

Release notes for PM5 version 5.19.0002 and earlier

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Installation and updates – general information

Please observe – when upgrading from PM5 client of **version 5.11.200 or earlier**, it is necessary to uninstall existing PM5 clients of previous version and then perform new installation of current version of the client.

For detailed instructions regarding installation and upgrade of PM5 to version 5.18.0000, please consult installation and upgrade manual, available at https://pm5.dk/wp-content/uploads/2017/06/Installation_and_upgrade_manual_PM5_5121000.pdf.

Please always remember to make a backup of your database before starting upgrade process of your PM5 system.

Purpose of this document

This document contains detailed information about major additions and changes in every version of PM5. Unlike the change log document, which provides quick overview of changes and bug corrections in each version, this document provides in depth description of new features and extensions to PM5 client.

Release notes for version 5.19.0002

Licenses with specified end date stop working after 31 December 2025

General description

For installations of PM5 version 5.19.0000 and earlier with licenses that have specified end date, it will not be possible to extend the license beyond 31 december 2025.

To be able to use licenses with specified end date that are valid beyond 31 december 2025, it is necessary to upgrade to version 5.19.0002. After completed upgrade, the user will be provided with new license code by Tecsys.

Please contact Tecsys A/S for further information if this issue is encountered.

Release notes for version 5.19.0001

Connection String Encryption

General description

Connection string is an internal PM5 parameter specifying details about SQL database used by PM5 for storage and management of data.

Connection string contains following information:

- Name of Microsoft SQL Server hosting PM5 database
- Name of PM5 database
- Name of SQL Server User used for communication between PM5 Windows Client and PM5 database
- Password used by SQL Server used for communication between PM5 Windows Client PM5 database

Connection string is always created during installation of PM5 Windows Client on a computer.

By default, the connection string is saved in two configuration files, which are then stored on local computer harddrive.

Those two files are saved in folder C:\ProgramData\PCSYS\PM5.ConfigEditor.

Configuration file belonging to PM5 Windows Client is called **DVS.UI.exe.config**.

Configuration file belonging to PM5 Configuration Tool is called **configuration.ini**.

In each of those two files, the connection string used by PM5 for communication with database is stored in plain text. This means that the location of PM5 database and information about SQL Server user that can be used to access data in that database is easily accessible.

Due to heightened requirements regarding digital security issues, we have now added possibility to encrypt connection strings stored in PM5's configuration files.

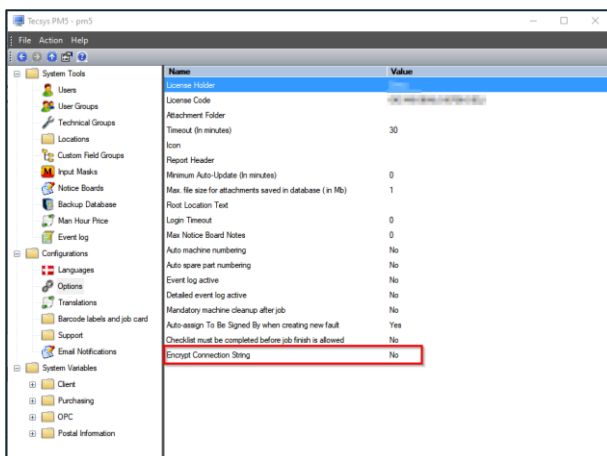
Please observe, the encryption of this information is optional. Encryption is **NOT** applied automatically neither in new installations of PM5 client nor in upgrades of existing installations.

Encryption of connection strings is enabled/disabled in PM5 Administration module.

When enabled, the setting is global and will trigger encryption of connection strings for all PM5 Windows clients next time they are launched.

Enabling/disabling encryption of connection strings

Enabling/disabling of connection string encryption is simple:



1. Login in PM5 with a user having administrator credentials.
2. Open Administration module.
3. Select Configuration -> Options
4. PM5 Options are displayed in right section of Administration module. Current setting for Encrypt Connection String is shown in last row, as indicated in the image. Default initial value is 'No', indicating that encryption is not enabled.
5. Double-click anywhere in the right section of Administration module to open Options editor form.

6. Check in checkbox with label Encrypt Connection String.
7. Press button OK to save changes and enable encryption of connection strings.

When encryption is enabled/disabled in Administration module, following actions are triggered:

- Encrypt Connection String parameter is updated in PM5 database to selected value.
- PM5 Windows client currently in use will immediately attempt to encrypt connection string information in configuration files present on local machine.

Encryption/decryption procedure

Encryption/decryption procedure can be triggered in two ways:

- Manually, by changing current state of checkbox 'Encrypt Connection String'
- Automatically, at startup of PM5 Windows Client, if value of parameter 'Encrypt Connection String' is opposite of current condition of PM5 connection strings.

Procedure that is triggered has following steps:

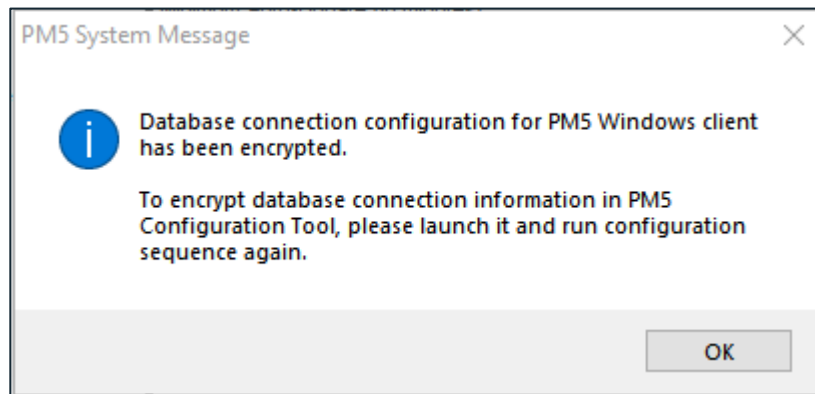
1. PM5 modifies its configuration file DVS.UI.exe.config.

File is accessed and relevant section is encrypted. Please observe that the encryption/decryption is performed using components that are **unique for each Windows installation**. In other word, the encryption will render cypher that is unique for the computer.

2. PM5 attempts to modify configuration file configuration.ini, which belongs to PM5 Configuration Manager.

In this file, the information related to PM5 database is stored in individual parameters. When encryption is implemented in this file, then the value of relevant parameters in file configuration.ini are set to a plain text '**Protected**'.

3. When encryption/decryption is triggered by user without Administrator credentials on his Windows machine, then changes in file configuration.ini will most likely fail due to insufficient user credentials. When this happens, the message below is shown on the screen:



The message above can be displayed when PM5 Client is launched and encryption/decryption procedure is triggered. In this scenario, the message will be shown only once.

The message above will also be displayed when user attempts to manually encrypt/decrypt connection string in Administration module of PM5 Client. In this scenario, the message will be displayed whenever update of file configuration.ini has failed due to insufficient Windows credentials of user triggering the function.

To resolve the issue indicated by the message above, launch PM5 Configuration Tool. Navigate through configuration wizard **without making any changes**. After reaching final step of configuration wizard, press 'Finish' button. This action will update the configuration.ini file to encrypted/decrypted state, according to current setting of parameter 'Encrypt Connection String' in Administration module.

Changes in PM5 Login Reset function

Emergency login reset function was introduced in version 5.13.2000. The function is intended to resolve situation where all login slots are taken and user is unable to login onto the system.

When triggered, the function logged out a single user; the logged out user was the one that was inactive for the longest period of time.

This method has been found insufficient and we have now modified PM5 Login Reset function – when a reset is triggered, PM5 performs complete reset of user logins:

1. Login status is set to 'Not logged in' for currently logged in users.
2. Credential 'Always Access' is removed for all users.
3. All currently active mobile sessions are cancelled.

Execution of login reset function has no direct impact on users logged in via Windows clients. Users logged in through mobile interfaces (via web browser or Android/iOS app) will be redirected to login screen and required to login onto PM5 again.

Please observe that login reset function is still limited to a maximum of five uses.

Release notes for version 5.19.0000

Job Checklists

General description

Primary purpose for a job checklist is to provide a simple list of work steps that are to be performed in order to complete the activity/fault.

Furthermore, job checklists can be used as registration tool for completion of each of work steps.

Job checklists for activities and faults reside in a dedicated pane in detail panel of Activities/Faults section of PM5 Windows client.

Job checklists for tasks reside in a dedicated pane in detail panel of Task section of PM5 Windows client.

The screenshot shows the PM5 Windows client interface. On the left is a sidebar with a tree view showing the PM5 system structure: PM5, Fabrik 1, Håndværktøj + diverse, Opruller/svejseautomat, Klippe, Polyklipper, and Styring. The main window displays a table of activities. The table has columns: Fault, Job No, Task Name // Fault Type, Machine Name, Machine No, Date, and To Be Signed By. The table lists several activities, with the one for Job No 1188 (Eftersyn 90 dage) selected. Below the table, there is a summary: 'Page 15 showing 701 to 750 of total 3689. Machine located at: Fabrik 1 - Hal 01 - Linie 02.' The bottom pane shows the 'Checklist' tab for the selected activity. It displays three checklist steps: 1. Checklist step A (Completed), 2. Checklist step B (Not handled), and 3. Checklist step C (Not handled). Each step has a checkbox for 'Completed' or 'Skipped' and a text area for 'Item Note'. An 'Edit checklist' button is visible on the right.

Fault	Job No	Task Name // Fault Type	Machine Name	Machine No	Date	To Be Signed By
☐	1264	Rengøring	Garage rum 03	G0003	7/31/2013	OPT
☐	1265	Rengøring	Garage rum 01	G0001	7/31/2013	OPT
☐	1252	Rengøring	Garage rum 02	G0002	7/24/2013	OPT
☒	1188	Eftersyn 90 dage	AB6 CNC	3741	7/10/2013	MIPE
☐	1192	Eftersyn	Vægt 2 Umla	7136	7/10/2013	MIPE
☐	1063	Lovpligtig eftersyn	Port 1 værksted	P0001	7/25/2013	KB
☐	1256	Eftersyn	Blander Liebherr	2334445556	7/26/2013	MIPE

Page 15 showing 701 to 750 of total 3689
Machine located at: Fabrik 1 - Hal 01 - Linie 02

3 checklist items in the list. 1 checklist item handled. 2 checklist items unhandled.

1. Checklist step A
☒ Completed ☐ Skipped
Set by pm5 3/20/2024
Item Note: Note for individual checklist step

2. Checklist step B
☐ Completed ☐ Skipped
Not handled
Item Note:

3. Checklist step C
☐ Completed ☐ Skipped
Not handled
Item Note:

Edit checklist

Example of job checklist belonging to an activity.

Job checklist structure for tasks

A checklist associated with a task consists of one or more steps. Each step represents a work item that needs to be performed in order to complete the activity that belongs to the task.

The diagram shows a vertical list of three checklist steps: 1. Checklist step A, 2. Checklist step B, and 3. Checklist step C. Each step is represented by a rectangular box with a label and a small icon.

Individual step in a task checklist displays a label which is supposed to describe the work that needs to be performed to complete the checklist step.

Checklist items in a checklist associated with a task don't have any additional functionality. Instead, task checklist is used as a template for creation of checklists for new activities that are related to the task.

Task checklists can be modified, replaced and edited at any time. Such changes can then be **manually** applied to the **active activity**. When new activity is created and its parent task has a checklist, this checklist will be **automatically** created for the activity.

Job checklist structure for activities and faults

A checklist associated with an activity or fault consists of one or more steps. Each step represents a work item that needs to be performed in order to complete the activity or fault.

Step	Completed	Skipped	Item Note
1. Checklist step A	☒	☐	Note for individual checklist step
2. Checklist step B	☐	☐	
3. Checklist step C	☐	☐	

Each step in a checklist consists of following elements:

- **Label / description** is displayed on top of the element.
- **Completed** checkbox. Checking in this checkbox indicates that the work item has been completed.
- **Skipped** checkbox. Checking in this checkbox indicates that the work item has been deferred / skipped while completing the activity / fault.
- **Status text** is located below Completed / Skipped checkboxes. This non-editable field displays current status information of a checklist step.
- **Item note** is a text field where user can enter a note that is relevant for the checklist step.

Changes in checkboxes Completed and Skipped as well as any additions or changes in text in field **Item Note** are saved automatically as soon as they are done.

When checkboxes Completed and Skipped are **unchecked**, the checklist item is regarded as unhandled. This is indicated by text **Not handled** being displayed in field **Status text**.

When either of checkboxes Completed or Skipped is checked in, the checklist item is regarded as handled. This is indicated by field **Status text** displaying text with information of who and when handled the checklist item.

If checked in checkbox is unchecked, the checklist step reverts back to unhandled state. This is indicated by field **Status text** displaying text **Not handled** again.

Please observe that an individual checklist step can only have single state at any time. Only one of the checkboxes Completed / Skipped can be checked in at once.

A job checklist can have three states:

- **Not started** – checklist is regarded as Not Started as long as none of Completed or Skipped checkboxes in the list are checked in **AND** none of Item Note fields contain any text.
- **Started** – checklist is regarded as Started as soon as any of Completed or Skipped checkboxes are checked in **OR** any of Item Note fields contains any text.
- **Completed** – checklist is regarded as completed when all of checklist steps have either of Completed or Skipped checkboxes checked in.

User Group credential Create and edit checklists

Add	Privilege	Description
☒	Group	Gives all privileges to edit, create(new), delete all group in a way so the main dataset is structured.
☒	Task creation	Gives privilege to the main tab dialog Task.
☒	Task limited	Gives the privilege to create a "one-time" task for a machine.
☒	Activities ask, privilege	Gives privilege to mark activities as "done" with associated consumption of spare parts
☒	Activity creation	Privilege to Task main tab dialog
☒	Remove activity news marking	The privilege to mark new (bold) activities as noted (not old)
☒	Fault privilege	Privilege to report faults into the system and to acknowledge for solved faults.
☒	Remove fault news marking	The privilege to mark new (bold) faults as noted (not old)
☒	Approval	Gives privilege to approve faults, which requires approval.
☒	Storage privilege	All privileges in main tab dialogs: "Spare Parts" and "Suppliers". Also in inventory locations
☒	Purchase/Spare part	Gives all privileges in purchase module, spare parts and suppliers tab, and inventory locations
☒	Attachment	Privilege to add and edit all attachments.
☒	Advance Pocket PC	Advance user of pocket pc
☒	Basic Pocket PC	Basic pocket pc user
☒	Replace Spare Parts	Privilege to replace spare parts
☒	Merge Spare Parts	Privilege to merge spare parts
☒	Delete Spare Part	Privilege to delete spare parts.
☒	Post Master	Can edit/delete notes posted by other users.
☒	Allowed to delete user defined report template	Allowed to delete user defined report templates
☒	Access to spare part price records	Access to spare part price records
☒	Delete spare part with stocks	Allows deletion of spare parts without first having to remove its stocks.
☒	Created and delete system filter	Allows creation and deletion of system filters.
☒	Edit finish date after job is finished.	Allows change of finish date in finished jobs.
☒	Access to event log viewer	Grants access to event log viewer in tools section
☒	Delete database attachments	Allow deletion of database attachments from Database Attachment Manager
☒	Create and edit checklists	Allow creation and editing of job and task checklists

To be able to create new checklists and edit existing checklists, the user must be granted **Create and edit checklists** in one of the user groups to which he belongs.

To enable user to edit checklists, perform following steps:

1. Open Administration.
2. Select User Groups.
3. Select the user group to which user belongs.
4. Select Privileges pane.
5. Check in credential 'Create and edit checklists'.
6. Save changes. Once the changes to user group

have been saved, users that belong to that user group will be able to access functions related to handling and editing of checklists.

Activity and fault checklists – manual creation and editing

Users with credential 'Create and edit checklists' will have access to button 'Edit checklist' in 'Checklist' subpane. Pressing that button enables checklist editing functionality.

When 'Edit checklist' button is pressed, PM5 will display controls for handling and editing of the checklist of selected activity/fault.

User can perform following actions:

- Add item – opens an input form for creation of new checklist items. User needs to specify the label/description for the new item.
 - The entered text must be unique for the checklist.
 - Checklist item text cannot be empty.
 - Maximum length for checklist label is 100 characters.
- Edit checklist item label – allows the user to change label of existing checklist item. User needs to first select the checklist item, label of which is to be edited. Text entered in the input form will replace the text in selected checklist item's label/description.
- Delete item – deletes selected checklist item from the checklist.
- Clear checklist – deletes all checklist items from the checklist.
- Move up selected item – currently selected checklist item is moved up one step in checklist sequence.
- Move down selected item – currently selected checklist item is moved down one step in checklist sequence.
- Save As Template – allows the user to save the checklist associated with the activity/fault as a template. Once saved as a template, the checklist can be re-created for other activities/faults through a simple procedure. Please refer to section Checklist Templates for details.
- Create From Template – allows the user to create a checklist for selected activity/fault using one of saved checklist templates. Please refer to section Checklist Templates for details.
- Finish editing checklist – closes editing mode for selected activity/fault.

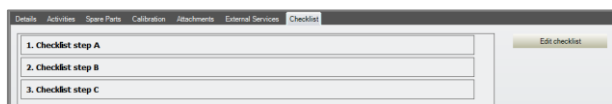
Please observe – a checklist created manually for a specific activity will **not** be reproduced for next activity. If you want for a checklist to be created automatically for activities when they are created, the checklist must be defined for the task that is parent of those activities.

Task checklists – creation and editing

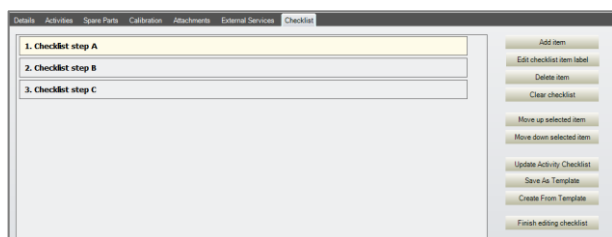
There are two differences between activity/fault checklists and task checklists:

1. Task checklists act as templates for activities that are generated by the task. When new activity is created and its parent task has a checklist, then a corresponding checklist will be created for the activity.
2. Since task checklists don't have any inherent functionality, they don't have any editable fields. Task checklist elements don't have any checkboxes or note fields.

Basic functionality for creation and editing of checklists for tasks is exactly the same as for activities/faults.



Users with credential 'Create and edit checklists' will have access to button 'Edit checklist' in 'Checklist' subpane. Pressing that button enables checklist editing functionality.

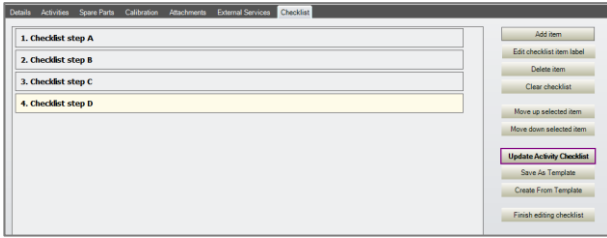


When 'Edit checklist' button is pressed, PM5 will display controls for handling and editing of the checklist of selected task.

User can perform following actions:

- Add item – opens an input form for creation of new checklist items. User needs to specify the label/description for the new item.
 - The entered text must be unique for the checklist.
 - Checklist item text cannot be empty.
 - Maximum length for checklist label is 100 characters.
- Edit checklist item label – allows the user to change label of existing checklist item. User needs to first select the checklist item, label of which is to be edited. Text entered in the input form will replace the text in selected checklist item's label/description.
- Delete item – deletes selected checklist item from the checklist.
- Clear checklist – deletes all checklist items from the checklist.
- Move up selected item – currently selected checklist item is moved up one step in checklist sequence.
- Move down selected item – currently selected checklist item is moved down one step in checklist sequence.
- **Update Activity Checklist** – this button is unique for task checklists. It is used to update active activity checklist with the task checklist in its current state. Please see section below for further details.
- Save As Template – allows the user to save the checklist associated with the task as a template. Once saved as a template, the checklist can be re-created for other activities/faults/tasks through a simple procedure. Please refer to section Checklist Templates for details.
- Create From Template – allows the user to create a checklist for selected task using one of saved checklist templates. Please refer to section Checklist Templates for details.
- Finish editing checklist – closes editing mode for selected task.

Manual update of active activity checklist after changes in task checklist

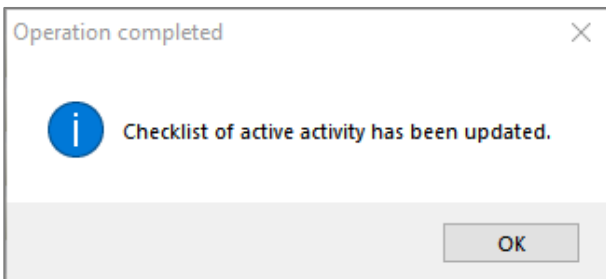


As already mentioned, the main purpose of a task checklist is to act as a template for activity checklists when a new activity is created. When new activity is created and a checklist is defined for its parent task, then this checklist will automatically be created for new activity.

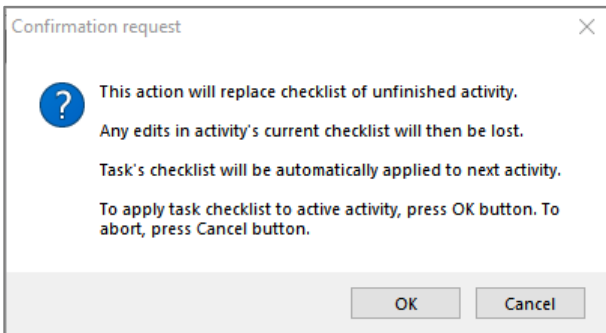
In scenario where task checklist is changed, the checklist of active activity is **not** updated automatically. To update active activity, user needs to press button Update Activity Checklist. When this button is pressed, PM5 will first check if active activity checklist is not started.

When a change is done to a task checklist and there may be need to manually update the active activity checklist, PM5 indicates that fact by displaying a colored frame around the button Update Activity Checklist. User can then decide whether to apply the changes to active activity checklist at that time, do it at later time or let the changes to be applied when new activity is created.

Checklist is regarded as started if any of checkboxes in its steps are checked in **or** if there is text in any of the note fields.



If active activity checklist is not started, then it is deleted and replaced with a new checklist based on that associated with the task. Confirmation of that update is displayed on the screen.



If active activity is started, PM5 will request confirmation of the update before the update is completed. This step needs to be performed to avoid unintentional deletions of activity checklists that have already been handled.

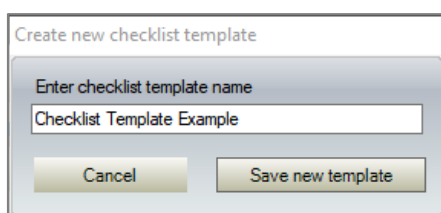
Checklist templates - introduction

Purpose of checklist templates is to enable the user to apply same checklist to jobs and tasks with a single procedure.

A checklist specified for a task, activity or fault can be saved as a template at any time by pressing button Save As Template. This button is present in Checklist sub-pane, both in Tasks and Activity/Fault section.

Once a checklist template has been saved, it can be used to create checklists in a variety of scenarios.

Creating new checklist template



New template is created by pressing Save As Template button.

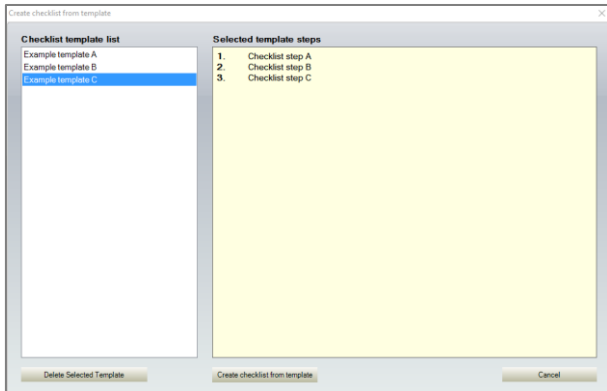
PM5 will request the user for a name for the new template. Each template must have a unique name.

Once a valid template name has been provided, PM5 will create new checklist template, based on the checklist of currently selected activity/fault/task.

Using checklist templates

Applying checklist template to existing activity or fault

To create a checklist for existing activity or fault, following procedure needs to be completed.

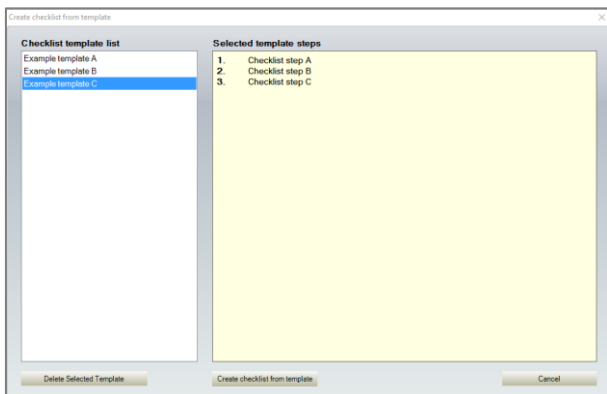


1. Select activity or fault in main activity/fault data grid.
2. Select Checklist sub-pane.
3. Press button Create From Template. PM5 will open Checklist Template Manager form. This form consists of two parts:
 - a. Checklist template list shows the list of checklist templates present in PM5
 - b. Selected template steps shows the list of checklist steps in the template selected in template list.
4. Select one of the templates in left section of

Checklist Template Manager and press button Create checklist template. Based on content of the selected template, PM5 will create a new checklist for the activity/fault.

