PwC and Neogen

# Simplified Manufacturing through S/4HANA Fiori Apps

Based on SAP S/4 implementation at a Life science customer

October 2023

pwc

# Speaker Introduction

## Narasimha Bhat

Manager - Advisory

PwC

### Brief Carrier Highlights

Supply Chain Architect

More than 9+ SAP transformations

Certified in IBP/PP/PS/MM &PM

Awards

- SAP Champion by SAP 2023
- Best IT Blogger – Globee 2023

## Kory Schuckman

PTM Lead

Neogen

### Brief Carrier Highlights

SAP transformation experience from 3 different companies, with a mix of functional roles (S&OP Director, Planning Manager, Production Supervisor) and technical roles (Solution Architect, Team Lead)

# Agenda

| | |
|---|---|
| 1 | Unlocking the Customer Landscape & Defining Project Horizons |
| 2 | Navigating the Maze: Challenges & Complexities Encountered |
| 3 | From Theory to Practice: Real-World Fiori App Use Cases |
| 4 | Visualizing Strategy: An Integrated View of Fiori Apps and T-Codes in Action |
| 5 | Harvesting the Rewards: Measurable Benefits & Impact |

# Unlocking the Customer Landscape and Defining Project Horizons

## Brief Bio of Customer - Neogen

Neogen Corporation is a Lansing, Michigan-based global leader specializing in diagnostic solutions for food and animal safety. Founded in 1982, the company serves a diverse range of sectors including food production, veterinary care, and agriculture, and is renowned for its innovation and high-quality product offerings.

- **Industry Sector-** Life Sciences
- **Market Presence** – Global with sales presence in 140+ countries, Regional offices in 12 countries

## Project Scope for Manufacturing

**Core Technology** – SAP S/4 Hana - RISE

**Forecasting**: FMO

**Core Module** for Manufacturing: PP – Production Planning integrated with SAP EWM

**Legacy ERPs**: SAP ECC & Dynamics SL

**Locations:** Primarily US & UK

**Duration:** 18 Months

# Navigating the Maze: Challenges & Complexities Encountered

## Technical Landscape

- ECC with Custom Solutions
- ECC integrated with IBP
- Data Lake

## Process Challenges

- Scheduling Logic
- Material Staging
- Warehouse Processes
- Costing Product
- Uniformity in Production

## Change Management

- ECC transactions Vs Fiori
- Managing Capacity in Excel

## Master Data

- No Recipes
- Material Master harmonization
- Quality Data harmonization

## Customization

- Heavy customization in ECC
- Customization in legacy SL

## Major Challenges

- **Fiori App Adoption**
  - Resistance to Transition from ECC transactions
  - Learning Curve for Utilizing Fiori's Full Capabilities
- **Cultural Shift from Excel**
  - Ingrained Dependency on Excel for Data Management
  - Mental Barrier to Adopting Automated Systems

# From Theory to Practice: Real-World Fiori App Use Cases

**Planning App:** Monitor Material Coverage

## Top features used by the MRP Controllers

- Time till Shortage filter
- Personalize table columns FG/SFG/RM
- Change Purchase Order UOM
- Shortage Quantity and Duration
- Personalized filter
- Easy navigation to Mat. Info/Stock Req List/MRP run
- Notes feature

## SAP Gui Equivalent

- Many features are not supported in any SAP Tcode
- App uses features from MD04/MM03/MD07/MMBE/MB52

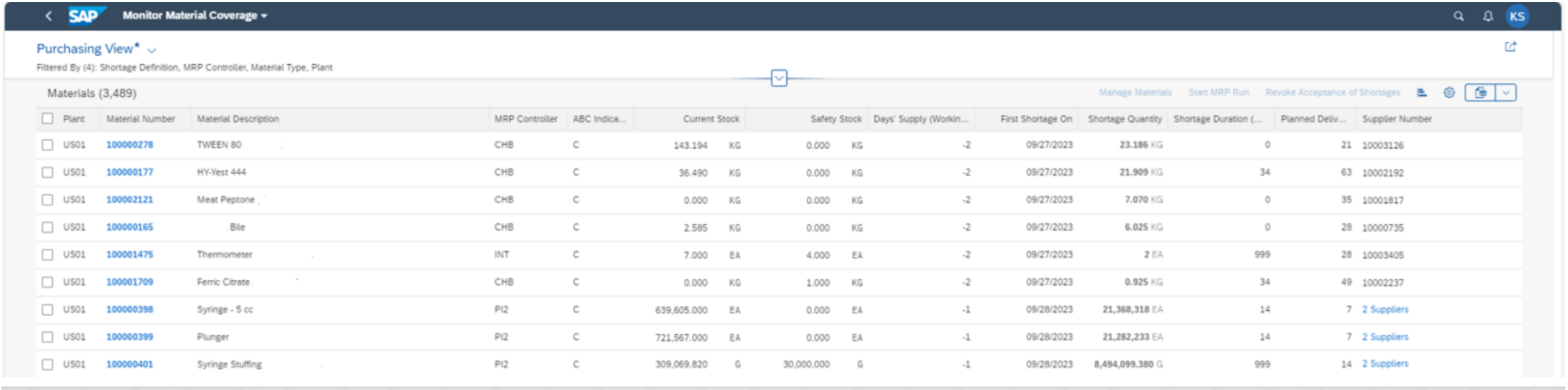
## What is missing in Fiori?

