Figure 6.59 Material Information

Next, click the **Where** tab to arrive at the screen displaying the plant information shown in Figure 6.60. Enter the **Plant**, **Storage Location**, and quantity in the **Quantity** tab, and post your scrapping by clicking **Post**.

| Material             | Quantity | Where          | Partner | Batch          | Account Assignment           |
|----------------------|----------|----------------|---------|----------------|------------------------------|
| Goods Movement Type: |          | 551            |         | - GI scrapping | Stock type: Unrestricted-Use |
| Plant:               |          | Plant 1 DE     |         | 1010           |                              |
| Storage Location:    |          | Std. storage 1 |         | 101A           |                              |
| Goods recipient:     |          |                |         |                |                              |
| Unloading Point:     |          |                |         |                |                              |
| Reason for Movement: |          | 0002           |         |                |                              |
| Text:                |          |                |         |                |                              |

Figure 6.60 Plant Information

**6.5 Reversals**

If a material document must be reversed, you can choose between the native Material Documents Overview app in SAP Fiori and the Post Goods Movement web-based SAP GUI app. We’ll discuss both applications in this section.

### 6.5.1 Reversals within the Material Document Object Page

In the Material Documents Overview app in SAP Fiori, you can reverse the whole material document or even just single material document items.

To do so, select a material document, and navigate to the material document object page (refer to Section 6.1.3 for details). In the header information, the material document item status is shown as described in Section 6.1.3 (refer to Figure 6.7).

In the header of the material document object page, the **Reverse** action (upper-right corner) is provided. Click the **Reverse** button, and a popup is shown asking you to select the reversed material document items. Enter the **Posting Date** and an **Additional Note**, if necessary (see Figure 6.61).

Figure 6.61 Material Document Reverse Popup

### 6.5.2 Partial Material Document Reversal

In the Post Goods Movement web-based SAP GUI app, a material document or its items can be reversed by selecting the material document items in the table view after the material document is selected. To access the table view shown in Figure 6.62, choose **Cancellation** in the dropdown, and enter the related material document. Select the line with the material you'd like to reverse, and then click **Post**.

| Line | Mat. Short Text                       | Wa...                    | OK                                  | Qty in UnE | EUn | SLoc           | Cost Center | Profit Center | G/L Account | Batch | Valuation Type | M... |
|------|---------------------------------------|--------------------------|-------------------------------------|------------|-----|----------------|-------------|---------------|-------------|-------|----------------|------|
| 1    | Trad.Good 10,PD,Third Party           | <input type="checkbox"/> | <input type="checkbox"/>            | 5          | ST  | Std. storage 1 | 12345       | PC_TEST1      | 51600000    |       |                | 202  |
| 2    | Trad.Good 21,Reorder Point,Batch-FIFO | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 1          | ST  | Std. storage 1 | 12345       | PC_TEST1      | 51600000    | 007   |                | 202  |

Figure 6.62 Reversal of a Material Document

## 6.6 Physical Inventory

Inventory management is one of the essential building blocks of a company's business, especially regarding the current stock situation. Goods kept in stock reflect an essential part of a company's possessions. Therefore, it's crucial that the overview of the current stock figures is always up to date so that business decisions are based on current and accurate stock figures. Along with stock figures, the financial impact of the stock (meaning the stock value) must also be accurate. In the daily business of warehouse tasks in inventory management, the stock information might deviate from the real stock figures for many reasons. For instance, a material might have exceeded its total shelf life or might be damaged due to breakage. If the real stock figures deviate from the figures present in the system, all dependent business processes are using inaccurate stock figures (MRP, available-to-promise [ATP], etc.). Therefore, maintaining the most accurate stock figures in the system is crucial, and, of course, legal reasons might also drive different physical inventory processes.

In SAP S/4HANA, the following different physical inventory process flavors are supported:

- **Periodic inventory**

Generally, periodic inventory is done once a year (i.e., end of the year or business year). This variant is chosen by most companies.

- **Continuous inventory**

Continuous inventory is commonly used in relationship with warehouse management systems, and the counting is carried out at different times in the course of the business year.

- **Cycle counting**

During cycle counting, inventory materials are counted in periodic cycles based on the classification of the cycle counting indicator, which we introduced in Chapter 3, Section 3.1.3.

