# Production Planning and Control (PP)



Release 4.6C



### Copyright

© Copyright 2001 SAP AG. All rights reserved.

No part of this publication may be reproduced or transmitted in any form or for any purpose without the express permission of SAP AG. The information contained herein may be changed without prior notice.

Some software products marketed by SAP AG and its distributors contain proprietary software components of other software vendors.

Microsoft<sup>®</sup>, WINDOWS<sup>®</sup>, NT<sup>®</sup>, EXCEL<sup>®</sup>, Word<sup>®</sup>, PowerPoint<sup>®</sup> and SQL Server<sup>®</sup> are registered trademarks of Microsoft Corporation.

 $\mathsf{IBM}^{\$}$ ,  $\mathsf{DB2}^{\$}$ ,  $\mathsf{OS/2}^{\$}$ ,  $\mathsf{DB2/6000}^{\$}$ ,  $\mathsf{Parallel Sysplex}^{\$}$ ,  $\mathsf{MVS/ESA}^{\$}$ ,  $\mathsf{RS/6000}^{\$}$ ,  $\mathsf{AIX}^{\$}$ ,  $\mathsf{S/390}^{\$}$ ,  $\mathsf{AS/400}^{\$}$ ,  $\mathsf{OS/390}^{\$}$ , and  $\mathsf{OS/400}^{\$}$  are registered trademarks of IBM Corporation.

ORACLE<sup>®</sup> is a registered trademark of ORACLE Corporation.

INFORMIX<sup>®</sup>-OnLine for SAP and Informix<sup>®</sup> Dynamic Server<sup>TM</sup> are registered trademarks of Informix Software Incorporated.

UNIX<sup>®</sup>, X/Open<sup>®</sup>, OSF/1<sup>®</sup>, and Motif<sup>®</sup> are registered trademarks of the Open Group.

HTML, DHTML, XML, XHTML are trademarks or registered trademarks of  $\rm W3C^{\circledast},$  World Wide Web Consortium,

Massachusetts Institute of Technology.

JAVA<sup>®</sup> is a registered trademark of Sun Microsystems, Inc.

JAVASCRIPT<sup>®</sup> is a registered trademark of Sun Microsystems, Inc., used under license for technology invented and implemented by Netscape.

SAP, SAP Logo, R/2, RIVA, R/3, ABAP, SAP ArchiveLink, SAP Business Workflow, WebFlow, SAP EarlyWatch, BAPI, SAPPHIRE, Management Cockpit, mySAP.com Logo and mySAP.com are trademarks or registered trademarks of SAP AG in Germany and in several other countries all over the world. All other products mentioned are trademarks or registered trademarks of their respective companies.

### Icons

| lcon         | Meaning        |
|--------------|----------------|
| Δ            | Caution        |
|              | Example        |
| ₽            | Note           |
| Ø            | Recommendation |
| 4123         | Syntax         |
| $\mathbf{P}$ | Тір            |

### Contents

| Production Planning and Control (PP)             | . 7 |
|--|-----|
| Material Requirements Planning (PP-MRP)          | 8   |
| MRP PP - Master Data                             | 9   |
| MRP PP – Planning                                | .10 |
| MRP PP – Evaluations                             | .11 |
| MRP PP – Planned Order                           | .12 |
| MRP PP - Coordination                            | .13 |
| Long-Term Planning                               | .14 |
| Master Production Scheduling                     | .15 |
| MRP - Master Data                                | .16 |
| MRP – Planning                                   | .17 |
| MRP – Evaluations                                | .18 |
| MRP – Planned Order                              | .19 |
| MRP - Coordination                               | .20 |
| Work Centers (PP-BD-WRKC)                        | .21 |
| Work Center Maintenance                          | .22 |
| Work Center Display                              | .24 |
| Routings (PP-BD-RTG)                             | .25 |
| Routing Maintenance                              | .26 |
| Routing Display                                  | .28 |
| Repetitive Manufacturing (PP REM)                | .30 |
| Repetitive Manufacturing: Displaying Master Data | .31 |
| Repetitive Manufacturing: Changing Master Data   | .32 |
| Repetitive Manufacturing: Planning               | .33 |
| Repetitive Manufacturing: Production             | .34 |
| Repetitive Manufacturing: Backflushing           | .35 |
| Repetitive Manufacturing: Evaluating             | .37 |
| KANBAN (PP-KAB)                                  |     |
| KANBAN: Control                                  |     |
| KANBAN: Evaluation                               |     |
| Production Orders (PP-SFC)                       |     |
| Goods Movements                                  | .42 |
| Confirmations                                    |     |
| Materials Management                             |     |
| Order Change Management                          |     |
| Postprocessing                                   |     |
| Processing                                       |     |
| Production Information System                    |     |
| Production Personnel                             |     |
| Production Resources and Tools                   |     |
| Warehouse Management                             | .51 |

| Production Planning - Process Industries (PP-PI) | 52   |
|--|------|
| Maintain Resource                                | 53   |
| Settings for Resources                           | 54   |
| Display Resource                                 | 55   |
| Enter Downtimes                                  |      |
| Settings for Downtimes                           | 57   |
| Edit Capacity                                    | 58   |
| Edit Standard Texts                              | 59   |
| Display Master Recipe                            | 60   |
| Edit Master Recipe                               | 61   |
| Display Production Version                       | 62   |
| Edit Production Version                          | 63   |
| Create Process Order                             | 64   |
| Display Process Order                            | 65   |
| Change Process Order                             |      |
| MiniApp: Worklist for Process Orders             |      |
| Evaluate Order Information System                | 69   |
| Evaluate Shop Floor Info System                  | 70   |
| Evaluate Missing Parts Info System               | 71   |
| Enter Goods Movement for Order                   |      |
| Enter Goods Movement with Handling Unit          | 73   |
| Cancel Goods Movement with Handling Unit         | 74   |
| Display Material Staging for Order               | 75   |
| Carry Out Material Staging for Order             |      |
| Display Order Confirmation                       |      |
| Enter Order Confirmation                         |      |
| Correct Order Confirmation                       |      |
| Display Production Campaign                      |      |
| Process Production Campaign                      |      |
| Execute Capacity Evaluations                     |      |
| Edit Process Message                             |      |
| Monitor Control Recipe                           |      |
| Maintain PI Sheet                                |      |
| Check and Complete PI Sheet                      |      |
| MiniApp: Worklist for PI Sheets                  |      |
| Edit Manufacturing Cockpit for Plant Manager     |      |
| Edit Manufacturing Cockpit for Manager/Engineer  |      |
| Display Order Record                             |      |
| Store Order Record                               |      |
| Edit Batch Record                                |      |
| Approve Batch Record                             |      |
| MiniApp: Worklist for Batch Records              |      |
| Customizing for Process Management               |      |
| Material Management: Production                  |      |
| Execute Capacity Planning                        | .102 |

| Evaluate Capacity Planning | 103 |
|----------------------------|-----|
| Material Forecast          | 104 |

Production Planning and Control (PP)

## **Production Planning and Control (PP)**

Listed below are the single roles for the component "Production Planning and Control (PP)".

#### Material Requirements Planning (PP-MRP)

## **Material Requirements Planning (PP-MRP)**

You can see the single roles for the MRP component (PP-MRP) in the following.

MRP PP - Master Data

## **MRP PP - Master Data**

Technical name: SAP\_PP\_MRP\_MASTER\_DATA

### Tasks

This role contains functions for **maintaining master data** in MRP for in-house production. It does not contain any functions that refer to the master data for production types themselves (production with production orders, repetitive manufacturing, Kanban). The maintenance of master data forms the basis of MRP.

### **Activities in Production Planning**

- Processing material master
- Processing material BOM
- Displaying work center and routing
- Maintaining planning calendar
- Maintaining production lot
- Maintaining quota file
- Defining range of coverage profile and period profile for safety time
- Defining MRP views

### Integration

MRP - Master Data [Page 16]

**MRP PP – Planning** 

## **MRP PP – Planning**

Technical name: SAP\_PP\_MRP\_PLANNING

### Tasks

This role contains functions for **executing the MRP run** for in-house production. You can use these functions to plan individual materials, for which the requirements or stock situation has changed, and thereby ensure that they are available in the correct quantities at the correct time.

### **Activities in Production Planning**

- Displaying and setting planning file entries manually
- Executing single-item planning
  - single-item, single-level planning
  - multi-level, single-item planning
  - interactive single-item planning
  - sales order planning
  - project planning
  - planning with the planning table

### Integration

The following single roles contain functions for total planning; that is the planning of all materials in a plant or in an MRP area.

MRP PP - Coordination [Page 13]

MRP - Coordination [Page 20]

MRP PP – Evaluations

## **MRP PP – Evaluations**

Technical name: SAP\_PP\_MRP\_EVALUATIONS

### Tasks

This role contains functions for **evaluating the MRP result** for in-house production. You can use these functions to find information about material availability and to recognize possible material shortage situations and exception situations quickly.

### **Activities in Production Planning**

- Displaying MRP list and stock/requirements list (with standard layout or individual evaluation layout)
- Displaying backlogs (missing parts)
- Displaying production orders (Production Information System)
- Execute bulk processing of production orders

#### **MiniApps**

- Materials with smallest days' supply
- Materials with smallest receipt days' supply 1
- Materials with smallest receipt days' supply 2
- Materials with greatest days' supply
- Materials with greatest receipt days' supply 1
- Materials with greatest receipt days' supply 2
- Exception statistics

If you want to use the MiniApps, you must define at least one view in Customizing for MRP in the IMG activity *Define MRP views*. The view determines which data is displayed in the MiniApps.

