

PRODUCT INFORMATION

PPM Production Cockpit 8.0

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1 Introduction

The following describes the new web-based "Production Cockpit" license product (PPM). It must be licensed separately and can be used starting with version 8.0.

Please request a license key from customer service to use this license product.

2 Production Cockpit Overview

Complex processes and large amounts of unorganized information have to be evaluated and analyzed in the production department on a daily basis. The new Production Cockpit tool structures and reduces the amount of complex information. This tool makes it easier for you to separate important information and correlations from those that are less important. Information for the production process becomes more transparent with the Production Cockpit.

The Production Cockpit is a system that notifies you of critical situations on-the-fly and in real time rather than after the fact. You can, using the consolidated information about the status of the production processes, intervene when necessary and thus steer the respective processes.

The primary functionality of the Production Cockpit includes:

- automatic evaluation of the process status
- customized configuration of the key observation points

This means you can define and configure the observation points and your evaluation criteria to meet your needs. You thus have a customized set of observation points available. These observation points are automatically monitored and evaluated by the Production Cockpit and hence make it possible to focus only on essential information and correlations.

2.1 Observation areas and points

An observation point (or point of interest, POI) defines the information to be monitored. It is associated with evaluation rules that determine when information is considered critical or non-critical (e.g. deadline for the manuscript delivery milestone in production project A was missed).

Two observation areas were defined for the Production Cockpit's first development stage:

- schedule area where adherence to and consistency of schedules and tasks are monitored
- cost area that focuses on changes to costs in the process

Other observation areas, such as stock level monitoring or resource management, will be introduced at a later time.

The Production Cockpit comprises two components:

- POI processor
- user interface
 - "Overview" level
 - "Settings" level
 - "Administration" level

The POI processor identifies the information units defined in the observation points from the operative PPM data pool and evaluates this information according to the predefined rules.

The user interface, **Overview level**, provides a visual representation of the results found by the POI processor and allows the user to navigate through them.

The user interface, **Settings level**, is used to define the individual observation points by narrowing them down to specially predefined information areas with their respective evaluation rules.

The user interface, **Administration level**, is used to define the areas and evaluation rules.

This approach will make it possible to add observation areas originating from systems other than PPM to the Production Cockpit at later development stages.

The user interface is designed for use with a maximized browser window.

3 Defining the Observation Points

3.1 General definition

An observation point is made up of different areas. It is structured in such a way that it is easy to add new classes of observation points to the system.

Structure element	Description
Control area	Generally defines which information area is to be analyzed. You can select from a quantity of predefined values. The current development stage provides support for the "Schedule" and Costs" areas.
Observation area	Defines which information area assigned to the control area is to be analyzed at a detailed level (e.g. schedules or cost drivers). You can select from a quantity of predefined values that are dependent on the control area.
Information source	Defines the concrete data element for analysis (e.g. production schedule). You can select from a quantity of predefined values that are dependent on the observation area.
Observation object	Defines the data unit (e.g. schedule task, cost element, production attribute). The observation object has usually already been uniquely determined by the three previous definitions.
Observation elements	Defines the specific types of the observation object that are used to check the evaluation rule (e.g. planned date, costs). One or more different elements can be defined.
Evaluation rules	
Observation element	Defines how an observation element is evaluated.
Observation object	Defines how an observation object is evaluated on the basis of the elements.
Observation point	Defines how an observation point is evaluated on the basis of the object and the elements.
Result structure	Describes the information units that represent the result.
Connection to external system	Indicates which external system is to be opened and where.
Restriction	Describes the options for restricting the data pool to be analyzed (e.g. only special tasks from active projects in the area of children's books).

The first four structure elements have a hierarchical relationship to one another with respect to their types.