Applying checklist template to existing task

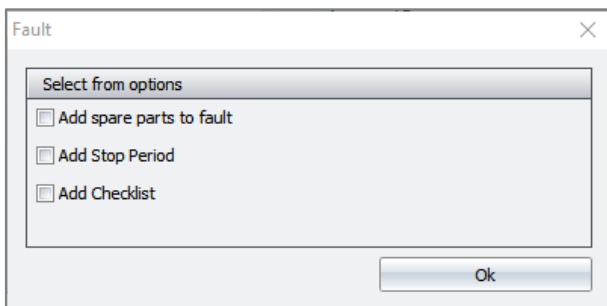
Procedure for creation of task checklist from template is very similar to that for activities/faults.



1. Select task in main task data grid.
2. Select Checklist sub-pane.
3. Press button Create From Template. PM5 will open Checklist Template Manager form.
4. Select one of the templates in left section of Checklist Template Manager and press button Create checklist template. Based on content of the selected template, PM5 will create a new checklist for the task.
5. Checklist created for the task is NOT automatically created for the active activity that belongs to the task. If user wishes to create the checklist for the active activity, then button Update Activity Checklist

must be pressed.

Applying checklist when reporting new fault.



Checklist template can be used to create a checklist to a new fault.

After new fault has been created, user is asked what additional steps are to be performed. If option Add Checklist is checked in, PM5 will display Checklist Template Manager form and user can select in it what checklist is to be added to the new fault.

Using checklist templates when creating task for multiple machines.

In release 5.15 we introduced function allowing creation of a task for multiple machines in a single procedure. This feature has been extended and it is possible to create a checklist for the tasks created in this manner.

1. Navigate to Machines section and select Task sub-pane.
2. In main data grid containing machines, select machines for which a new task is to be created.
3. Press button New Task.
4. Form Batch Task Creation will be displayed on the screen.
5. In dropdown list labeled Add Checklist, select the template that is to be used for the checklist.
6. Enter appropriate data in other fields in the form.
7. When ready, press Save button to create the task for the machines.

If a checklist template is selected, then a checklist based on that template will be created for each of the tasks **as**

well as for all active activities that belong to those tasks.

Creating checklists for tasks with Task Batch Update Tool

Quickest way to add a checklist to existing tasks is by using Task Batch Update Tool.

1. In Tasks section, select tasks to which the checklist is to be added.
2. Right click and select 'Batch edit...' in the quick menu.
3. Task Batch Update form will be displayed on the screen.
4. In drop-down list Checklist Template List, select the checklist template that is to be used for creation of checklists.
5. When ready, press button Update and confirm the changes.

Please observe following:

- this procedure will automatically create selected checklist for all selected tasks. If a selected task has a checklist associated with it at the time the batch update is executed, this checklist will be deleted and replaced with the one selected in drop down menu.
- Selected checklist template will be used to automatically create new checklist for active activities which:
 - Don't have a checklist
 - Have a checklist that has not been started.
- New checklist **will not be created** for active activities that have a checklist that has been started. If a replacement of such checklist is required, it will have to be done manually. Checklist associated with the task will be created automatically for next active activity.

Creating checklists for activities and faults using Activity/Fault Batch Update Tool

Checklists based on a checklist template can be created for multiple activities/faults with help of Activity/Fault Batch Update Tool.

1. In Activities/Faults section, select activities/faults to which a checklist is to be added.
2. Right click and select 'Batch edit...' in the quick menu.
3. Activities/Faults Batch Update form will be displayed on the screen.
4. In drop-down menu Use Checklist, select the checklist template that is to be used for creation of checklists. Please observe – if selected jobs include both activities and faults, batch update form will contain two panes – 'Activity batch update' and 'Fault batch update'. Selection of checklist template is done separately for activities and faults, in each of those two panes.
5. When ready, press button Update and confirm the

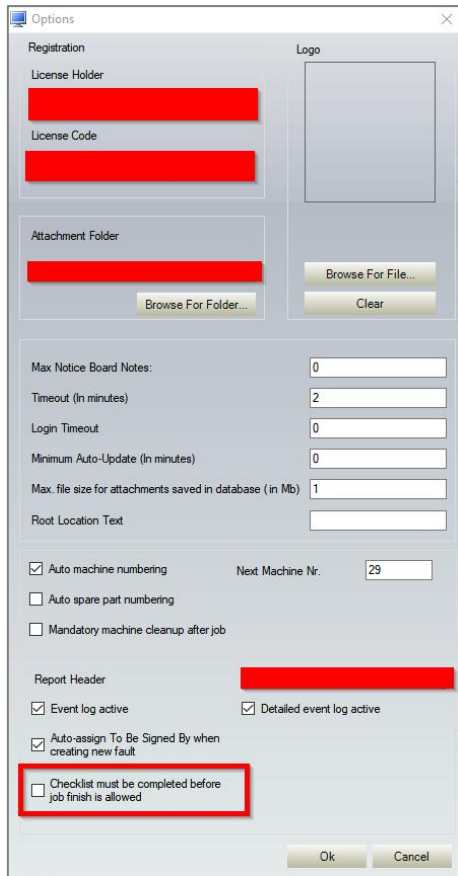
changes.

Please observe following:

- This procedure will create a new checklist for selected activities and faults, if following conditions are fulfilled:
 - Activity/fault has no existing checklist OR
 - Activity/fault has a checklist that is not started.
- Activities/faults that have a checklist that is started (any of checklist items have a checkbox that is checked in OR there is a text in one of checklist item note fields) will be bypassed.
- A checklist created for activity will NOT be recreated automatically for activities that follow it. If user requires for a checklist to be automatically created for all activities when they are created, a checklist must be specified in parent task.

Requirement for mandatory checklist completion when finishing activities/faults.

PM5 can be configured to require completion of the checklist before user can report an activity/fault as finished.

The image shows the 'Options' dialog box in the PM5 Administration interface, specifically the 'Settings' section. The 'Registration' tab is active. The 'License Holder' and 'License Code' fields are redacted with black boxes. The 'Attachment Folder' field is also redacted, with a 'Browse For Folder...' button below it. The 'Logo' field has a 'Browse For File...' button and a 'Clear' button. Below these are several numeric input fields: 'Max Notice Board Notes' (0), 'Timeout (In minutes)' (2), 'Login Timeout' (0), 'Minimum Auto-Update (In minutes)' (0), and 'Max. file size for attachments saved in database (in Mb)' (1). There is also a 'Root Location Text' field. A group of checkboxes includes 'Auto machine numbering' (checked), 'Auto spare part numbering' (unchecked), and 'Mandatory machine cleanup after job' (unchecked). The 'Next Machine Nr.' field is set to 29. Under 'Report Header', there is a redacted field. The 'Event log active' and 'Detailed event log active' checkboxes are both checked. The 'Auto-assign To Be Signed By when creating new fault' checkbox is checked. The 'Checklist must be completed before job finish is allowed' checkbox is unchecked and is highlighted with a red rectangular box. 'Ok' and 'Cancel' buttons are at the bottom right.

This setting is located in PM5 Administration, Settings section (see image to the left)

As default, this setting is switched off.

To enable this feature, PM5 administrator needs to enable it manually. Open Administration module, select settings and check in indicated checkbox in image to the left.

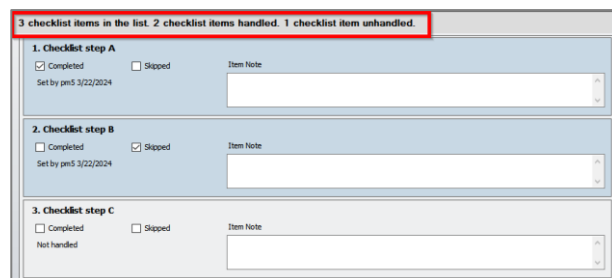
PM5 client need to be restarted for the change of this setting to take effect.

This setting is global and, when enabled, will be enforced for all users and on all clients, both in Windows and in mobile apps.

After this feature has been enabled, procedure for finishing an activity or fault will check if there is an associated checklist and if it is completed. If checklist is not completed, the user will be requested to complete it before being able to finish the activity/fault.

Please refer to section **Job checklist structure for activities and faults** for details regarding different states of job checklists. In short, a job checklist is regarded as completed when all of its items have either Completed or Skipped checkbox checked in.

Requirement for mandatory checklist in practice

The image shows a screenshot of the PM5 Activity Detail form. At the top, a status bar indicates '3 checklist items in the list. 2 checklist items handled. 1 checklist item unhandled.' Below this, there are three checklist items. The first item, 'Checklist step A', has the 'Completed' checkbox checked. The second item, 'Checklist step B', has the 'Skipped' checkbox checked. The third item, 'Checklist step C', has the 'Not handled' checkbox checked. Each item has an 'Item Note' field. The 'Not handled' checkbox for the third item is highlighted with a red rectangular box.

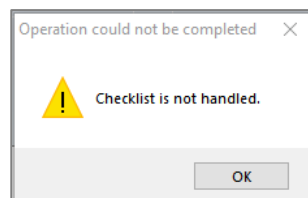
Here is an example of how the requirement for mandatory checklist completion works in practice.

Imagine following everyday scenario – a user is about to report an activity as finished. The activity has an associated checklist that consists of three steps.

First two steps are handled, since they have either Completed or Skipped checkbox checked in.

Last step is unhandled, since neither Completed nor Skipped checkbox is checked in.

Please observe that the state of the checklist is declared on top of the checklist.



User opens Activity Detail form and checks in Done checkbox. Next he presses Save button to report the activity as finished. Since the mandatory checklist completion requirement is active, the PM5 will now display message 'Checklist not handled', as shown in image to the left.

Since the checklist needs to be completed before activity can be finished, the user now needs to go back to the checklist and handle the steps that have not been dealt with.

To make this process easier, checklist is available for handling directly in Activity Detail form.

Instead of closing the Activity Detail form and handling the checklist in Checklist sub-pane, user can switch to Checklist panel in Activity Detail form.

Here, user can now check in one of checkboxes for checklist step that has not been handled. Once this is done, the activity can be reported as finished and saved.

Please observe – Activity Detail form and Fault Detail form have been modified and consist now of two panels. Detail panel contains all information about the activity/fault. Checklist panel provides access to the checklist associated with selected activity/fault.

Job checklist shown in Checklist panel of Activity Detail / Fault Detail forms works in same manner as in Checklist sub-pane of main client form. All changes and edits in individual checklist steps are saved immediately.

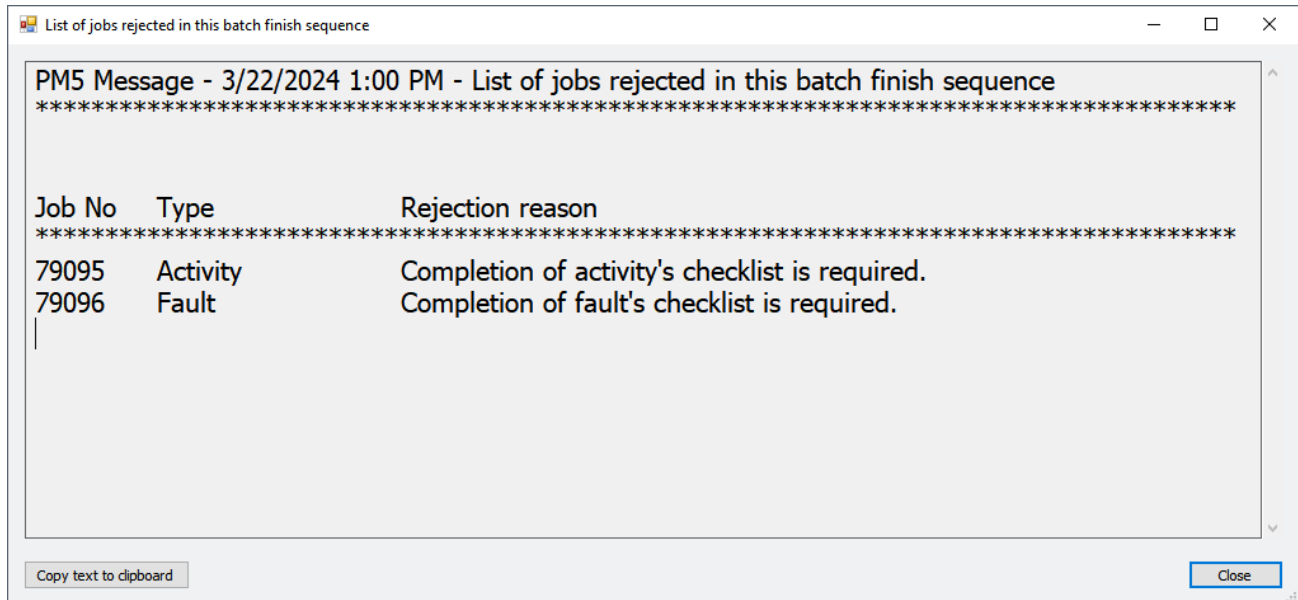
Activity Detail and Fault Detail with two panels – Detail and Checklist

Mandatory checklist completion requirement and Batch Job Finish function

When enabled, Mandatory checklist Completion requirement is enforced when using Batch Job Finish function.

Jobs with unfinished checklists **will not** be finished if their checklist is not handled.

Jobs that were not finished due to their checklist not being complete will be included in list of unfinished jobs displayed on screen with relevant rejection reason.



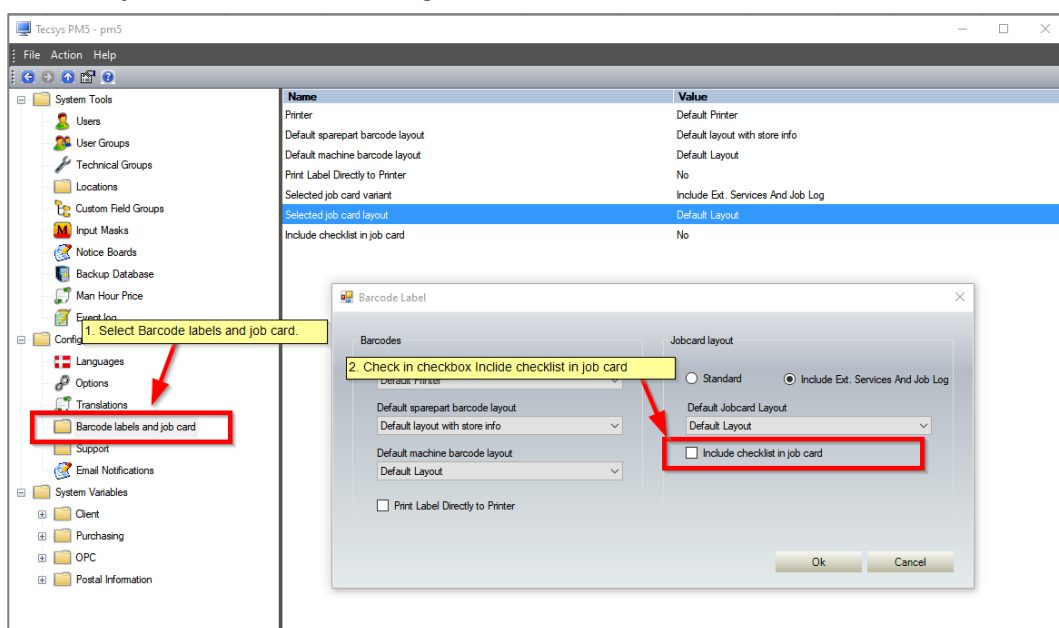
Example of the list of jobs rejected in batch job completion due to unhandled checklist.

Checklists and job cards

PM5 can be configured to include the checklist in the activity/fault job card.

This setting is located in PM5 Administration, section Barcode labels and job cards.

As default, this option is disabled and needs to be manually enabled. This is done by checking in checkbox *Include checklists in job card*, as shown in image below.



When this feature is enabled, checklist will be included at the bottom of the job card. See job card below for example.

Tecsys A/S

Job Chart

Machine Bar Code



4657965465456

Job No 79096



79096

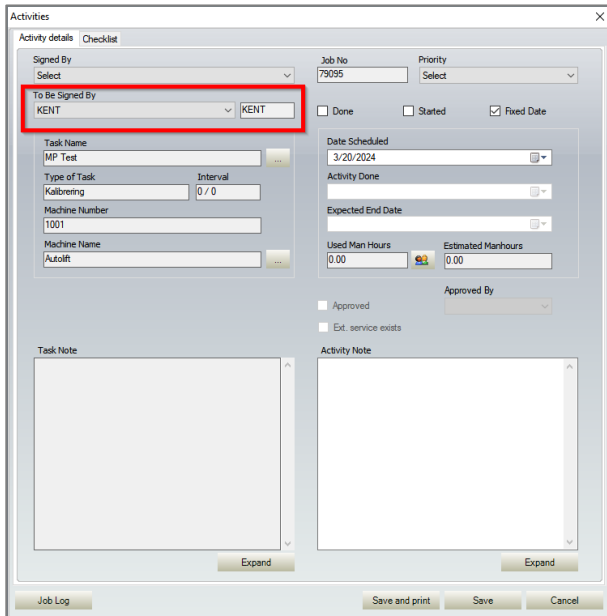
Date	3/21/2024	Technical Group	
Fault	☒	Priority	
Fault Description			
Approval Required			
No		Approved	No
Fault Type		Afvigelse	
Discovered By		pm5	
Machine No		1006	
ID Code			
Machine		Example Machine	
Location		Fabrik 1	
Solved by			
Machine Note			
Solution			

Job checklist

Step	Checklist label	Done	Skipped	Date	Handled by	Item Note
1	Checklist step A	☐	☐			
2	Checklist step B	☐	☐			
3	Checklist step C	☐	☐			

Assignment of Person Responsible in Activities

Functionality of activities has been modified and it is now possible to change user in field **To Be Signed By** in individual activities.

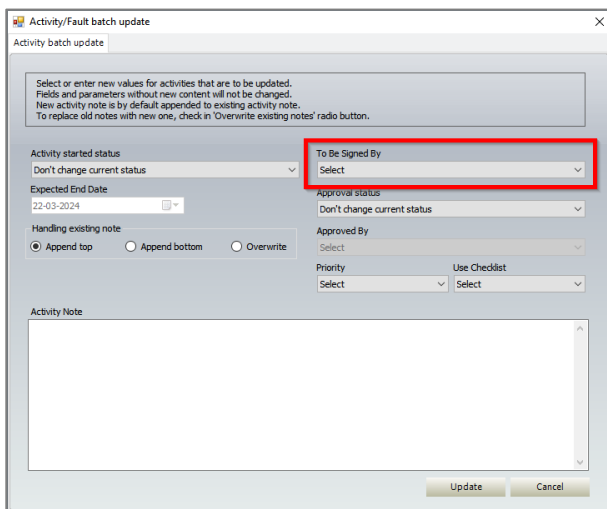
The screenshot shows the 'Activities' window with two tabs: 'Activity details' and 'Checklist'. The 'Activity details' tab is active. At the top, there are fields for 'Signed By' (a dropdown menu), 'Job No' (79095), and 'Priority' (a dropdown menu). Below these, the 'To Be Signed By' field is highlighted with a red rectangle; it is a dropdown menu currently showing 'KENT'. To the right of this field is a text box containing 'KENT'. Further right are checkboxes for 'Done', 'Started', and 'Fixed Date'. Below these are fields for 'Date Scheduled' (3/20/2024), 'Activity Done' (a dropdown), 'Expected End Date' (a dropdown), 'Used Man Hours' (0.00), and 'Estimated Manhours' (0.00). There are also fields for 'Approved By' and 'Approved' (checkbox). At the bottom, there are 'Task Note' and 'Activity Note' text areas, each with an 'Expand' button. At the very bottom are 'Job Log', 'Save and print', 'Save', and 'Cancel' buttons.

To change user in field **To Be Signed By**, open Activity Details form and select the new user in drop-down list with that label.

The field to the right of drop down list is uneditable and shows the default user assigned for the activity. This user is specified in parent task of the activity.

Change of user in **To Be Signed By** list is valid for that activity only. When new activity is created, for example after current active activity is finished, the user specified in **To Be Signed By** field will revert to default user specified in activity's parent task. If change of the user in this field is to be done on permanent basis, it must be done in activity's parent task.

It is also possible to change user in **To Be Signed By** field for more than one activity with help of Activity Batch Edit Tool.

The screenshot shows the 'Activity/Fault batch update' window. It has a title bar and a close button. Below the title bar is a section for 'Activity batch update' with instructions: 'Select or enter new values for activities that are to be updated. Fields and parameters without new content will not be changed. New activity note is by default appended to existing activity note. To replace old notes with new one, check in 'Overwrite existing notes' radio button.' Below this are several fields: 'Activity started status' (a dropdown menu), 'Expected End Date' (22-03-2024), 'Handling existing note' (radio buttons for 'Append top', 'Append bottom', and 'Overwrite'), 'To Be Signed By' (a dropdown menu highlighted with a red rectangle), 'Approval status' (a dropdown menu), 'Approved By' (a dropdown menu), 'Priority' (a dropdown menu), and 'Use Checklist' (a dropdown menu). At the bottom is an 'Activity Note' text area. At the very bottom are 'Update' and 'Cancel' buttons.

1. In Activities/Faults section, select one or more activities.
2. Click on right mouse button and select 'Batch Edit...' in quick menu that is displayed on screen.
3. In Activity/Fault Batch Edit Tool, field To Be Signed By, select replacing user.
4. Press Update button and confirm changes.

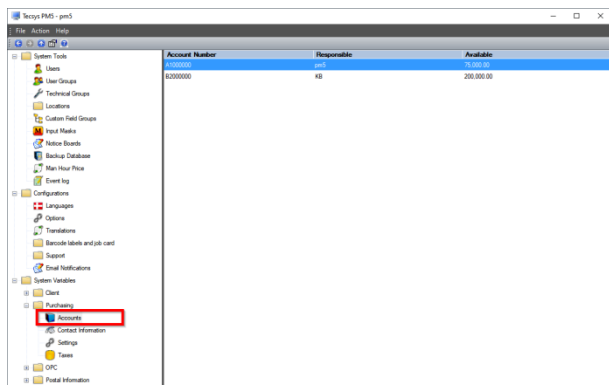
Please observe – the change of signing user will be done in all selected activities, regardless of activity status. In other words, it is possible to change signing user in activities that have already been finished.

Change of user in **To Be Signed** field of an activity is reflected in relevant filters and reports, quick search tool for jobs and in job list section in mobile apps.

Purchase accounts in purchase module

Functionality of purchase accounts has been extended. Amounts in purchase amount have now dynamic handling of remaining and reserved amount in account, based on data in orders that use such accounts.

Configuration of purchase accounts



Purchase accounts are configured in Administration module, in System Variables -> Purchasing -> Accounts. To add new account or edit existing account, right click in the right section of Administration module and select appropriate menu item in quick menu displayed on the screen.

Account Detail form retains all previously existing functionality. Manual management of account is done by adjusting value in field Amount Used.

New functionality for dynamic calculation of available mount and reserved amount is in section Dynamic calculation.

Date fields *Include orders – start date* and *Include orders – end date* specify start and end date for orders to be included in calculation. Orders are included based on order creation date.

By default, the *Include orders – start date* and *Include orders – end date* date fields are disabled. When those fields are disabled, the calculation of available and reserved amounts at account include **all orders associated with the account**.

Fields *Used amount*, *Reserved amount* and *Available amount* show calculated values, based on order details in associated orders.

- *Used amount* shows a total sum for all orders with status Received and Closed.
- *Reserved amount* shows a total sum for all orders with status Opened, Sent and Partial Delivery.
- *Available amount* shows the value according to formula **Start amount – (Used Amount + Reserved Amount)**

List at the bottom of the form shows a list of last 1000 orders associated with the order.

A screenshot of the Account Detail form. The form is divided into several sections. The top section contains fields for Account Number (A1000000), Start Amount (100,000.00), Responsible (pm5), Description (Spare parts in production), Created (5/25/2009 4:33:41 PM), and Closed. The middle section is titled 'Manual account management' and contains fields for Amount Used (25,000.00) and Available amount (75,000.00). The bottom section is titled 'Dynamic calculation' and contains fields for Include orders - start date (22. marts 2024) and Include orders - end date (22. marts 2024). Below these fields are the calculated values: Used amount: 1,450.00, Reserved amount: 3,210.00, and Available amount: 95,340.00. At the bottom of the form is a table titled 'Associated orders (last 1000)' with columns: PO Number, Supplier Name, Created, Created by, Status, Ordered, and Received. The table contains four rows of data.

PO Number	Supplier Name	Created	Created by	Status	Ordered	Received
0000003045	B2-Gear A/S	2/7/2023	pm5	Nottaget	1,220.00	1,450.00
0000002045	Bent Hygaard	6/3/2022	MBPE	Åben	425.00	0.00
0000000035	Advanced Vacuum	2/12/2016	pm5	Åben	0.00	0.00
0000000034	Bosch	2/5/2016	pm5	Åben	2,785.00	0.00

Example of new Account Detail form

Purchase account overview in Purchase Module

New form called Purchase Account Overview has been added to Purchase module. Purpose of this form is to facilitate quick access to purchase account information without having to access Administration module. To access this new form, follow procedure below:

The screenshot shows the 'Purchase' module window. It contains a table with columns: PO Number, Supplier, Requested By, Attention / Ref, Amount Ordered, Amount Received, Status, Supplier Name, Account No, and Ordered By. A right-click context menu is open over a row, showing options like 'New Order...', 'Edit...', 'Copy selected rows', 'Send', 'Partial delivery...', 'Receive', 'Close', 'Quick Search', 'Print order request', and 'Purchase accounts overview' (highlighted in red). Below the table, there is a 'Details' section with 'Order Lines' and 'Attachments' tabs.

1. Open Purchase module
2. Select Orders section, if it is not already selected.
3. Click right mouse button to open quick menu.
4. Select menu option **Purchase accounts overview**

Purchase Account Overview form displayed on the screen is a modified and non-editable version of account overview form in Administration module.

Table **Purchase Accounts**, displayed on top of the form, shows a list of accounts defined in the system. By default, only open accounts are included in the list. To include closed accounts, check in checkbox *Show closed accounts*.