### Integration

MRP – Evaluations [Page 18]

MRP PP – Planned Order

## **MRP PP – Planned Order**

Technical name: SAP\_PP\_MRP\_PLANNED\_ORDER

### Tasks

This role contains functions for **processing planned orders** in in-house production. You can use these functions to adapt planned orders to the exact current requirements situation and to then trigger the procurement of individual assemblies or components by converting the planned orders.

### **Activities in Production Planning**

- Processing planned orders
- Converting planned orders into purchase requisitions, production orders or process orders
- Executing mass changes of planned orders

### Integration

MRP – Planned Order [Page 19]

**MRP PP - Coordination** 

## **MRP PP - Coordination**

Technical name: SAP\_PP\_MRP\_COORDINATION

### Tasks

This role contains **central functions** in MRP for in-house production that are connected with particular responsibility. You can use these functions to control MRP from a higher level.

#### **Activities in Production Planning**

- Defining MRP controller
- Executing the total planning run for a plant or an MRP area
- Executing collective availability check for components in the planned order
- Printing the MRP list
- Reorganizing MRP lists

### Integration

MRP - Coordination [Page 20] MRP PP - Planning [Page 10] MRP – Planning [Page 17] Long-Term Planning [Page 14] Master Production Scheduling [Page 15] Long-Term Planning

## Long-Term Planning

Technical name: SAP\_PP\_MP\_LONG\_TERM\_PLANNING

### Tasks

This role contains functions for **long-term planning** and **simulative short-term and medium-term planning**. You can use these functions

- to gain an overview of the future requirements and stock situation and to compare the demand planning with the available capacities
- to plan materials that almost plan themselves in the operative flow: reorder point materials, bulk materials, KANBAN materials
- to enable the Purchasing department for your company to estimate the order volumes and the purchasing budget on time and to use this estimate as a basis for negotiations with the vendor about scheduling agreements and contracts

### **Activities in Production Planning**

- Creating planning scenarios
- Creating production program versions for the planning scenario
- Setting up planning file entries for the planning scenario
- Executing simulative MRP and transferring requirements and receipts to Inventory Controlling
- Calculating capacity requirements
- Calculating activity type requirement and transferring this to Cost Center Accounting
- Calculating requirement for purchased parts and transferring this to the Purchasing Information System
- Evaluating simulative MRP
- Processing simulative planned orders
- Transferring data from operative planning to long-term planning and vice versa

### Integration

- <u>MRP PP Coordination [Page 13]</u>
- <u>MRP Coordination [Page 20]</u>
- Master Production Scheduling [Page 15]

#### Master Production Scheduling

## **Master Production Scheduling**

Technical name: SAP\_PP\_MP\_MPS\_PLANNING

### Tasks

This role contains functions that are necessary for **planning master schedule items**, that means **finished products and important assemblies**, that greatly influence company profits. You use these functions to plan the master schedule items separately and with particular care and to then plan the lower BOM levels only once you have finely tuned the master plan for the master schedule items.

### **Activities in Production Planning**

- Maintaining master data (selection of BOMs by explosion date, BOM explosion number, new account key assignment to project)
- Displaying and setting planning file entries manually
- Executing total planning run for master schedule items
- Executing single-item planning run for master schedule items
  - single-item, single-level planning
  - multi-level, single-item planning
  - interactive single-item planning
  - sales order planning
  - project planning
  - planning with the planning table
- Displaying availability overview for material
- Processing backlogs
- Reorganizing MRP lists

### Integration

- MRP PP Planned Order [Page 12]
- MRP Planned Order [Page 19]
- MRP PP Evaluations [Page 11]
- MRP Evaluations [Page 18]
- MRP PP Coordination [Page 13]
- MRP Coordination [Page 20]
- Long-Term Planning [Page 14]

**MRP** - Master Data

## **MRP - Master Data**

Technical name: SAP\_MM\_CBP\_MASTER\_DATA

### Tasks

This role contains functions for **maintaining master data** in MRP for external procurement. The maintenance of master data forms the basis of MRP.

### **Activities in Production Planning**

- Processing material master
- Processing material BOM
- Maintaining planning calendar
- Maintaining quota file
- Defining range of coverage profile and period profile for safety time
- Defining MRP views

### Integration

MRP PP - Master Data [Page 9]



#### **MRP** – Planning

## **MRP – Planning**

Technical name: SAP\_MM\_CBP\_PLANNING

### Tasks

This role contains functions for **executing the MRP run** for external production. You can use these functions to plan individual materials, for which the requirements or stock situation has changed, and thereby ensure that they are available in the correct quantities at the correct time.

### **Activities in Production Planning**

- Displaying and setting planning file entries manually
- Executing single-item planning
  - single-item, single-level planning
  - interactive single-item planning
  - planning with the planning table

### Integration

The following single roles contain functions for total planning; that is the planning of all materials in a plant or in an MRP area.

MRP PP - Coordination [Page 13]

MRP - Coordination [Page 20]

**MRP** – Evaluations

## **MRP – Evaluations**

Technical name: SAP\_MM\_CBP\_EVALUATIONS

### Tasks

This role contains functions for **evaluating the MRP result** for external procurement. You can use these functions to find information about material availability and to recognize possible material shortage situations and exception situations quickly.

### **Activities in Production Planning**

- Displaying MRP list and stock/requirements list (with standard layout or individual evaluation layout)
- Displaying backlogs (missing parts)

#### **MiniApps**

- Materials with smallest days' supply
- Materials with smallest receipt days' supply 1
- Materials with smallest receipt days' supply 2
- Materials with greatest days' supply
- Materials with greatest receipt days' supply 1
- Materials with greatest receipt days' supply 2
- Exception statistics

If you want to use the MiniApps, you must define at least one view in Customizing for Consumption-Based Planning in the IMG activity *Define MRP views*. The view determines which data is displayed in the MiniApps.

### Integration

MRP PP – Evaluations [Page 11]



**MRP – Planned Order** 

## **MRP – Planned Order**

Technical name: SAP\_MM\_CBP\_PLANNED\_ORDER

### Tasks

This role contains functions for **processing planned orders** in external procurement. You can use these functions to adapt planned orders to the exact current requirements situation and to then trigger the procurement of individual assemblies or components by converting the planned orders.

### **Activities in Production Planning**

- Processing planned orders
- Converting planned orders into purchase requisitions

### Integration

MRP PP - Planned Order [Page 12]

**MRP** - Coordination

## **MRP** - Coordination

Technical name: SAP\_MM\_CBP\_COORDINATION

### Tasks

This role contains **central functions** in MRP for external procurement that are connected with particular responsibility. You can use these functions to control MRP from a higher level.

### **Activities in Production Planning**

- Defining MRP controller
- Executing the total planning run for a plant or an MRP area
- Printing the MRP list
- Reorganizing MRP lists
- Generating purchase orders automatically

### Integration

<u>MRP PP - Coordination [Page 13]</u> <u>MRP PP - Planning [Page 10]</u> <u>MRP – Planning [Page 17]</u> <u>Long-Term Planning [Page 14]</u> <u>Master Production Scheduling [Page 15]</u>

Work Centers (PP-BD-WRKC)

## Work Centers (PP-BD-WRKC)

Here the roles for the work center area are carried out.

**Work Center Maintenance** 

## **Work Center Maintenance**

Technical name: SAP\_LO\_PP\_WRKC\_MAINTAIN

### Tasks

- Create, change and display work centers, capacities and hierarchies
- Carry out reporting
- Make current settings

### **Activities in Work Center Maintenance**

| Transaction | Activity                  |
|-------------|---------------------------|
| CEWB        | Engineering Workbench     |
| CC04        | Display product structure |

#### Work Center

| Create work center  |
|---------------------|
| Change work center  |
| Display work center |
| Replace work center |
|                     |

#### Capacity

| CR11 | Create capacity  |
|------|------------------|
| CR12 | Change capacity  |
| CR13 | Display capacity |

### Hierarchy

| CR21 | Create hierarchy  |
|------|-------------------|
| CR22 | Change hierarchy  |
| CR23 | Display hierarchy |

#### Reporting

| CR60 | Work center information system |
|------|--------------------------------|
| CR05 | Work center list               |
| CR06 | Cost center assignments        |
| CR07 | Work center capacities         |
| CR08 | Work center hierarchy          |
| CA80 | Work center usage              |
| CR15 | Capacity usage                 |
| CR10 | Work center change document    |

#### Work Center Maintenance

### **Current settings**

| S_ALR_87004012 | Define shift sequence        |
|----------------|------------------------------|
| S_ALR_87004594 | Determine suitability        |
| S_ALR_87004610 | Define capacity planner      |
| S_ALR_87004619 | Determine move time matrix   |
| S_ALR_87004628 | Determine person responsible |
| S_ALR_87004646 | Define wage group            |

CR09 Standard text task list

Work Center Display

## Work Center Display

Technical name: SAP\_LO\_PP\_WRKC\_DISPLAY

### Tasks

- Display work centers, capacities and hierarchies
- Carry out reporting

### Activities in Work Center Display

| Transaction | Activity                  |
|-------------|---------------------------|
| CEWB        | Engineering Workbench     |
| CC04        | Display product structure |

#### Work Center

| CR03 | Display work center |
|------|---------------------|
| CR13 | Display capacity    |
| CR23 | Display hierarchy   |

#### Reporting

| CR60 | Work center information system      |
|------|-------------------------------------|
| CR05 | Work center list                    |
| CR06 | Work center cost center assignments |
| CR07 | Work center capacities              |
| CR08 | Work center hierarchy               |
| CA80 | Work center usage                   |
| CR15 | Capacity usage                      |
| CR10 | Work center change document         |

Routings (PP-BD-RTG)

## **Routings (PP-BD-RTG)**

Here the roles for the routing area are carried out.