- **Sampling**

The sampling inventory is a subset of the cycle counting inventory process and takes a considerable amount and a number of kinds of companies' materials into account. The rest of the materials aren't counted, but the result of the counted ones is extrapolated to those materials.

In this section, we'll discuss the physical inventory process steps for these approaches and walk through each in detail with their corresponding apps.

### 6.6.1 Physical Inventory Phases

For all these different physical inventory approaches, similar main phases have to be performed to get the stock figures checked and updated, as shown in Figure 6.63.

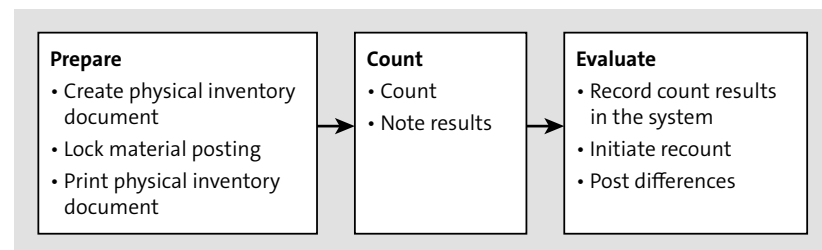


Figure 6.63 Physical Inventory Process Steps

This rough overview is given because often these different phases are also reflected in the user setup of the SAP system to distinguish the users who are allowed to count and post the differences, for instance, due to legal reasons.

In the preparation phase, a decision must be made regarding which materials will be counted for which plant and storage location. Overall, physical inventory can be performed for the following stock types (see Chapter 2, Section 2.1):

- 01 – Unrestricted use stock
- 02 – Quality inspection stock
- 03 – Return stock (without special stock types)
- 04 – Stock in transfer at storage location level (without special stock types)
- 05 – Stock transfer stock at plant level
- 06 – Stock in transit
- 07 – Blocked stock
- 08 – Restricted stock
- 09 – Tied empties stock (without special stock types)
- 10 – Valuated goods receipt blocked stock

For the different physical inventory process steps, certain apps are available. In Section 6.6.1 and Section 6.6.2, we'll focus in more detail on the native SAP Fiori apps available for physical inventory in inventory management. Let's start with a high-level look at all available physical inventory applications, including the web-based SAP GUI applications:

- **Prepare phase**
  - Create physical inventory documents
    - Web-based SAP GUI application Transaction MIO1 (and Transaction MIO2 for changes)
    - SAP Fiori app: Create Physical Inventory Documents (F3197)
- **Count phase**
  - Enter physical counts
    - Web-based SAP GUI application: Enter Count Results (Transaction MIO4)
    - Transaction MI24 (Physical Inventory List)
    - SAP Fiori app: Create Physical Inventory Documents
- **Evaluate phase**
  - Report differences
    - Transaction MI20 (List of Inventory Differences)
  - Post inventory documents
    - Transactions MIO7 (Post Inventory Differences) and MI24 (Physical Inventory List)
    - SAP Fiori app: Create Physical Inventory Documents

If a recount is required, the related recount sheets can be printed with Transaction MI11 (also possible with Transactions MIO4 and MI24).

In addition, some shortcuts are available to combine different process steps:

- **Posting the count result without reference to the physical inventory document**  
The physical inventory document is implicitly created when the count result is posted.
- **Posting stock differences without reference to the physical inventory document**  
The physical inventory document and count result are implicitly created when the stock difference is posted.
- **Posting counting and stock differences in one step**  
The stock differences are directly posted when the count result is entered in one step.

The first two steps can be performed with the Enter and Post PI Count without Document web-based SAP GUI application (Transaction MI10, business role SAP\_BR\_INVENTORY\_MANAGER).

In Chapter 3, Section 3.1.3, we already introduced the related settings for physical inventory that are used for entering count results and posting differences.

### 6.6.2 Create Physical Inventory Documents

The Create Physical Inventory Documents app (F3197) provides a filter bar to select the related materials for which a physical inventory document will be created, as shown in Figure 6.64. In addition, a filter for a date-dependent selection when the last count of a material happened is provided. Further filter criteria, such as adjustment values of counts or quantities, can be added to the filter bar via the gear icon.