Each account record shows data relevant to the account, including dynamically calculated values for reserved amount, used amount and used amount. Dynamically calculated values are filtered according to dates specified in account definition in Administration module. If no start and end date is specified, all orders associated with the account are included in calculation of dynamically calculated values.

Table **Associated orders** shows last 1000 orders associated with order selected in upper table.

The screenshot shows the 'Purchase accounts overview' form. It has a title bar and a close button. The main content area is divided into two sections. The top section, 'Purchase accounts', has a checkbox 'Show closed accounts' and a table with columns: Account No, Responsible, Created, Closed, Start Amount, Reserved amount, Used amount, Available Amount, and Status. The bottom section, 'Associated orders (last 1000)', has a table with columns: PO Number, Supplier Name, Created, Created by, Status, Ordered, and Received.

Account No	Responsible	Created	Closed	Start Amount	Reserved amount	Used amount	Available Amount	Status
A1000000	pm5	5/25/2009		100,000.00	3,210.00	1,450.00	95,340.00	Active
B2000000	KB	5/25/2009		200,000.00	2,625.00	0.00	197,375.00	Active

PO Number	Supplier Name	Created	Created by	Status	Ordered	Received
0000003045	BJ-Gear A/S	2/7/2023	pm5	Modtaget	1,220.00	1,450.00
0000002045	Bent Nygaard	6/3/2022	MIPE	Åben	425.00	0.00
0000000035	Advanced Vacuum	2/12/2016	pm5	Åben	0.00	0.00
0000000034	Bosch	2/5/2016	pm5	Åben	2,785.00	0.00

Example of Purchase Account Overview form in purchase module

Timestamp for job approval

In Activity Detail form and Fault Detail form, a timestamp for approval date has been added.

For jobs with approval requirement, when approval checkbox is checked in, the PM5 registers the date when approval has taken place.

For approved jobs, the approval date is displayed beside the Approval checkbox.

If Approval checkbox is unchecked, the approval timestamp is removed from the system.

The left screenshot shows the 'Edit fault' form. In the 'Fault details' tab, the 'Approval Required' checkbox is checked, and the text 'Approved (3/22/2024)' is displayed next to it. The right screenshot shows the 'Activities' form. In the 'Activity details' tab, the 'Approval Required' checkbox is checked, and the text 'Approved (3/22/2024)' is displayed next to it.

Examples of approval date time stamps in Fault Detail and Activity Detail forms

On/Off switch for save confirmations

In PM5 Options, a switch for enabling/disabling of save confirmation messages has been added.

The purpose of this switch is to allow the user to control whether or not a save confirmation is to be displayed whenever a record in PM5 has been saved/updated. Save confirmations are common throughout PM5, for example when editing main data records such as machines, spare parts or jobs. If user doesn't wish to have those confirmations, they can be disabled by following procedure below:

The screenshot shows the 'Options' form. In the 'PM5 Settings' section, the 'Show save and update confirmations' checkbox is checked and highlighted with a red box.

1. Open PM5 Options form by clicking on round PM5 logo at the top left corner of PM5 Windows client.
2. Select Options
3. Unmark checkbox *Show save and update confirmations*.

This setting is specific for each PM5 client.

PM5 client needs to be restarted for change of this setting to take effect.

Release notes for version 5.18.0000

Attachments stored in database

General description

Attachments stored in database is new type of attachments for files.

Attachments stored in database work exactly the same as attachments of type upload. The main difference is that once a file has been selected as attachment, a copy of that file is stored directly in PM5 database.

Requirements, restrictions and considerations

The main reason for adding this feature is to enable PM5 to handle attachment files originating from mobile units. Ability to send pictures from apps and PM5 Mobile has long been requested by users and will be added to PM5 shortly. Those attachments will be stored in PM5 as database attachments.

Having said that, it is important to point out that attachments stored in database can also be used in everyday use of PM5.

The main advantage of storing attachments is that they are all stored in PM5, which is always accessible for all PM5 Windows clients. Attachments stored in database do not require a specific folder on a server. This fact makes this new type of attachments a viable options in production environments where access to such server is not possible.

Furthermore, storing attachment files directly in database simplifies maintenance and backup of such files. A backup of database will also contain all attachment files.

Having said that, it is also **very important** to understand that storing attachments in PM5 database does present a set of requirements and challenges, which previously didn't exist in PM5:

- Storing files directly in database will make it grow in size at much more rapid rate.

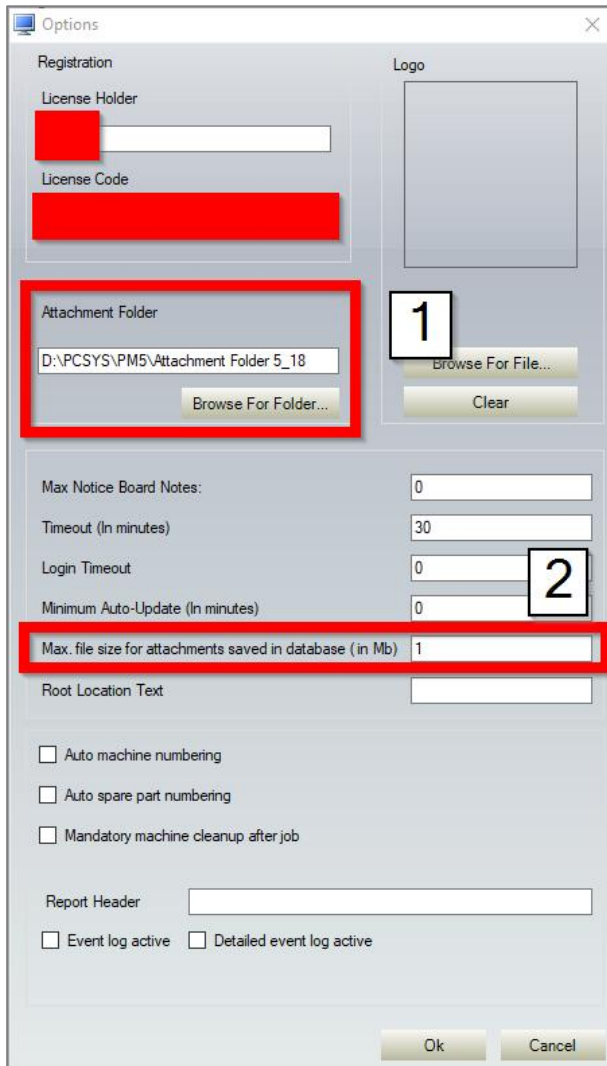
Until now, physical size of database files belonging to PM5 was relatively small. Even after long time in production, physical size of PM5 database seldom exceeds 200 Mb.

Before starting to use this new attachment type, please take under consideration that every file stored as database attachments will increase the size of database with its physical size. Several large attachments will increase size of database rapidly. This in turn will create heavier requirements on harddrive on which database is stored as well as on backup resources for database files.

- Attachments stored in database do not have physical format, they are stored as binary data directly in database tables. This means that when user needs to access such attachment, it needs to be re-created and stored in a temporary file. This presents two challenges :
 - A dedicated folder needs to be specified as place where temporary files are to be stored.
 - If temporary folder is edited, the edited file needs to be stored as new attachment.

Configuring PM5 for use of attachments stored in database

Due to considerations listed in previous section, two settings need to be configured in PM5 before attachments stored in database can be used. Both of those settings are placed in Administration -> Options form. Open this form and complete following two steps:



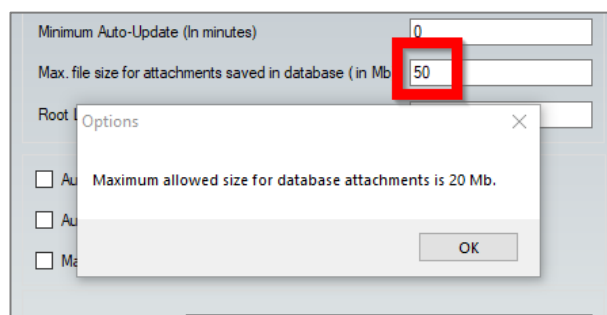
1. If it is not already specified, select a valid folder in Attachment Folder field. Chances are such folder is already specified; if that is the case, no further action is necessary.

Folder specified in this field will be used for creation and storage of temporary copies of attachment files stored in database.

2. Field *Max. file size for attachments saved in database (in Mb)* is new. In it, the administrator can specify maximum allowed size for files that can be used as attachments stored in database.

Default initial value for this parameter is 1, which means that PM5 will accept only the files with size up to 1 Mb to be used as database attachments.

Value in this field can be changed. New value must be a whole number between 1 and 20. In other words, there is a hard limit of 20 Mb for maximum size for database attachments.



If user attempts to enter value larger than maximum allowed, a warning message will be displayed on screen.

Changes in fields Attachment Folder are saved by pressing OK button in Options form.

Creating and accessing attachment stored in PM5 database

Database attachments are created in same manner as other file attachments.

1. Select Attachment subpane and select *Save in database* radio button.
2. Press *Browse For* button to select the attachment file.
3. If required, write attachment note text.
4. If attachment is to be automatically printed with job cards, check in appropriate checkboxes.
5. Press button *Add* to save the attachment.

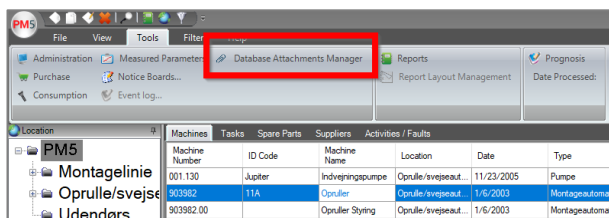
A copy of selected file will now be stored in database.

Note	File Name	Path	View	Activity Printable	Fault Printable
	Doc1 20221124 0001 .docx	Stored in database			

Attachments stored in database are indicated by text *Stored in database* in column *Path*.

They are opened by pressing on button in column *View*.

Database Attachments Tool



Database Attachments Tool allows management of and quick, **direct** access to database attachments. This tool is opened by selecting Tools -> Database Management in main client menu bar.

Main table

File Name	File size (in kb)	Upload date	Uploaded by	Related Machine	Related Task	Related Supplier	Related Job
Local Attachment	18	11/23/2005 4:03 PM	pm5	Indvejringspumpe			
Test PDF 20221124	39	11/23/2005 4:03 PM	pm5	Indvejringspumpe			
Test PDF 20221124	12	11/23/2005 4:04 PM	pm5	Indvejringspumpe			
Doc1 20221124 0001	14	11/24/2022 2:48 PM	pm5	Oprulser (903982)			

Main table lists all attachments currently stored in the database.

Individual record contains following data:

- Name of attachment's source file.
- File size in kilobytes.
- Date when file was stored in database
- Initials of user who has added the attachment
- What PM5 record the attachment belongs to.

Depending on parent record being machine, task,

supplier, sparepart or activity/fault, appropriate column will display relevant information.

- Button 'Show'. By pressing it, user opens the attachment.

Filter

Filter tool enables the user to limit the attachment list in main table to those relevant for current circumstances.

Filter fields filter the list in following manner:

- **File name** – attachment list will be limited only to those where entered text occurs **anywhere** in attachment's file name. For example, search text "manual" will result in a list of only those attachments where word "manual" occurs somewhere in attachment's file name.
- **Attached to** – attachment list will be limited only to those where entered text occurs in **any** of the columns starting with "Related to...". In other words this field can be used to search on records in main data set to which attachments are related to.
Please observe that this filter parameter affects all five "Related to..." columns at once. If user wishes to limit the search specifically to machines, tasks, spare parts, suppliers or activities/faults, use checkboxes dedicated to this purpose.
- **Attached by** – attachment list will be filtered on person selected in this combobox.
- **File min. size** and **File max. size** – attachment list will be limited only to those attachments physical file of which corresponds to values entered in those two fields.
- **Uploaded at or before** – attachment list will be limited only to those attachments that were uploaded to database at specified date or earlier.
- **Uploaded at or later** – attachment list will be limited only to those attachments that were uploaded to database at specified date or later.
- **Attached to** – here user can limit attachment list to those that belong to specific group in main dataset. For example, if checkboxes Machine and Task are checked in, the attachment list will show only attachments associated with machines and tasks.

Functions

Button **Search** – by pressing this button, user refreshes the list in main table. The list is filtered on current filter parameters.

Button **Reset filter** – all filter fields are cleared. Attachment list in main table is refreshed and complete list of attachments stored in database is presented.

Button **Delete selected attachments** - deletes all attachments currently selected in main datagrid. This function is available only for the users belonging to a user group where credential Delete database attachment is enabled.

Deletion of attachments stored in database needs to be confirmed by the user.

When an attachment stored in database is deleted in this manner, then:

- The file is deleted from the database.
- All records related to this file are deleted from PM5. In practical terms it means that the attachment association is deleted from the system and the attachment is no longer listed in Attachment subpane of its owner record (machine, task, spare part, supplier, activity/fault).

Please observe that individual attachment stored in database can still be deleted in normal manner, by selecting it in PM5 Windows Client and pressing button **Delete attachment**.

New user credential – Delete database attachment

New user credential, called Delete database attachment, has been added to the list of user credentials of User Groups. By default, this credential is **not enabled** in credentials settings of existing user groups.

As specified in section Functions above, this new user credential controls whether or not the user is allowed to delete database attachments with delete function in Database Attachments Tool.

This credential has been added because in Database Attachments Tool, user can delete multiple or even all attachments in the list in single operation. To avoid accidental deletions of large amount of attachments it is recommended that this credential is enabled at administrator's discretion only for authorized personnel.

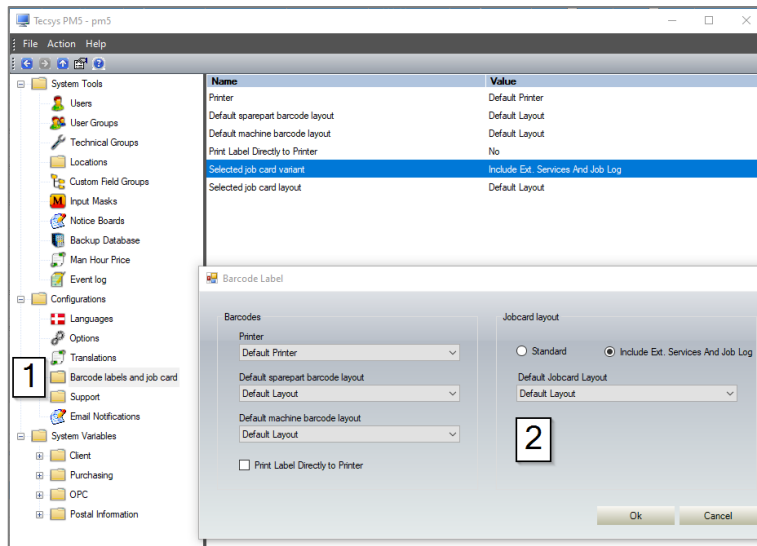
Job card with information about external services and job log

New job card layout has been added to PM5. This new job card includes following information:

- List of external services associated with the job.
- All entries in job log belonging to the job. (Please refer to section Release notes for version 5.13.2000 in this document)

Please observe – standard job card layout is always selected as default.

To switch to new job card layout, perform following steps:



1. Open Administration module.
2. Select Configurations -> Barcode labels and job card.
3. Double-click anywhere in right section of the screen.
4. In form Barcode Label, select radio button named *Include Ext. Services And Job Log*.
5. Press **OK** button to save changes.

Extended job card layout will now be used whenever users request creation of jobcard from activity/fault detail form or by selecting **Job Chart** from Activities/Fault quick menu.

Global adjustment in data lists in subpanes of PM5 Windows client

In multiple places in PM5 Client, subpanes contain tables with extracts from other parts of the client. For example in section Machines, there are subpanes listing activities and faults associated with selected machine. Subpanes containing such information has been modified – height of individual rows is now automatically adjusted to enable presentation of texts that stretch over more than single row.

Example picture below shows this adjustment. Activity notes for two of the activities consist of multiple rows. Height of rows containing information about those activities has been expanded to enable presentation of activity notes.

Machines	Tasks	Spare Parts	Suppliers	Activities / Faults								
Machine Number	ID Code	Machine Name	Location	Date	Type	Supplier	Account Number	Price	Stop Group	Active		Attachment
903982	11A	Rewinder	Rewinder	1/6/2003	mountingautomat.	Poul Johansen M.			Rewinder	☒	☐	
903982.00		Rewinder, control	Control	1/6/2003	mountingautomat.	Poul Johansen M.			Rewinder	☒	☐	
903982.01.01		Rewinder, finisher	Finisher	1/6/2003	mountingautomat.	Poul Johansen M.			Rewinder	☒	☐	
903982.01.02		Rewinder, straight...	Straightening rolls	1/6/2003	mountingautomat.	Poul Johansen M.			Rewinder	☒	☐	
903982.01.03		Rewinder, feeder	Feeding	1/6/2003	mountingautomat.	Poul Johansen M.			Rewinder	☒	☐	
903982.02		Rewinder, cut	Cutting	1/6/2003	mountingautomat.	Poul Johansen M.			Rewinder	☒	☐	
905539	0	Leaksearch Balc...	Mounting	10/30/1994	Leaksearchchato...	J.W. Froehlich			Mounting line	☒	☒	
905539.00		Leaksearch Balc...	Mounting	10/30/1994	Leaksearchchato...	J.W. Froehlich			Mounting line	☒	☐	
905542	068	Filplantand	Mounting	10/6/1994	Filplantand Uni 9...	Poul Johansen M.			Mounting line	☒	☒	
905542.00		Filplantand, control		10/6/1994	Filplantand Uni 9...	Poul Johansen M.			Mounting line	☒	☐	
905543	03C	Edge and tightne...	Mounting	10/6/1994	Mountingautomat.	Poul Johansen M.			Mounting line	☒	☒	
905543.00		Edge and tightne...		10/6/1994	Mountingautomat.	Poul Johansen M.			Mounting line	☒	☐	
905543.01		Edge and tightne...	01	10/6/1994	Mountingautomat.	Poul Johansen M.			Mounting line	☒	☐	
905543.02		Edge and tightne...	02	10/6/1994	Mountingautomat.	Poul Johansen M.			Mounting line	☒	☐	
905543.03		Edge and tightne...	03	10/6/1994	Mountingautomat.	Poul Johansen M.			Mounting line	☒	☐	
905545	0	Leaksearch over...	Mounting	10/6/1994	Leaksearchchato...	J.W. Froehlich			Mounting line	☒	☒	
905545.00		Leaksearch over...		10/6/1994	Leaksearchchato...	J.W. Froehlich			Mounting line	☒	☐	
905547	11A	Haas Laser 505D	Mounting	10/6/1994	Laser Yag 936525	Trumpf Haas Las...			Mounting line	☒	☒	
905547.00		Haas Laser 505D...		10/6/1994	Laser Yag 936525	Trumpf Haas Las...			Mounting line	☒	☐	

Page 1 showing 1 to 20 of total 23
Machine located at: Mounting

Details	Tasks	Activities	Spare Parts	Faults	Stop	Attachments						
Task Name	Date	Done	Done Date	Signed By	Used Man Hours	Note					Job No	
3 months planned service	11/9/2007	☐			0	Wear damage detected on packings. Issue reported and assigned to external service provider. Service provider maintenance planned for next Thursday. See job 8585 for further details.					115	
12 months batterychange CPU101U/R,115U/H/FCPU516	5/16/2007	☒	8/17/2007	DVS	0.5	No battery in stock. Requested purchase of new batteries.					45	
14 days planned service	4/4/2007	☒	8/17/2007	DVS	1	Battery in stock. Replacement done on august 17th.					89	
14 days planned service	3/21/2007	☒	3/21/2007	JP	2						54	

This adjustment has been performed in following tables/columns in PM5 Client:

Main Client

Machines

Activity - Note
Attachment - Note
Sparepart - Note
Fault - Description, Solution

Tasks

Activity - Note
Sparepart - Note
Attachment - Note
External Service – Note

Spareparts

Machines - Quantity (center)
Consumption Activities - Note
Consumption Faults - Note
Supplier - Note
Attachment – Note

Suppliers

Spareparts - Note
Attachment - Note
External Service - Description, Job Note

Activities / Faults

Attachment - Note
Attachment Task - Note
External Service – Note

Purchase module

Order

Attachment – Note

Supplier

Sparepart - Note
Attachments – Note

Spareparts

Attachments – Note

Measured Parameter Tool – function for copying measured parameter read data to clipboard

In Measured Parameter Tool, there is now a simple function for copying of measured parameter values currently shown in *Read Values* table to clipboard.

To copy content of table *Read Values*, user is to press button **Copy read values to clipboard**. Copied data is now available for pasting in other places, for example Excel tablesheet or Word document.

Copying of read data for measured parameter in picture to the left will render following content.

Measured Parameters

Search measured parameter by name:

Name	Unit	Max Counter Reading	Average per day
Measured Parameter 001	1	100000	10

Page 1 showing 1 to 1 of total 1

Read Values | Remainder before activity

Date	Counter Reading	Average for period
12/1/2022	4133	9.47
11/1/2022	3849	12.54
10/4/2022	3498	12.15
9/1/2022	3097	3.43
8/2/2022	2994	12.96
7/6/2022	2644	6.14
6/7/2022	2466	18.17
5/2/2022	1812	8.15
4/5/2022	1592	9.38
3/7/2022	1320	18.62

Page 1 showing 1 to 12 of total 12

Copy read values to clipboard | New | Edit | Close

Measured Parameter Measured Parameter 001

Date	Reading	Average for period
12/1/2022	4133	9.47
11/1/2022	3849	12.54
10/4/2022	3498	12.15
9/1/2022	3097	3.43
8/2/2022	2994	12.96
7/6/2022	2644	6.14
6/7/2022	2466	18.17
5/2/2022	1812	8.15
4/5/2022	1592	9.38
3/7/2022	1320	18.62

Machine quick search – search on machine type

Quick search tool for machines has been extended – users can now perform quick searches on machine type.

Search result list is limited to a specific machine type by selecting one of machine types listed in field Machine Type. See example below for search on machine type *Laser Yag 936525*.

Machine Quick Search

Machine No: Machine Name: ID Code: Bar Code:

Machine Type: **Laser Yag 936525** | Manufacturer: Machine Note:

Machine No	Machine Name	ID Code	Bar Code
905547	Haas Laser 506D	11A	
905547.00	Haas Laser 506D, control		

Page 1 showing 1 to 2 of total 2

Ok | Cancel

Release notes for version 5.17.0000

Supplier Currency

General description

Supplier currency is a new system variable for suppliers registered in PM5. used for two purposes:

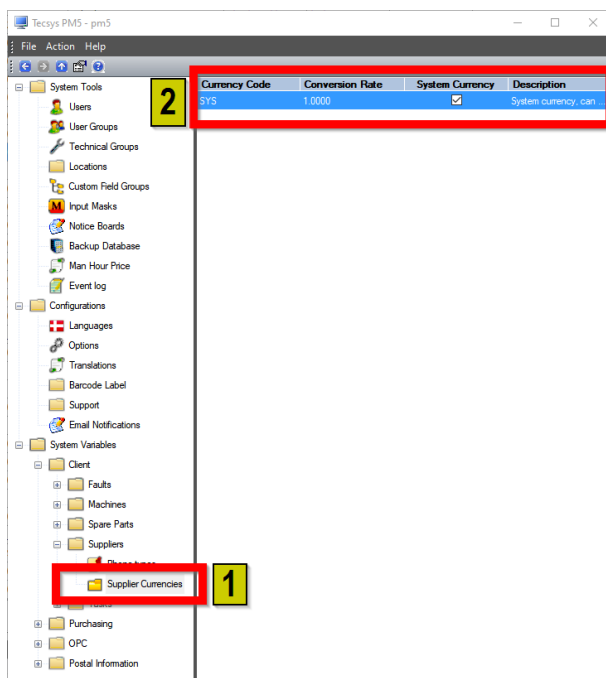
- Specifying what currency is being used by individual suppliers.
- Providing conversion rates between PM5 :s system currency and other currencies specified and used in PM5.

In everyday use of PM5, supplier currencies have very limited impact – selected supplier currency simply indicates what currency is being used by supplier. Furthermore, supplier's currency code is displayed for informational purposes in associations between spare parts and suppliers.

The real impact of supplier currencies takes place in Purchase Module and in handling of purchase orders.

For users **not using** purchase module for handling of purchases of spare parts, it is safe to ignore supplier currencies. It is however recommended to at very least adjust currency code of System Currency to that used as company's primary currency.

Management of supplier currencies



Management of supplier currencies is handled in Administration Module.

System Currency

During new installation or upgrade to PM5 5.17.000, a single currency will be created. This currency has code SYS and is marked as **System Currency** for PM5.

System Currency has special purpose in PM5:

- Currency marked as System Currency cannot be deleted.
- Conversion Rate is set to 1.0000. This value **cannot** be changed.
- Conversion rates of other currencies in the system **always** refer to System Currency.
- The only property that can be changed for currency marked as System Currency is its Currency Code. It is recommended that Currency Code is changed to that of your enterprise's primary currency.
- All new Suppliers have their Currency set by

default to System Currency.

- After update to version 5.17, all Suppliers existing in the system will have their Currency set to System Currency.

System Currency is the default currency used throughout PM5. Price of all spare parts is always in System Currency, this cannot be changed.

After new installation or upgrade to version 5.17.000, it is strongly recommended to change Currency Code of System Currency to the currency used by user's company.

To change Currency Code, double-click on row of System Currency. In form that is displayed on screen, change Currency Code to that of the default currency used by your company. For example, for Danish companies change currency code **SYS** to **DKK**.

Press button **Save** to save the changes.

Creating new Supplier Currency

To create new Supplier Currency, right-click on list with supplier currencies and in quick menu shown on the screen, select **New...**

Currency Code – in this field, enter international currency code, consisting of three letters. For example USD for US Dollar, EUR for Euro, DKK for Danish Crown, etc.