- Not all MRP exception messages supported
- A few Filters of MD07 are not available

## User Acceptance

## Handling missing functions

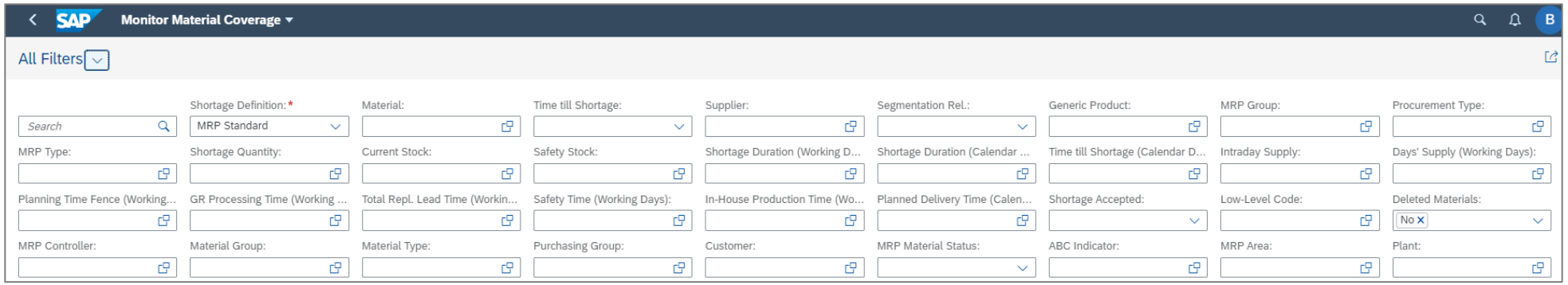
- Display MRP master data issues- App.
- Shortage definition configuration.




| Plant | Material Number | Material Description | MRP Controller | ABC Indica... | Current Stock | Safety Stock | Days' Supply (Workin... | First Shortage On | Shortage Quantity | Shortage Duration (... | Planned Deliv... | Supplier Number |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| US01 | 100000278 | TWEEN 80 | CHB | C | 143.194 KG | 0.000 KG | -2 | 09/27/2023 | 23.186 KG | 0 | 21 | 10003126 |
| US01 | 100000177 | HY-Yest 444 | CHB | C | 36.490 KG | 0.000 KG | -2 | 09/27/2023 | 21.909 KG | 34 | 63 | 10002192 |
| US01 | 100002121 | Meat Peptone | CHB | C | 0.000 KG | 0.000 KG | -2 | 09/27/2023 | 7.070 KG | 0 | 35 | 10001817 |
| US01 | 100000165 | Bile | CHB | C | 2.585 KG | 0.000 KG | -2 | 09/27/2023 | 6.025 KG | 0 | 28 | 10000735 |
| US01 | 100001475 | Thermometer | INT | C | 7.000 EA | 4.000 EA | -2 | 09/27/2023 | 2 EA | 999 | 28 | 10003405 |
| US01 | 100001709 | Ferric Citrate | CHB | C | 0.000 KG | 1.000 KG | -2 | 09/27/2023 | 0.925 KG | 34 | 49 | 10002237 |
| US01 | 100000398 | Syringe - 5 cc | PI2 | C | 639,605.000 EA | 0.000 EA | -1 | 09/28/2023 | 21,368,318 EA | 14 | 7 | 2 Suppliers |
| US01 | 100000399 | Plunger | PI2 | C | 721,567.000 EA | 0.000 EA | -1 | 09/28/2023 | 21,282,233 EA | 14 | 7 | 2 Suppliers |
| US01 | 100000401 | Syringe Stuffing | PI2 | C | 309,069.820 G | 30,000.000 G | -1 | 09/28/2023 | 8,494,099.380 G | 999 | 14 | 2 Suppliers |

# Monitor Material Coverage -Contd

## Input Filters




## Output Columns

| | | | |
|---|---|---|---|
| Material Number | Intraday Supply | MRP Segment | Shortage Def. ID |
| Material Description | Low-Level Code | MRP Type | Shortage Duration (Calendar Days) |
| Supplier Name | Material | MRP Type Name | Shortage Duration (Working Days) |
| Supplier Number | Material Group | Name of Customer | Supplier |
| First Shortage On | Material Group Description | Planned Delivery Time (Calendar Days) | Time till Shortage (Calendar Days) |
| Shortage Quantity | Material Type | Planning Time Fence (Working Days) | Total Repl. Lead Time (Working Days) |
| Safety Stock | Material Type Description | Plant | |
| ABC Indicator | MRP Area | Plant Description | |
| Current Stock | MRP Area Description | Procurement Type | |
| Customer | MRP Controller | Procurement Type Description | |
| Days' Supply (Working Days) | MRP Controller Description | Purchasing Group | |
| Deleted Materials | MRP Group | Purchasing Group Description | |
| Generic Product | MRP Group Description | Safety Time (Working Days) | |
| GR Processing Time (Working Days) | MRP Material Status | Segmentation Rel. | |
| In-House Production Time | MRP Material Status Text | Shortage Accepted | |

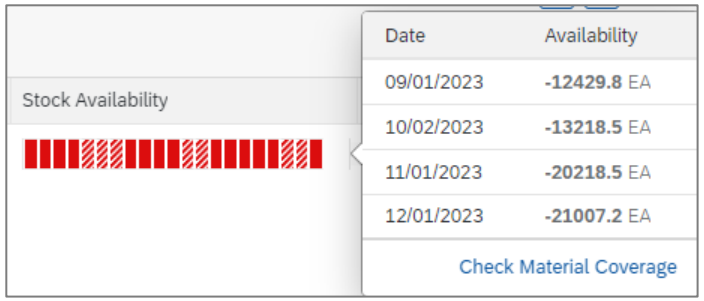
Applicable For All

Procurement Planners

Production Planners

# Monitor Material Coverage

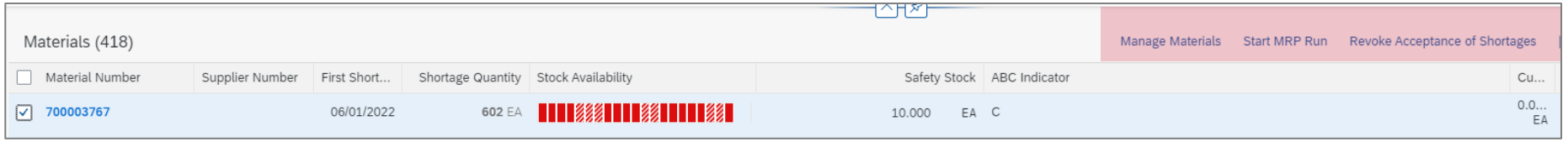
## Embedded Analytics




## Intuitive Exception messages

## Intuitive Conversion

## Intuitive Actions




## Solution Card

# From Theory to Practice: Real-World Fiori App Use Cases

**Planning App:** Monitor External Requirements

## Top features used by MRP Controllers/Plant managers

- Time till Shortage filter
- View Sales order/STO requirements
- Quick view of affected orders
- Personalized filter
- Easy navigation to Mat. Info/Stock Req List/MRP run
- Overview of quantity Needed
- Used daily to prioritize production