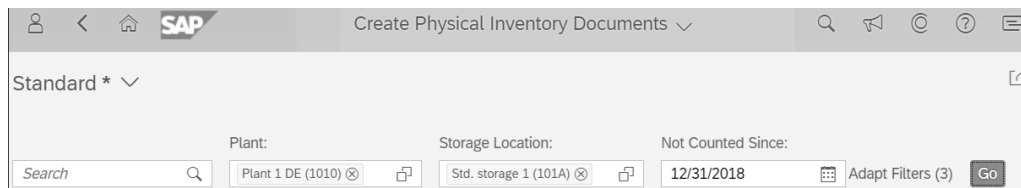


Figure 6.64 Filter Bar for Physical Inventory

Select your filters, and then click **Go** to access the results list, as shown in Figure 6.65. The results list outlines the material-related information, and again the table columns can be adjusted to your needs by using the gear icon at the top-right corner of the table.

| Material   | Plant              | Storage Location       | Item Counted | Special Stock                    | Days Since Last Count |
|--|--------------------|------------------------|--------------|----------------------------------|-----------------------|
| <input type="checkbox"/> Docking Station for Power Laptop<br>ABD_DOC_M         | Plant 1 DE<br>1010 | Std. storage 1<br>101A | No           | Supplier Consignment<br>10300001 | 0 >                   |
| <input type="checkbox"/> Docking Station for Power Laptop<br>ABD_DOC_MATERIAL1 | Plant 1 DE<br>1010 | Std. storage 1<br>101A | No           | Supplier Consignment<br>10300001 | 0 >                   |
| <input type="checkbox"/> Docking Station for Power Laptop<br>ABD_DOC_MATERIAL2 | Plant 1 DE<br>1010 | Std. storage 1<br>101A | No           |                                  | 0 >                   |

Figure 6.65 Results Table

Clicking on one result line takes you to a details page for the selected material, as shown in Figure 6.66.

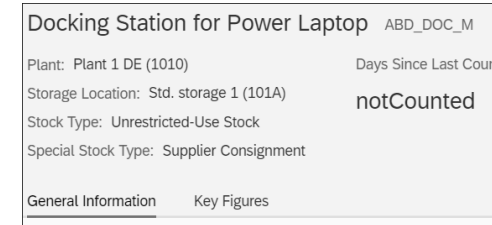


Figure 6.66 Details Page: Header Data

The details page contains two different tabs. **General Information** outlines inventory and material master data, as shown in Figure 6.67.

| Inventory Data                                | Material Master   | Price per Price Unit: |
|---|---|-----------------------|
| Special Stock Type:<br>Supplier Consignment   | Material:<br>Docking Station for Power Laptop (ABD_DOC_M) | 0.00 EUR              |
| Supplier:<br>Inlandslieferant DE 1 (10300001) | Material Type:<br>Material general                        | Price Unit:<br>0 KG   |
|   | Material Group:<br>Hardware                               |                       |

Figure 6.67 Details Page: General Information Tab

The **Key Figures** tab outlines the physical inventory information, such as adjustments to count results or quantities in the past 12 months, as shown in Figure 6.68.

| Stock Level                         | Adjustments                            | Adjusted Quantity Last 12 Months: |
|-------------------------------------|--|-----------------------------------|
| Current Book Quantity:<br>99.000 KG | Count Adjustments Last 12 Months:<br>0 | 0.000 KG                          |

Figure 6.68 Details Page: Key Figures Tab

After the decision is made to perform a count for a certain material, you can create a physical inventory document. To do so, click the related **Create Physical Inventory Documents** button (bottom-right corner of results screen, not shown), and the **Create Physical Inventory Documents** screen will appear, as shown in Figure 6.69.

All physical inventory documents are split by plant and storage location as a default. In addition, the given situation might require a more detailed split of the physical



inventory documents. The SAP Fiori app supports more detailed splitting on three different layers from which you can choose in the **Split Documents by** dropdown:

- **Storage Bin**
- **Material**
- **Material Group**
- **None**

Enter your maximum number of items and the related date information as shown in Figure 6.69.

Figure 6.69 Creating a New Physical Inventory Document

In addition, additional header data for the physical inventory documents can be set up, as shown in Figure 6.70.