Conversion Rate – conversion rate must be a number bigger than 0 and smaller than 1000. Value entered in this field is used for conversions of spare part prices in this currency to **system currency**, used as default throughout PM5.

In this example, the conversion rate is set to 8.0000. This means that prices of spare parts supplied by suppliers using this currency will **in some**

circumstances be converted to system currency by multiplying supplier's spare part price by 8.0000.

See section **Automatic Price Updates In Purchase Module** below for further details.

Description – Description note for the currency.

Press **Save** button to save new system currency.

Press **Cancel** button to abort creation of new supplier currency.

Deleting Supplier Currency

To delete a supplier currency, select currency to be deleted and select **Delete** in quick menu shown on the screen.

If deleted currency is used as supplier currency for a supplier, PM5 will automatically update such supplier and set its currency to System Currency.

Supplier Currency and Suppliers

Supplier currencies specified in Administration module are used to specify currency used by individual suppliers registered in PM5.

Default supplier currency of suppliers is the System Currency.

System Currency is applied to all suppliers that are registered in PM5 at the time of upgrade to version 5.17.0000.

Supplier currency can be changed at any time in combobox **Currency**, as indicated in example picture to the right.

To save change of supplier's currency, press **Save** button.

Automatic Price Updates in Purchase Module

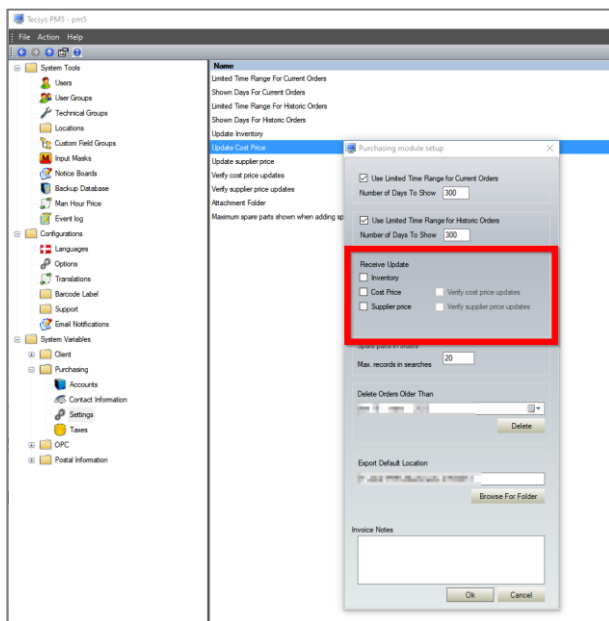
General description

In purchase module, automatic price updates function has been re-done and extended. Previously, spare part prices could be automatically updated when price for received spare parts in purchase orders was different than current spare part price.

From version 5.17, automatic price updates of spare parts based on input in purchase orders can be done on:

- Supplier's price specified in Supplier-Sparepart association
- Spare part price specified in Spare part details

Setting up automatic updates of spare part prices



Behavior of automatic updates of spare part prices is configured in Purchasing Module Setup form.

To access those settings, navigate to System Variables -> Purchasing -> Settings and double click anywhere in the right section of Administration module.

In section **Receive Updates** configure following parameters :

Cost Price – when this checkbox is checked in, the price of spare part will be updated if spare part's price entered in a purchase order is different from current spare part price.

Verify cost price update – this checkbox is active and can be checked in only when checkbox Cost Price is checked in.

When this checkbox is checked in, user will be requested to confirm any changes of spare part's cost

price that are triggered by price inputs in purchase orders in Purchase Module. If user declines such update, the spare part price will unchanged.

If checkbox Cost Price is checked in and checkbox Verify cost price update is **not** checked in, changes to spare part prices will be performed automatically in the background, without any indications to the user.

Supplier price – when this checkbox is checked in, the price of supplier's spare part price will be updated if supplier's spare part price entered in a purchase order is different than current supplier's spare part price specified in association between supplier and spare part.

Verify supplier price updates – this checkbox is active and can be checked in only when checkbox Supplier price is checked in.

When this checkbox is checked in, user will be requested to confirm any changes to supplier's spare part price that are triggered by price inputs in purchase orders in Purchase Module. If user declines such update, the supplier's spare part price will remain unchanged.

If checkbox Supplier price is checked in and checkbox Verify supplier price updates is **not** checked in, changes to supplier's spare part price in supplier-spare part association will be performed automatically in the background, without any indications to the user.

The four controls described above should give PM5 administrator complete control over this feature.

- To disable this function, uncheck all four checkboxes. This is default configuration immediately after installation/upgrade to version 5.17.0000.
- To enable automatic updates of spare part prices/supplier spare part prices based on prices entered in purchase orders in Purchase Module, check in checkboxes for updates of prices.

- To enable user to approve/dismiss changes to **spare part prices** and/or **supplier spare part prices** triggered by input in purchase orders in Purchase Module, check in checkboxes for verification.

Automatic spare part updates in Purchase Module

Automatic spare part updates take place in purchase module, when working with order details of individual order.

Following conditions must be fulfilled for automatic price updates to be triggered:

- Updates of prices must be active. (See section above.)
- The purchase order must have a specified supplier.
- For updates of supplier's spare part price, an association must exist in PM5 for spare part and supplier.

Updates of supplier's spare part price

Update of supplier's spare part price is triggered when supplier price entered in order details for a spare part is different than current spare part price specified in association between supplier and the spare part.

Example:

The 'Edit Association' window displays fields for Supplier No (SUP-101), Supplier Name (Gilson), Spare Part Group (Seals), Name (Piston Assembly w/Bellows, H3 Head), Spare Part No (SP-0017), Type No (0017), and Unit (pcs). The Price field is set to 800.00. A red arrow points to the Price field with a yellow callout box stating "Current supplier price in supplier-spare part association."

1. In supplier-spare part association between supplier *Gilson* and spare part *Piston Assembly w/Bellows, H3 Head*, spare part price is set to 800,00.

The 'Order Line' window shows Purchase Order Details (PO No: 0000001068, Requested By: pm5) and Spare Part Details (Spare Part No: SP-0017, Type No: 0017, Spare Part Name: Piston Assembly w/Bellows, H3 Head). The Order Line Details section shows a Price of 900 EUR. A red arrow points to the Price field with a yellow callout box stating "Supplier's price in order detail is different from that in supplier-spare part association."

2. In Purchase module, a new order is created for supplier *Gilson*. Spare part *Piston Assembly w/Bellows, H3 Head* is added to the order.

Supplier's price in order details for *Piston Assembly w/Bellows, H3 Head* is set to 900.00.

The 'Order Line' window is shown with a 'Supplier price update' dialog box. The dialog asks "Update supplier price?" with "Current supplier price: 800.00 EUR" and "New supplier price: 900.00 EUR". The background window shows the same order details as the previous screenshot, with the Price field set to 900 EUR.

3. When user saves the new order line then:

- * if **Verify supplier price updates** is enabled, user will be prompted to confirm the update of supplier's spare part price in supplier-spare part association.
- * if **Verify supplier price updates** is NOT enabled, the update of supplier's price in supplier-spare part association will be performed automatically.

If there is no corresponding supplier-spare association, this procedure does not take place.

Updates of spare part price

Updates of spare part's cost price is triggered when spare part cost price entered in order details is different from the cost price entered in spare part's detail form.

Please observe – if supplier's currency is **other** than System Currency, then the spare part cost price entered in order details **will be multiplied by current conversion rate of supplier's currency** before it is compared with spare part's current cost price.

Example:

System Currency Code is DKK. All spare part prices are in DKK.

Currency Code	Conversion Rate
DKK	1.0000
EUR	8.0000
SEK	0.8000
USD	9.0000

1. Currency code of System Currency is DKK. This means that all spare part prices are considered to be in Danish Crowns.

Supplier's currency is set to Euro.

Supplier Number: SUP-101
Country: DK
Telephone: 555 878979
Fax: 555 89798789
Supplier Name: Gilson
E-Mail: contact@gilson.nu
Address: Main Street 8
Web URL: www.gilson.com
Zip Code: 1754
City: København V Hedebygade
Currency: EUR
Supplier: ☒
Service Provider: ☒

2. Supplier's currency is set to Euro.

In purchase order, the spare part price is set to 900 Euro, which is different price than that specified in spare part's details.

Purchase Order Details
PO No: 0000001068
Requested By: jms
Attn / Ref:
Spare Part No: SP-0017
Type No: 0017
Spare Part Name: Piston Assembly w/Bellows, H3 Head
Spare Part Note:
Order Line Details
Ordered Date Sent: 0
Quantity: 10
Price: 900.00 EUR
Delivery Date:
Conditions
Discount %: 0
Store: None selected
Expected Del. Day:
Taking Delivery
Received By: jms
Quantity Received: 10
Price: 900
Discontinued Price: 9,000.00
Amounts
Ordered: 9,000.00
Received: 9,000.00

3. In Purchase module, the cost price of the spare part *Piston Assembly w/Bellows, H3 Head* is set to 900.00.

Since the currency of supplier *Gilson* is set to Euro, the spare part cost price entered in order details is converted to Danish Crowns using the current conversion rate specified for Euro, before being compared with current cost price for spare part *Piston Assembly w/Bellows, H3 Head*.

Spare part price update

Update sparepart price?
Current sparepart price: 350.00 DKK
New sparepart price: 7200.00 DKK
Supplier Currency: EUR
Conversion Rate: 8.0000

OK Cancel

4. When user saves new order line, then:

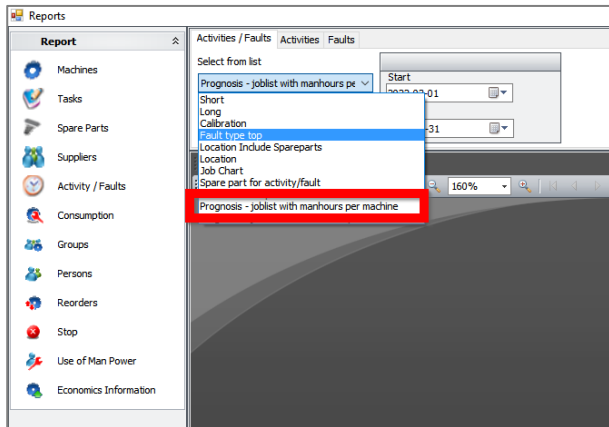
- * if **Verify cost price updates** is enabled, user will be prompted to confirm the update of spare part's cost price in spare part's detail information.
- * if **Verify supplier price updates** is NOT enabled, the update of spare part's cost price will be performed automatically.

Changes of spare part cost price are registered in:

- * Spare part's cost price history. If multiple changes of spare part are done on same date, **only the last spare part price is registered on that date.**
- * If even log detailed log is active, spare part cost price change is registered in event log.

Report Prognosis – Job list with manhours per machine

This report lists all jobs that are planned or prognosed to take place during time period specified in report settings.



Report *Prognosis – Joblist with manhours per machine* is available in Report Module, section Activities/Faults, pane Activities/Faults.

The report includes following information:

- Unfinished activities that are scheduled to be done during specified time period.
- Future activities that would be scheduled to be done during specified time period **if** existing unfinished activities are finished on scheduled date.
- Unfinished faults **with specified expected finish date** that is within time period specified for the report. **IMPORTANT** – faults that lack expected finish date are **not** included in this report.

The report can be filtered on two parameters:

- Time period specified in fields Start and End.
- Location, selected in Filter element of Report module. Default location is top location PM5 location structure – when this location is active, the report will list all valid activities/faults for all machines in the system. If one of sub-locations is selected, the report will list all valid activities/faults for machines located at selected location and all of its child locations.

Prognosis technique used for this report is different from prognosis used in older reports.

- **It is quicker than prognosis in other reports.**
- **It includes prognosis for activities that are scheduled with assistance of measured parameters.**
- **It is 100 percent dynamic and independent of Prognosis Tool. Prognosis Tool does not need to be run for this report to provide exact information.**
- **User can select any time period, without any restrictions on time period.**

Example:

Prognosis - joblist with manhours per machine			
Prognosis	4/1/2022 - 5/31/2022	Time period covered by report	
Location	Outdoors	Location used for filtering (if any is used)	
Rewinder (903982)			
4/4/2022	Fault with specified 'expected finish date' and set to 4th april 2022.		
Fault	Electric failure	Type	Electric failure
Technical Group	Unspecified	To Be Signed By	OPT
Priority Code		Frequency	0
4/17/2022			
Task	200 hours service	Type	Planned servicecheck
Technical Group	Blacksmith	To Be Signed By	KB
Priority Code	1	Frequency	20 (Counter 125)
Planned manhours consumption		First instance of activity controlled by a measured parameter.	
KB	2		
4/20/2022			
Task	30 days service	Type	Lubrication
Technical Group	Blacksmith	To Be Signed By	KB
Priority Code	1	Frequency	30
Planned manhours consumption			
DVS	0.25		
JP	1		
5/7/2022			
Task	200 hours service	Type	Planned servicecheck
Technical Group	Blacksmith	To Be Signed By	KB
Priority Code	1	Frequency	20 (Counter 125)
Planned manhours consumption		Second instance of activity controlled by a measured parameter.	
KB	2		
5/20/2022			
Task	30 days service	Type	Lubrication
Technical Group	Blacksmith	To Be Signed By	KB
Priority Code	1	Frequency	30
Planned manhours consumption			
DVS	0.25		
JP	1		
5/27/2022			
Task	200 hours service	Type	Planned servicecheck
Technical Group	Blacksmith	To Be Signed By	KB
Priority Code	1	Frequency	20 (Counter 125)
Planned manhours consumption		Third instance of activity controlled by a measured parameter.	
KB	2		

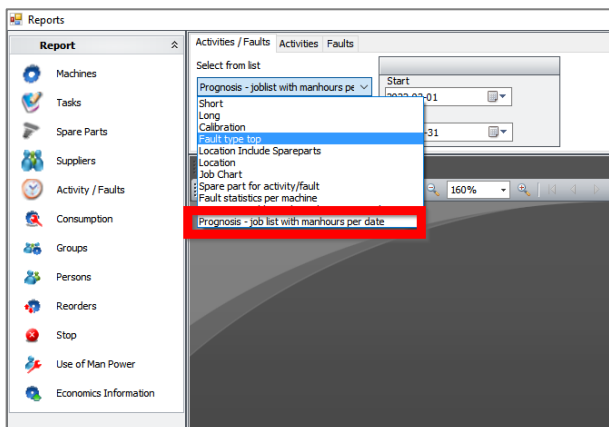
Example above is created on 23 March 2022. It covers time period between 1 April 2022 and 31 May 2022, as indicated in report header.

Report lists jobs for all machines at location Outdoors and all of its child locations. For sake of convenience, only one machine is present at specified location.

- The report groups activity/fault records per machine and then per scheduled date. For activities already existing in the system, it is scheduled done date. For existing faults, it is expected finish date. For predicted activities, it is scheduled date based on recurrence period specified in the task to which they belong.
- First record in example picture is a fault. This is indicated by keyword **Fault** shown in the top row of the record.
- Remaining jobs in the example are activities.
- Field frequency contains information about recurrence period for activity. If scheduling of activity is controlled by a measured parameter, name of controlling measured parameter is included in frequency information.
- If manhours consumption is specified for the job, then this information is included in individual records. Initials of personel assigned for the job and extimated manhours consumption is then listed, one person per row.

Report Prognosis – Job list with manhours per date

This report lists all jobs that are planned or prognosed to take place during time period specified in report settings. It is essentially same report as report Prognosis – Joblist with manhours per machine; the only difference is that the grouping records in this report is done first on Date and then on machines.



Report *Prognosis – Joblist with manhours per date* is available in Report Module, section Activities/Faults, pane Activities/Faults.

Functionality and content of this report is identical to that of report Joblist with manhours per machine. User is referred to section above for details.

Example:

Prognosis - job list with manhours per date			
Prognosis	4/1/2022 - 4/30/2022		
Location	Outdoors		
4/4/2022			
Rewinder (903982)			
Fault	Electric failure	Type	Electric failure
Technical Group	Unspecified	To Be Signed By	OPT
Priority Code		Frequency	0
4/6/2022			
3 Montini Truck (9802,2)			
Task	14 days service	Type	Mandatory servicecheck
Technical Group	Blacksmith	To Be Signed By	DVS
Priority Code	Within 48 hours	Frequency	14
Planned manhours consumption			
JP	3		
OPT	1		
4/17/2022			
Rewinder (903982)			
Task	200 hours service	Type	Planned servicecheck
Technical Group	Blacksmith	To Be Signed By	KB
Priority Code	Within 24 hours	Frequency	20 (Counter 125)
Planned manhours consumption			
KB	2		
4/20/2022			
Rewinder (903982)			
Task	30 days service	Type	Lubrication
Technical Group	Blacksmith	To Be Signed By	KB
Priority Code	Within 24 hours	Frequency	30
Planned manhours consumption			
DVS	0.25		
JP	1		
3 Montini Truck (9802,2)			
Task	14 days service	Type	Mandatory servicecheck
Technical Group	Blacksmith	To Be Signed By	DVS
Priority Code	Within 48 hours	Frequency	14
Planned manhours consumption			
JP	3		
OPT	1		

Example above is created on 23 March 2022. It covers time period between 1 April 2022 and 31 May 2022, as indicated in report header.

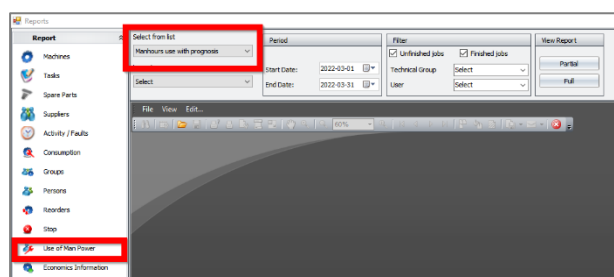
As can be seen, the report is essentially the same as report Job list with manhours per machine. For detailed information about content of each record, user is referred to section above.

The report differs from that above in one, crucial respect – its records are grouped first on date, then on machine. This difference makes it suitable as an overview of jobs that are to be performed in a specific time period.

Report Manhours consumption per person and date

This report provides an overview of personnel's real and estimated use of manhours during specified time period. The report includes both historical data and provides a prognosis of use of manhours. Therefore, it can be used for:

- Overview of use of manhours for jobs that are registered/done/in progress of being finished.
- Prognosis of manhours consumption in the future.



Report *Manhours consumption per person and date* is available in Report Module, section Activities/Faults, pane Activities/Faults.

The report provides a list of jobs where users have registered either estimated or real manhours consumption. The list is grouped per user, month and date.

Report can be filtered on following parameters:

- Time period specified in fields Start Date and End Date.
- Activity/Fault finished status, depending on whether or not checkboxes *Unfinished jobs* and *Finished jobs* are checked in.
- Technical group – selection of specific technical group will filter the job list to those assigned to that group.
- User – selection of specific user will filter the job list to only those where the user has registered estimated/real consumption of manhours.
- Location, selected in Filter element of Report module. Default location is top location PM5 location structure – when this location is active, the report will list all valid activities/faults for all machines in the system. If one of sub-locations is selected, the report will list all valid activities/faults for machines located at selected location and all of its child locations.

Example A:

Manhours consumption per person and date								
Prognosis	3/1/2022 - 5/31/2022							
Location	All							
Filter	User: Knud Bertelsen							
Knud Bertelsen								
Machine Name	Machine No	Location	Job name	Job type	Est.	Reg.	Finished	Fault
March 2022								
Thursday 17 March 2022								
Rewinder, cut	903982.02	Rewinder - Cutting	Mechanical	Mechanical	0	0.75	X	X
Monday 21 March 2022								
Edge and tightnesstest st.2	905543.02	Mounting - 02	30 days service	Lubrication	0	3	X	
Rewinder	903982	Outdoors	90 days service	Lubrication	0.5	0		
Thursday 24 March 2022								
Rewinder, cut	903982.02	Rewinder - Cutting	Ball dosage error	Ball dosage error	0	7		X
Monday 28 March 2022								
Rewinder	903982	Outdoors	200 hours service	Planned servicecheck	2	0		
April 2022								
Sunday 17 April 2022								
Rewinder	903982	Outdoors	200 hours service	Planned servicecheck	2	0		
May 2022								
Saturday 7 May 2022								
Rewinder	903982	Outdoors	200 hours service	Planned servicecheck	2	0		
Friday 27 May 2022								
Rewinder	903982	Outdoors	200 hours service	Planned servicecheck	2	0		
Total					8.5	10.75		

Example above a part of the report created on 23 March 2022. It covers time period between 1 March 2022 and 31 May 2022, as indicated in report header.

Report lists jobs for machines at all locations where user Knud Bertelsen has registered estimated or real use of manhours.

The job list is grouped per month and then individual date.

Each record consists of basic information about machine, machine location, job name, job type, estimated and real use of manhours.

In column *Finished*, an **X** indicates that the job is reported as finished.

In column *Fault*, an **X** indicates that the job is a fault.

Sum of estimated and real manhours registered for the user is shown for each user included in the report.

Example B:

Manhours consumption per person and date								
Prognosis	6/1/2022 - 8/31/2022							
Location	All							
Filter	User: Knud Bertelsen							
Knud Bertelsen								
Machine Name	Machine No	Location	Job name	Job type	Est.	Reg.	Finished	Fault
June 2022								
Thursday 16 June 2022								
Rewinder	903982	Outdoors	200 hours service	Planned servicecheck	2	0		
Sunday 19 June 2022								
Rewinder	903982	Outdoors	90 days service	Lubrication	0.5	0		
July 2022								
Wednesday 6 July 2022								
Rewinder	903982	Outdoors	200 hours service	Planned servicecheck	2	0		
Tuesday 26 July 2022								
Rewinder	903982	Outdoors	200 hours service	Planned servicecheck	2	0		
August 2022								
Monday 15 August 2022								
Rewinder	903982	Outdoors	200 hours service	Planned servicecheck	2	0		
Total					8.5	0		

This example shows the report for same user as in example A. However, this report is for period between 1 June and 31 August 2022, which is a couple of months from the date when this report was generated. Therefore, all the jobs listed for selected user are **prognosed activities** that will occur during specified time period.

Content of this report can be used for an overview of jobs that will take place in the future and require manhours consumption for the user. Such overviews should be useful for example when planning for vacation/holiday periods.

Spare Parts Quick Search – search on stock locations

Spare Parts Quick Search

Search Form Fields:

- Spare Part No
- Spare Part Name
- Type No
- Secondary ID
- Group
- Barcode
- Dimension
- Supp. part no.
- Spare Part Note
- Manufacturer Name

Store Selection:

- Drawerstock
- L10, bought via Intranet
- Satellitestock dept. 2
- Shop
- Stock B3

Store	Position I	Position II	Position III	Spare Part Name	Type No	Secondary ID	Barcode	Dimension
Drawerstock				Aircylinder Festo	DSNU-10-10-P-A			
L10, bought via Intranet				Aircylinder Festo	DSNU-10-50-P-A			
Satellitestock dept. 2								
Shop								
Stock B3								
				93131023 Aircylinder Festo	ADVU-12-20-A-P-A			
				93131024 Aircylinder Festo	ADVUL-12-20-P-A			
				981X1396 Ballbearing SKF	6005 2RS			ø25x47x12
				981X1410 Ballbearing SKF	6007 2RS			ø35x62x14
				984F9269 Batterie Siemens PS S5-115U/H	6 EW 1000-7AA			ø25x50
				W79084-E1001-B2 Battery for OP Manel	5705150480546			
				B3-3282 BJ-Snekkgear	1 xx 10100 1x0x 01			
				0 820 006 103 Bosch Magnetvent	B-445		6566343833769	x18
				93652501 Lamp	01-04-23-00			
				932L9327 Magnetvent Festo	MFH-5/2-D-1/C			R 1/8"
				932L9328 Magnetvent Festo	MFH-5-1/8-B-VI-X			R 1/8"
				932L9329 Magnetvent Festo	MFH-5/3-GB-VI			R 1/8"
				932L9363 Magnetvent Festo	MFH-5-1/4-S			R 1/4"
				92326601 No contact sencor Balluf	BES 516-371-G-S-49-C			ø6,5x54,5 PNP 2mm
				92326602 no contact sencor Balluf	BES 516-356-E4-Y-54			M12x1x35,5 PNP 4mm
				984F8510 No contact sencor Balluf	BES 516-356-BO-C-03			M12x1x35,5 PNP 4mm
				984F8511 No contact sencor Balluf	BES 516-325-BO-C-03			M12x1x60 PNP 2mm

Page 1 showing 1 to 20 of total 29

Ok Cancel

Quick search tool for spare parts has been extended – users can now perform quick searches on spare part stock location and spare part stock labels.

Searches on store are done by selecting one of the stores listed in combobox Store. This search will return a list of all spare parts with at least one stock located at selected store.

Searches on stock labels are done by entering value in fields Position I, Position II and Position III. This action will return a list with spare parts that have a stock where corresponding label contains entered search value.

Fields Store, Position I, Position II and Position III are independent from each other – user can make searches using any of them, singly or in combination with each other, as well as together with other search fields in quick search tool.

Release notes for PM5 version 5.16.0000

Event log viewer

General description

Event log viewer is a new tool enabling user to access event log directly from the client. Functionality of the tool is exactly the same as that of event log report and shows, based on active filter parameters, data registered in event logs for machines, tasks, spare parts, suppliers and activities/faults.