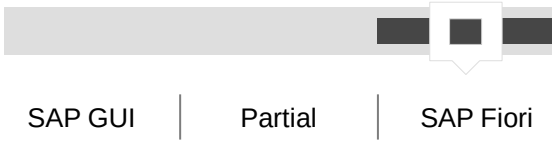
## SAP Gui Equivalent

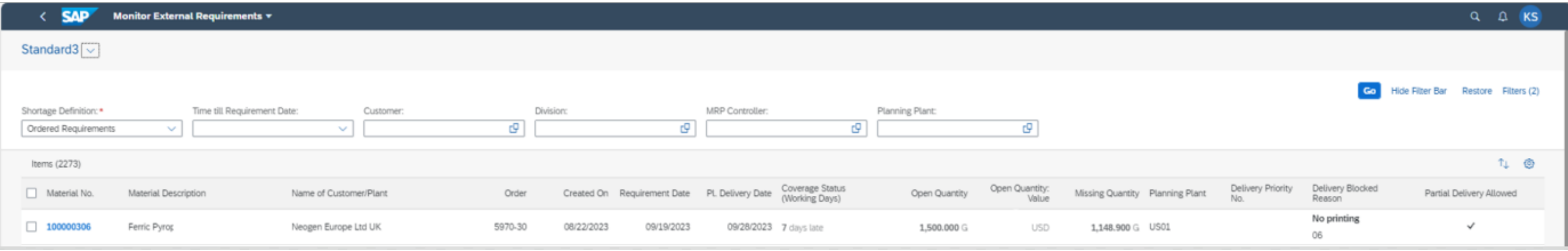
- Many features are not supported in any standard SAP Tcode
- Delayed/BOP sales order report to some extent.

## What is missing in Fiori?

- Shortage definition may need configuration
- Data shows up only if there is a shortage

## User Acceptance



# From Theory to Practice: Real-World Fiori App Use Cases

**Planning App:** Monitor Internal Requirements

## Top features used by the MRP Controllers/Plant managers

- Time till Shortage filter
- View RM/SFG requirements for SFG/FG
- **Quick view of affected orders**
- Useful sorting
- Issued/Covered/Missing Materials
- Overview of Open/Missing Qty
- Used daily to prioritize production based on requirement Date
- Embedded graphics
- Navigate to Related apps

## SAP Gui Equivalent

- Many features are not supported in any SAP Tcode
- App uses features from MD04/COOISPI/COHVPI/CO46 and others

## What is missing in Fiori?

- Do not show hierarchical report like Co46 (order Progress report**), hence not a replacement for CO46**

## User Acceptance

Components (583)

| Component | Requirement Date | Quantity Overview | Open Quantity | Missing Quantity | Coverage Status (Working Days) | Affected Order |
|---|---|---|---|---|---|---|
| 400001087 | 08/17/2023 | | 577,500 EA | 577,500 EA | 8 days late | PrcOrd-1000255 400001120 |
| 100001934 | 07/31/2023 | | | 195,246 EA | 40 days late | PrcOrd-1000090 400001127 |
| 100002028 | 07/31/2023 | | | 321,000 EA | 40 days late | PrcOrd-1000090 400001127 |
| 100001538 | 08/22/2023 | | | 314,983 EA | 5 days late | PrcOrd-100324 700003743 |

Quantity Overview

| | |
|---|---|
| Issued: | 63,000 EA |
| Covered: | 116,000 EA |
| Missing: | 321,000 EA |

# From Theory to Practice: Real-World Fiori App Use Cases

**Planning App: Stock Multiple Material**

## Top features used by the all roles

- Stock of Multiple material
- Stock Value is also visible
- Displays serial number
- Batch with shelf-life expiration
- Unrestricted/Quality/Blocked stock
- Exhaustive search functionality
- Excel export

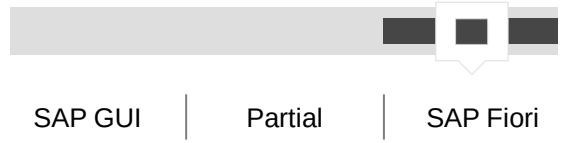
## SAP Gui Equivalent

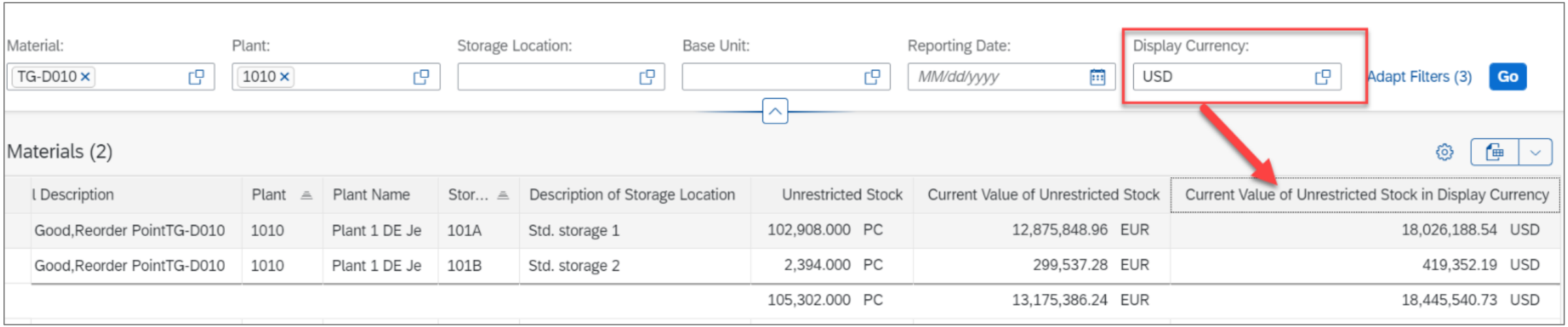
- MB52

## What is missing in Fiori?

- Fully functional useful app
- SAP note -2696444 to find the difference between MB52 & the app