3.2 "Schedule" control area

3.2.1 "Schedule" observation point

3.2.1.1 "Production schedule" information source

Structure element	Description
Control area	Schedule
Observation area	Schedule
Information source	Production schedule
Observation object	Schedule task, all tasks with the respective planned date (see observation element) are selected that fulfill the specified restriction and do not already have an actual date depending on the observation element.
Observation element	Monitoring the earliest/latest start or end dates depending on the definition
Evaluation rules	
Observation element	<p>The observation element (planned date) is compared to five reference dates. There is a separate evaluation for each reference date.</p> <p>Red offset: numerical value in days, can be set by the user</p> <p>Yellow offset: numerical value in days, can be set by the user</p> <p>Evaluation type: You can enter an interval (in days)</p> <p>Evaluation type = days</p> <p>The current day's date as well as the next four days are used as the reference dates.</p>
Observation object	<p>The individual results are merged in relation to the project. Rules are then defined at administration level to determine how the merged results are evaluated. The evaluation of the project results from this.</p>
Result structure	
Observation element	<p>The result is a list of evaluated tasks made up of the following information units.</p>
Observation object	<p>Five-fold evaluation (status)</p> <p>Task</p> <p>Planned date - observation element</p> <p>Fixed – specification of whether a fixed date</p> <p>Evaluation type – form of evaluation (XML)</p> <p>ISBN – ISBN/order number of the product</p> <p>Short title – short title of the product</p> <p>Edition – number of the edition</p> <p>Reprint – number of the reprint</p> <p>Production project – number of the production project (project number/reprint/binding)</p> <p>Department – specification of the assigned department</p> <p>Responsible – specification of the assigned staff member</p> <p>Supplier – supplier specification</p> <p>Project manager – specification of the project manager</p>

Structure element	Description
Observation point	<p>The bold elements are the central information indicators.</p> <p>The tasks shown in the list are consolidated into a single unit that provides the following information:</p> <p>Five-fold evaluation – consolidation of all evaluations</p> <p>Freely selected name of the observation point</p> <p>Time of the analysis</p>
Connection to external system	<p>Active in the search results</p> <p>PPM/production project/dates</p>
Restriction	<p>This restriction is based on attributes in the areas:</p> <p>Schedule, production project, product</p>

3.2.1.2 "Product pool schedule" information source

Structure element	Description
Control area	Schedule
Observation area	Schedules
Information source	Product pool schedule
Observation object	Schedule task, all tasks with the respective planned date are selected that fulfill the specified restriction and do not already have an actual date depending on the observation element.
Observation element	Monitoring the planned completion date of the respective task (planned date)
Evaluation rules	
Observation element	<p>The observation element (planned date) is compared to five reference dates. There is a separate evaluation for each reference date.</p> <p>Red offset: numerical value in days, can be set by the user</p> <p>Yellow offset: numerical value in days, can be set by the user</p> <p>Evaluation type: A type from "Days", "Weeks", "Months", can be set by the user, entry is mandatory, default is "Days"</p> <p>Evaluation type = days</p> <p>The current day's date as well as the next four days are used as the reference dates.</p>
Observation object	The individual results are merged in relation to the project. Rules are then defined at administration level to determine how the merged results are evaluated. The evaluation of the project results from this.
Result structure	
Observation object	<p>The result is a list of evaluated tasks made up of the following information units.</p> <p>Five-fold evaluation – determined using the rules</p> <p>Task –name of the task</p> <p>Planned date - observation element</p> <p>Evaluation type – form of evaluation</p> <p>ISBN – ISBN/order number of the product</p> <p>Short title – short title of the product</p> <p>Department – specification of the assigned department</p> <p>Responsible – specification of the assigned staff member</p>

Structure element	Description
	Priority– specification of the priority
	Status – specification of the status
	Note – specification of the note
Observation point	The tasks shown in the list are consolidated into a single unit that makes the following information available. <ul style="list-style-type: none"> Five-fold evaluation – consolidation of all evaluations Freely selected name of the observation point Time of the analysis
Connection to external system	Active in the search results PPM/product pool/dates
Restriction	This restriction is based on attributes in the areas: Schedule, product

3.3 "Costs" control area

3.3.1 "Cost drivers" observation area

3.3.1.1 "Production project" information source

Structure element	Description
Control area	Costs
Observation area	Cost driver
Information source	Production project
Observation object	Cost driver is a term used to describe properties that can considerably contribute to increasing product costs in an approved budget. The properties defined in the project and the properties defined in a current calculation are compared. An evaluation results from this comparison of two properties. Costs can rise, for example, if the interior colors are changed from single-color to four-color.
Observation element	There are many attributes available for defining the cost drivers. At least one attribute must be selected.
Evaluation rules	
Observation element	The value of an observation element (specification attribute) of a project (actual value) is compared to the value in a production calculation (planned value). The calculation is determined by the calculation type specification and has to be current and completed. <p>Basic evaluation:</p> <p>The evaluation is carried out either by comparing two types of an MDT (absolute) or by a numeric comparison (percentage-based).</p> <p>Special evaluation</p> <p>There is a red offset and a yellow offset for each observation element. They are both numeric values.</p>