Figure 6.70 Header Data of the Physical Inventory Document

The **Additional Header Data** area contains two important flags. The **Set Posting Block** indicator prevents (once set) further material movements for the given material until the physical inventory count is completed. Something similar holds true for the **Freeze Book Inventory** indicator, which prevents an incorrect book inventory balance during the counting process if, for instance, goods receipts are still entered into the system. If this indicator is set, the book inventory balance is stored for this physical inventory document so that after entering the count results, any changes during the count can be compared. This might be relevant if the count result isn't entered into the system in a timely manner.

### 6.6.3 Enter Inventory Count

After the inventory is counted based on the physical inventory document, the count result must be entered into the system. This can be done with the Enter Inventory Count web-based SAP GUI app (Transaction MIO4, business role SAP\_BR\_WAREHOUSE\_CLERK).

Starting with the selection of the relevant physical inventory document, the related material must be selected, as shown in Figure 6.71. Afterward, the count result can be entered and saved.

Figure 6.71 Selection of the Physical Inventory Document

After you've selected the **Physical Inventory Document**, click **Enter** to access the screen shown in Figure 6.72. Select the related physical inventory document item,

and enter the count result (**Quantity 5** in this example). Or, you can mark a **Zero Count** before saving by clicking the **Post** button (not shown).

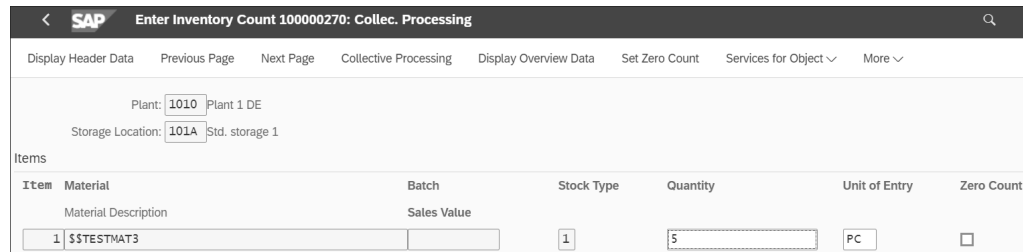


Figure 6.72 Entering the Count Result

**Note**

If a count result has to be changed afterward (before posting differences), the Change Inventory Count web-based SAP GUI application can be used to adjust the counting information.

**6.6.4 Process Physical Inventory Count Results**

With the Process Physical Inventory Count Results web-based SAP GUI app (business role SAP\_BR\_INVENTORY\_MANAGER), the entered count result can be processed further.

Execute the Process Physical Inventory Count Results app from the SAP Fiori launchpad (Transaction MI20), as shown in Figure 6.73. Here, you can post the differences for the count results.

Figure 6.73 Processing Physical Inventory Documents

By selecting the related physical inventory document item and clicking the **Post Difference** button, the changes to the stock figures are posted into the system.

**6.6.5 Physical Inventory Document Overview**

After the physical inventory documents are created, the Physical Inventory Document Overview app (FO379A) in SAP Fiori provides an overview of the given physical inventory documents.

Figure 6.74 shows the entry screen with filter bar. The documents can be filtered via the provided filter options.

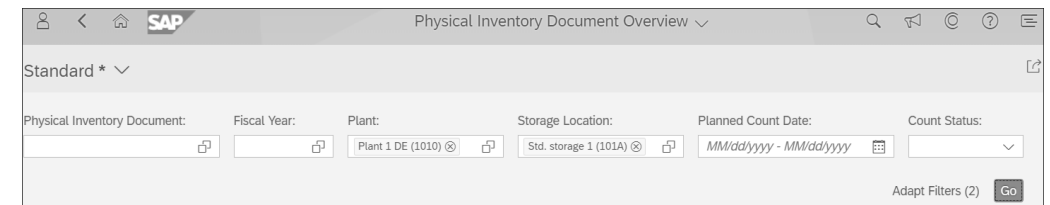


Figure 6.74 Filter Bar of the Physical Inventory Document Overview App

When you click **Go**, the results table of the physical inventory documents, shown in Figure 6.75, appears to provide status information about the count progress.