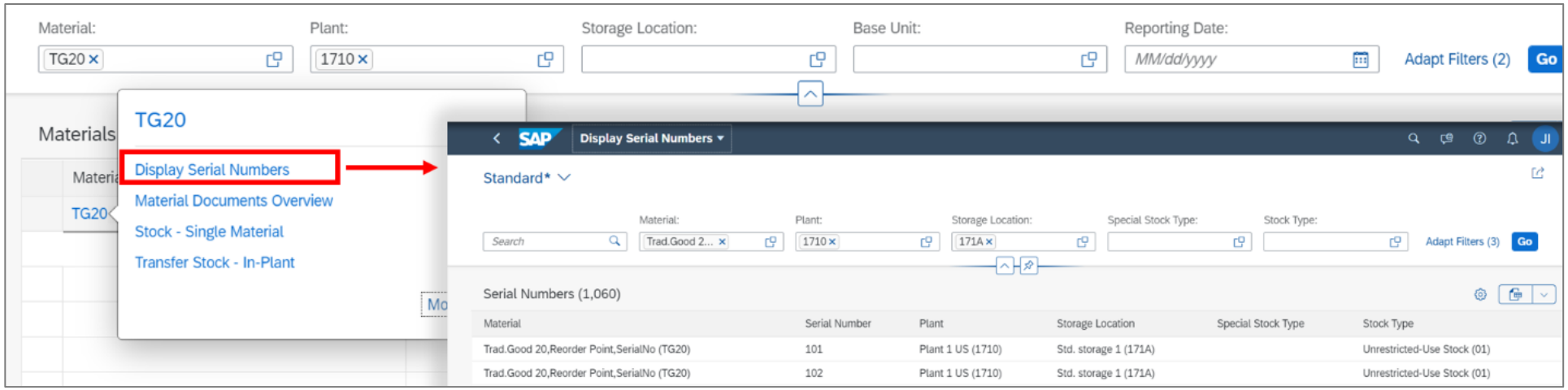
## User Acceptance

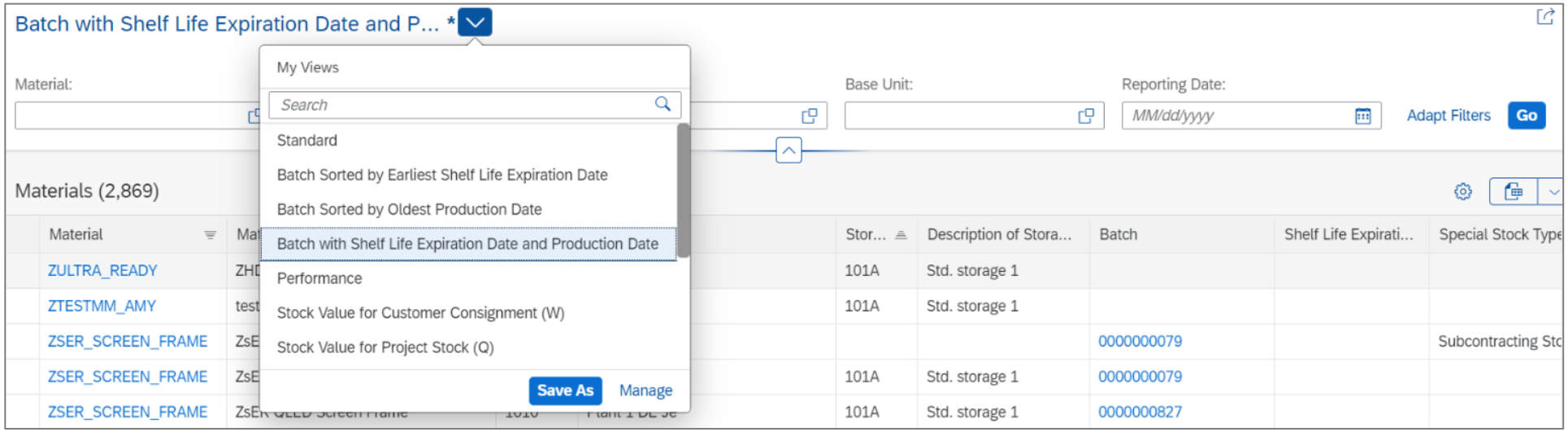


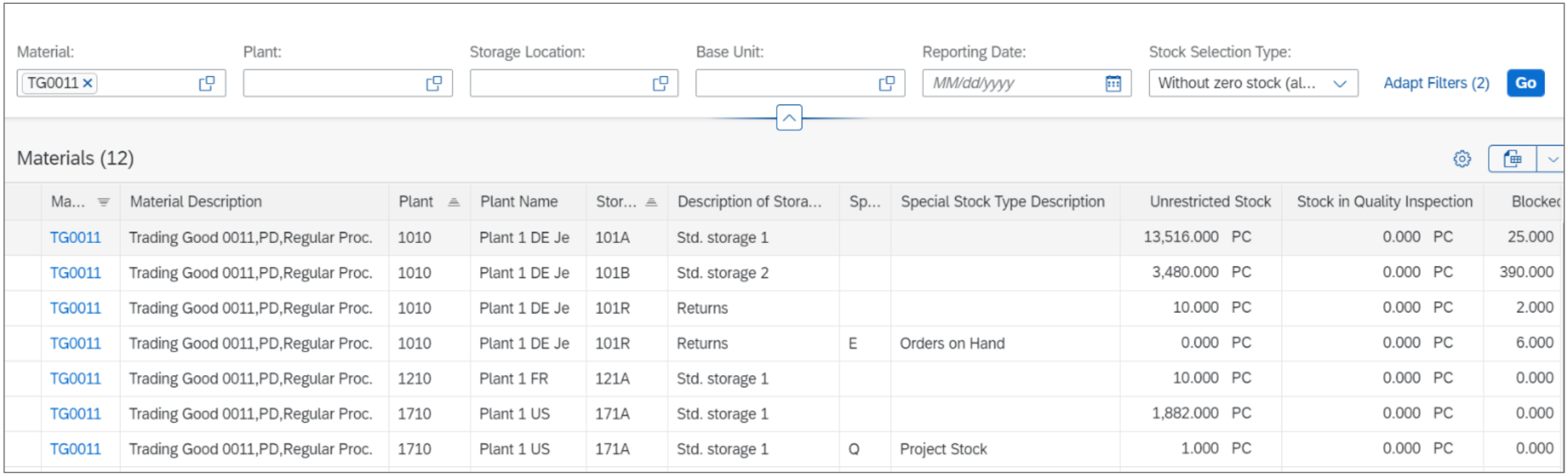

| l Description | Plant | Plant Name | Stor... | Description of Storage Location | Unrestricted Stock | Current Value of Unrestricted Stock | Current Value of Unrestricted Stock in Display Currency |
|---|---|---|---|---|---|---|---|
| Good,Reorder PointTG-D010 | 1010 | Plant 1 DE Je | 101A | Std. storage 1 | 102,908.000 PC | 12,875,848.96 EUR | 18,026,188.54 USD |
| Good,Reorder PointTG-D010 | 1010 | Plant 1 DE Je | 101B | Std. storage 2 | 2,394.000 PC | 299,537.28 EUR | 419,352.19 USD |
| | | | | | 105,302.000 PC | 13,175,386.24 EUR | 18,445,540.73 USD |

# Stock Multiple Material - Contd



# Stock Multiple Material - Contd



Material: TG0011 | Plant: | Storage Location: | Base Unit: | Reporting Date: MM/dd/yyyy | Stock Selection Type: Without zero stock (al... | Adapt Filters (2) | Go

Materials (12)

| Ma... | Material Description | Plant | Plant Name | Stor... | Description of Stora... | Sp... | Special Stock Type Description | Unrestricted Stock | Stock in Quality Inspection | Blocke |
|---|---|---|---|---|---|---|---|---|---|---|
| TG0011 | Trading Good 0011,PD,Regular Proc. | 1010 | Plant 1 DE Je | 101A | Std. storage 1 | | | 13,516.000 PC | 0.000 PC | 25.000 |