#### **Routing Maintenance**

## **Routing Maintenance**

Technical name: SAP\_LO\_PP\_RTG\_MAINTAIN

### Tasks

- Create, change and display routings (routings, reference operation sets, rate routings and reference rate routings)
- Replace mass changes
- Update and schedule material masters
- Delete task lists with and without archiving
- Carry out reporting

### **Activities in Routing Maintenance**

| Transaction | Activity                  |
|-------------|---------------------------|
| CEWB        | Engineering Workbench     |
| CC04        | Display product structure |

#### Routings

| CA01 | Create routing  |
|------|-----------------|
| CA02 | Change routing  |
| CA03 | Display routing |

#### **Reference Operation Sets**

| CA11 | Create reference operation set  |
|------|---------------------------------|
| CA12 | Change reference operation set  |
| CA13 | Display reference operation set |

#### **Rate Routings**

| CA12 | Create rate routing  |
|------|----------------------|
| CA22 | Change rate routing  |
| CA23 | Display rate routing |

#### **Reference rate routings**

|      | Create reference rate routing |
|------|-------------------------------|
| CA32 | Change reference rate routing |

CA33 Display reference rate routing

#### **Mass Changes**

| CA85 | Replace work center                                    |
|------|--|
| CA95 | Replace reference operation set/reference rate routing |

#### **Routing Maintenance**

| CA75 | Replace PRT |
|------|-------------|
|------|-------------|

#### **Material Masters**

| CA97 Sc | hedule material masters |
|---------|-------------------------|
|---------|-------------------------|

| CA96  | Update material masters |
|-------|-------------------------|
| 07.00 |                         |

Deleting Task Lists

| CA99 | With archiving    |
|------|-------------------|
| CA98 | Without archiving |

### Reporting

| CA70 | PRT use                       |
|------|-------------------------------|
| CA90 | Reference operation set usage |
| CA80 | Work center usage             |
| CA51 | Print list                    |
| CA60 | Routing changes               |

CA01 Standard text

#### **Routing Display**

## **Routing Display**

Technical name: SAP\_LO\_PP\_RTG\_DISPLAY

### Tasks

- Display routings (reference operation sets, routings, rate routings and reference rate routings)
- Carry out reporting (Reference to: Routing)
- Display work centers, capacities and hierarchies
- Carry out reporting (Reference to: Work center)

### Activities in Routing Display

| Transaction | Activity                  |
|-------------|---------------------------|
| CEWB        | Engineering Workbench     |
| CC04        | Display product structure |

#### Routing

| CA13 | Display reference operation set |
|------|---------------------------------|
| CA03 | Display routing                 |
| CA33 | Display reference rate routing  |
| CA23 | Display rate routing            |

#### Reporting

| CA60 | Routing changes                         |
|------|---|
| CA63 | Rate routing display documents          |
| CA64 | Reference rate routing change documents |
| CA70 | PRT use                                 |
| CA90 | Reference operation set usage           |
| CA51 | Print list                              |

#### **Work Center**

| CR03 | Display work center |
|------|---------------------|
| CR13 | Display capacity    |
| CR23 | Display hierarchy   |

#### Reporting

| CR60 | Work center information system      |
|------|-------------------------------------|
| CR05 | Work center list                    |
| CR06 | Work center cost center assignments |

### **Routing Display**

| CR07 | Work center capacities |
|------|------------------------|
| CR08 | Work center hierarchy  |

Repetitive Manufacturing (PP REM)

## **Repetitive Manufacturing (PP REM)**

Listed below are the single roles for the Repetitive Manufacturing (PP REM) component.

**Repetitive Manufacturing: Displaying Master Data** 

## **Repetitive Manufacturing: Displaying Master Data**

Technical name: SAP\_PP\_REM\_MASTERDATADISPL

### Tasks

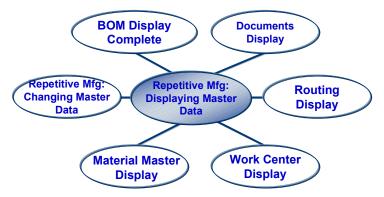
This role contains the functions for displaying the repetitive manufacturing master data. However, it only includes the master data which is different from the master data of other production types.

### Activities in the SAP System

- Displaying production versions
- Displaying the line hierarchy
- Displaying line balancing
- Printing operational method sheets
- Displaying serial numbers

### Integration

The following graphic illustrates the integration between the *Repetitive Manufacturing: Displaying Master Data* role and other roles. Particular attention is paid to the roles for displaying other master data required for repetitive manufacturing.



#### **Repetitive Manufacturing: Changing Master Data**

## **Repetitive Manufacturing: Changing Master Data**

Technical name: SAP\_PP\_REM\_MASTERDATACHANGE

### Tasks

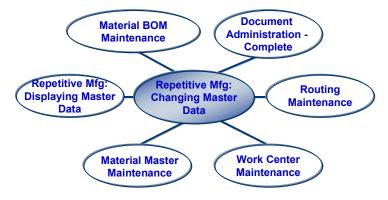
This role contains the functions for changing master data for repetitive manufacturing. However, it only includes the master data which is different from the master data of other production types.

### Activities in the SAP System

- Processing production versions
- Processing the line hierarchy
- Processing line balancing
- Printing operational method sheets
- Processing the product cost collector
- Processing serial numbers

### Integration

The following graphic illustrates the integration between the *Repetitive Manufacturing: Changing Master Data* role and other roles. Particular attention is paid to the roles for processing other master data required for repetitive manufacturing.



#### **Repetitive Manufacturing: Planning**

## **Repetitive Manufacturing: Planning**

Technical name: SAP\_PP\_REM\_PLANNING

### Tasks

The planner converts the planning specifications from the higher-level Supply Chain into a feasible plan. The planner also assigns the planned doers to the production lines, creates new planned orders and checks the capacity load. The aim is to create an optimal order sequence taking lower-level production areas into account. It may also be necessary for the planner to coordinate his planning with lower-level production areas.

### Activities in the SAP System

- Accessing the planning table in display and change modes
- Accessing the sequence schedule in display and change modes
- Printing the master production schedule

#### **MiniApps**

Production list

This MiniApp displays a list of all the planned orders to be produced on a production line in the current shift or on the current day.

### Integration

The following graphic illustrates the integration between the *Repetitive Manufacturing: Planning* role and other roles.



#### **Repetitive Manufacturing: Production**

## **Repetitive Manufacturing: Production**

Technical name: SAP\_PP\_REM\_PRODUCTION

### Tasks

This role contains the repetitive manufacturing functions required by an employee in production working on the production line.

### Activities in the SAP System

- Displaying the master production schedule for the production line
- Setting the kanban status either manually or using a bar code scanner
- Displaying the situation for material staging
- Creating final or reporting point backflushes
- Displaying document logs for the backflush and for reporting point quantities

#### **MiniApps**

Production list

This MiniApp displays a list of all the planned orders to be produced on a production line in the current shift or on the current day.

#### **Repetitive Manufacturing: Backflushing**

## **Repetitive Manufacturing: Backflushing**

Technical name: SAP\_PP\_REM\_CONFIRMATION

### Tasks

Backflushing in Repetitive Manufacturing is used to record the work progress on the production line in the system. For this purpose, a final backflush is usually carried out at the end of the production line whereby the following processes can be carried out separately:

- · Posting goods receipts for finished parts
- Posting goods issues for components
- Reducing planned orders or production quantities
- Posting production costs to the product cost collector
- Updating statistics in the Logistics Information System (LIS), such as, the goods receipt statistics or the statistics on material consumption, for example.

In make-to-stock repetitive manufacturing, you can also carry out reporting point backflushes at predefined operations to record stock for unfinished products in production, for example.

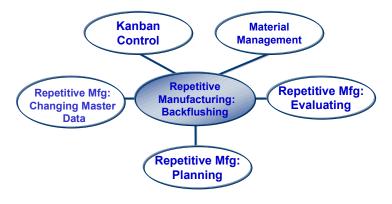
### Activities in the SAP System

- Executing final or reporting point backflushes whereby you can correct the components or the activities.
- Posting assembly or component scrap
- Reversing the backflush
- Executing the collective backflush
- Postprocessing backflushing errors
- Creating inspection lots for production versions
- Backflushing kanban orders

### Integration

The following graphic illustrates the integration between the *Repetitive Manufacturing: Backflushing* role and other roles.

#### Repetitive Manufacturing: Backflushing



**Repetitive Manufacturing: Evaluating** 

# **Repetitive Manufacturing: Evaluating**

Technical name: SAP\_PP\_REM\_REPORTING

#### Tasks

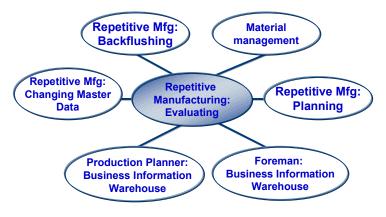
Using the functions in this role, you can carry out logistics analyses and product cost analyses for Repetitive Manufacturing.