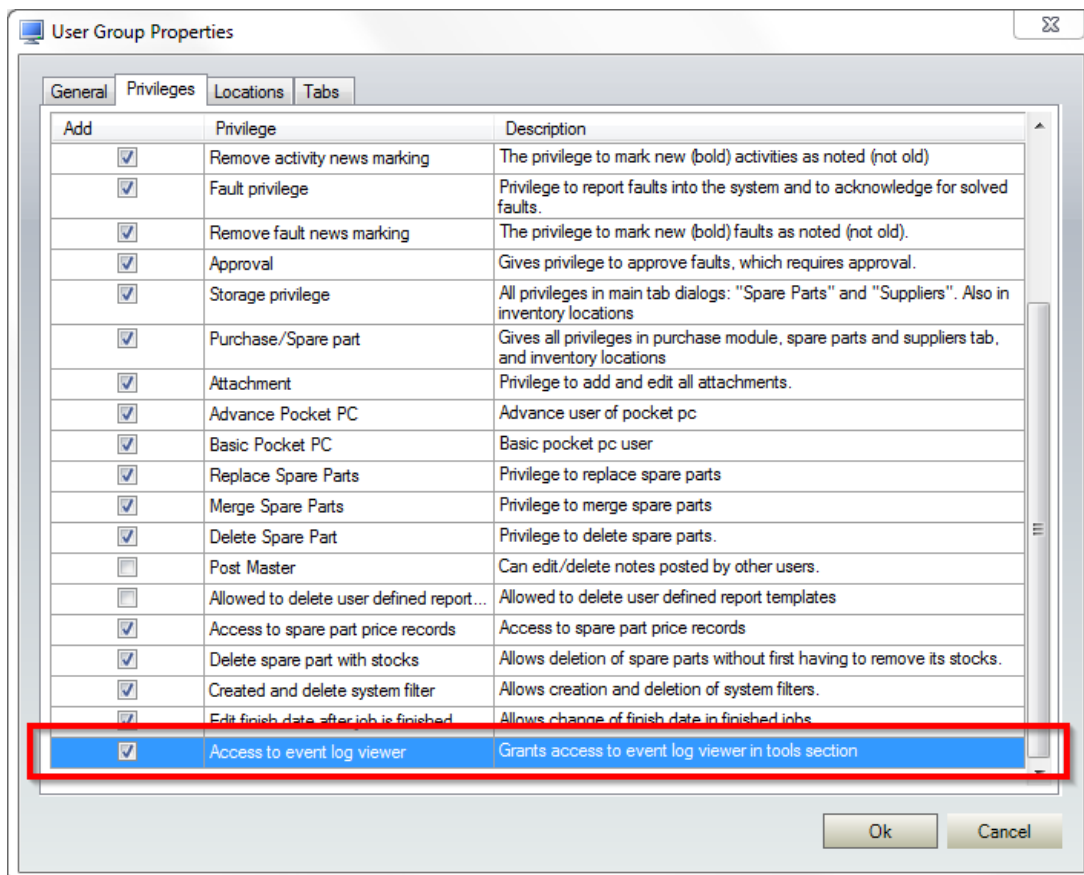
Please remember that event log registers events only when it is activated. For details regarding activation of this feature see relevant sections in release notes for versions 5.14.0000 and 5.15.0000.

Access to event log viewer

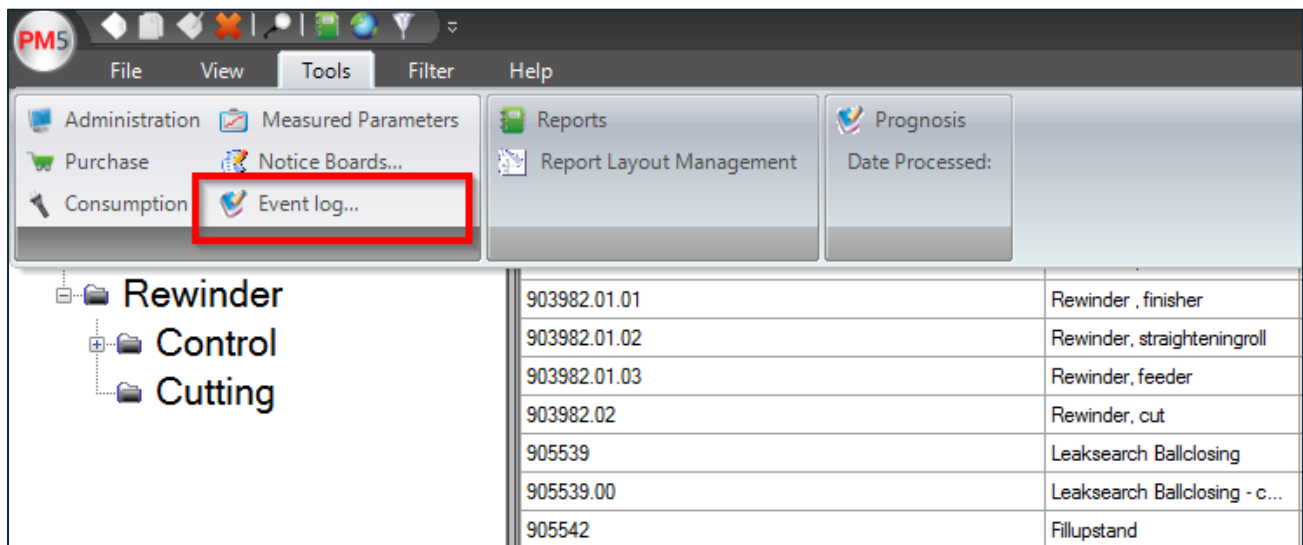
Access to Event Log Viewer is controlled with new user credential called "Access to event log viewer". After new installation or upgrade to PM5 5.16.000, this credential is **inactive** and needs to be manually activated for all user groups that are to have access to this feature.

To grant "Access to event log viewer" to a user group, do following:

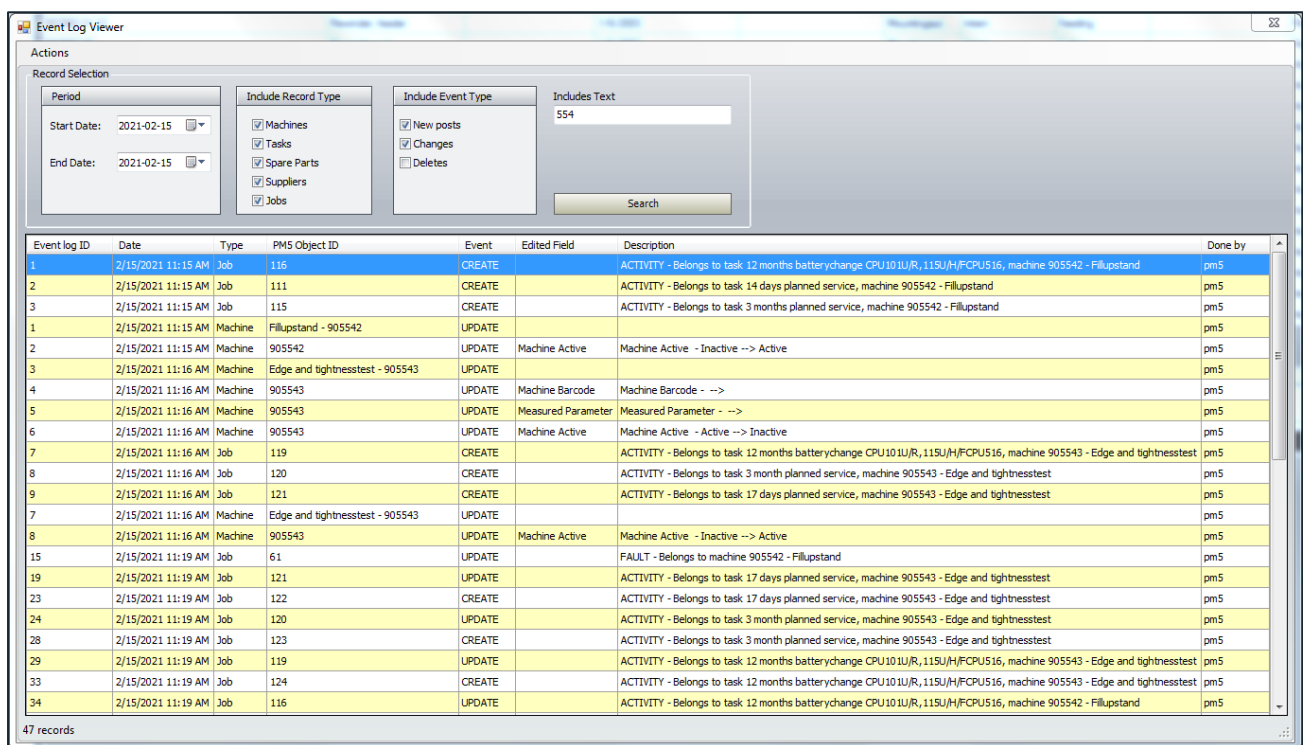
- Open Administration module.
- Select User Groups section.
- Select a user group for editing.
- Select sub-pane Privileges and check in checkbox for credential "Access to event log viewer".
- Press "OK" to save changes.



Once this action is performed, access to Event Log Viewer is enabled immediately. Users granted this credential can now open the tool from Tools menu in PM5 Windows client.



Event log viewer tool



Event log consists of two sections.

Filter section is at the top of the form. It allows user to select a subset of event log records that are to be displayed. Filter section has following elements:

- Period
 - Start date – specifies starting date for the records in search result.
 - End date – specifies end date for the records in search result.
- Include Record Type
 - Machine – when checked in, the search result will include records related to machines.
 - Task – when checked in, the search result will include records related to tasks.
 - Spare Parts – when checked in, the search result will include records related to spare parts.
 - Supplier – when checked in, the search result will include records related to suppliers.
 - Jobs – when checked in, the search result will include records related to activities and faults.
- Include Event Type

- New posts – when checked in, the search result will include events related to creation of new posts in PM5.
- Changes – when checked in, the search result will include events related to changes in existing posts in PM5.
- Deletes – when checked in, the search result will include events related to deletion of posts in PM5.
- Include text – when a text is inserted in this field, the search result will display only the posts where this text is present in columns PM5 Object ID or Description.

To display event log records, press button “Search”.

Please observe that **at least one of record types and at least one of event types** needs to be checked in to be able to perform a search in event log.

Search output is displayed in a table below the filter. Data displayed in that table show all event log records that correspond to the search parameters selected at the time “Search” button has been pressed.

Single record in event log table consists of:

- **Registered** - date and time of the event
- **Section** – main data set group to which the record belongs
- **ID** – for machines, spare parts and suppliers, the ID and name. For tasks and activities, the name and machines to which task/activity/fault belongs.
- **Event** – type of event. Currently there are three types of events:
 - **CREATE** – creation of new post
 - **UPDATE** – editing/changes in existing record
 - **DELETE** - deletion of record
- **Description** – if applicable, additional information about the event.

Done by – initials of user performing the action.

Event log ID	Date	Type	PMS Object ID	Event	Edited Field
1	2/15/2021 11:15 AM	Job	116	CREATE	
2	2/15/2021 11:15 AM	Job	111	CREATE	
3	2/15/2021 11:15 AM	Job	115	CREATE	
1	2/15/2021 11:15 AM	Machine	Fillupstand - 905542	UPDATE	
2	2/15/2021 11:15 AM	Machine	905542	UPDATE	Machine Active
4	2/15/2021 11:16 AM	Job	110		
5	2/15/2021 11:16 AM	Job	114		
6	2/15/2021 11:16 AM	Job	88	DELETE	
1	2/15/2021 11:16 AM	Task	12 months batterychange CPU101U/R, 115U/H/FCPU516	UPDATE	Task Active
2	2/15/2021 11:16 AM	Task	3 month planned service	UPDATE	Task Active
3	2/15/2021 11:16 AM	Task	17 days planned service	UPDATE	Task Active
3	2/15/2021 11:16 AM	Machine	Edge and tightnesstest - 905543	UPDATE	
4	2/15/2021 11:16 AM	Machine	905543	UPDATE	Machine Barcode
5	2/15/2021 11:16 AM	Machine	905543	UPDATE	Measured Parameter
6	2/15/2021 11:16 AM	Machine	905543	UPDATE	Machine Active
7	2/15/2021 11:16 AM	Job	119	CREATE	
8	2/15/2021 11:16 AM	Job	120	CREATE	
9	2/15/2021 11:16 AM	Job	121	CREATE	
4	2/15/2021 11:16 AM	Task	12 months batterychange CPU101U/R, 115U/H/FCPU516	UPDATE	Task Active
5	2/15/2021 11:16 AM	Task	3 month planned service	UPDATE	Task Active
6	2/15/2021 11:16 AM	Task	17 days planned service	UPDATE	Task Active

Contents of the search table can be selected and copied into clipboard. To do this:

- Mark rows that are to be copied into clipboard
- Click on right mouse button to open quick menu.
- Select command “Copy selected rows to clipboard”.

Selected rows, including the headers, are now copied into clipboard and can be pasted somewhere else, like for example an email or an Excel- document.

Supplier details form – changes in contact information data

The image shows two side-by-side screenshots of a 'Supplier' form. The left screenshot shows the 'Contacts' tab with a table of contact information. The right screenshot shows the 'Telephone Numbers' tab with a table of telephone numbers.

Supplier Details Form (Left Screenshot):

Supplier Number: 190875, Country: DK, Telephone: 987654321, Fax: 741852963
Supplier Name: ABC, E-Mail: info@abc.dk
Address: Big Street 25, Web URL: www.abc.dk
Zip Code: 9550, City: Manager, Supplier: ☒, Service Provider: ☒

Contacts Table:

Name	Phone	Mobile Number	E-Mail	Position
Jane Brown	55566677778888	123456-987654	jane.brown@abc.dk	Sales representative
John Smith	55566677779999	234567-876541	john.smith@abc.dk	Customer support

Supplier Details Form (Right Screenshot):

Supplier Number: 76962600, Country: DK, Telephone: 76962600, Fax: 76971385
Supplier Name: ABC, E-Mail: info@abc.dk
Address: Big Street 25, Web URL: www.abc.dk
Zip Code: 4600, City: Kage, Supplier: ☒, Service Provider: ☐

Telephone Numbers Table:

Phone Type	Number
Stationary	55544443333
Mobile	77775555333

General description

In Supplier details form, a modification has been done to sections Contacts and Telephone Numbers.

Contacts and Telephone Numbers lists are now placed in a tabulated panel. This allows us to make those two tables larger and more readable.

Contacts table has been extended. Individual contact records now consists of following data:

- Name
- Position (new field)
- Phone
- Mobile Number (new field)
- Email (new field)

Clarification – no changes have been made to pre-existing data in tables Contacts and Telephone Numbers. The changes made are done only to the layout of the form.

Changes and new functionality in Purchase Module

General description

Following changes have been done in Purchase Module:

- Orders can now be created without having to specify intended supplier.
- Spare parts can now be assigned to an order without having to first create an association between spare part and supplier.
- Associations between spare parts and supplier can now be created while creating orders.
- Attachments belonging to supplier and spare parts can now be viewed from within purchase module.

Order creation

The screenshot shows the 'Purchase order' form. The 'Supplier Name', 'Supplier No', and 'State' dropdown menus are highlighted with a red rectangle. The form includes fields for 'Attn / Ref', 'Requested By', 'Ordered By', 'Attention', 'Created', 'Sent', 'Closed', 'Deliver To', 'Invoice', 'City', 'Account Number', 'Currency', 'Order Note', 'Related invoices', 'Related order notes', and 'Taxes' (VAT, SIN). The 'Save' and 'Cancel' buttons are at the bottom right.

In version 5.15.0000, selection of specific supplier was required when creating new order. This requirement has now been dropped. Now, orders can now be created and handled without having to specify a supplier.

Differences between orders with and without specified supplier

- Spare parts in orders without specified supplier will have to have their price specified manually.
- Requisition forms generated for orders without specified supplier will **not** include any supplier related information (such as addresses, supplier's prices).
- In orders with specified supplier; if an association is specified between selected supplier and the spare part that is added to the order, price specified in that association will be used as price used in the order. This price can be adjusted manually at later time.
- In orders with specified supplier; if the spare part selected for the order **doesn't have** an association with order's supplier, such association can now be created as part of order creation process. If such association is created at that time, the supplier's price specified in it will be used as price used in the order. This price can be adjusted manually at later time.

Please observe that a supplier can be selected for an order at any time. Thus, user can create an order without specifying a supplier and select which spare parts are to be included in it. Supplier for such order can be selected at any time in order's details form.

Selection of spare parts for an order

Form for selection of spare parts for an order has been redone in version 5.16.0000. It is slightly different for orders with and without specified supplier.

Selection of spare parts for an order without specified supplier

Enter search criteria to initialize search

Addition of spare parts to an order without specified supplier works in same way as in previous versions.

There is however one important difference - when spare part addition form is opened, the spare part list is always initially empty. User needs to enter at least one character in one of search fields to bring up a list of spare parts that correspond to entered search parameter. The initial state of spare part addition form is indicated by text "Enter search criteria to initialize search".

Spare Part No	Name	Type No	In Store	On Stock	Minimum
98W8510	No contact sensor Bakuf	BES 516-356-80-C-03	☒	2	1
98W8511	No contact sensor Bakuf	BES 516-325-80-C-03	☒	2	1
98W8509	No contact sensor Bakuf	BES 516-324-80-C-03	☒	2	1
986J2058	Arcylinder Festo	DSNU-10-10-P-A	☒	1	0
986J2060	Arcylinder Festo	DSNU-10-50-P-A	☒	1	0
986J2061	Arcylinder Festo	ADU-100-30-P-A	☒	1	0
98L1296	Ballbearing SKF	6003 2RS	☒	2	1
98L1297	Service oil 30kg	6000 22	☒	2	1
98W9289	Batterie Siemens PS 55-115UM	6 EW 1000-7MA	☒	0	0

9 spare parts found.

In picture to the left, a search for spare parts having '98' in their spare part number has returned 9 spare parts. User can now select any of those spare parts for addition to the order.

Selection of spare parts for an order with specified supplier

Spare Part No	Name	Type No	In Store	On Stock	Minimum
986J2058	Arcylinder Festo	DSNU-10-10-P-A	☒	1	0
986J2060	Arcylinder Festo	DSNU-10-50-P-A	☒	1	0
986J2061	Arcylinder Festo	ADU-100-30-P-A	☒	1	0
93131023	Arcylinder Festo	ADU-12-20-A-P-A	☒	1	0
93131024	Arcylinder Festo	ADU-12-30-P-A	☒	1	0
93281027	Magnetvent Festo	MFM-620-U-C	☒	1	0
93281063	Magnetvent Festo	MFM-5-1-A-S	☒	1	0
0 820 006 103	Bosch Magnetvent	B-445	☒	29	0

8 spare parts found.

When an order has a specified supplier, the spare part selection, when it is first opened, looks and acts slightly differently.

- The form header shows name of supplier selected for the order.
- The spare part list lists spare parts that are associated with supplier selected for the order.
- Checkbox with label "All suppliers" is displayed in search section of the form.

As long as checkbox "All suppliers" is not checked in, spare part searches will be limited only to spare parts that are associated with the supplier selected for the order.

Spare Part No	Name	Type No	In Store	On Stock	Minimum
9849511	No contact sensor Balluf	BES 516-356-EO-C-03	☒	2	1
9849509	No contact sensor Balluf	BES 516-324-EO-C-03	☒	2	1
9861058	Aircylinder Festo	DSNU-10-10-P-A	☒	1	0
9861060	Aircylinder Festo	DSNU-10-30-P-A	☒	1	0
9861061	Aircylinder Festo	ADNU-100-30-P-A	☒	1	0
93131023	Aircylinder Festo	ADNU-12-20-P-A	☒	1	0
93131024	Aircylinder Festo	ADNU-12-20-P-A	☒	1	0
9328327	Magnetvent Festo	MFH-5/2-D-1/C	☒	1	0
9328363	Magnetvent Festo	MFH-5-1/4-S	☒	1	0
9811396	Ballbearing SKF	6005 2RS	☒	2	1
9811397	Service set 30dg	6000 22	☒	2	1
92326601	No contact sensor Balluf	BES 516-371-G-6-49-C	☒	0	1
92326602	No contact sensor Balluf	BES 516-356-E4-Y-54	☒	2	1
9312	No contact sensor Balluf	BES 516-377-54-C	☒	0	0
93322720	Vacuum pump, Edwards	E2m 1,5	☒	1	0
9849269	Batterie Siemens PS 55-115JH	6 EW 1000-7AA	☒	0	0

25 spare parts found.

If user wishes to add to the order a spare part that is **not** associated with order's supplier, then the checkbox "All suppliers" needs to be checked in. This action enables user to search for spare parts from the complete list of spare parts present in the system.

Checking in checkbox "All suppliers" will refresh the list of spare parts and trigger new search, based on search parameters entered in search fields. If no search parameters are present, a complete list of spare parts in the system will be shown in the search result list. **However, see below for limitations on spare part searches.**

Limitations for spare part searches in spare part selection form

In systems with several hundreds or thousands of spare parts, handling of searches resulting in large spare part lists can take long time. For that reason, as of version 5.16.0000, there is an upper limit for how many spare parts will be included in a search for spare part selection form.

When a spare part search returns more than allowed maximum number of records, the allowed maximum will be presented in search list. User will also be presented with a warning message, notifying that search result exceeded allowed maximum posts. In picture to the left, maximum allowed number of spare parts is 20 and the search result exceeds this cap. If user cannot find the searched spare part in the search result displayed in the list, the user will have to precise his search parameters.

Maximum allowed number of spare parts in a search is a system parameter that is specified in Administration module. **The default value is set to 1000.**

To change this value, perform following steps.

1. Open Administration Module and expand System Variables section.
2. Expand Purchasing section and select Settings.
3. In right part of Administration module, double-click anywhere to open Purchase Module settings for editing.
4. In field "Max. records in searches" enter new value and press "OK" button to save the changes.

Changes done in "Max. records in searches" take effect immediately. Specified

maximum number of records is global and applied for all users.

Association of spare parts with suppliers while working with purchase orders

When working with orders that have a specified supplier, it is now possible to:

- Create associations between order's supplier and spare parts that lack such association at the time they are added to the order.
- If an association between order's supplier and selected spare part already exists, it is possible to edit this association.

The screenshot shows two overlapping windows. The top window, titled 'Add sparepart to order 000000002 for Festo', has a filter section with 'All suppliers' checked. Below is a table of spare parts. The bottom window, titled 'Order Line', shows 'Purchase Order Details' and 'Spare Part Details'. The 'Spare Part Details' section shows 'Ballbearing SKF' selected. At the bottom of the 'Order Line' window, a button labeled 'Create new spare part-supplier association' is highlighted with a red box.

In picture above, the user has selected spare part Ballbearing SKF for addition to order intended for supplier Festo. Spare part Ballbearing SKF is at this time **not** associated with supplier Festo. Therefore, when form for order line is opened, a button "Create new spare part-supplier association" is displayed in that form.

The screenshot shows the 'Create new spare part-supplier association' form. It has fields for 'Spare Part' (Ballbearing SKF - 981X1396) and 'Supplier' (Festo (185930)). There is a 'Price' field, a 'Supplier Product No' field, and a 'Preferred Supplier' checkbox. A large 'Note' text area is at the bottom. 'Cancel' and 'Save' buttons are at the bottom right.

- Preferred Supplier – check in if supplier is the preferred supplier for the spare part.
- Note – note for the association. Optional field.

Association is saved by pressing button "Save". Form can be closed without creating new spare part-supplier association by pressing button "Cancel".

Please observe that when new spare part-supplier association is created, the price specified in that association will be automatically applied as price for the spare part in order detail form.

If an association between order's supplier and selected spare part already exists at the time when order is handled, then button "Edit spare part-supplier association" will be displayed in detail form. By pressing this button, user will open spare part-supplier form, where the association data – price, supplier's product number for the spare part and association notes – can be edited.

Tables for invoice numbers and order note numbers in purchase orders

In Purchase Order form, two new tables have been added:

- Related invoices
- Related order notes

Purpose for those two tables is to allow user registration of invoice numbers and order note numbers related to the selected order.

Tables allow registration of multiple invoices and order note numbers for each order. Each such record accepts inputs consisting of alphanumeric characters, spaces and separation lines. Maximum length for each record is 128 characters.

Values entered in tables "Related invoices" and "Related order notes" are searchable in Purchase Order Quick Search form.

Search values entered in fields "Related invoices" and "Related order notes" will return a list with all purchase orders where search parameter occurs in at least one related invoice or order note number.

Handling of records in sub-panes of PM5 Windows Client

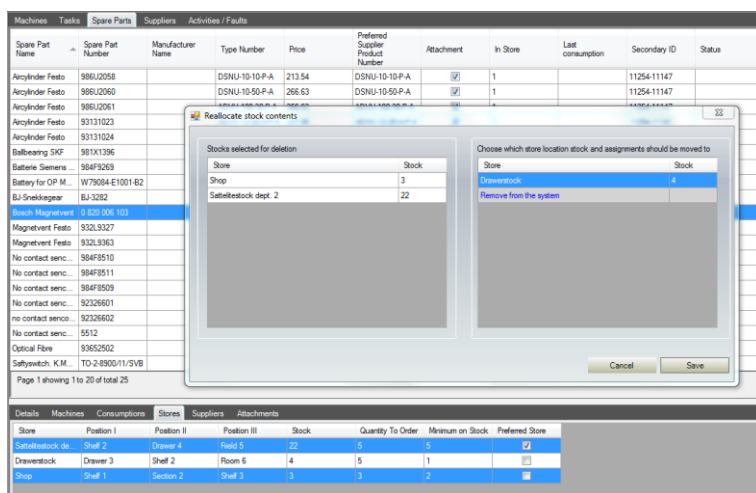
As of this version of PM5, user can now select and handle multiple rows in data grids in sub-panes of PM5 Windows client. Subpanes affected by this function are:

- Machines pane
 - Tasks subpane
 - Faults subpane
 - Stop subpane
 - Attachments subpane
- Tasks pane
 - Spare parts subpane
 - Attachments subpane
 - External Services subpane
- Spare Parts pane
 - Machines subpane
 - Stores subpane
 - Suppliers subpane
 - Attachments subpane
- Supplier pane
 - Spare parts subpane
 - Attachments subpane
- Activities/Faults subpane
 - Spare parts subpane
 - Attachments subpane
 - Stop subpane (Faults only)
 - External Services subpane

In subpanes listed above, user can now select and handle multiple rows at once. This feature is perhaps most useable when wishing to delete multiple records in the data grid. If multiple rows are selected and user then presses "Delete" button, all selected rows will be deleted in a single action.