| TG0011 | Trading Good 0011,PD,Regular Proc. | 1010 | Plant 1 DE Je | 101B | Std. storage 2 | | | 3,480.000 PC | 0.000 PC | 390.000 |
| TG0011 | Trading Good 0011,PD,Regular Proc. | 1010 | Plant 1 DE Je | 101R | Returns | | | 10.000 PC | 0.000 PC | 2.000 |
| TG0011 | Trading Good 0011,PD,Regular Proc. | 1010 | Plant 1 DE Je | 101R | Returns | E | Orders on Hand | 0.000 PC | 0.000 PC | 6.000 |
| TG0011 | Trading Good 0011,PD,Regular Proc. | 1210 | Plant 1 FR | 121A | Std. storage 1 | | | 10.000 PC | 0.000 PC | 0.000 |
| TG0011 | Trading Good 0011,PD,Regular Proc. | 1710 | Plant 1 US | 171A | Std. storage 1 | | | 1,882.000 PC | 0.000 PC | 0.000 |
| TG0011 | Trading Good 0011,PD,Regular Proc. | 1710 | Plant 1 US | 171A | Std. storage 1 | Q | Project Stock | 1.000 PC | 0.000 PC | 0.000 |

# From Theory to Practice: Real-World Fiori App Use Cases

**Planning App: Manage Work center Capacity**

## Top features used by the Capacity Planners

- Simple navigation to select capacity situations based on very useful filters.
- Single evaluation Horizon
- Graphical visualization of critical and normal loads
- View Backlog overdue orders
- First overload, Max load
- Adding, shift, intervals, increasing capacity
- Copy shifts