Structure element	Description
Observation object	The sum of the individual evaluations reflects the evaluation of the object. A red and a yellow value are defined for the consolidated evaluation.
Observation point	The sum of the individual evaluations reflects the evaluation of the observation point. A red and a yellow value are defined for the summary of the evaluation, in the same way as the object evaluation. The worst evaluation of the elements is transferred to the object.
Result structure	
Observation element	A list of all of the specification attributes of a project set for monitoring with an evaluation made up of the following information units: <ul style="list-style-type: none"> • Evaluation (status) • Cost drivers • Planned value • Current value • Deviation (numeric)
Observation object	A list of all projects with consolidated evaluation from the observation elements: <ul style="list-style-type: none"> • Evaluation – consolidation of the evaluation of the elements • ISBN/order number • Short title • Production project number • Production project responsible staff member
Observation point	The projects shown in the list are consolidated into a single unit that provides the following information. <ul style="list-style-type: none"> • Evaluation – consolidation of all evaluations • Freely selected name of the observation point • Time of the analysis
Connection to external system	Active in the search results of the observation object: PPM/production project/specifications
Restriction	This restriction is based on attributes in the areas: Production project, product

3.3.2 "Cost elements" observation area

3.3.2.1 "Production calculation" information source

Structure element	Description
Control area	Costs
Observation area	Cost elements
Information source	Production calculation
Observation object	The planned costs at cost element level are comparable to the cost drivers. Here, different calculations are compared to one another and the differences

Structure element	Description
Observation element	<p>evaluated accordingly. The specified edition size is always used as the reference for comparison.</p> <p>The actual observation element are the costs assigned to a cost element or produced at aggregate level. Here, the specification of the deviating costs has a higher priority than the costs calculated by the system. The individual amounts are always calculated according to the edition size and not the total costs.</p>
Evaluation rules	
Observation element	<p>The value of an observation element (costs) of a cost element (actual value) is compared with the value in a second production calculation (planned value).</p> <p>Basic evaluation:</p> <p>The evaluation is carried out by comparing the numbers whereby the difference is evaluated depending on a percentage range.</p> <p>Special evaluation</p> <p>There is a red offset and a yellow offset for each observation element. Both are numeric values that indicate a percentage (0.00%-99.99%).</p>
Observation object	<p>The sum of the individual evaluations reflects the evaluation of the object. A red and a yellow value are defined for the consolidated evaluation. The yellow value defines the number of evaluations that are not green at element level.</p>
Observation point	<p>The sum of the individual evaluations reflects the evaluation of the observation point. A red and a yellow value are defined for the summary of the evaluation in the same way as the object evaluation. The worst evaluation of the elements is transferred to the object.</p>
Result structure	
Observation element	<p>A list of all of the specification attributes of a project set for monitoring with an evaluation made up of the following information units:</p> <ul style="list-style-type: none"> • Evaluation (status) • Observation element • Planned value • Current value
Observation object	<p>A list of all projects with consolidated evaluation from the observation elements</p> <ul style="list-style-type: none"> • Evaluation – consolidation of the evaluation of the elements • ISBN/order number • Short title • Production project number • Production project responsible staff member • Deviating attributes (comma-separated name list of the red/green attributes)
Observation point	<p>The projects shown in the list are consolidated into a single unit that provides the following information:</p> <ul style="list-style-type: none"> • Evaluation – consolidation of all evaluations • Freely selected name of the observation point • Planned calculation type • Actual calculation type

Structure element	Description
	<ul style="list-style-type: none"> Time of the analysis
Connection to external system	Active in the search results of the observation object PPM/production project/project
Restriction	This restriction is based on attributes in the areas: Production project, product

3.3.3 Break even analysis" observation area

3.3.3.1 "Product" information source

The product pool provides a data area for individual configuration on the "Gross Profit" record. Values that were calculated in the extended calculation (Excel) can be displayed here. The values to be displayed (max. 10) can be configured individually and refer to current calculations broken down by calculation type, distribution channel and edition number.