Deletion of multiple spare part stocks

Deletion of spare part stocks includes transfer of stock, if quantity at the stock to be deleted is positive. Due to the addition of functionality enabling deletion of multiple stocks in single process, this procedure had to be adjusted.



When user selects some, but not all spare part stocks and then presses "Delete" button, form "Reallocate stock content" will be presented on the screen.

The list on the left lists all the stocks selected for deletion.

The list on the right lists all stocks to which content of stocks that are to be deleted can be transferred to. If a stock is selected as recipient for such transfer, all spare parts present at deleted stocks will be transferred to that single stock.

User can also choose to discard the spare parts at deleted stocks by selecting

"Remove from the system" in the list to the right.

Printing images together with job cards

Ability to print machine and task attachments together with job cards has been one of the features present in PM5 for a long time. However, PM5 was not able to handle on its own printouts of attachments consisting of picture files. Such files had to be opened and printed manually through third party software.

As of this version, PM5 can print picture files of following formats:

- JPEG/JPG
- TIFF
- GIF
- PNG
- BMP

Attachments have to be marked as printable together with job card. This is possible for attachments belonging to machines, tasks, faults and activities.

When an attachment included in job card printout job as a picture, the printout of such picture will be performed with following settings:

- Picture will always be printed in landscape mode (lengthwise)
- If size of picture is detected to be too large for print media size (usually A4 page format), the picture size will be scaled down to fit on single page. PM5 will always attempt to utilize the page size to maximum.
- Picture printout will always contain a header specifying:
 - Job number of PM5 activity/fault to which the printout belongs
 - File name of attachment
 - Timestamp specifying date and time of printout

Example picture below shows a printout of an image with a height too large to fit on an A4 page. The image was automatically scaled down for best fit on A4 page.



Release notes for PM5 version 5.15.0000

Detailed Event Log

General description

Event log, introduced in version 5.14.0000 has been extended in this version and can register changes in individual fields of records belonging to main data set. In other words, the event log is now capable to register any changes done in individual records for machines, tasks, spare parts, suppliers, activities and faults.

Activation of event log

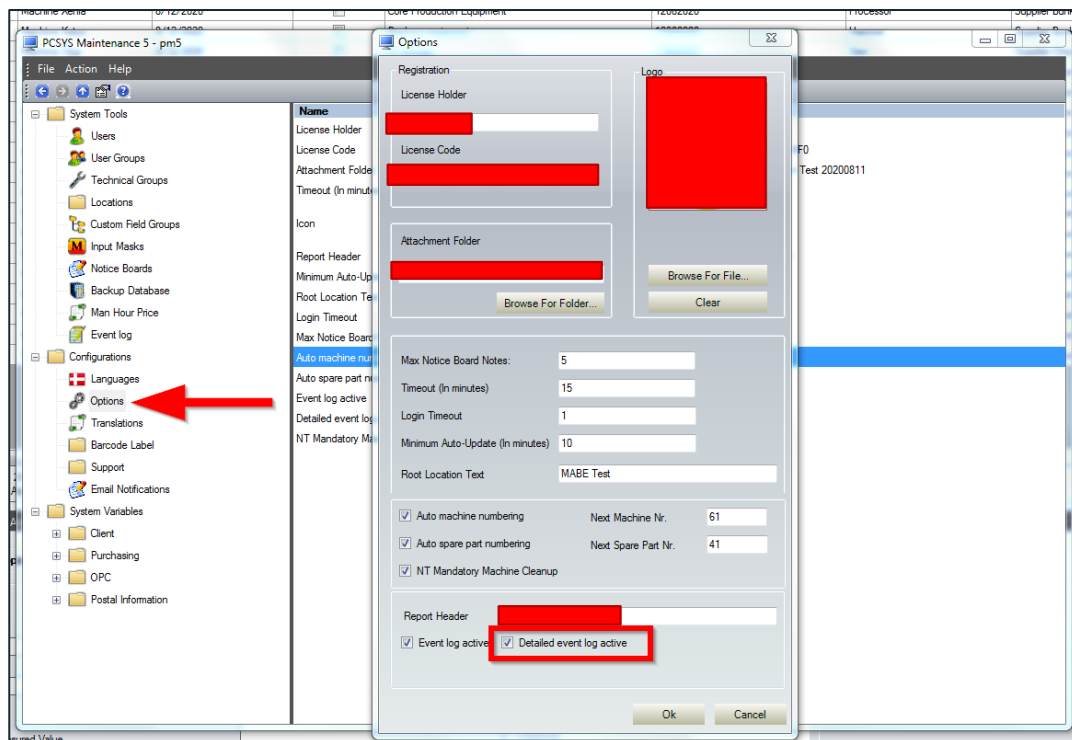
By default, client event log is not activated. To activate event log perform following actions:

- Open Administration module.
- Select and open Settings form.
- Check in 'Detailed event log active' checkbox at the bottom of the form.

Detailed event log becomes active after restart of PM5 client.

It is also important to understand that Detailed Event Log is independent of Event Log activated with help of checkbox Event Log Active. Either one or both event logs can be set to active or inactive.

When active, detailed event log will register changes in every single field in records of main data set. Collected data will give administrator almost complete overview of changes in PM5 over time. However, it also means that event log tables will grow with several hundred (or even thousands of records) rows for each day of operation.



Detailed event log and event log report

Detailed event log records are presented in the event log report introduced in version 5.14.0000. For information about how to access event log report, please refer to section Client Event Log, available in release notes for version 5.14.0000 below.

An individual record registered by detail event log is slightly different than a record registered by event log. Below is an example of four records registering same user action by **event log** and **detailed event log**.

8/13/2020 2:29:01 PM	Machine	Valve 1-B-16 - 12082020-003	UPDATE		pm5
8/13/2020 2:29:01 PM	Machine	12082020-003	UPDATE	Machine Barcode - 889465465 --> 35711546	pm5
8/13/2020 2:29:01 PM	Machine	12082020-003	UPDATE	Machine Status - In Storage --> Temporary Out Of Commission	pm5
8/13/2020 2:29:01 PM	Machine	12082020-003	UPDATE	Machine Active - Active --> Inactive	pm5

Top record is registered by **event log**. It registered that machine with name Valve 1-B-16 has been edited at specified time and by specified user.

Rows below are registered by detailed event log and are related to same edit event. Each record registers change in a single field where a value has somehow been changed. In this example we can see that user pm5 changed the barcode of the machine, changed its status from *In Storage* to *Temporarily Out Of Commission* and finally deactivated it.

In general terms, record registered by Detailed Event Log contains following information in column Description:

<Name of field that has been edited> - <Original value> → <Edited value>

The only exception to pattern above can be found in records registering changes in **Notes** field for Machine/Task/Spare Part/Supplier/Activity and **Fault Description/Fault Solution** for Faults.

When changes in those fields are detected, the description field will simply say *Note Field has been edited*. This is done to save space in the report. However, both original and new content of edited note fields are saved in database and are available for inspection, if it is required.

One final note regarding presentation of detailed event log records in the report. In some instances information in Description column may look like this:

8/13/2020 2:45:12 PM	Task	TASK 20200721 NOVEMBER	UPDATE	To be signed by - --> User E	pm5
----------------------	------	------------------------	--------	------------------------------	-----

At first glance it may look incomplete – there is no information about original value in field *To be signed by*. Information presented in this record is however correct. The fact that there is no original value in *To be signed by* indicates exactly that – signing person was originally not specified for that task, but that has been rectified and the task is now assigned to User E.

What data is registered by detailed event log

All changes in data that are editable through detail forms for Machine, Task, Spare Part, Supplier, Activity and Fault are automatically registered when detailed event log is active.

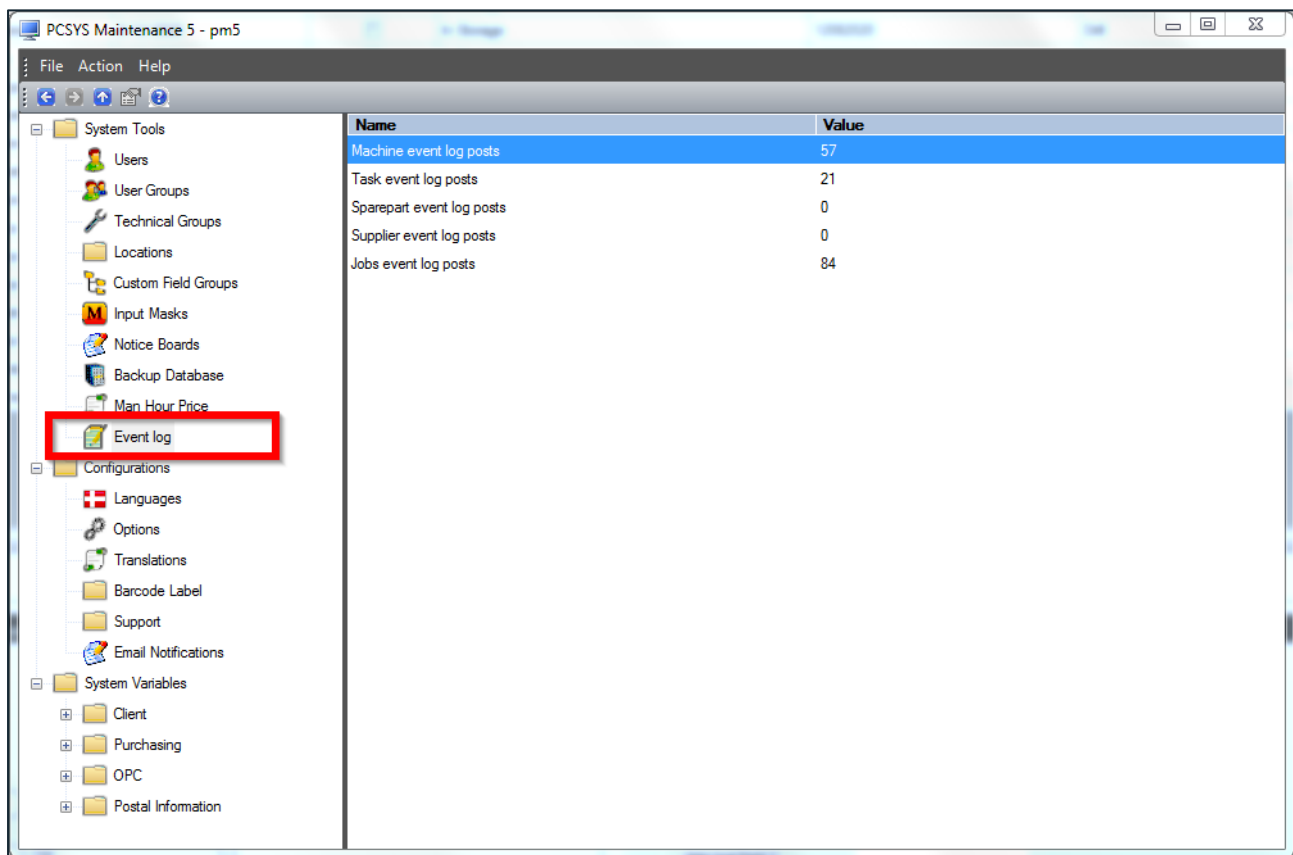
When are changes in records registered by detailed event log

Detailed event log registers changes in main dataset when:

- Detail form for the record is closed.
- Batch edit tool is used to change selected set of records.
- Batch finish tool is used to finish selected set of activities and faults.
- When a machine or machines is moved to another location with help of drag and drop function. This action triggers registration of change of location.
- When data in activity is indirectly modified by changes in task to which it belongs. Changes in task that trigger registration of "indirect" changes in its activity are:
 - Activation/deactivation of task.
 - Change of task's priority.
 - Change of person specified in *To be signed by* field.
 - Change of scheduling information in *Days* or *Measured Parameter* fields.

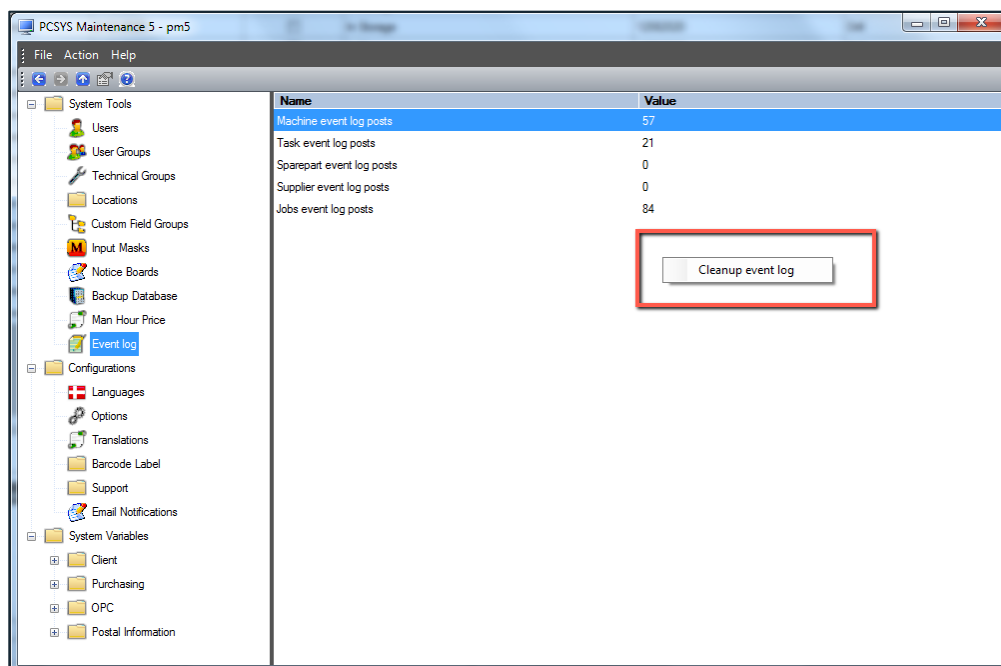
Administering Event Log

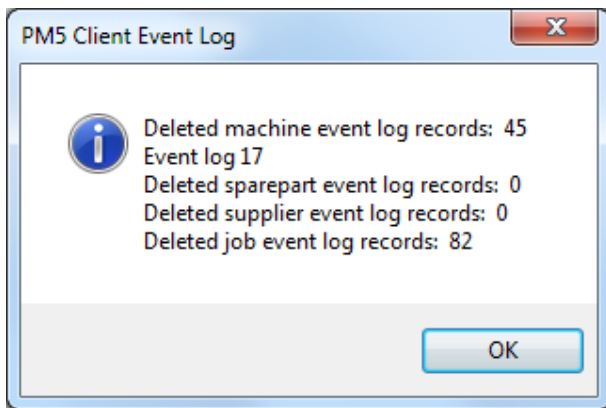
As already mentioned, volume of data generated by both versions of event log can be substantial. Administration module has therefore been extended and has new section, called Event Log.



When Event Log section is selected in PM5 Administration module, the right section of the screen will display statistics about number of log records for each of groups in main data set.

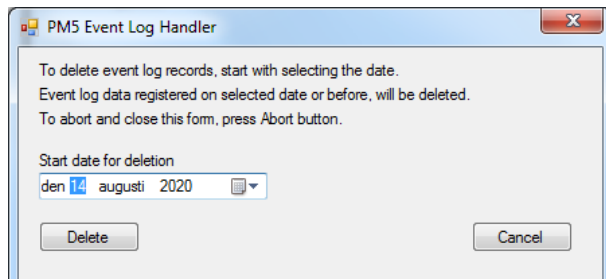
By moving the mouse over right section of screen and clicking on right mouse button, user opens quick menu for Event Log section. At the moment there is one function user can access – cleanup of event log.





When selected, Cleanup event log menu item opens form shown to the left.

Cleanup function is very simple. User selects the date in *Start date for deletion* field and presses *Delete* button. A confirmation of this action is required.



After user confirms the action, all event log records created on selected date or earlier will be deleted from the database. After deletion is completed, a confirmation form showing number of deleted log records is shown on the screen.

Cleanup flag in Activities/Faults

Cleanup flag is a new system variable added to activities and faults. Decision to add this variable is based on new requirements specified in BRC Global Standards Issue 8. Requirement in question demands that there should be a clear indicator showing if the equipment is to be cleaned after maintenance work.

Cleanup flag is optional and will be visible and available for use only after it has been switched on in Administration module. This is done by opening Settings form and checking in checkbox *Mandatory Cleanup After*.

After this settings has been activated, new element with name *Mandatory Cleanup* will be available for use in detail forms for activities and faults. The element consists of two checkboxes, one called *No Cleanup* and the other called *Cleanup Required*.

Either none of the checkboxes is checked in (this is default state) or only one of checkboxes can be checked in.

Thus, the Mandatory Cleanup Element has possible three states:

- When neither of checkboxes is checked in, the cleanup status is unspecified.
- By checking in *No Cleanup*, user indicates that no cleanup is to be performed after this job is completed.
- By checking in *Cleanup Required*, user indicates that a mandatory cleanup of equipment needs to be performed after job is completed.

Corresponding functionality has been implemented in PM5 Mobile. When this function is activated in Administration module, Mandatory Cleanup element will be shown on the screen in following screens on mobile devices:

- Creation of new fault
- Finish activity
- Finish fault

Email Notification System

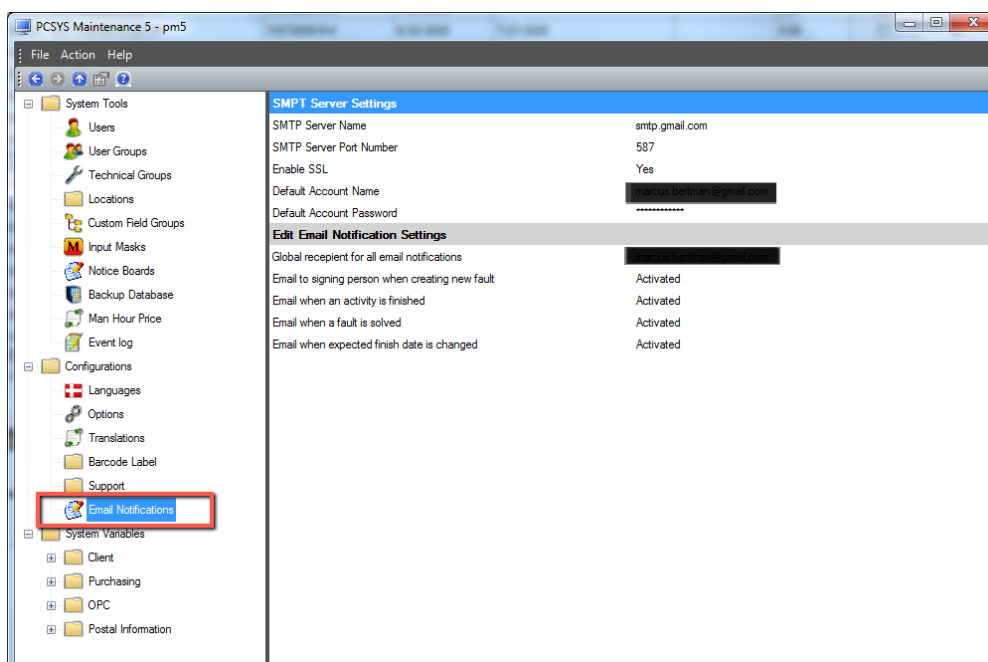
General description

Purpose of email notification system is to provide a simple, automatic method to notify PM5 users when certain events take place in the system. In this initial version, following events will trigger sendout of an email to one or more recipients.

Event	Recipient
New fault reported	- PM5 User specified as responsible for solution in field <i>To be signed by</i>. - Global recipient, if such is specified.
Fault reported as solved	- PM5 specified in field <i>Discovered by</i>. - Global recipient if such is specified.
Expected finish date changed in a fault	- PM5 specified in field <i>Discovered by</i>. - Global recipient if such is specified.
Activity reported as solved	Global recipient if such is specified.
Expected finish date changed in an activity	Global recipient if such is specified.

Configuration of email notification system

Email notification system is configured in PM5 Administration module. To access it, open Administration module and select Email Notifications section.



Right section of Administration module presents information about current configuration of email server used for sendouts of notification, as well as which events trigger sendout of an email.

To open configuration form, double-click anywhere in right section of Administration module.

Configuration form consists of two tabs – *SMTP Server Configuration* and *Notification Settings*.

In *SMTP Server Configuration* user needs to specify settings for the email server that will be used for sendouts of email notification. Following information is required:

SMTP Server Name – name of email server used for sendouts

SMTP Server Port Number – port number of server

specified above.

Enable SSL – whether SSL encryption is to be used or not. Whether or not it is to be checked in depends on how SMTP server is configured.

Default Account Name – an email account that exists on specified SMTP server.

Default Account Password – password of the account specified in Default Account Name field.

A clarification is needed at this point – as configuration above indicates, all emails triggered by events in PM5 will be sent through a single email account, as specified in the settings. It is suggested that a dedicated email account is created for this specific purpose.

Button *Send test email* triggers sendout of a generic test email to specified account, using specified SMTP server. If configuration is correct the specified email account will send a test email to itself.

In second tab, labeled *Notification Settings*, user can select which events are to trigger sendout of a notification email.

Combobox *Global recipient for all email notification* is used to select a single PM5 user that will receive all emails generated by notification system.

Selection of global recipient is voluntary. Please observe that global recipient is the sole recipient for notifications regarding finished activities and change of expected finish date in an activity. Thus, if global recipient is not selected, those two types of notifications system will not work even if they are activated.

The four checkboxes in this tab correspond to the events that trigger sendout of an email. User can select individually which events are to be active and generate sendout of an email.

When are email notifications triggered by PM5

Depending on selection in Configuration, email notifications are sent out in following circumstances.

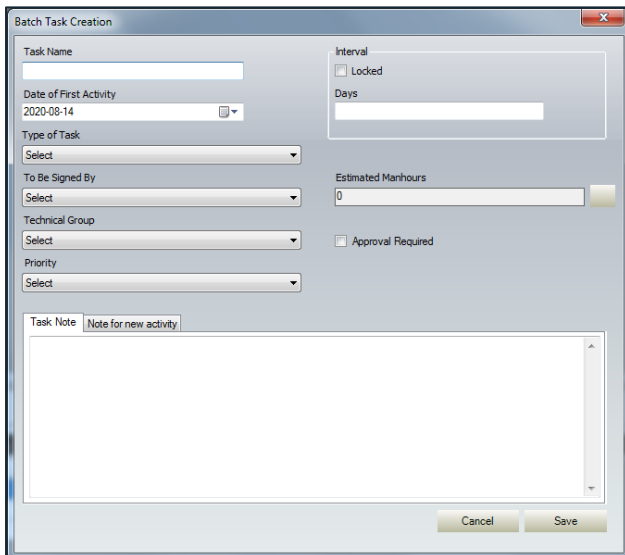
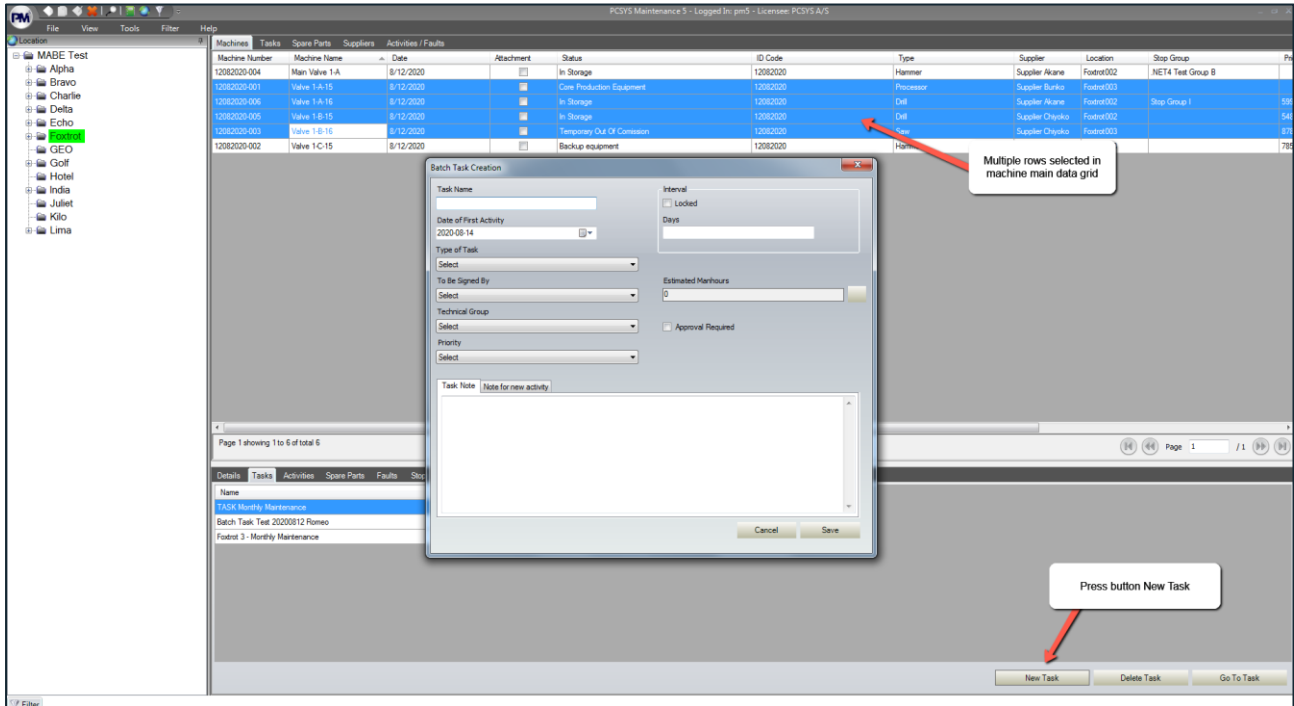
Event	Recipient
New fault reported	PM5 Windows client, when new fault is created and saved.
Fault reported as solved	- PM5 Windows Client, when fault finish status is set to finished and fault is saved. - PM5 Windows client, when a fault is successfully set to finished through batch finish tool.
Expected finish date changed in a fault	- PM5 Windows Client, when expected finish date is changed and fault is saved. - PM5 Windows Client, when expected finish date is changed for a fault through batch edit tool.
Activity reported as solved	- PM5 Windows Client, when activity finish status is set to finished and fault is saved. - PM5 Windows client, when an activity is successfully set to finished through batch finish tool.
Expected finish date changed in an activity	- PM5 Windows Client, when expected finish date is changed and fault is saved. - PM5 Windows Client, when expected finish date is changed for an activity through batch edit tool.