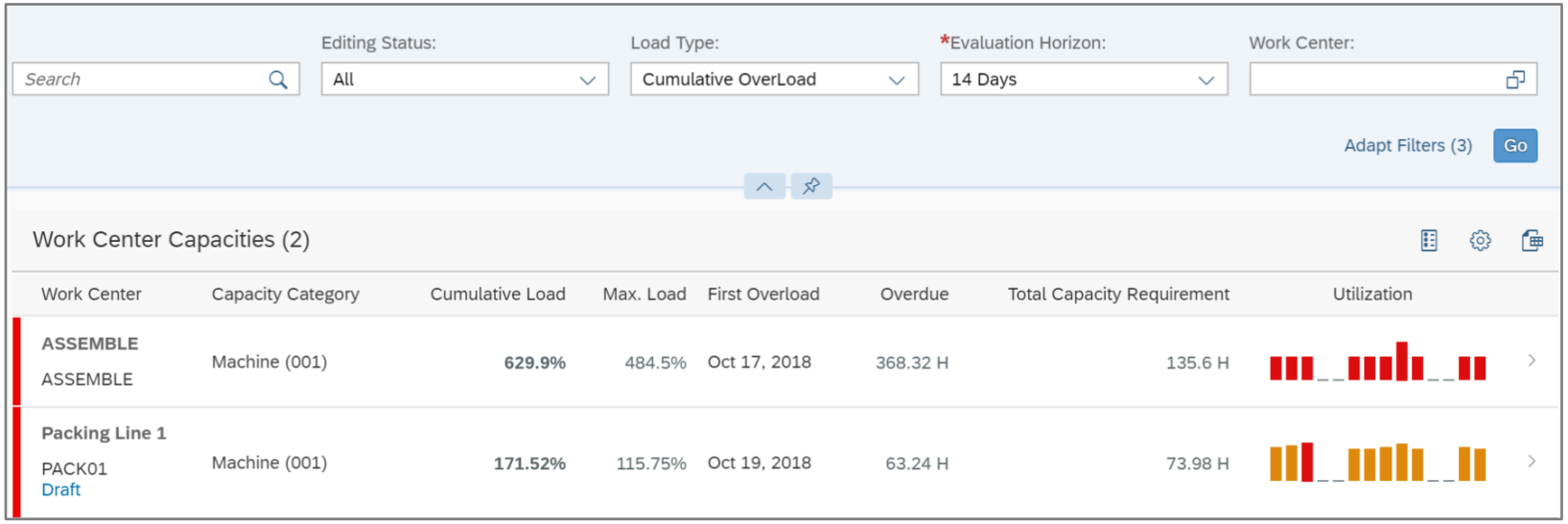
## SAP Gui Equivalent

- CM* transactions
- Not all features of Fiori available on GUI Tcodes

## What is missing in Fiori?

- Dispatching functionality would have been an ideal add-on to the app

## User Acceptance



# From Theory to Practice: Real-World Fiori App Use Cases

**Planning App: Capacity Scheduling Table**

## Top features used by the Capacity Planners

- Easy dispatch options for single and multiple orders.
- Scheduling orders for the past 30 days
- Letting system to find empty slots for dispatching
- Feature to view capacity availability on alternate production version when the main production version is overloaded.
- Overdue/Late indicator

## SAP Gui Equivalent

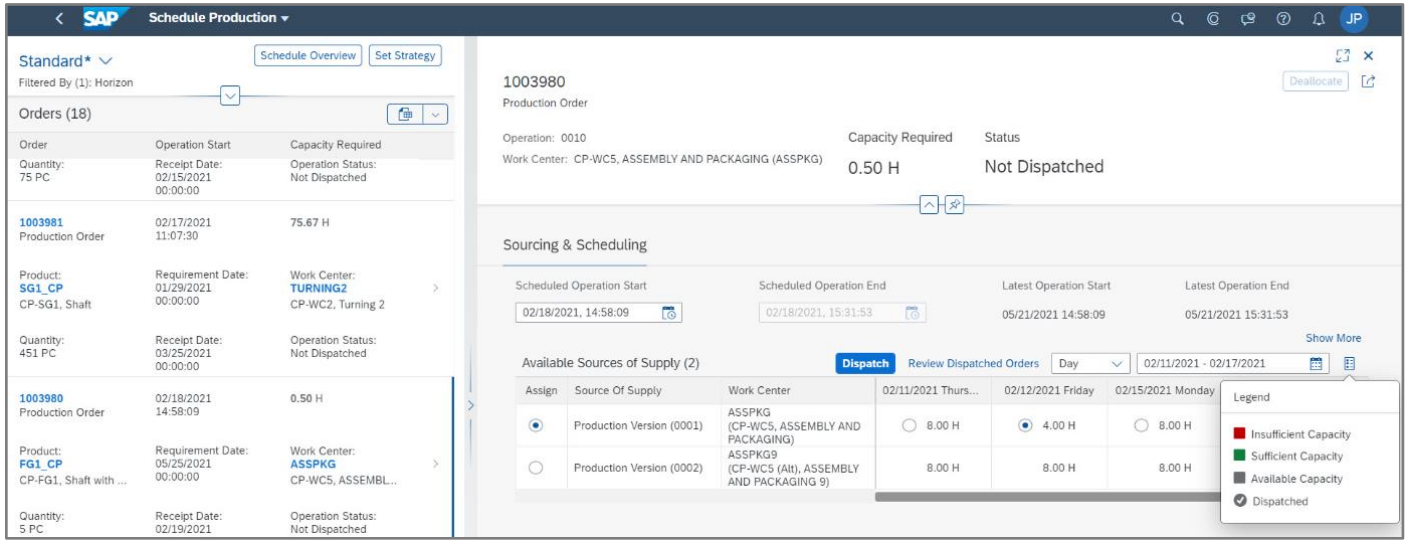
- CM25/21/31
- Not intuitive like Fiori App

## What is missing in Fiori?

- **Can be used only for critical work centers**
- Not all the features of Strategy settings in CM* transactions are available

## User Acceptance

SAP GUI | Partial | SAP Fiori



# From Theory to Practice: Real-World Fiori App Use Cases

**Manufacturing Execution App: Manage Process order**

## Top features used by the Manufacture execution

- Easy way to monitor
  - Finished Goods shortage
  - Component shortage
  - Process Delay
  - By Quality status
- Very easy to find missing components
- Mass Release
- Mass TECO
- Confirmation of order/Operation is possible
- Prioritize orders based on delay days and requirement Days
- Shows operation in progress too
- Entire production document flow is available for view
- Embedded analytics
- Being used as a production readiness report by planners