| Physical Inventory Document | Fiscal Year | Plant             | Storage Location      | Planned Count Date | Count Progress | Posting Progress |
|-----------------------------|-------------|-------------------|-----------------------|--------------------|----------------|------------------|
| 100000000                   | 2019        | Plant 1 DE (1010) | Std. storage 1 (101A) | 01/14/2019         | 2 of 2         | 2 of 2           |
| 100000020                   | 2019        | Plant 1 DE (1010) | Std. storage 1 (101A) | 01/23/2019         | 0 of 1         | 0 of 1           |
| 100000021                   | 2019        | Plant 1 DE (1010) | Std. storage 1 (101A) | 01/25/2019         | 0 of 1         | 0 of 1           |

Figure 6.75 Count Progress in the Results Table

You can access the details screen of the physical inventory documents by clicking on one line item in the results table, shown in Figure 6.76. The screen consists of header data (count progress information) and three tabs.

The **Items** tab, shown in Figure 6.77, shows the different physical inventory document items with related count information. Important information on the item level is provided (i.e., whether the count result is different from the current book quantity).

Many more details can be displayed in the item table when you add columns via the gear icon.

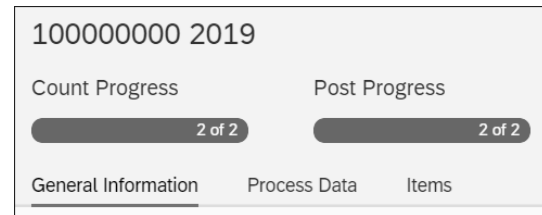


Figure 6.76 Details Page: Header Data

| Physical Inventory Document Item | Material                            | Batch | Count versus Book  | Physical Inventory Status |
|----------------------------------|-------------------------------------|-------|--------------------|---------------------------|
| 1                                | FIN BIKE,MTS-DDMRP,PD (DDR_BIKE_04) |       | 3503 ST<br>3500 ST | Counted, Adjusted         |
| 2                                | FIN BIKE,MTS-DDMRP,PD (DDR_BIKE_20) |       | 4003 ST<br>4000 ST | Counted, Adjusted         |

Figure 6.77 Item Information with Comparison of Count Results

By clicking on one item in the item overview table, you can access a details page for each item that provides more information in graphical way via micro charts in the header, as shown in Figure 6.78.

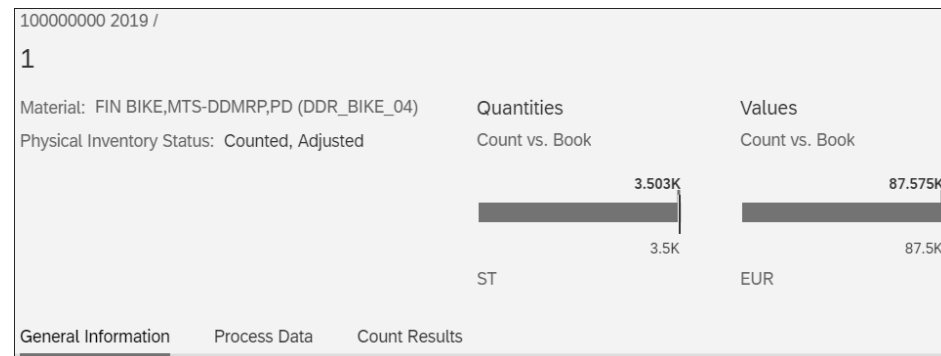


Figure 6.78 Item Details Screen: Header Data

The detailed **Count Results** on this screen include quantity and value information, as shown in Figure 6.79.

| General Information           | Process Data | Count Results                            |
|-------------------------------|--------------|--|
| Quantities                    |              | Values                                   |
| Counted Quantity:<br>3,503 ST |              | Counted Quantity Value:<br>87,575.00 EUR |
| Book Quantity:<br>3,500 ST    |              | Book Value:<br>87,500.00 EUR             |
| Difference Quantity:<br>3 ST  |              | Difference Value:<br>75.00 EUR           |

Figure 6.79 Count Results for a Physical Inventory Document Item

## 6.7 What's Ahead for Core Inventory?

Recently, some enhancements to the SAP Fiori-based core inventory management processes were released. For instance, more fine-grained support of batches in the Manage Stock, Transfer Stock – In-Plant, and Transfer Stock – Cross Plant apps in SAP Fiori was introduced for better usability. As of the time of writing (summer 2019), there are some features that are lacking and worthwhile enhancements that could enrich the native SAP Fiori apps for the core inventory processes:

- Goods issue: Availability of a native SAP Fiori app for posting of goods issues
- Field control: Availability of a configuration capability to steer the fields which are available on the UI (that is, to set fields to optional or mandatory)
- Transfer Stock – Cross Plant: Enablement of transfer postings with multiple items; currently only one item is supported
- Initial load: Enablement of initial loading for special stock types and for multiple items at once in the Manage Stock app
- Scrapping: Enablement of scrapping with account assignments in addition to cost centers for special stocks and for multiple items at once

In addition, more native SAP Fiori apps for supporting the physical inventory process might be worthwhile in the future.

Looking at current IT trends, Internet of Things (IoT) will have a major impact on physical inventory. Sensor-related data will make the physical inventory process

faster and smarter. You might also check out Chapter 9, Section 9.3.4 with regards to the SAP Leonardo IoT platform.

## 6.8 Summary

This chapter outlined the core inventory management processes and their representation as native SAP Fiori apps or web-based SAP GUI apps, such as Transaction MIGO or the physical inventory processes. Web-based SAP GUI apps are still necessary due to some missing features of native SAP Fiori apps as of now. Increased end user usability and modern UIs will cause the usage of native SAP Fiori apps to increase quickly, depending on further feature enhancements.

We walked through stock identification at the beginning to outline how stock figures can be observed and analyzed. After this, we touched on a basic activity of inventory with regards to stock transfer processes. In addition, some special areas reflecting initial stock entries and scrapping were described in a separate section. We also covered reversal and the physical inventory process that guarantees the financial accuracy of the available stock situation.

Now that we've laid the foundation for the core inventory processes, we'll outline production execution in the next chapter based on these fundamentals.

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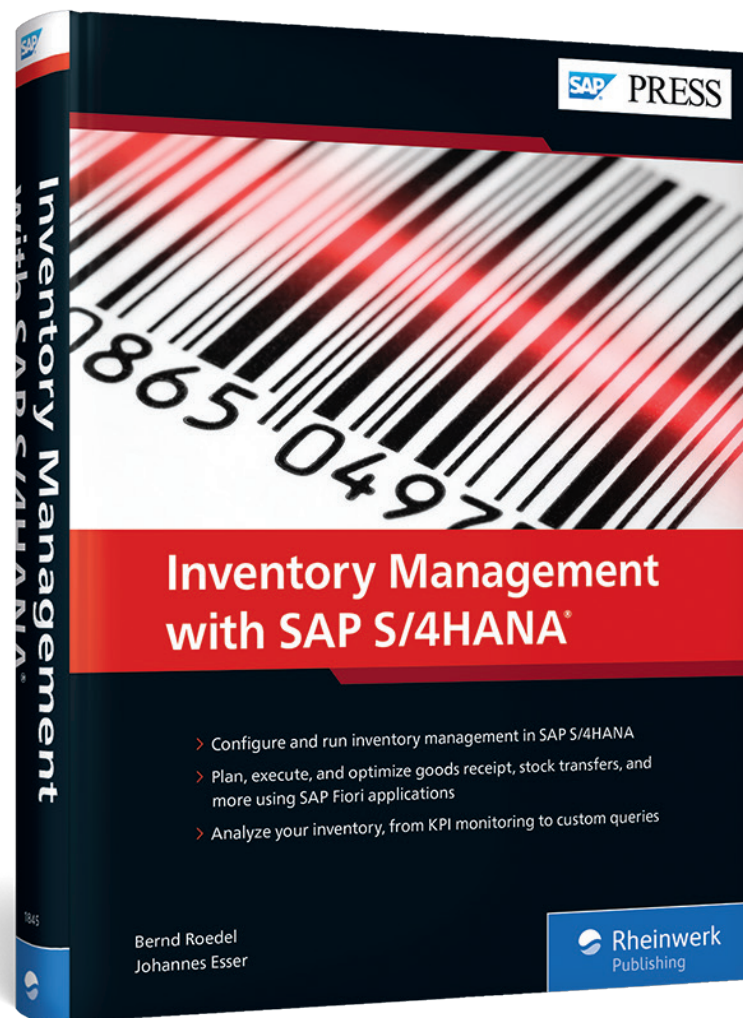
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