As table above indicates, the email notifications are currently only triggered by events that happen in Windows client. Currently, events that take place in PM5 Mobile will **not** trigger sendouts of email notifications.

Batch task create function

Until now, it was only possible to create tasks one at a time, for single machine. This functionality has been extended – it is now possible to select multiple machines in main data grid and create same task for all machines in the selection, in a single process.

Procedure for task creation for multiple machines is exactly the same as before. The only difference is that user selects more than one machine before pressing on *New Task* button in Machines / Task subpane.



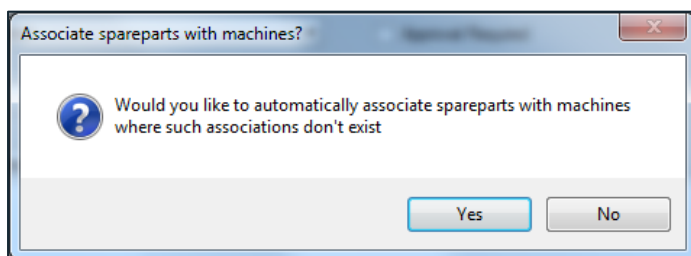
There are few restrictions when creating a task for multiple machinea:

- Definition of the created task – its name, type, specified time period, etc – will upon creation be exactly the same for all tasks. Details for individual tasks can be adjusted after creation.
- It is not possible to create passive tasks. All tasks must have a specified number of days in *Days* field.
- Batch task creation allows only creation of tasks based on days period. Measured parameters cannot be used.
- Scheduled date for first activities will be the same for all activities. This can be adjusted for each

individual activity, once it has been created.

New tasks are created when user presses on *Save* button, one task per selected machine.

As in standard procedure, user will also be given opportunity to add spare parts that are to be consumed by each activity based on created task. If user wishes to do that, an additional question regarding automatic association of spare parts will be stated. If user agrees, an association will be automatically between all selected machines and any spare parts not already associated with them.



Once all spare part associations are completed, the procedure is finished and a notification about creation of selected number of tasks will be shown on the screen.

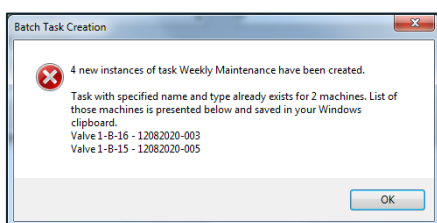
Clarification A

Spare parts and stocks selected in spare part selection – spare part selection is handled in exactly same manner as during creation of a single task. There is however an important difference. When a spare part is associated with single task, only the stocks that are available to machine are available for selection as source stock. In batch task creation, user can select from **all** spare part stocks. If selected stock turn out to be invalid for any of selected machines, stock selection will be automatically reset to 'no stock' selection.

This method is used for obvious reason – selected machines can be located at any location and PM5 cannot know which stock locations to include or exclude. Therefore, it is up to user to select optimal source stock and manually make necessary adjustments for spare part associations that require additional attention.

Clarification B

In connection with this new feature, it is worth recalling existence a rarely encountered restriction for tasks – it is not allowed to create multiple tasks for same machine with **same task type and name**. Under normal circumstances, users rarely encounter this restriction. However, since tasks created with help of batch creation tool are exactly the same, chances are that sometimes one of those tasks will fail to be created due to this restriction. When this happens, user will be notified about such failure in confirmation message. Example of such event is shown below.

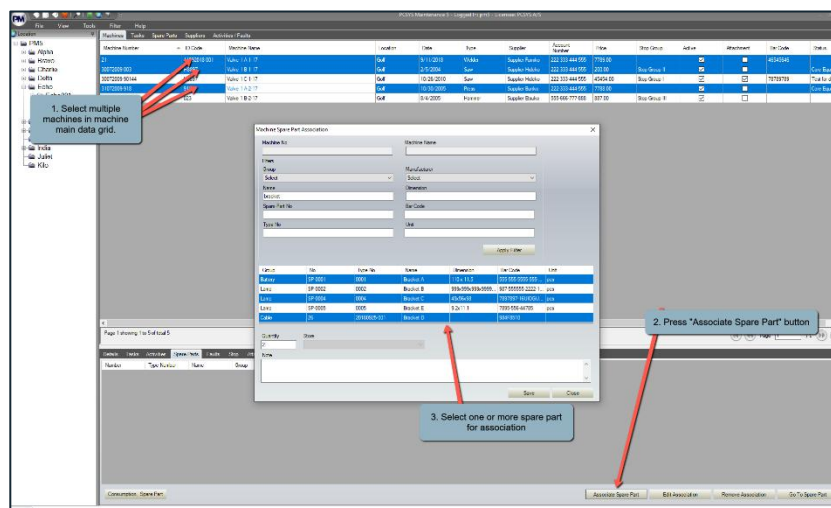


In example message, user tried to batch create a task for six different machines. Creation of the task was successful for four of those machines. It failed for two of the machines, which are listed in the message. Please observe that only up to ten machines will be listed in confirmation message. However a complete list of machines is always saved in Windows clipboard and can easily be revealed by opening a Notepad and copy-pasting it there.

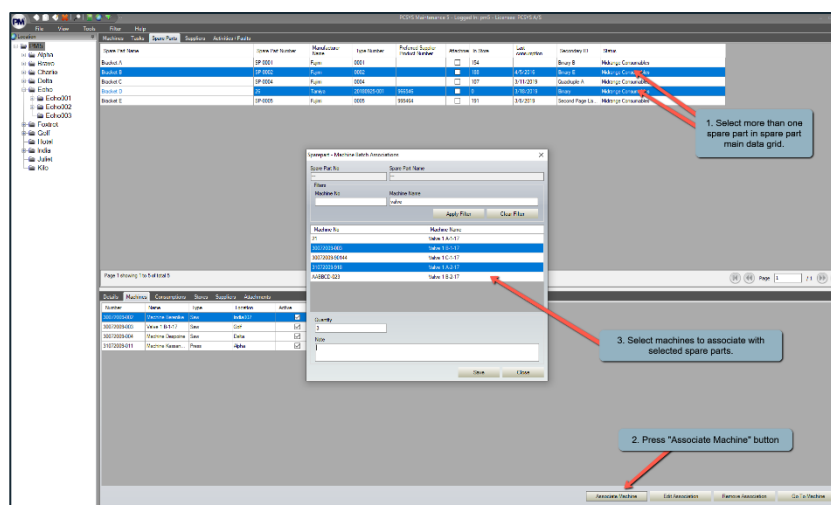
Association of multiple spare parts with a machine in single process

Functionality for creation of associations between machines and spare parts has been extended – it is now possible to create associations between multiple machines and spare parts in single process.

Associations between machine and spare parts is created in section Machines, sub-pane Spare Parts. The procedure is exactly the same as before, the only difference is that now it is possible to select multiple machines in main data grid before pressing on 'Associate Spare Part' button.



Corresponding change has also been made in section Spare Parts, sub-pane Machines. User can also here select more than one spare part in main data grid and then press on button 'Associate Machine'.



Please observe that when assigning a single spare part to multiple machines, all of machines stocks will be available for selection as source for future consumption. However, a validation check is made for each individual association that is created and selected stock will be used only if it is confirmed as valid selection for the machine. If validation fails, the machine/spare part association is still created, but without any reference to specific spare part stock.

Release notes for PM5 version 5.14.0000

Client event log

General description

Client event log, when activated, registers continuously all events regarding main data set. Event log will register:

- Creation of new posts
- Edition of existing posts
- Deletion of existing posts

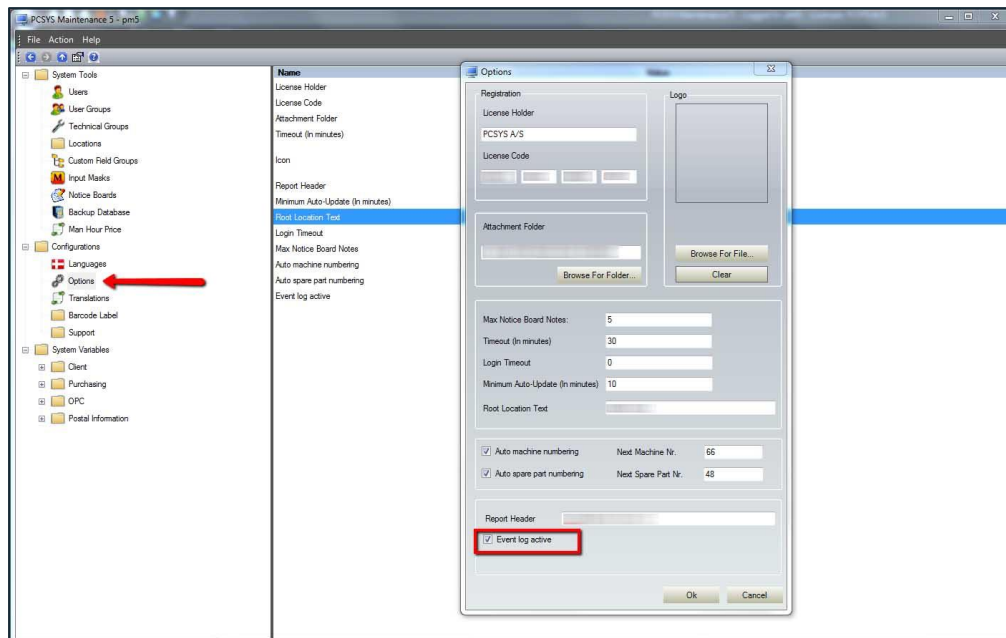
performed in:

- Machines
- Tasks
- Spare Parts
- Suppliers
- Activities/Faults

Activation of event log

By default, client event log is not activated. To activate event log perform following actions:

- Open Administration module.
- Select and open Settings form.
- Check in 'Event log active' checkbox at the bottom of the form.



- Close the Settings form.

Event log will start registering as soon as it has been activated.

Event log report

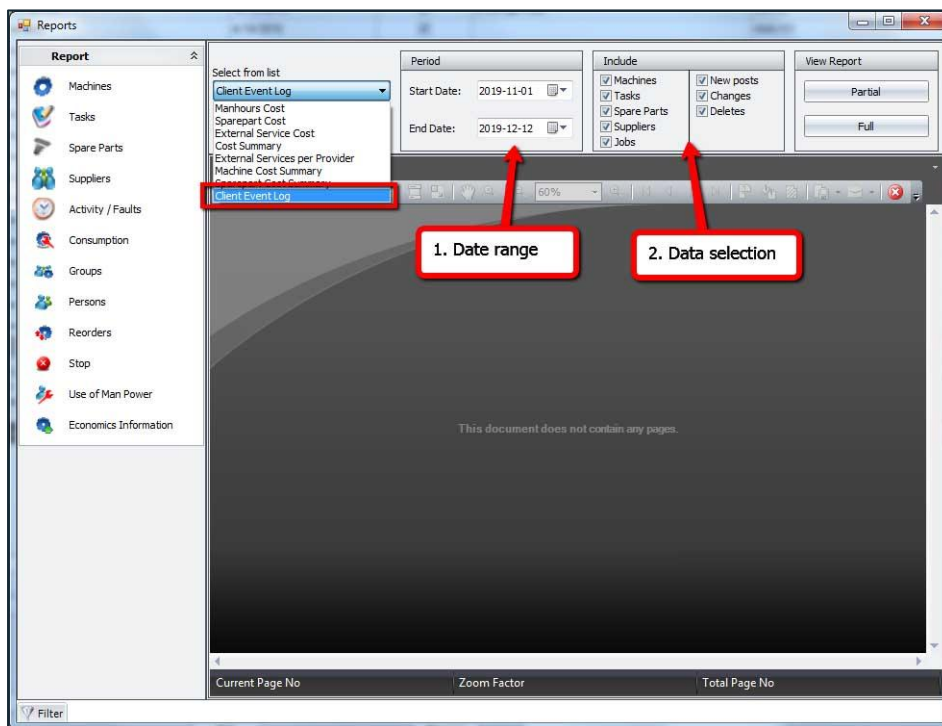
Actions recorded by event log are presented in form of a report.

- Open Report module.

- Select Economic Information section.
- In combo box "Select from list" select *Client Event Log*.
- In filter section "Period" select start and end date for period covered by report.
- In "Include" section, check in main dataset groups and event types that are to be included in report. Please observe that **at least one data group and one event type** must be selected.
- Press button "Full" to generate the report.

Single record in event log consists of:

- **Registered** - date and time of the event
- **Section** – main data set group to which the record belongs
- **ID** – for machines, spare parts and suppliers, the ID and name. For tasks and activities, the name and machines to which task/activity/fault belongs.
- **Event** – type of event. Currently there are three types of events:
 - **CREATE** – creation of new post
 - **UPDATE** – editing/changes in existing record
 - **DELETE** - deletion of record
- **Description** – if applicable, additional information about the event.
- **Done by** – initials of user performing the action.



User defined machine barcode labels

General description

Users can now define their own machine barcode label designs.

Creating new machine barcode layout

To create new machine barcode label, do following:

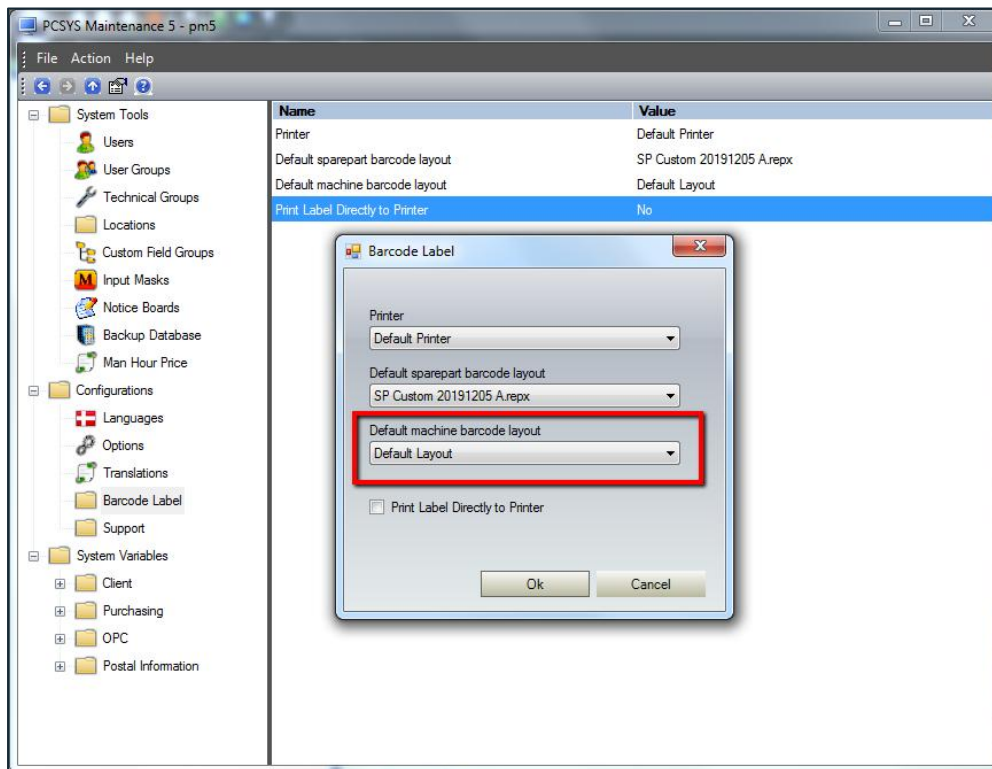
- Open Report Module.
- Select Machines section.
- In combobox 'Select from list' select *Barcode Custom Layout*
- Press 'Full' button to generate machine barcodes.

- Press 'Edit' in menu bar at the top of report presentation form.
- In editor that opens, make required modifications to machine barcode design.
- Save the changes by selecting File -> Save As... in menu at the top of editor.
- Enter name for new report layout and press 'OK' button.

Selecting user defined machine barcode label as default selection for printouts

To select user defined machine barcode layout as default, do following:

- Open Administration module.
- Select Barcode Label section and open it for editing.
- In combobox 'Default machine barcode layout' select name of layout to be used as default selection for printouts.
- Press 'OK' button to save the selection.



User credential "Delete spare parts with stocks"

General description

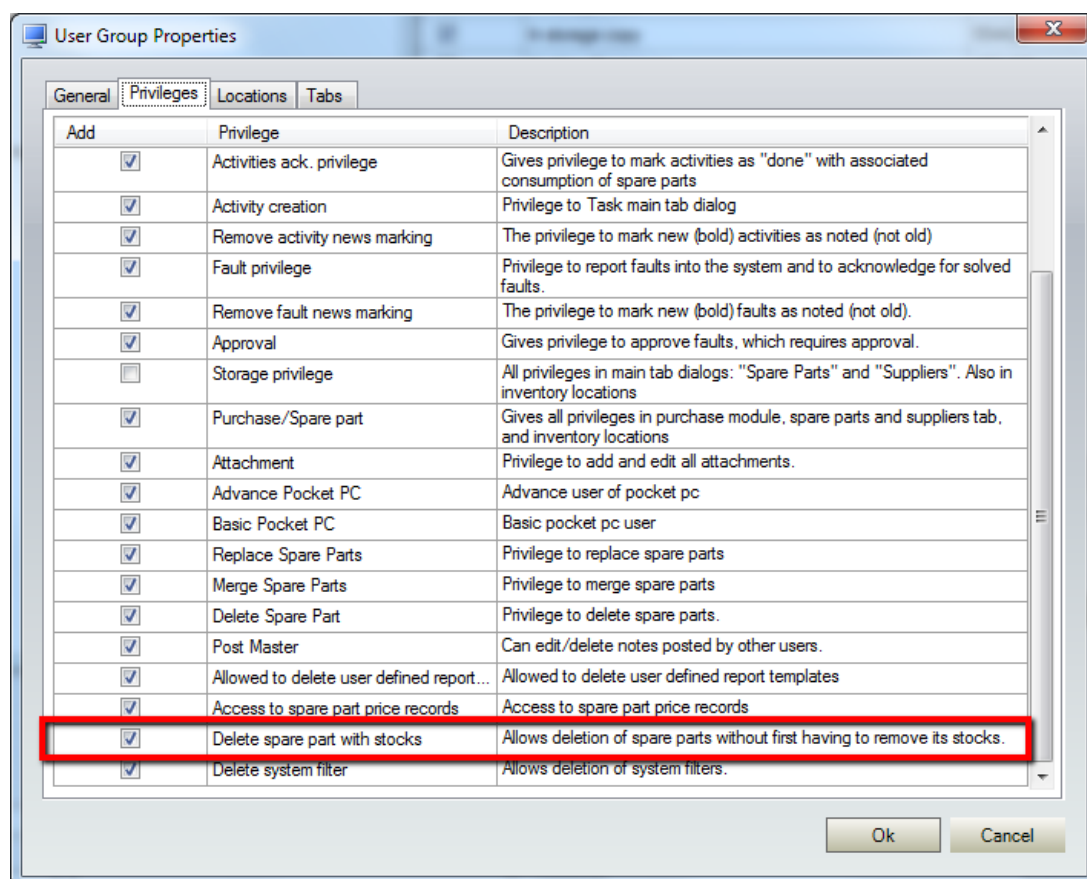
Under normal circumstances it is not allowed to delete a spare part that has one or more associated spare part stocks. Before such spare part can be deleted, all of its stocks must be deleted, one at a time. This is done to ensure that users make a decision about any positive stocks before a spare part can be deleted. Also, it is a security measure ensuring that spare parts aren't deleted unintentionally.

User credential "Delete spare parts with stocks" allows users to bypass this restriction. Users granted this credential are allowed to delete one or more spare parts along with any stocks associated with those spare parts, with a single click on Delete button.

To grant "Delete spare parts with stocks" to a user group, do following:

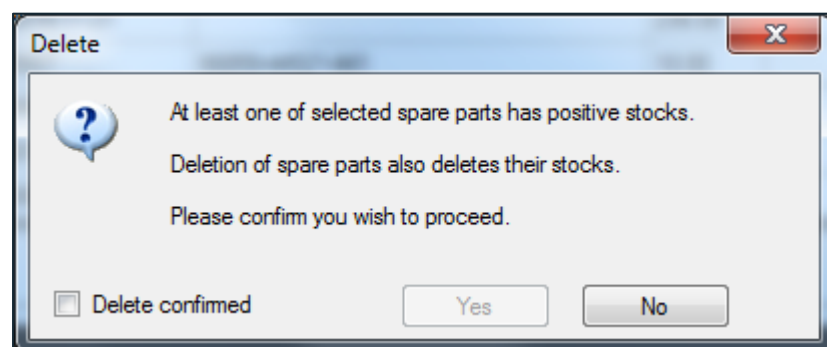
- Open Administration module.
- Select User Groups section.
- Select a user group for editing.
- Select sub-pane Privileges and check in checkbox for credential "Delete spare part with stocks".
- Press "OK" to save changes.

Credential "Delete spare parts with stocks" comes into effect for all users who belong to edited user group **on next launch of PM5 client.**



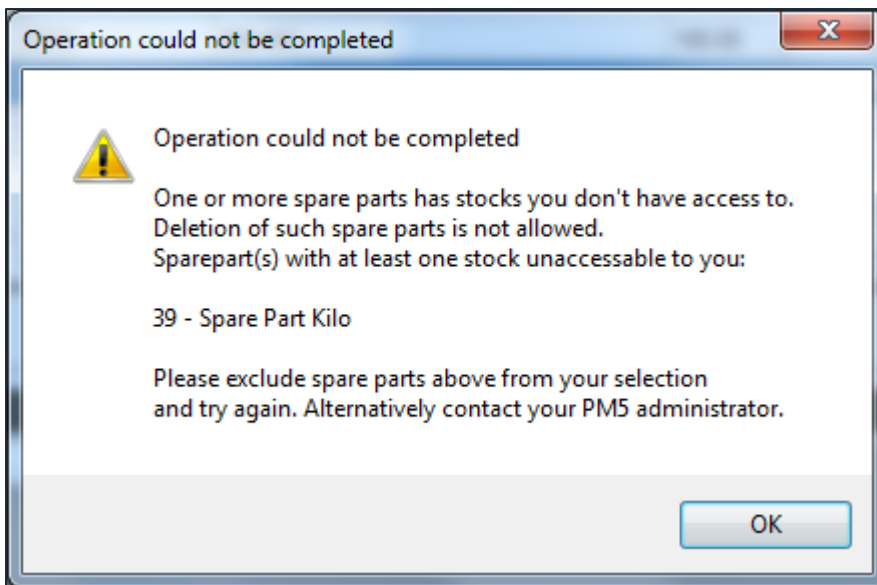
Deleting spare parts with stocks

Users granted credential "Delete spare part with stocks" can select one or more spare parts and delete them by right-clicking and selecting "Delete" menu item in quick menu. Following message will next be displayed on screen:



User has to check in checkbox "Delete confirmed" and press "Yes" button to complete deletion.

Under certain circumstances, a different message will be displayed on screen:



This message is displayed when user is attempting to delete at least one spare part which has spare part stocks at store(s) that **are not accessible to the user**. A store is not accessible to the user if it is not associated with any of the locations that user has access to. If a spare part has stock on such store, user is not allowed to delete it under any circumstances, even with user credential "Delete spare part with stocks" granted to him. This constraint is enforced to avoid deletion of spare parts which may not be required at user's location, but which may still be actively in use at other geographical locations, factories or departments without him being aware of it.

If user wishes to proceed with deletion, the spare part(s) listed in the message needs to be excluded from spare part selection. Alternatively, at least one location which is associated with the store to which user doesn't have access to may be added to list of locations accessible to the user.

User credential "Delete system filter"

General description

User credential "Delete system filter" controls user's ability to delete user filters with *System filter* attribute. Users without this user credential will not be able to delete user filters with this attribute.

To grant "Delete spare parts with stocks" to a user group, do following:

- Open Administration module.
- Select User Groups section.
- Select a user group for editing.
- Select sub-pane Privileges and check in checkbox for credential "Delete system filter".
- Press "OK" to save changes.

User Group Properties

General Privileges Locations Tabs

Add	Privilege	Description
☒	Activities ack. privilege	Gives privilege to mark activities as "done" with associated consumption of spare parts
☒	Activity creation	Privilege to Task main tab dialog
☒	Remove activity news marking	The privilege to mark new (bold) activities as noted (not old)
☒	Fault privilege	Privilege to report faults into the system and to acknowledge for solved faults.
☒	Remove fault news marking	The privilege to mark new (bold) faults as noted (not old).
☒	Approval	Gives privilege to approve faults, which requires approval.
☐	Storage privilege	All privileges in main tab dialogs: "Spare Parts" and "Suppliers". Also in inventory locations
☒	Purchase/Spare part	Gives all privileges in purchase module, spare parts and suppliers tab, and inventory locations
☒	Attachment	Privilege to add and edit all attachments.
☒	Advance Pocket PC	Advance user of pocket pc
☒	Basic Pocket PC	Basic pocket pc user
☒	Replace Spare Parts	Privilege to replace spare parts
☒	Merge Spare Parts	Privilege to merge spare parts
☒	Delete Spare Part	Privilege to delete spare parts.
☒	Post Master	Can edit/delete notes posted by other users.
☒	Allowed to delete user defined report...	Allowed to delete user defined report templates
☒	Access to spare part price records	Access to spare part price records
☒	Delete spare part with stocks	Allows deletion of spare parts without first having to remove its stocks.
☒	Delete system filter	Allows deletion of system filters.