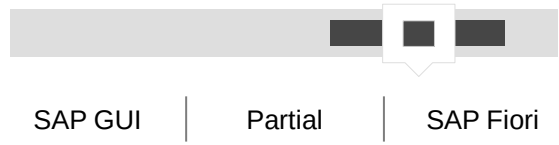
## SAP Gui Equivalent

- COOISPI
- Not intuitive like Fiori App

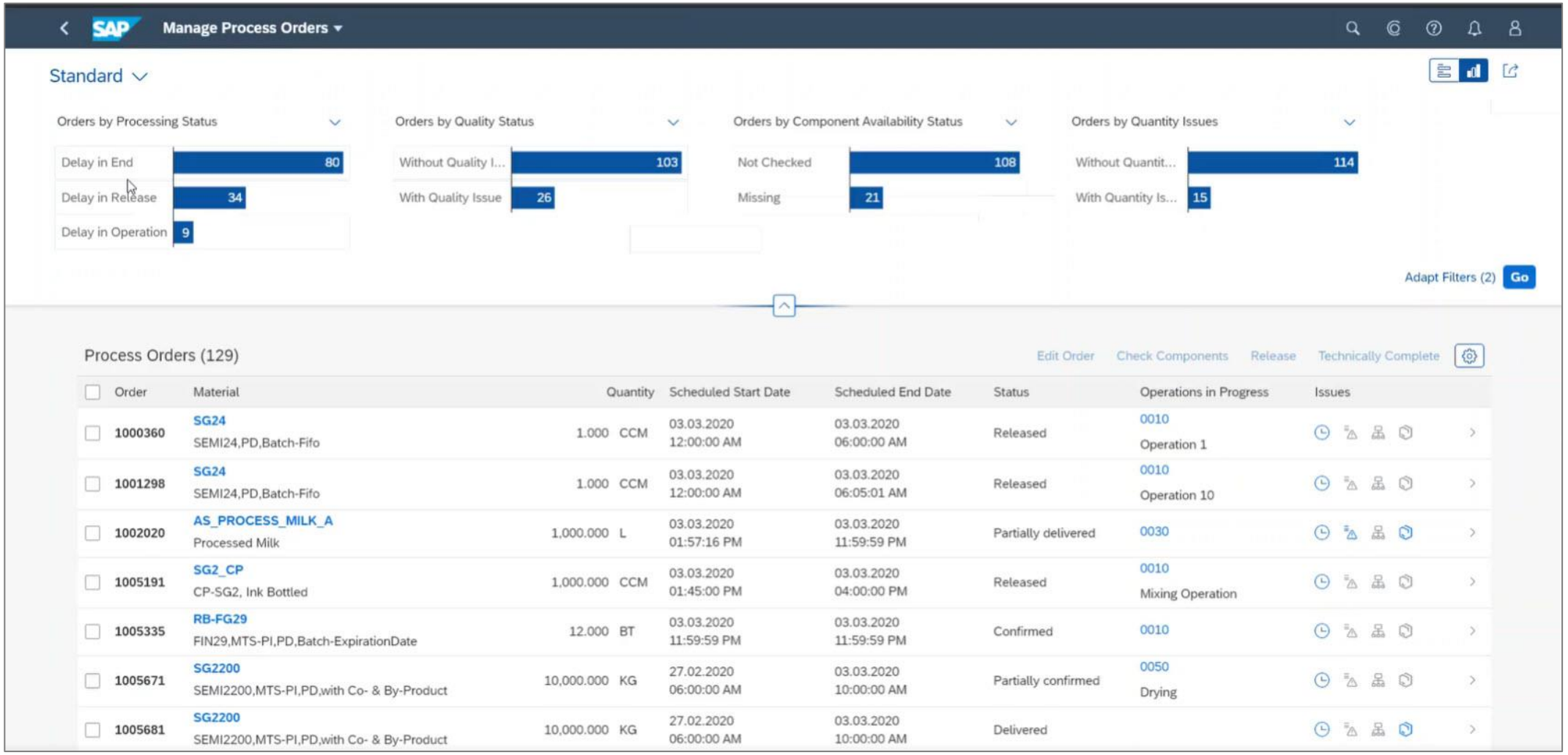
## What is missing in Fiori?

- Mass component availability check for multiple orders

## User Acceptance



# Manage Process Order



# From Theory to Practice: Real-World Fiori App Use Cases

**Manufacturing Execution App: Manage Process order operations**

## Top features used by the Manufacture execution

- Easy way to monitor
  - Component shortage
  - Process Delay
  - By Quality status
- Very easy to find missing components
- Confirmation of Operation is possible
- Prioritize orders based on delay days and requirement Days
- Shows operation status
- Embedded analytics
- Being used as a production tasks print for shopfloor based on scheduled start date and status of operation.

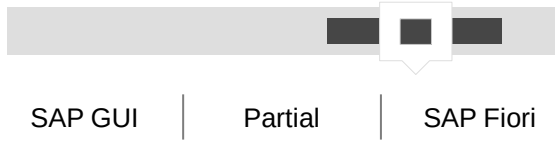
## SAP Gui Equivalent

- COR6n Only for confirmation

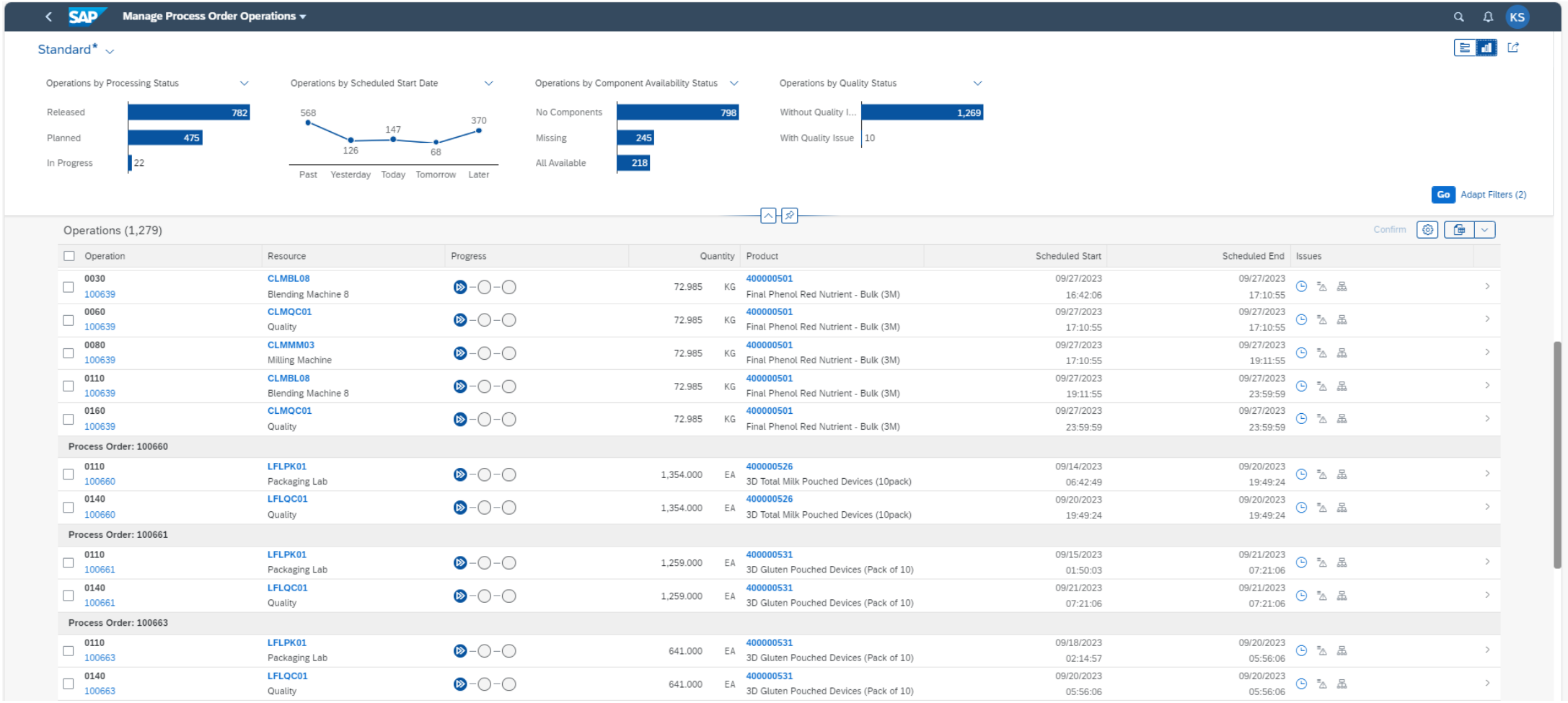
## What is missing in Fiori?