#### Activities in the SAP System

- Displaying document logs from backflushing.
- Displaying reporting point quantities.
- Carrying out analyses in the Logistics Information System. For example, you can analyze the goods receipt statistics, component consumption or product costs.

#### Integration

The following graphic illustrates the integration between the *Repetitive Manufacturing: Evaluating* role and other roles.



KANBAN (PP-KAB)

# KANBAN (PP-KAB)

The following are the single roles in the component KANBAN (PP-KAB).

#### **KANBAN:** Control

## **KANBAN: Control**

Technical name: SAP\_PP\_KAB\_CONTROL

#### Tasks

The employee working with KANBAN monitors and controls the material flow by setting and changing the kanban status. He also creates the master data necessary for KANBAN.

#### Activities in the SAP System

- Monitor the KANBAN data with the kanban board
- Change the kanban status
- Correct the kanbans
- Process the control cycles
- Process the supply areas

#### **Notes**

The functions for analyzing the KANBAN process are contained in the separate role KANBAN: *Evaluation.* 

The role *Repetitive Manufacturing: Production* contains functions for an employee in repetitive manufacturing. This role also contains the functions for setting the kanban status.

#### Integration

The graphic shows the integration between the role KANBAN: Control and other roles.



#### **KANBAN: Evaluation**

### **KANBAN: Evaluation**

Technical name: SAP\_PP\_KAB\_REPORTING

#### Tasks

The employee working with KANBAN requires this role to gain an overview of the efficiency of the processes controlled by KANBAN. In addition, this function can be used to detect the cause of errors.

### Activities in the SAP System

- Display plant overview of the kanbans
- Analyze control cycles
- Access error display for kanbans
- Access information system
- Access collective print for kanbans

#### **Notes**

The functions for controlling the KANBAN process are contained in the separate role KANBAN: *Control.* 

### Integration

The graphic shows the integration between the role KANBAN: Evaluation and other roles.



Production Orders (PP-SFC)

# **Production Orders (PP-SFC)**

The following documents the single roles for the Production Orders (PP SFC) component.

**Goods Movements** 

## **Goods Movements**

Technical name: SAP\_PP\_SFC\_GM

#### Tasks

You use goods movements to make available the material components required by the production process, and to deliver the finished goods to the warehouse.

These tasks occur when the Inventory Management (MM-IM) application component is in use.

- Post goods issue
- Create reservation
- Post goods receipt



#### Confirmations

## Confirmations

Technical name: SAP\_PP\_SFC\_CONFIRMATIONS

#### Tasks

Confirmations document the processing state of orders, operations, suboperations, and individual capacities. The tasks cover the entry, display, and cancellation of confirmations.

- Enter confirmations
  - Confirmations for time ticket
  - Progress confirmations for time ticket
  - Order confirmations
  - Time event confirmations
- Cancel confirmations
- Display confirmations

**Materials Management** 

### **Materials Management**

Technical name: SAP\_PP\_SFC\_MAT\_MANAGEMENT

#### Tasks

The task of Materials Management is to make materials available for production as and when needed, and to monitor the availability of materials.

These tasks occur when the Inventory Management (MM-IM) application component is in use.

- Picking
- Access material availability overview
- Access missing parts information system

#### **Order Change Management**

# **Order Change Management**

Technical name: SAP\_PP\_SFC\_OCM

#### Tasks

Order Change Management contains the tasks used to adapt production orders to a change in the product structure (sales order change or master data change).

- Determine which production orders are affected
- Make changes
- Compare orders

Postprocessing

### Postprocessing

Technical name: SAP\_PP\_SFC\_ORDER\_EXCEPTIONS

### Tasks

In postprocessing, errors that occur during automatic processes in connection with confirmation entry are analyzed and corrected.

- Postprocess defective confirmations
- Postprocess defective actual cost calculations
- Postprocess defective goods movements

#### Processing

## Processing

Technical name: SAP\_PP\_SFC\_ORDERS

#### Tasks

The processing of production orders includes all tasks that are required to execute and monitor production orders.

- Create a production order with material, without material, with a sales order, with a project
- Change a production order
- Display a production order
- Print production orders
- Release production orders
- Execute backorder processing
- Convert a planned order
- Execute collective conversion of planned orders
- Call up the order progress report
- Execute mass processing of production orders
- Call up the order information system
- Call up the order overview
- Call up the planning table from Repetitive Manufacturing

**Production Information System** 

# **Production Information System**

Technical name: SAP\_PP\_SFC\_PERFORMANCE

### Tasks

The production information system includes a wide range of evaluation and analysis options.

- Operation analysis
- Material analysis
- Work center analysis
- Product cost analysis
- PP-PI material consumption analysis

#### **Production Personnel**

# **Production Personnel**

Technical name: SAP\_PP\_SFC\_PRODUCTION\_OPERATOR

### Tasks

Operators carry out the tasks prescribed by the supervisor. When there is a material shortfall, an operator can trigger replenishment.

- Display production order
- Post goods issue for production order
- Post goods receipt for production order
- Change status of kanban container
- Change status of kanban container with barcode

**Production Resources and Tools** 

# **Production Resources and Tools**

Technical name: SAP\_PP\_SFC\_PRT

### Tasks

Production resources and tools (PRT) are moveable operating resources used in production or plant maintenance. The tasks cover the creation, maintenance, and display of PRTs.

- Create PRT
- Change PRT
- Display PRT
- Display PRT use

#### Warehouse Management

# Warehouse Management

Technical name: SAP\_PP\_SFC\_WM

### Tasks

Warehouse Management supplies materials to production by means of the LE-WM (Warehouse Management) application component.

- Picking for production orders
- Make crate parts available
- Make release order parts available

#### **Production Planning - Process Industries (PP-PI)**

### **Production Planning - Process Industries (PP-PI)**

The following documents the single roles for the *Production Planning - Process Industries (PP-PI)* component.



**Maintain Resource** 

## **Maintain Resource**

Technical name: SAP\_PP\_PI\_RESOURCE\_EXP

### Tasks

This role allows you to create resources or change already existing resource master data. The role also allows you to process resource hierarchies and resource networks.

### Integration

If you want to display resource master data, resource hierarchies or resource networks that already exist, use the role <u>Display Resource [Page 55]</u> (SAP\_PP\_PI\_RESOURCE\_STD).

**Settings for Resources** 

### **Settings for Resources**

Technical name: SAP\_PP\_PI\_RESOURCE\_SUPER

### Tasks

The role allows you to make settings in the areas of Customizing that deal with resources. You can define shift sequences and transition matrices. Furthermore, you can display public holiday and factory calendars.

### **Notes on Adjusting**

Public holiday and factory calendars are cross-client. For this reason, the role only contains authorization to display the calendars. If role users want to maintain public holiday and factory calendars, they must obtain authorization to maintain calendars as well as to maintain cross-client tables.

If you want to set up maintenance authorization, extend the authorization profile of the role by choosing Basis - Central Functions  $\rightarrow$  Public holiday and factory calendar maintenance and Basis: Administration  $\rightarrow$  Cross-Client Table Maintenance.



Especially this last point must be carefully considered, since data might be changed that affects other single roles where it can only be displayed.



**Display Resource** 

# **Display Resource**

Technical name: SAP\_PP\_PI\_RESOURCE\_STD

### Tasks

This role allows you to display resource master data. Along with the resource master data, you can also view resource network data and resource hierarchy data. Additionally, you can use transactions for evaluating resources, such as the resource list, cost center assignment, resource capacities, and the display of change documents.

#### Integration

Master data for resources is edited in the role <u>Maintain Resource [Page 53]</u> (SAP\_PP\_PI\_RESOURCE\_EXP).

**Enter Downtimes** 

### **Enter Downtimes**

Technical name: SAP\_PP\_PI\_DOWNTIME\_EXP

### Tasks

This role allows you to enter downtimes for resources.

### Integration

You can use the role <u>Settings for Downtime [Page 57]</u> to make the settings required to enter downtimes.

### **Settings for Downtimes**

Technical name: SAP\_PP\_PI\_DOWNTIME\_SUPER

### Tasks

This role allows you to make settings for downtimes, which means you can check downtime elements, assign them to the capacity categories of your resources, and specify a calculation schema for determining default values.

#### **Notes on Adjusting**

Downtime elements are cross-client. Therefore, the role only contains display authorization for downtime elements. If the user of the role is to maintain the data, extend the authorization to include maintenance of cross-client data by choosing, in the role profile, *Basis Administration*  $\rightarrow$  *Table Maintenance of Cross-Client Tables*. Note that this can lead to the user also being able to maintain data that he or she is only authorized to display in other single roles.

When defining downtime elements, you can also translate their short texts. If the user of the role is to translate short texts for user-defined downtime elements, extend the authorization for the appropriate target language in the role profile by choosing *Basis-Development Environment*  $\rightarrow$  *Authorization Object for Translation Environment*.

In the authorization profile of the role, authorization to enter downtimes is given under *Production Planning*  $\rightarrow$  *CIM: Work Center-Plant*. You also need this authorization to define a calculation schema to determine downtime default values. The plant is not checked.

#### Integration

To enter the duration of downtimes, you need the role Enter Downtimes [Page 56].