Structure element	Description
Control area	Costs
Observation area	Break even analysis
Information source	Product
Observation object	<p>All of the values supplied back from Excel are monitored at product/edition level. The type from a content standpoint depends on the customer-specific configuration.</p> <p>Two calculation types with distribution channel specification are compared. If no distribution channel is defined, the values are first totaled and then compared.</p> <p>All products that the restriction applies to are selected.</p>
Observation element	The observation element refers to a value from the gross profit data area.
Evaluation rules	
Observation element	<p>The value of an observation element (break even analysis) (actual value) is compared to the second value (planned value).</p> <p>Basic evaluation:</p> <p>The evaluation is carried out by comparing the numbers whereby the difference is evaluated depending on a percentage.</p> <p>Special evaluation</p> <p>There is a red offset and a yellow offset for each observation element. Both are numeric values that indicate a percentage (0.00%-99.99%).</p>
Observation object	The sum of the individual evaluations reflects the evaluation of the object. A red and a yellow value are defined for the consolidated evaluation. The yellow value defines the number of evaluations that are not green at element level. The worst evaluation of the elements is transferred to the object.
Observation point	The sum of the individual evaluations reflects the evaluation of the observation point. A red and a yellow value are defined for the summary of the evaluation,

Structure element	Description
Result structure	in the same way as the object evaluation. The worst evaluation of the elements is transferred to the object.
Observation element	<p data-bbox="606 392 1406 459">A list of all of the specification attributes of a project set for monitoring with an evaluation made up of the following information units:</p> <ul data-bbox="718 470 1406 761" style="list-style-type: none"> <li data-bbox="718 470 1406 504">• Evaluation <li data-bbox="718 515 1406 548">• Attribute <li data-bbox="718 560 1406 593">• Planned value <li data-bbox="718 604 1406 638">• Actual value <li data-bbox="718 649 1406 683">• Deviation (numeric) or <li data-bbox="718 694 1406 761">• Percentage deviation
Observation object	<p data-bbox="606 772 1406 806">A list of all projects with consolidated evaluation from the observation elements:</p> <ul data-bbox="718 817 1406 1052" style="list-style-type: none"> <li data-bbox="718 817 1406 851">• Evaluation – consolidation of the evaluation of the elements <li data-bbox="718 862 1406 896">• ISBN / order no. <li data-bbox="718 907 1406 940">• Short title <li data-bbox="718 952 1406 1052">• Deviating attributes (comma-separated name list of the red/green attributes)
Observation point	<p data-bbox="606 1064 1406 1131">The products shown in the list are consolidated into a single unit that provides the following information:</p> <ul data-bbox="718 1142 1406 1377" style="list-style-type: none"> <li data-bbox="718 1142 1406 1176">• Evaluation – consolidation of all evaluations <li data-bbox="718 1187 1406 1220">• Freely selected name of the observation point <li data-bbox="718 1232 1406 1265">• Planned calculation type <li data-bbox="718 1276 1406 1310">• Actual calculation type <li data-bbox="718 1321 1406 1377">• Time of the analysis
Connection to external system	<p data-bbox="606 1377 1406 1411">Active in the search results of the observation object</p> <p data-bbox="606 1422 1406 1467">PPM/product/ gross profit</p>
Restriction	<p data-bbox="606 1467 1406 1500">The restriction is based on attributes in the area:</p> <p data-bbox="606 1512 1406 1543">Product</p>

4 Application System

As already described in the introduction, the Production Cockpit comprises two components: the POI processor and the user interface. These are described separately below.

4.1 POI processor

The POI processor does not have a user interface. It is a pure service application that identifies and evaluates the defined observation points. The POI processor also evaluates the observation elements. The service application runs constantly, becoming active depending on its configuration.

The POI processor is made up of two single programs:

- SQL processor
- Analyzer

The SQL provides the data. The Analyzer evaluates and analyzes the data. The POI processor evaluates the respective definitions, makes a selection from the operative data pool and creates the respective result quantity.

The POI processor handles each observation point separately. Based on the definition of the observation point's restriction, the respective SQL is created and then run.

The data pool of the Production Cockpit is also divided into two areas:

- area for defining the observation points
- area for identified data

The observation point links the pieces of information. Because individual, attribute-specific search options are neither required in the definition pool nor in the identified data pool, the information can be managed in larger units (XML).

4.2 User interface

4.2.1 General information

4.2.1.1 User context and identification

Each individual view that a Production Cockpit user has defined is stored. Users can thus define the observation points they need and get the respective messages/information. This means that data is managed on a user-specific basis.