- Mass component availability check for multiple orders could have been a good feature, Currently, it allows component check order-by-order operation
- Automatic phase selection in the confirmation screen

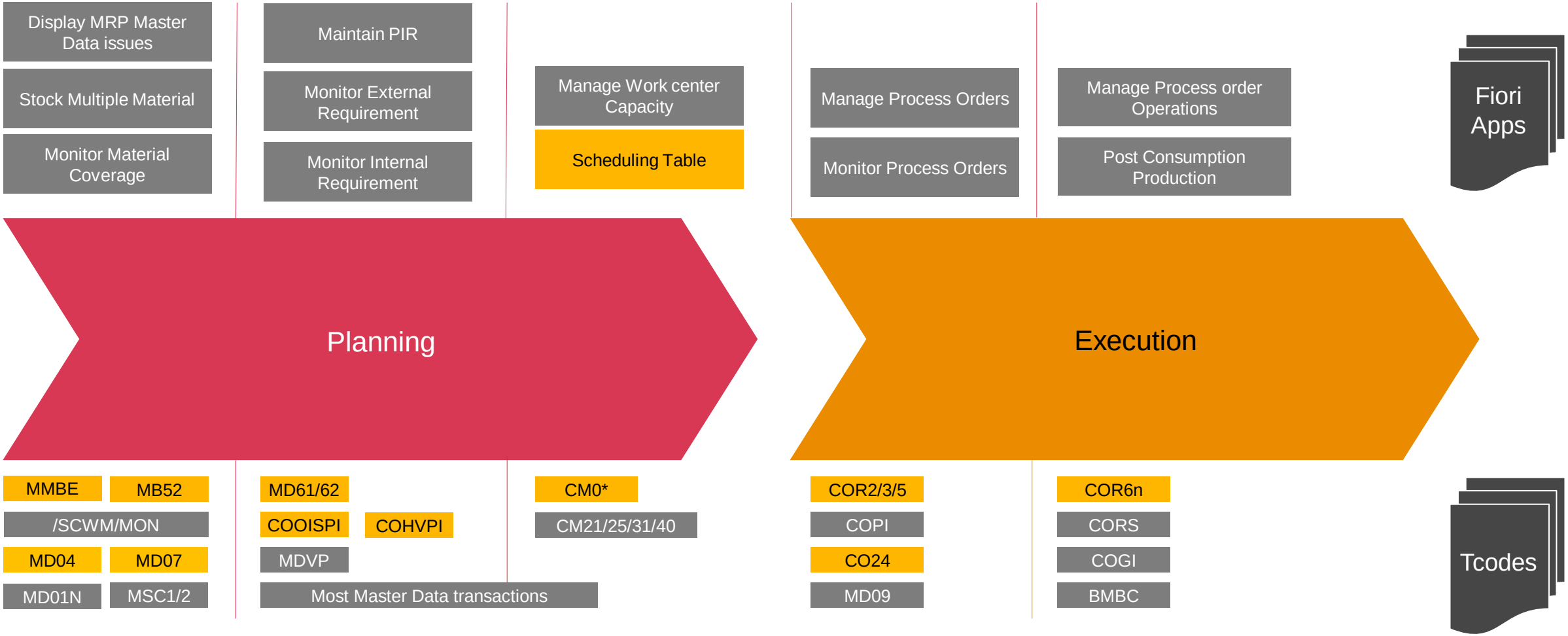
## User Acceptance



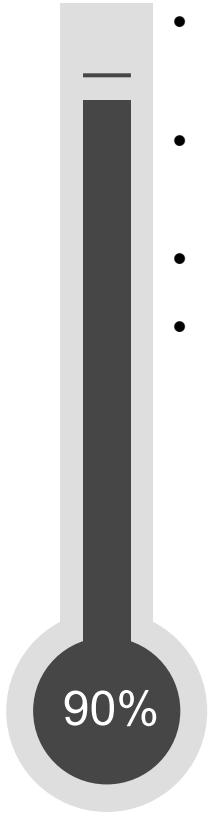
# Manage Process Order Operations



# Visualizing Strategy: An Integrated View of Fiori Apps and T-Codes in Action

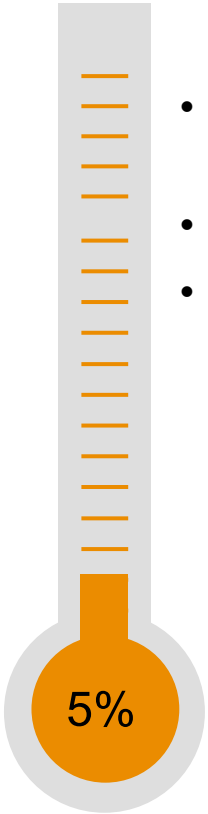


# Harvesting the Rewards: Measurable Benefits & Impact




- Reduction in transaction time
- Reduced training cost
- User Satisfaction
- Improved security features

**Fiori Adoption**




- Bare minimal customization
- Best Practice Adoption
- Most customizations are for Data conversion for changes in master data and for QM data in Recipes

**Customization**

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