**Edit Capacity** 

# **Edit Capacity**

Technical name: SAP\_PP\_PI\_CAPACITY\_EXP

### Tasks

This role bundles all functions that are required to edit and display capacities. You can also see whether a capacity is used as a pooled capacity, scheduling basis, or copy from capacity in a where-used list.

**Edit Standard Texts** 

# **Edit Standard Texts**

Technical name: SAP\_PP\_PI\_STD\_TXT\_EXP

### Tasks

You can use this role to display and edit standard texts that are used for creating texts for operations, phases, and secondary resources of master recipes and process orders.

**Display Master Recipe** 

# **Display Master Recipe**

Technical name: SAP\_PP\_PI\_MASTER\_RECIPE\_STD

#### Tasks

You can use this role to display data of master recipes and, within the same recipe, their production versions.

In addition to the individual display, this role comprises master recipe evaluation functions such as the analysis of the material list or bill of material structure and where-used lists for recipe objects (for example, resource or material).

#### Integration

To display production versions outside of recipes, the role <u>Display Production Version [Page 62]</u> (SAP\_PP\_PI\_PROD\_VERSION\_STD) is available.



**Edit Master Recipe** 

# **Edit Master Recipe**

Technical name: SAP\_PP\_PI\_MASTER\_RECIPE\_EXP

#### Tasks

You can use this role to edit master recipes from the production point of view. You can plan the process steps (operations/phases) and material lists of recipes and, within recipe editing, their production versions.

In addition to individual processing, this role comprises master recipe mass functions such as the mass replacement of recipe objects (for example, resources) and the updating of scheduling results in the material.

#### Integration

This role does not include planning quality inspections during production (in-process quality inspections). This is part of the tasks of the role *QM Inspection Planning* (SAP\_QM\_PT\_IPLANNING).

To edit production versions on their own, the role <u>Edit Production Version [Page 63]</u> (SAP\_PP\_PI\_PROD\_VERSION\_EXP) is available.

**Display Production Version** 

# **Display Production Version**

Technical name: SAP\_PP\_PI\_PROD\_VERSION\_STD

### Tasks

You can use this role to display and print production versions independent from the material or recipe.

### Integration

To navigate to the corresponding master recipe or bill of material when displaying a production version, you also need the role <u>Display Master Recipe [Page 60]</u> (SAP\_PP\_PI\_MASTER\_RECIPE\_STD).

**Edit Production Version** 

# **Edit Production Version**

Technical name: SAP\_PP\_PI\_PROD\_VERSION\_EXP

#### Tasks

You can use this role to edit and check production versions independent from the material and recipe.

### Integration

To navigate to the corresponding master recipe or bill of material when editing a production version, you also need the role <u>Display Master Recipe [Page 60]</u> (SAP\_PP\_PI\_MASTER\_RECIPE\_STD) or <u>Edit Master Recipe [Page 61]</u> (SAP\_PP\_PI\_MASTER\_RECIPE\_EXP). **Create Process Order** 

### **Create Process Order**

Technical name: SAP\_PP\_PI\_PROC\_ORDER\_EXP\_CREA

### Tasks

You can use this role to create process orders. You can do this with or without reference to a material, or with (partial) conversion of one or more planned orders.

#### Integration

To be able to changes process orders afterwards, you also need the role <u>Change Process Order</u> [Page 66] (SAP\_PP\_PI\_PROD\_ORDER\_EXP\_CHNG).

**Display Process Order** 

# **Display Process Order**

Technical name: SAP\_PP\_PI\_PROC\_ORDER\_STD

### Tasks

You can use this role to display data from process orders, determine the use of production resources/tools, and print shop floor papers.

**Change Process Order** 

## **Change Process Order**

Technical name: SAP\_PP\_PI\_PROC\_ORDER\_EXP\_CHNG

#### Tasks

You can use this role to change and release process orders. Certain mass processing functions are also available (for example, scheduling, setting up capacity requirements, collective release, costing, generating transfer requirements, closing).

#### Integration

To be able to create process orders, you also need the role <u>Create Process Order [Page 64]</u> (SAP\_PP\_PI\_PROD\_ORDER\_EXP\_CREA).

#### MiniApp: Worklist for Process Orders

### **MiniApp: Worklist for Process Orders**

Technical name: SAP\_PP\_PI\_MA\_PROC\_ORDER\_WL\_CUM

#### Tasks

In the mySAP.com Workplace, you receive a MiniApp with this role which displays how many process orders with a specific status profile are available in the worklists of the person using this role. You can set up the selection variant for determining the worklist according to your requirements.

#### **Notes on Adjusting**

- Check the status selection profiles for process orders available in the standard system and define your own profiles if required.
- Define an appropriate selection variant for the RMAORD report program.

You can use the following standard variants as templates to copy. Note, however, that the names of the user variants used in the Workplace may not contain the character "&":

- SAP&PI\_MA\_PMAN (Process Order Worklist for Plant Managers)
- SAP&PI\_MA\_PLAN (Process Order Worklist for Production Planners)
- SAP&PI\_MA\_SMAN (Process Order Worklist for Shift Managers)

If you assign several different status selection profiles to a selection variant, you will get a separate line with a short text for each selection profile and the number of process orders for each profile in the MiniApp.

In the standard system, status selection profiles are available for statuses such as:

- Order to be approved
- Locked order
- Order to be released
- Released order without control recipe
- Order to be processed
- Incomplete order
- Order to be technically completed
- Order with errors in cost determination

For performance reasons, it is a good idea to restrict the selection period as much as possible.

#### MiniApp: Worklist for Process Orders

• Assign the parameter PI\_VAR\_POMMA to the user of this role in the user master record, and assign the required selection variants to the parameter.

#### Integration

The user of the role can start the detailed worklist by calling up the object overview of the order information system from the role menu and executing an appropriate selection variant from there.

**Evaluate Order Information System** 

# **Evaluate Order Information System**

Technical name: SAP\_PP\_PI \_ORDER\_INFO\_STD

#### Tasks

You can use this role to generate specific evaluations for orders (object overviews, individual object lists, production memos).

### Integration

To carry out further evaluations, you can use the following roles:

Evaluate Missing Parts Info System [Page 71] (SAP\_PP\_PI\_MPARTS\_INFO\_STD) Evaluate Shop Floor Info System [Page 70] (SAP\_PP\_PI\_SF\_INFO\_STD) **Evaluate Shop Floor Info System** 

# **Evaluate Shop Floor Info System**

Technical name: SAP\_PP\_PI\_SF\_INFO\_STD

### Tasks

This role allows you to use the shop floor info system to generate various evaluations (for example, resource analyses, process orders, material consumption, product costing).

### Integration

To carry out further evaluations, you can use the following roles:

Evaluate Order Information System [Page 69] (SAP\_PP\_PI\_ORDER\_INFO\_STD) Evaluate Missing Parts Info System [Page 71] (SAP\_PP\_PI\_MPARTS\_INFO\_STD)

**Evaluate Missing Parts Info System** 

# **Evaluate Missing Parts Info System**

Technical name: SAP\_PP\_PI\_MPARTS\_INFO\_STD

#### Tasks

You can use this role to generate evaluations in the missing parts info system.

#### Integration

To carry out further evaluations, you can use the following roles: <u>Evaluate Order Information System [Page 69]</u> (SAP\_PP\_PI\_ORDER\_INFO\_STD) <u>Evaluate Shop Floor Info System [Page 70]</u> (SAP\_PP\_PI\_SF\_INFO\_STD) **Enter Goods Movement for Order** 

# **Enter Goods Movement for Order**

Technical name: SAP\_PP\_PI\_GOODS\_MOVE\_EXP

### Tasks

This role allows you to pick and carry out reconciliation for material components required in production.

### Integration

To be able to use the standard functions for goods movements (for example, posting goods receipts and issues) along with the functions specific to PP-PI in this role, you also need the role <u>Goods Movement (MM-IM) [Ext.]</u> (SAP\_MM\_IM\_GOODS\_MOVEMENT\_EMPTY).

**Enter Goods Movement with Handling Unit** 

# **Enter Goods Movement with Handling Unit**

Technical name: SAP\_PP\_PI\_GOODS\_MOVE\_HU\_EXP

### Tasks

This role allows you to post goods movements for process orders with handling units, pack the finished product in handling units, and display handling units for an order.

### Integration

To cancel these goods movements, you need the role <u>Cancel Goods Movement with</u> <u>Handling Unit [Page 74]</u>.

#### **Cancel Goods Movement with Handling Unit**

# **Cancel Goods Movement with Handling Unit**

Technical name: SAP\_PP\_PI\_GOODS\_MOVE\_HU\_SUPER

### Tasks

This role allows you to cancel goods movements with handling units and evaluate messages that were generated for goods movements with handling units.

#### **Display Material Staging for Order**

# **Display Material Staging for Order**

Technical name: SAP\_PP\_PI\_MAT\_STAGING\_STD

### Tasks

You can use this role to display the current situation of material staging for orders.

### Integration

To be able to trigger material staging and do stock transfers, you also need the role <u>Carry Out</u> <u>Material Staging for Order [Page 76]</u> (SAP\_PP\_PI\_MAT\_STAGING\_EXP).

#### **Carry Out Material Staging for Order**

# **Carry Out Material Staging for Order**

Technical name: SAP\_PP\_PI\_MAT\_STAGING\_EXP

### Tasks

You can use this role to trigger material staging for orders, do stock transfers for reservations, and call up message logs for material staging.