Users are identified in the login dialog. If an LDAP system is used by the standard system, it must be used. The functionality provided can only be restricted for a user in a limited fashion. There are only two types of rights, administration rights and normal rights. All other system options are available to the user in an unrestricted fashion in his or her context.

If the user only belongs to user groups that do not have access rights for the "Administration" level, the Administration button is not visible.

4.2.1.2 Logging off

When you log off, you are taken back to the login dialog where you can log in again with a different user name and password.

4.2.1.3 Internationalization

You can control the following properties of the application using your browser's language setting:

- the language that the terms, messages and errors are displayed in
- the display of numbers and date
- the editing mask for input boxes for numbers and date

If the selected language is not supported by the application, the default language US English is used.

4.2.1.4 Structure

The user interface of the application is made up of three "levels":

- "Overview"
- "Settings"

- "Administration"

4.2.1.5 Navigation

The user can navigate between the individual levels using the buttons on the right-hand side of the toolbar, the buttons change accordingly depending on the respective level.

4.2.1.6 Preferences

Preferences for the "Overview" are saved per user and proprietor.

4.2.1.7 Update

The update against the data identified by the POI processor can be initiated directly at any time. To do this, click the "Update" button.

4.2.2 "Overview"

The "Overview" shows the observation points and is organized hierarchically:

- observation area
 - observation point
 - observation object
 - observation element

4.2.2.1 List of observation points

The observation points are grouped by area. The area can be selected using buttons. The observation points are displayed for the selected area.

The individual observation points are displayed in two columns beneath the area button. You can freely select the layout of the observation points. It is permanent.

The evaluation of the observation point is displayed as a "traffic light". A traffic light is displayed as a green, yellow, red or gray box.

4.2.2.2 List of observation objects

The information for the result for the observation objects is displayed in a table that you can sort using the selection in the table header.

Each entry in the list is a block that displays the respective result information. The evaluation is displayed as a "traffic light". A traffic light is displayed as a green, yellow, red or gray box.

4.2.3 List of observation elements

If you click an entry in the list of observation objects, a modal window opens. The project number is displayed in the title line. The information for the result of the observation elements is displayed as a table that can be sorted.

Each entry in the list is a block that displays the respective result information. The evaluation is displayed as a "traffic light". A traffic light is displayed as a green, yellow, red or gray box.

4.2.3.1 The lightning icon

The lightning icons that appear in the area button, in the title line of the list of observation points, in the individual entries in the list and in the list of observation elements, indicate that data for the observation point has changed.

4.2.3.2 Automatic update

Depending on the update frequency, the evaluations are updated at observation point level against the database. The update corresponds to the information generated by the POI processor and not to the analysis of the operative data pool.

If the user switches to the list of observation points, observation objects or elements, the respective area is always updated regardless of whether the user is coming from a lower level or a different area. This ensures that the evaluation is always current.

4.2.4 "Settings"

The system has default settings for a user that you can customize. You can create, change and delete areas and observation points under "Settings".

4.2.4.1 List of observation points

This list shows the observation points that already exist. The name and the description of the observation point are displayed.

4.2.4.2 Adjusting an observation point

You can change an existing observation point or define a newly created observation point in this column.

4.2.4.3 Calculate

If you click this button at the top right, the data from PPM is recalculated.

4.2.5 "Administration"

The "Administration" level is used to define an observation point with respect to its assignment to the control area/observation area and to the information source. In addition, the attributes to be observed and their evaluation rules are concretely identified. The restrictions for selection (filters) are also defined.

The "Administration" level consists of:

- list of observation templates
- area adjustment
- observation template adjustment
- element adjustment

The system is supplied with a configured administrator.

4.2.5.1 List of observation templates

The existing observation templates are displayed in this list. The following are displayed:

- name and description of the observation template
- name of the master template
- public or private template
- number of usages

4.2.5.2 Adjusting the area

You can change the analysis rules for the areas in this section.

4.2.5.3 Adjusting the observation template

You can change the observation template in this section.

4.2.5.4 Adjusting elements

You can change the observation elements in this section. The area (task, cost element or cost driver) is displayed on the first line. The active observation elements are displayed on the lines below this. You can define evaluation rules per line. You can define whether the evaluation is absolute or a percentage for cost elements and cost drivers.