### Integration

If you only want to display the staging situation, you can use the role <u>Display Material Staging for</u> <u>Order [Page 75]</u> (SAP\_PP\_PI\_MAT\_STAGING\_STD).

**Display Order Confirmation** 

# **Display Order Confirmation**

Technical name: SAP\_PP\_PI\_ORDER\_CONF\_STD

### Tasks

You can use this role to display confirmations for process orders and individual phases as well as secondary resources.

### Integration

To enter confirmations, you also need the role <u>Enter Order Confirmation. [Page 78]</u> (SAP\_PP\_PI\_ORDER\_CONF\_EXP). To cancel confirmations and postprocess error records from automatic goods movements, you need the role <u>Correct Order Confirmation [Page 79]</u> (SAP\_PP\_PI\_ORDER\_CONF\_SUPER). **Enter Order Confirmation** 

# **Enter Order Confirmation**

Technical name: SAP\_PP\_PI\_ORDER\_CONF\_EXP

### Tasks

This role contains the functions for confirming process orders. You can enter time ticket confirmations and time events for phases and secondary resources or confirm at order header level.

### Integration

To cancel confirmations and postprocess error records from automatic goods movements, you also need the role <u>Correct Order Confirmation [Page 79]</u> (SAP\_PP\_PI\_ORDER\_CONF\_SUPER).

**Correct Order Confirmation** 

# **Correct Order Confirmation**

Technical name: SAP\_PP\_PI\_ORDER\_CONF\_SUPER

### Tasks

You can use this role to cancel confirmations and postprocess error records from automatic goods movements.

### Integration

To enter confirmations, you also need the role <u>Enter Order Confirmation [Page 78]</u> (SAP\_PP\_PI\_ORDER\_CONF\_EXP). To only display confirmations, the role <u>Display Order</u> <u>Confirmation [Page 77]</u> (SAP\_PP\_PI\_ORDER\_CONF\_STD) is available. **Display Production Campaign** 

# **Display Production Campaign**

Technical Name: SAP\_PP\_PI\_PROD\_CAMPAIGN\_STD

### Tasks

You can use this role to display production campaigns.

### Integration

To also be able to process production campaigns, you also need the role <u>Process Production</u> <u>Campaign [Page 81]</u> (SAP\_PP\_PI\_PROD\_CAMPAIGN\_EXP).

#### **Process Production Campaign**

# **Process Production Campaign**

Technical Name: SAP\_PP\_PI\_PROD\_CAMPAIGN\_EXP

### Tasks

You can use this role to create and change production campaigns.

### Integration

To display production campaigns, use the role <u>Display Production Campaign [Page 80]</u> (SAP\_PP\_PI\_PROD\_CAMPAIGN\_STD).

**Execute Capacity Evaluations** 

# **Execute Capacity Evaluations**

Technical name: SAP\_PP\_PI\_CAPA\_EVAL\_STD

### Tasks

You can use this role to generate different evaluations for your planning (for example, utilization of capacity, pooled capacity, backlogging, capacity overload) and execute capacity leveling.

**Edit Process Message** 

# **Edit Process Message**

Technical name: SAP\_PP\_PI\_PROC\_MESSAGE\_EXP

### Tasks

You can use this role to call up the process message monitor. Here, you can change and manually send process messages that have not yet been sent. You cannot use this role to delete process messages.

### Notes on Tailoring

#### Authorization to Change Process Messages

This role comprises, for example, the authorization to change data in process messages that have not yet been sent. Note that you may change data that is both *not quality-relevant* and *quality-relevant* with this authorization. If you need to comply with legal requirements such as the guidelines on Good Manufacturing Practices (GMP), you can delete the change authorization if you want. If you do so, you cannot make changes to process messages that have not yet been sent.

You can find the authorization for this in the profile for the role under *Production Planning -> PP-PI: Process Messages - Plant -> Activity.* 

#### **Sending Process Messages Automatically**

Apart from sending messages manually from within the message monitor, you can also define a background job to send the process messages automatically. You define background jobs for sending process messages in Customizing for *Process Management* under *Process Messages*.

**Monitor Control Recipe** 

# **Monitor Control Recipe**

Technical name: SAP\_PP\_PI\_CTRL\_RECIPE\_EXP

### Tasks

You can use this role to call up the control recipe monitor. Here, you can monitor and manually send created control recipes. You cannot use this role to delete control recipes.

### **Notes on Tailoring**

#### Authorization to Send Control Recipes to a Destination of Type 4

You can send the following types of control recipes:

- Control recipes that are sent to a destination of type 1 (ABAP list-based PI sheet)
- Control recipes that are sent to a destination of type 4 (browser-based PI sheet)

You need a separate authorization to be able to send control recipes to a **destination of type 4**. This authorization (*BC-SRV-KPR-BDS: Authorization for document set;* authorization object S\_BDS\_DS) is included in this role.

#### **Sending Control Recipes Automatically**

Apart from sending control recipes manually from within the control recipe monitor, you can also define a background job to send them automatically. You define background jobs for sending control recipes in Customizing for *Process Management* under *Control Recipes/PI Sheets*.



**Maintain PI Sheet** 

# **Maintain PI Sheet**

Technical name: SAP\_PP\_PI\_PI\_SHEET\_EXP

### Tasks

You can use this role to call up the worklist for maintaining PI sheets. Here, you can maintain PI sheets that have status *New* and *In process*, which means that you can enter data, carry out calculations, make function calls, and create process messages in these PI sheets.

You cannot use this role to delete PI sheets.

### Integration

You cannot use this role to perform functions that change the PI sheet status. For example, you cannot cancel, technically complete, or complete PI sheets. To perform these functions, you need the role <u>Check and Complete PI Sheet [Page 87]</u> (SAP\_PP\_PI\_PI\_SHEET\_SUPER).

### **Notes on Tailoring**

#### **Authorization to Maintain PI Sheets**

With the *authorization object* C\_CRPI\_BER and Activity: 16 - Execute, this role comprises the authorization required to maintain PI sheets.

Note the meaning of the following activities:

| Activity               | Meaning   |
|------------------------|---|
| Activity: 16 - Execute | Maintaining the PI sheet                                  |
| Activity: 02 - Change  | Changing control information in ABAP list-based PI sheets |

#### Authorization to Maintain Browser-Based PI Sheets

You can maintain the following types of PI sheets:

- ABAP list-based PI sheets (control recipe destination type 1)
- Browser-based PI sheets (control recipe destination type 4)

You need a separate authorization to maintain browser-based PI sheets. This authorization (*Authorization for document set*; authorization object S\_BDS\_DS) is included in this role.

#### Authorization to Display the Input Help for Message and Instruction Characteristics

To display the input help for process message and process instruction characteristics in browserbased PI sheets, you need the authorization for the corresponding characteristic. This authorization is included in this role but no characteristics have been assigned to the role yet.

If you want to specify that certain process message and process instruction characteristics are displayed with this role, you can add them to the authorization profile for this role under *Production Planning -> PP-PI: Ext. Access to Message/Instruction Characteristics -> Characteristic Name*.

#### **Maintain PI Sheet**

#### **Authorization to Execute Function Calls**

If you want to execute function calls in the PI sheet, you also need the authorization for the corresponding function. These authorizations cannot be predefined in this role. For this reason, you must assign them through another role or add them to this role.

#### **Check and Complete PI Sheet**

# **Check and Complete PI Sheet**

Technical name: SAP\_PP\_PI\_PI\_SHEET\_SUPER

### Tasks

This role allows you to carry out more functions than the role <u>Maintain PI Sheet [Page 85]</u> (SAP\_PP\_PI\_PI\_SHEET\_EXP). You can use this role not only to maintain PI sheets but also to cancel (technically complete) and complete PI sheets. These functions change the PI sheet status.

You can use this role to find particular PI sheets according to selection criteria or call up the worklists for checking and completing PI sheets directly. In the worklist, the system displays the PI sheets that are valid for processing types *Check* or *Complete*.

You cannot use this role to delete PI sheets.

### **Notes on Tailoring**

#### Authorization to Maintain PI Sheets

With the *authorization object* C\_CRPI\_BER and Activity: 16 - Execute, this role comprises the authorization required to maintain PI sheets.

Note the meaning of the following activities:

| Activity               | Meaning   |
|------------------------|---|
| Activity: 16 - Execute | Maintaining the PI sheet                                  |
| Activity: 02 - Change  | Changing control information in ABAP list-based PI sheets |

#### Authorization to Maintain Browser-Based PI Sheets

You can maintain the following types of PI sheets:

- ABAP list-based PI sheets (control recipe destination type 1)
- Browser-based PI sheets (control recipe destination type 4)

You need a separate authorization to maintain browser-based PI sheets. This authorization (*Authorization for document set*; authorization object S\_BDS\_DS) is included in this role.

#### Authorization to Display the Input Help for Message and Instruction Characteristics

To display the input help for process message and process instruction characteristics in browserbased PI sheets, you need the authorization for the corresponding characteristic. This authorization is included in this role but no characteristics have been assigned to the role yet.

If you want to specify that certain process message and process instruction characteristics are displayed with this role, you can add them to the authorization profile for this role under *Production Planning -> PP-PI: Ext. Access to Message/Instruction Characteristics -> Characteristic Name.* 

#### Authorization to Execute Function Calls

If you want to execute function calls in the PI sheet, you also need the authorization for the corresponding function. These authorizations cannot be predefined in this role. For this reason, you must assign them through another role or add them to this role.

Check and Complete PI Sheet

#### MiniApp: Worklist for PI Sheets

# **MiniApp: Worklist for PI Sheets**

Technical name: SAP\_PP\_PI\_MA\_PI\_SHEET\_WL\_CUM

### Tasks

With this role, you receive a mini application in the mySAP.com Workplace that displays how many PI sheets of a specific status you have in your worklist. You can set up the selection variant for determining the worklist according to your requirements.

#### Notes on Tailoring

- Define selection variants suitable for different users or user groups for the RMAPIS report program, which is used to determine worklists. Note the following:
  - You can use the standard selection variants SAP&PIMA\_WRK (*PI sheets to be maintained*), SAP&PI\_MA\_CHK (*PI sheets to be checked*), and SAP&PI\_MA\_CLS (*PI sheets to be completed*) as templates. However, the name of the user variant used in the Workplace must not contain the "&" character.
  - If you select several statuses in a selection variant, the system displays a separate line with a short text for each status as well as the number of PI sheets for each status in the MiniApp.
  - To improve system performance, we recommend restricting the selection period as much as possible.
- Assign the PI\_VAR\_PISMA parameter to the persons using the above role in their user master records and assign the selection variant required to the parameter.

### Integration

The mini application provides a cumulative display of the worklist. You receive the detailed worklist as required by starting it with a corresponding selection variant from the Workplace menu. The following functions are available for this:

- Functions Worklist (for maintaining) and Find PI sheet in the role Maintain PI sheet (SAP\_PP\_PI\_PI\_SHEET\_EXP) You set up the corresponding selection variants in Customizing for Process Management by choosing Control Recipes/PI Sheets.
- Functions Worklist for Checking, Worklist for Completing, and Find PI Sheet in the role Check and Complete PI Sheets (SAP\_PP\_PI\_SHEET\_SUPER) You set up the corresponding selection variants in Customizing for Process Management by choosing Control Recipes/PI Sheets.
- Function *Worklist for Mini Applications* This function executes the selection variant used in the mini application. It requires the same authorizations as the above-mentioned roles. If required, include the function (transaction CO68) when you configure these roles for your users or user groups.

MiniApp: Worklist for PI Sheets

#### Edit Manufacturing Cockpit for Plant Manager

# **Edit Manufacturing Cockpit for Plant Manager**

Technical name: SAP\_PP\_PI\_MFG\_COCKPIT\_2\_EXP

### Tasks

You can use this role to maintain any process manufacturing cockpits that have been defined for the plant manager. Like in PI sheets, you can perform calculations, create process messages, make function calls. However, the data that you maintain in the cockpit cannot be order-specific.

### Notes on Tailoring

#### Authorization to Maintain Process Manufacturing Cockpits

You need a separate authorization to maintain process manufacturing cockpits. This authorization (*BC-SRV-KPR-BDS: Authorization for document set;* authorization object S\_BDS\_DS) is included in this role.

#### Authorization to Display the Input Help for Message and Instruction Characteristics

To display the input help for process message and process instruction characteristics, you need the authorization for the corresponding characteristic. This display authorization is included in this role but no characteristics have been assigned to the role yet.

If you want to specify that certain process message and process instruction characteristics are displayed with this role, you can add them to the authorization profile for this role under *Production Planning -> PP-PI: Ext. Access to Message/Instruction Characteristics -> Characteristic Name*.

#### Authorization to Execute Function Calls and other Applications

If you want to execute function calls or another application, such as a browser-based PI sheet, in the cockpit, you also need the authorization for the corresponding function. These authorizations cannot be predefined in this role. For this reason, you must assign them through another role or add them to this role.

#### **Authorization for Digital Signatures**

In general, you can execute digital signatures and complete the cockpit. However, this role does not comprise authorizations to execute digital signatures or complete the cockpit. These functions do not make sense in a cockpit since you would render the entire cockpit inactive by completing it, which in turn you can do by executing an (asynchronous) digital signature. You can then no longer maintain the cockpit.

#### Edit Manufacturing Cockpit for Manager/Engineer

# Edit Manufacturing Cockpit for Manager/Engineer

Technical name: SAP\_PP\_PI\_MFG\_COCKPIT\_1\_EXP

### Tasks

You can use this role to maintain any process manufacturing cockpits that have been defined for shift manager and process engineer. Like in PI sheets, you can perform calculations, create process messages, make function calls. However, the data that you maintain in the cockpit cannot be order-specific.

### **Notes on Tailoring**

#### Authorization to Maintain Process Manufacturing Cockpits

You need a separate authorization to maintain process manufacturing cockpits. This authorization (*BC-SRV-KPR-BDS: Authorization for document set;* authorization object S\_BDS\_DS) is included in this role.

#### Authorization to Display the Input Help for Message and Instruction Characteristics

To display the input help for process message and process instruction characteristics, you need the authorization for the corresponding characteristic. This display authorization is included in this role but no characteristics have been assigned to the role yet.

If you want to specify that certain process message and process instruction characteristics are displayed with this role, you can add them to the authorization profile for this role under *Production Planning -> PP-PI: Ext. Access to Message/Instruction Characteristics -> Characteristic Name.* 

#### Authorization to Execute Function Calls and other Applications

If you want to execute function calls or another application, such as a browser-based PI sheet, in the cockpit, you also need the authorization for the corresponding function. These authorizations cannot be predefined in this role. For this reason, you must assign them through another role or add them to this role.

#### **Authorization for Digital Signatures**

In general, you can execute digital signatures and complete the cockpit. However, this role does not comprise authorizations to execute digital signatures or complete the cockpit. These functions do not make sense in a cockpit since you would render the entire cockpit inactive by completing it, which in turn you can do by executing an (asynchronous) digital signature. You can then no longer maintain the cockpit.



**Display Order Record** 

# **Display Order Record**

Technical name: SAP\_PP\_PI\_ORDER\_RECORD\_STD

### Tasks

You can use this role to simulate and display order records for process orders. You can use it to check and analyze process data for materials even if they are not managed in batches.

### Integration

For materials that are managed in batches and are manufactured using approved orders, you can use batch records instead of order records. You must do so if you have to comply with the guidelines on Good Manufacturing Practices (GMP) for the pharmaceutical industry or similar legal requirements. In this case, use the roles <u>Edit Batch Record [Page 95]</u> (SAP\_PP\_PI\_BATCH\_RECORD\_EXP) and <u>Approve Batch Record [Page 96]</u>(SAP\_PP\_PI\_BATCH\_RECORD\_SUPER).

**Store Order Record** 

# **Store Order Record**

Technical name: SAP\_PP\_PI\_ORDER\_RECORD\_EXP

### Tasks

You can use this role to create and store order records for process orders. You can use it to document the production and processing of materials even if they are not managed in batches.

### Integration

For materials that are managed in batches and are manufactured using approved orders, you can create batch records instead of order records. You must do so if you have to comply with the guidelines on Good Manufacturing Practices (GMP) for the pharmaceutical industry or similar legal requirements. In this case, use the roles <u>Edit Batch Record [Page 95]</u> (SAP\_PP\_PI\_BATCH\_RECORD\_EXP) and <u>Approve Batch Record [Page 96]</u> (SAP\_PP\_PI\_BATCH\_RECORD\_SUPER).



**Edit Batch Record** 

# Edit Batch Record

Technical name: SAP\_PP\_PI\_BATCH\_RECORD\_EXP

### Tasks

You can use this role to create and edit batch records. It serves to document process data in companies that must comply with strict legal requirements such as the guidelines on Good Manufacturing Practices (GMP) for the pharmaceutical industry.

### Integration

You can use this role to prepare batch records for approval. The approval itself is then carried out using the role <u>Approve Batch Record [Page 96]</u> (SAP\_PP\_PI\_BATCH\_RECORD\_SUPER).

If you do not need to comply with the GMP guidelines or similar legal requirements, you can also use order records to document your process data. You can use the single roles <u>Display Order</u> <u>Record [Page 93]</u> (SAP\_PP\_PI\_ORDER\_RECORD\_STD) and <u>Store Order Record [Page 94]</u> (SAP\_PP\_PI\_ORDER\_RECORD\_EXP) for this.

### **Notes on Tailoring**

#### **Authorization to Create Attachments**

To add archive documents to your batch records as attachments, you need the authorization for the corresponding document type. This role includes the authorization for the document types defined in the standard system:

- EBR\_DOC (Batch record attachment: DOC)
- EBR\_PDF (Batch record attachment: PDF)
- EBR\_RTF (Batch record attachment: RTF)

If you use your own document types, add them to the authorization profile of the role by choosing Basis - Central Functions  $\rightarrow$  SAP ArchiveLink: Authorization for Access to Documents  $\rightarrow$  Document Type.

#### **Authorization for User Statuses**

You can use user statuses to visually reproduce company-specific processes and to make sure, for example, that batch records are not archived until they have been checked for completeness by all persons responsible. You define the status profile in the overall profile of the relevant material in Customizing for *Batch Records*.

If you use user statuses, you must specify in this role which statuses the persons using this role may set or delete. You can find the corresponding authorizations in the profile for this role under *Cross-application Authorization Objects*  $\rightarrow$  *Status Management: Set/Delete User Status* and *Status Management: Set/Delete User Status using Process.* 

**Approve Batch Record** 

# **Approve Batch Record**

Technical name: SAP\_PP\_PI\_BATCH\_RECORD\_SUPER

### Tasks

You can use this role to check, edit, and approve batch records. It enables you to carry out approval procedures for process documentation as required, for example, in the guidelines on Good Manufacturing Practices (GMP) for the pharmaceutical industry.

### Integration

You use this role to approve batch records that have been created using the role <u>Edit Batch</u> <u>Record [Page 95]</u> (SAP\_PP\_PI\_BATCH\_RECORD\_EXP).

If you do not need to comply with the GMP guidelines or similar legal requirements, you can also document your process data in order records without following an approval procedure. You can use the single roles <u>Display Order Record [Page 93]</u> (SAP\_PP\_PI\_ORDER\_RECORD\_STD) and <u>Store Order Record [Page 94]</u> (SAP\_PP\_PI\_ORDER\_RECORD\_EXP) for this.

### **Notes on Tailoring**

#### **Authorization to Create Attachments**

To add archive documents to your batch records as attachments, you need the authorization for the corresponding document type. This role includes the authorization for the document types defined in the standard system:

- EBR\_DOC (Batch record attachment: DOC)
- EBR\_PDF (Batch record attachment: PDF)
- EBR\_RTF (Batch record attachment: RTF)

If you use your own document types, add them to the authorization profile of the role by choosing Basis - Central Functions  $\rightarrow$  SAP ArchiveLink: Authorization for Access to Documents  $\rightarrow$  Document Type.

#### **Authorization for User Statuses**

You can use user statuses to visually reproduce company-specific processes and to make sure, for example, that batch records are not archived until they have been checked for completeness by all persons responsible. You define the status profile in the overall profile of the relevant material in Customizing for *Batch Records*.

If you use user statuses, you must specify in this role which statuses the persons using this role may set or delete. You can find the corresponding authorizations in the profile for this role under *Cross-application Authorization Objects*  $\rightarrow$  *Status Management: Set/Delete User Status* and *Status Management: Set/Delete User Status using Process*.

#### **Authorization for Digital Signature**

Digital signatures are used to approve batch records. You can use signature strategies to visually reproduce special approval processes by specifying which users or user groups must sign the batch record in which sequence. You define the signature strategy in the overall profile of the relevant material in Customizing for *Batch Records*.

#### **Approve Batch Record**

If you use signature strategies, you must specify to which user group the persons using this role belong. You can find the corresponding authorization in the profile for the role under *Production Planning*  $\rightarrow$  *PP-PI: Authorization Group for Digital Signatures*.

#### MiniApp: Worklist for Batch Records

# MiniApp: Worklist for Batch Records

Technical name: SAP\_PP\_PI\_MA\_BATCH\_REC\_WL\_CUM

### Tasks

In the mySAP.com Workplace, a MiniApp is available which displays how many batch records must be approved in your worklist. You can set up the selection variant for determining the worklist according to your requirements.

#### **Notes on Adjusting**

- For different users or user groups, define appropriate selection variants for the RMAEBR report program with which the worklists are determined. Note that the name of the user variant used in the Workplace may not contain the character "&".
- Assign the parameter PI\_VAR\_EBRMA to the user of this role in the user master record, and assign the required selection variants to the parameter.

### Integration

The MiniApp returns a cumulative display of the worklist. You can display the detailed worklist if required by starting it from the Workplace menu with the appropriate selection criteria. To do this, you need the role "Approve Batch Record" (SAP\_PP\_PI\_BATCH\_RECORD\_SUPER).

#### **Customizing for Process Management**

# **Customizing for Process Management**

Technical name: SAP\_PP\_PI\_CUST\_PROCMGMT

### Tasks

You use this role for settings in Customizing for *Process Management* that you must make even after your SAP implementation project has been completed because you rearrange your production line, for example, or start manufacturing a new product on a line. This role enables you to process a corresponding Customizing project.

#### Notes on Tailoring

#### Creating a Customizing Project

The person using the role accesses the initial Customizing screen via the menu. For this person to be able to call up and edit the relevant section of the Implementation Guide (IMG), you must define a project with the corresponding project scope in project management for Customizing and assign it to the user. The following sections of the Implementation Guide for *Production Planning for Process Industries*  $\rightarrow$  *Process Management* have been intended for this role:

- Control Recipes/PI Sheets → Define and Set Up Control Recipe Destinations
- Process Messages → Process Message Characteristics
- Process Messages → Define and Set Up Message Destinations
- Process Messages → Define and Set Up Process Message Categories
- Process Instructions
- Define Process Manufacturing Cockpits
- Tools

#### Maintenance Authorizations for ABAP Workbench Objects

Authorization for different object types of the development environment have been defined in the authorization profile for the role under *Basis - Development Environment*  $\rightarrow$  *ABAP Workbench*. The table below tells you for which Customizing activities the persons using this role need the different authorizations. Use it to add customer-specific settings, such as object name, development class, and authorization group of customer-defined objects in the profile for the role.

| Object<br>Type | Meaning                                  | Customizing Activity  |
|----------------|--|---|
| FUGS           | SAP part of an enhancement               | Use Function Exit for Automatic Char.Value<br>Assignment in section Process Messages $\rightarrow$ Process<br>Message Characteristics |
| FUGX           | Customer-specific part of an enhancement | Use Function Exit for Automatic Char.Value<br>Assignment in section Process Messages $\rightarrow$ Process<br>Message Characteristics |

#### **Customizing for Process Management**

| CMOD | Project management for<br>enhancements | Use Function Exit for Automatic Char. Value<br>Assignment in section Process Messages $\rightarrow$ Process<br>Message Characteristics                      |
|------|--|---|
| FUGR | Function group                         | Define R/3 Function Module in section Process<br>Messages $\rightarrow$ Define and Set Up Message<br>Destinations   |
|      |  | Create Function Modules for Input Validation and<br>Create Function Modules for Dynamic Function Calls<br>in section Define PI Categories for R/3 PI Sheets |
| TABL | ABAP Dictionary table                  | Define ABAP Table in section Process Messages $\rightarrow$ Define and Set Up Message Destinations  |

#### **Material Management: Production**

# Material Management: Production

Technical name: SAP\_PP\_MATERIAL\_MANAGEMENT

### Tasks

The material manager is responsible for making sure that the materials are staged at the supply areas on time. That is, he/she analyses the staging situation and creates replenishment elements.

The material manager must also monitor stocks, carry out availability checks and analyze the pegged requirements.

### Activities in the SAP System

- Analyzing the staging situation and accessing the pull list
- Displaying material staging logs
- Executing stock transfers for a reservation
- Checking the collective availability check
- Displaying the stock/requirements situation
- Displaying pegged requirements
- Displaying the stock overview

### **Notes**

This role is used in order-related production with production orders as well as in repetitive manufacturing.

### Integration

The following graphic illustrates the integration between the *Material Management: Production* role and other roles.



**Execute Capacity Planning** 

# **Execute Capacity Planning**

Technical name: SAP\_PP\_CAPA\_PLAN

### Tasks

You execute capacity leveling.

#### **Activities**

| Function | Transaction   |
|----------|---|
| CM21     | Capacity leveling work center view – Capacity planning table                        |
| CM22     | Capacity leveling work center view – Capacity planning table (tabular form)         |
| CM27     | Capacity leveling individual capacity view – Capacity planning table                |
| CM28     | Capacity leveling individual capacity view – Capacity planning table (tabular form) |
| CM31     | Capacity leveling order view – Capacity planning table                              |
| CM23     | Capacity leveling order view – Capacity planning table (tabular form)               |
| CM25     | Variable capacity leveling: Online  |
| CM40     | Variable capacity leveling: Execute in the background                               |
| CM41     | Variable capacity leveling: Background log  |
| CM32     | Capacity leveling project view – Capacity planning table                            |
| CM26     | Capacity leveling project view – Capacity planning table (tabular form)             |
| CN22     | Capacity requirements - Change network  |
| CN23     | Capacity requirements - Display network   |
| MD12     | Capacity requirements - Change planned order  |
| MD13     | Capacity requirements - Display planned order                                       |

#### Evaluate Capacity Planning

# **Evaluate Capacity Planning**

Technical name: SAP\_PP-CAPA\_PLAN\_EVAL

### Tasks

You execute capacity planning.

#### **Activities**

| Function | Transaction  |
|----------|--|
| CM01     | Capacity evaluation work center view: Load               |
| CM02     | Capacity evaluation work center view: Orders             |
| CM03     | Capacity evaluation work center view: Pool               |
| CM04     | Capacity evaluation work center view: Backlog            |
| CM05     | Capacity evaluation work center view: Overload           |
| CM07     | Variable capacity evaluation                             |
| CM50     | Extended evaluation: Work center view                    |
| CM51     | Extended evaluation: Individual capacity view            |
| CM52     | Extended evaluation: Order view                          |
| CM53     | Extended evaluation: Project view: WBS element/operation |
| CM54     | Extended evaluation: Project view: Version               |
| CM55     | Extended evaluation: Work center/Version                 |

**Material Forecast** 

# **Material Forecast**

Technical name: SAP\_PP\_MP\_FORECAST

### Tasks

Use the functions of this role to forecast material requirements.

### Activities in the SAP System

- Run the forecast on the material level
- Fine-tune the forecast
- Monitor forecast accuracy over time
- Create and maintain the profiles that contain the settings on which the forecast is based