Ok Cancel

Wildcard sign for single character in quick search function

Users can now use question mark sign - ? – as a wildcard for a **single character** in search terms entered in quick search forms.

Example 1:

In quick search for machines, user enters **123?456** in field Machine ID. This search term will find any machine with machine id **containing** sequence starting with **123**, followed by **any single character**, followed by **456**.

Example 2:

In quick search for activities/faults, user enters **???123**. This search will list any activities and faults with job id **starting** with arbitrary combination of three characters, followed by numbers 123. Please observe that search result for this string will also return activities/faults with job ID longer than six digits, as long as those digits come after 123.

Example 3:

Perhaps more useful search for job is:s would be **123???**. Such search will return all jobs having job numbers within **123000** and **123999**. Since the three question marks specify that job id **must end with exactly three arbitrary characters**, in this case user is limited to 000-999 at the end.

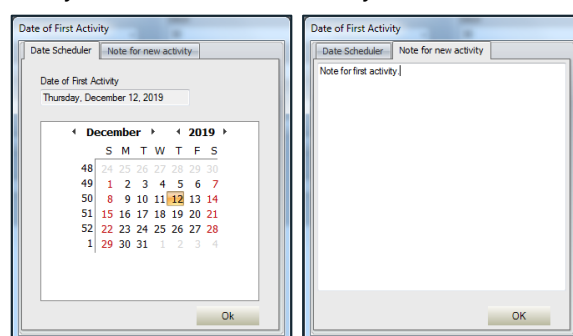
Activity note for next activity.

General description

This function is added to simplify handling of new activities. Quite often there is need to write a note of some sort for next activity – a reminder, a comment to next person who will be working on the activity, etc. Up until now, the new activity had to be found, opened and edited. This new function allows user to type new activity note as part of creation of new task (the note would then be intended for first activity) or at the time when current activity is being finished.

Note for first activity

Note for first activity is typed in when new task is created. When form for scheduling of the date for first activity is opened, user can switch to subpane 'Note for first activity' and enter required note in the text field. Entered text will be saved in 'Activity note' field of first activity.



PM5 Mobile - cap for maximum records in search results

General description

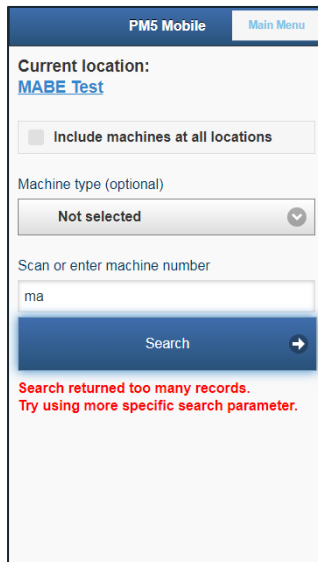
There is now a cap for maximum records allowed in search results when searching for machines or spare parts in PM5 Mobile. There are two reasons for this restriction:

- Search results consisting of several hundred (or thousands) machines or spare parts take very long time to process on mobile devices and may cause communication timeouts.
- Since screens on mobile devices are small, search results resulting in long lists are simply not very practical.

Machine and spare part searches that return too many records

When a search returns too many records, a message saying ***Search returned too many records. Try using more specific search parameter.*** is presented below Search button. When this happens, user needs to enter a more specific search string or use additional filters, if such are available.

Example of this situation is shown in image below.



Value for maximum allowed records in PM5 Mobile searches

Default value for maximum allowed number of records in a search result for machines/spare parts is set to 30. If user wishes to adjust this value, then following steps need to be taken:

- In folder containing files for PM5 Mobile application, navigate to folder Data
- Find and open file with name ***parameters.js*** in a plain text editor (such as Notepad).
- Find line **`var MAXIMUM_NUMBER_RECORDS_IN_SEARCH = 30;`**
- Change the value to required number of records.
- Save the change and close text editor.

Please observe that very large value may impact performance of searches in PM5 Mobile. In extreme cases you may also experience communication timeout errors. In such case, please consider lowering the number of allowed records in search results.

Release notes for PM5 version 5.13.3000

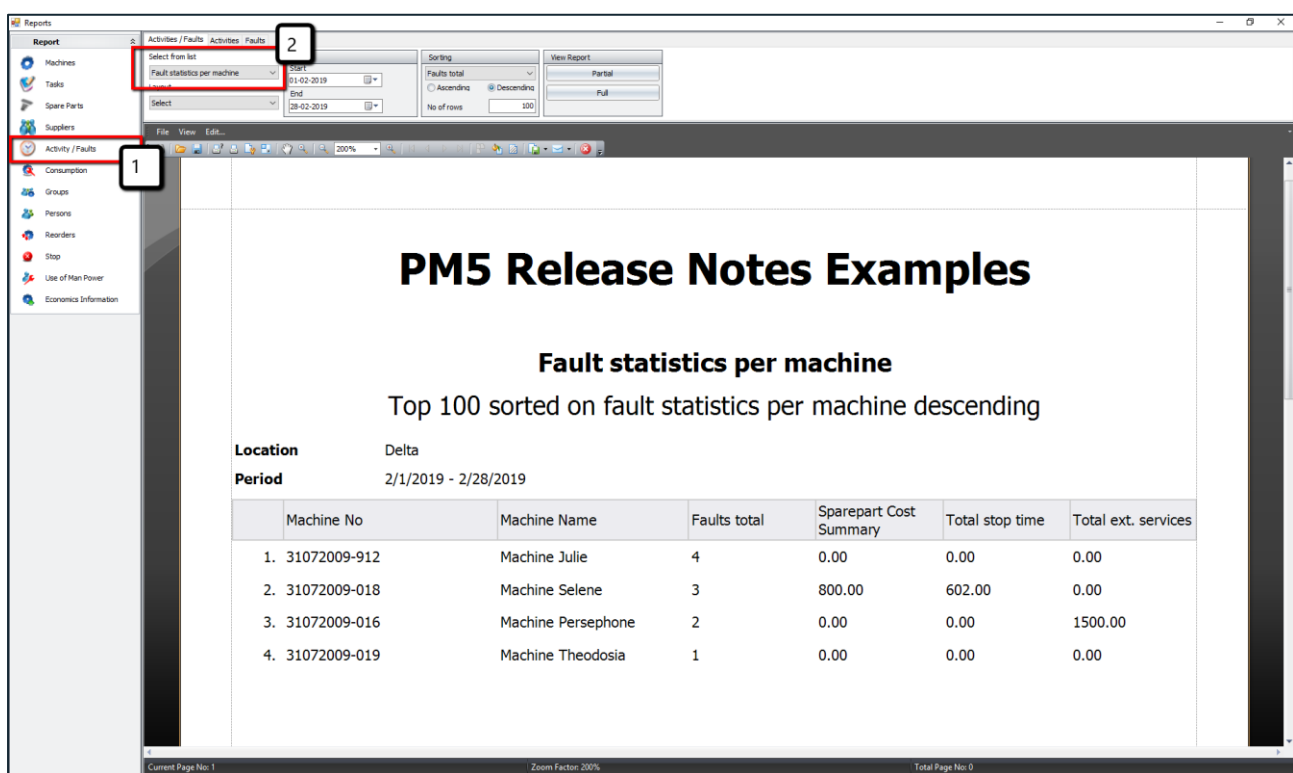
Migration to Microsoft .NET Framework 4.0

For those unfamiliar with the concept, let's start with short explanation of what Microsoft .NET Framework is and why PM5 moving to different version may be of importance.

Microsoft .NET Framework is a 'foundation' provided by Microsoft and used by vast majority of Windows-based programs for much of its basic functionality. PM5 is no different and uses Microsoft .NET Framework in all of its Windows components.

Up until now, .NET Framework used by PM5 was always of version 2.0. Now, as part of an effort to ensure that PM5 continues to be compatible with future versions of Microsoft Windows, we have now moved up – as of this version, PM5 is based on Microsoft .NET Framework 4.0.

Report 'Fault Statistics per Machine'



The screenshot displays the PM5 Reports interface. The sidebar on the left contains navigation options: Machines, Tasks, Spare Parts, Suppliers, Activity / Faults (highlighted with a red box and a '1'), Consumption, Groups, Persons, Records, Stop, Use of Man Power, and Economics Information. The top menu bar includes 'Report', 'Activities / Faults', 'Activities', and 'Faults'. The 'Report' menu is open, showing 'Select from list' and 'Fault statistics per machine' (highlighted with a red box and a '2'). The 'Fault statistics per machine' report is displayed in the main area. It includes a title 'PM5 Release Notes Examples', a subtitle 'Fault statistics per machine', and a description 'Top 100 sorted on fault statistics per machine descending'. The report parameters are 'Location: Delta' and 'Period: 2/1/2019 - 2/28/2019'. The report content is a table with the following data:

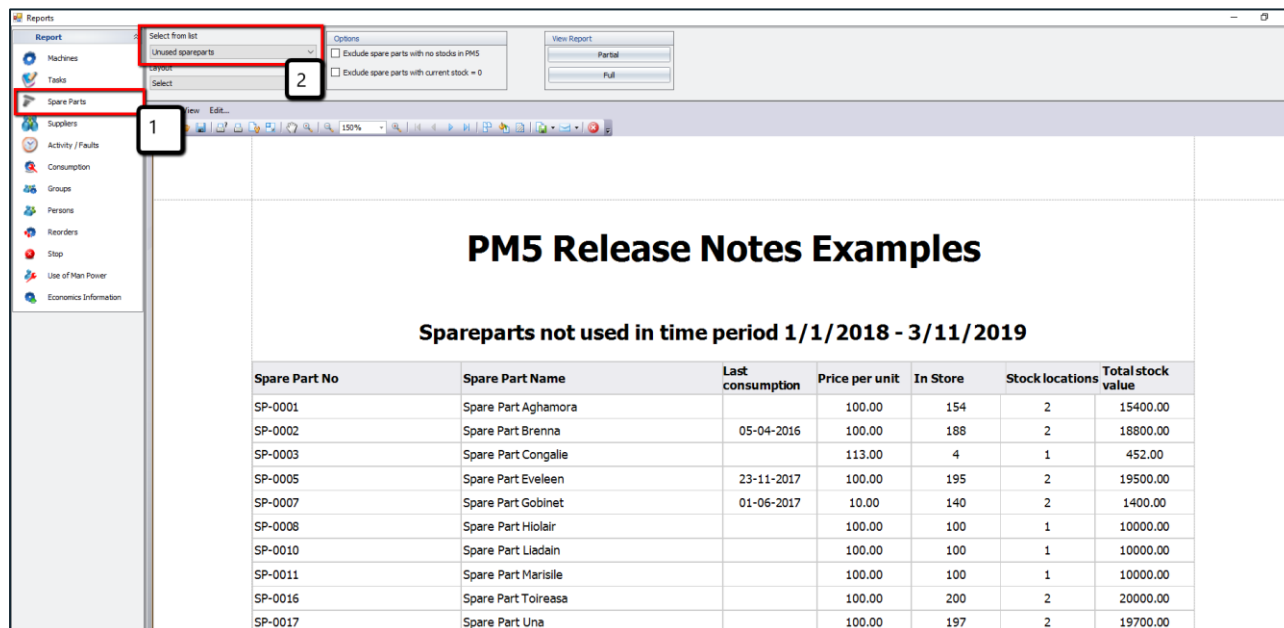
	Machine No	Machine Name	Faults total	Sparepart Cost Summary	Total stop time	Total ext. services
1.	31072009-912	Machine Julie	4	0.00	0.00	0.00
2.	31072009-018	Machine Selene	3	800.00	602.00	0.00
3.	31072009-016	Machine Persephone	2	0.00	0.00	1500.00
4.	31072009-019	Machine Theodosia	1	0.00	0.00	0.00

We have added new rapport to section 'Activities/Fault'.

This new rapport presents a top list of machines based on number of faults reported in PM5 during time period specified by user. A simple overview of costs caused by reported faults is also included.

User can specify how many machines are to be included in this list by entering a value in field 'No of rows'. Selection of machines can be limited to specific location. User can also select what column is to be used for sorting; it is however important to remember that the selection of machines included in the report is always based on number of reported fault, regardless of what sorting column is selected by user.

Report 'Unused Spare Parts'



PM5 Release Notes Examples

Spareparts not used in time period 1/1/2018 - 3/11/2019

Spare Part No	Spare Part Name	Last consumption	Price per unit	In Store	Stock locations	Total stock value
SP-0001	Spare Part Aghamora		100.00	154	2	15400.00
SP-0002	Spare Part Brenna	05-04-2016	100.00	188	2	18800.00
SP-0003	Spare Part Congalle		113.00	4	1	452.00
SP-0005	Spare Part Eveleen	23-11-2017	100.00	195	2	19500.00
SP-0007	Spare Part Gobinet	01-06-2017	10.00	140	2	1400.00
SP-0008	Spare Part Hiohair		100.00	100	1	10000.00
SP-0010	Spare Part Liadain		100.00	100	1	10000.00
SP-0011	Spare Part Marisile		100.00	100	1	10000.00
SP-0016	Spare Part Toireasa		100.00	200	2	20000.00
SP-0017	Spare Part Una		100.00	197	2	19700.00

New report, called 'Unused spare parts', has been added to section 'Spare Parts'.

Purpose of this report is to help identify spare parts that are no longer in use, but still take up place at stores. This report shows spare parts that have not been used during time period starting with date selected by user and ending at current system date. Spare parts included in this list have not been consumed in connection with faults or activities.

Last Consumption column is the key information in this report. If date shown in this column lies very far back in time, it is clear indication that the spare part is no longer in use. If on the other hand, there is no date at all in this column, then spare part may be new or never used.

Custom, permanent filter present this report allows user to remove:

- Spare parts that have no stocks specified in the system. This allows user to remove spare parts that are not stored at local stores.
- Spare parts with current stocks = 0.

Report 'Stocks and consumptions with prognosis'

Location	All			
Spare Part No	Spare Part Name	Planned	Actual	In Store
26	Spare Part Agata	187	3	0
SP-0001	Spare Part Aghamora	2	0	154
SP-0018	Spare Part Aurnia	0	4	164
SP-0002	Spare Part Brenna	5	0	188
SP-0019	Spare Part Brighid	0	3	382
SP-0020	Spare Part Carlin	0	0	74
SP-0003	Spare Part Congalie	255	5	-1
250	Spare Part Coreen	11	0	318
SP-0021	Spare Part Dairine	0	0	90
SP-0004	Spare Part Damhnait	1	3	107
SP-0022	Spare Part Eirleen	153	3	99
SP-0005	Spare Part Eveleen	163	0	195
SP-0023	Spare Part Felicia	204	4	94

New report, called 'Stocks and Consumptions with Prognosis', has been added to section 'Spare Parts'.

IMPORTANT – this report uses data generated by Prognosis function. To get accurate prognosis of planned consumptions, please ensure that Prognosis has been run recently before creating this report.

Before the report can be generated, user needs to specify time period it is to cover. Once time period of interest is specified, the report will generate a list of spare parts along with three quantities:

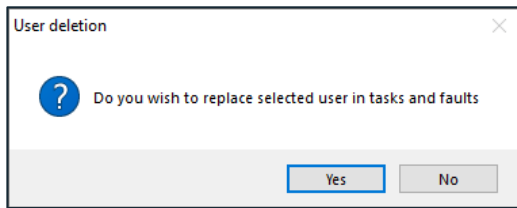
- consumption quantity planned for specified time period
- actual consumption that has already taken place during specified time period
- current quantity in store.

If planned consumption for spare part is larger than current quantity in stock, such spare part will be flagged with red background.

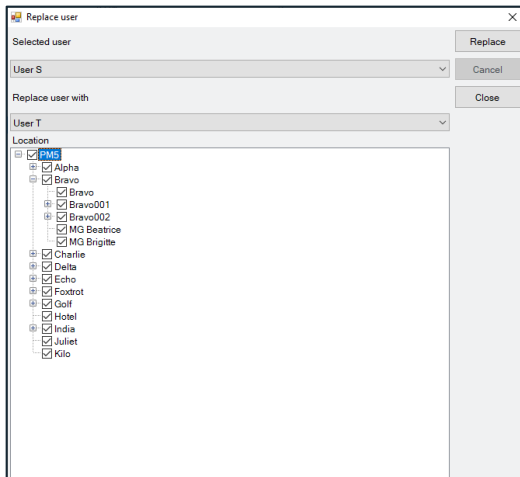
What spare parts are to be included in this report can be controlled by user in usual manner with help of Custom Filter.

Administration module - User deletion and replacement function

User replacement has been integrated into user deletion procedure.



- After a user is selected for deletion, PM5 will ask if user about to be deleted is to be replaced by another user.



- If 'Yes' was selected, then user replacement form will be shown on screen.

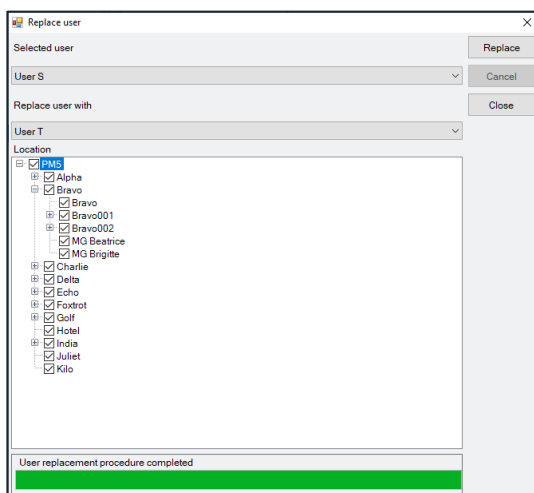
User replacement function allows for replacement of one user with another in following parts of PM5:

- * 'To be signed by' fields of tasks.
- * 'To be signed by' fields of activities.
- * All man-hours consumptions specified at the time of replacement in tasks and jobs that are **not completed**.

Replacement of users does **not take effect** in jobs that are already completed, so historical data is preserved.

- To replace a user, select user to be replaced in combo box 'Selected user'. When user replacement is part of user deletion, the user about to be deleted is preselected when replacement form is opened.
- Next, select user who will be used as replacement.
- Finally select which locations are to be included in replacement procedure. Replacement will take place only for tasks and jobs that belong to machines located at checked locations.
- Then press on button 'Replace' to run replacement procedure.

Please observe that replacement procedure can be run multiple times in a row. By selecting different locations in each run, it is possible to re-assign tasks and jobs of a single user to multiple replacement users.

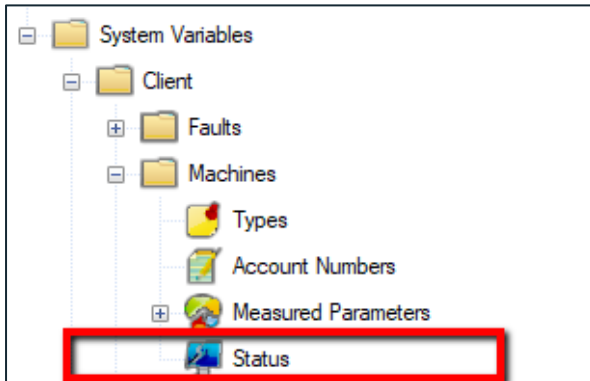


- Once started, progress of replacement procedure is being indicated by a progress bar at the bottom of the screen. When replacement sequence completed, user is notified by a message shown in example picture to the left.

It is possible to interrupt replacement process while it is running (for example if it takes very long time), *but please remember that replacement procedure does not revert and whatever replacements were done while replacement is running will **not** be reverted to original condition after 'Cancel' button has been pressed.*

New system variables

Machine status



New system variable with label Status has been added to machines.

Like other system variables, list of labels available for use in Machine Status field is specified in PM5 Administration.

- Select 'Status'
- Move mouse to right section of Administration module and click right mouse button. Select operation to be performed (Add, Edit, Delete) from quick menu.

A screenshot of the 'Machine' form in PM5 Administration. The form contains various fields for machine information, including Machine Number, ID Code, Machine Name, Bar Code, Location, Date, Type, Supplier, and Manufacturer. The 'Status' field is a dropdown menu, and a red arrow points to it. The dropdown menu is open, showing a list of available status labels: 'Select', 'Auxiliary Equipment- Generic', 'Backup Equipment', 'Core Equipment Line A', 'Core Equipment Line B', 'Core Equipment Line C', 'Test for delete 1', and 'Test for delete 2'. The 'Status' field is currently set to '400'. At the bottom of the form, there are buttons for 'Print Barcode', 'Save', 'Cancel', and 'Expand'.

Machine Status is a non-mandatory system variable, selectable for each individual machine in PM5.

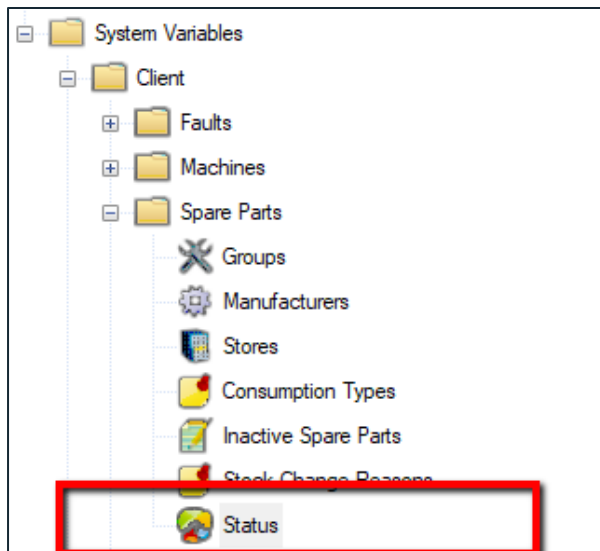
To select Status for an individual machine, open it for editing and select status from the list shown in combo box.

Machine Status is also one of the fields that can be handled with help of Machine Batch Edit function, which is also new addition in this release.

Machine Status is presented in main data grid of machine section.

Machine Status can be used for searches and filtering of data with help of filter tool.

Spare Part Status



New system variable with label Status has been added to spare parts.

List of labels available for use in Spare Parts Status field needs to be specified in PM5 Administration.

- Select 'Status'
- Move mouse to right section of Administration module and click right mouse button. Select operation to be performed (Add, Edit, Delete) from quick menu.

Spare Part Status is a non-mandatory system variable, selectable for each individual spare part in PM5.

To select Status for an individual spare part, open it for editing and select status from the list shown in combobox.

Spare Part Status is also one of the fields that can be handled with help of Spare Part Batch Edit function, which is also a new addition in this release.

Spare Part Status is presented in main data grid of machine section.

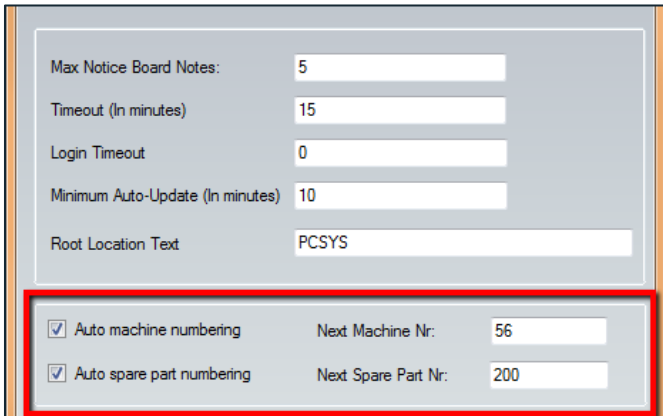
Spare Part Status can be used for searches and filtering of data with help of filter tool.

Changes in auto-generated part numbers for machines and spare parts

An auto-generated part numbers suggestion for new spare parts has been present in PM5 since very first version. In one of recent releases, same feature has been created for machines.

Auto-generated part number suggestion was intended to be a simple function – when new machine or spare part was created, a unique id number was suggested to the user. Starting value for suggested numbers was 1 and upon each suggestion was increased by one.

In this release, auto-generated part number suggestion has been modified to allow users much more control over this function.



In Administration module, Settings form, there are now two new fields:

- Next Machine Nr:
- Next Spare Part Nr:

Numbers in these new fields show what number will be as part number **next** new machine or spare part is added to the system.

Administrator can at any time modify values in those two fields. This allows following new functionality:

- When PM5 is initially set up and configured, administrator can specify exactly what numbers are to be used as starting point for part number suggestions. Default starting value is still 1 immediately after installation of PM5, but it can now be changed to whatever number that is preferable.
- If users, for some reason, wish to move on to new starting number (for example if 'batches' are used for part numbers), they can simply enter new, higher value in appropriate field. For example, let's say that year when machine was added to the system is to be indicated by first digits of machine's part number. Suggested part number for machines could then the beginning year one be set to 1000. At beginning of year two, all user needs to do is to change value in field 'Next Machine Nr.' to 2000 (of course under condition that less than 999 machines were added to the system in course of first year).
- In PM5, new part number is suggested only once. Next suggested number will be increased by one, **even when** previous suggested number was not used and registered in PM5 (for example if user tries to create new machine, but changes his mind and presses 'Cancel' button). Some of our users expressed wish to re-use unused numbers. This is now possible, by simply re-entering original starting number in appropriate field. Autosuggesting function will then automatically move past all part numbers in use and suggest next number that is not in use.

Example

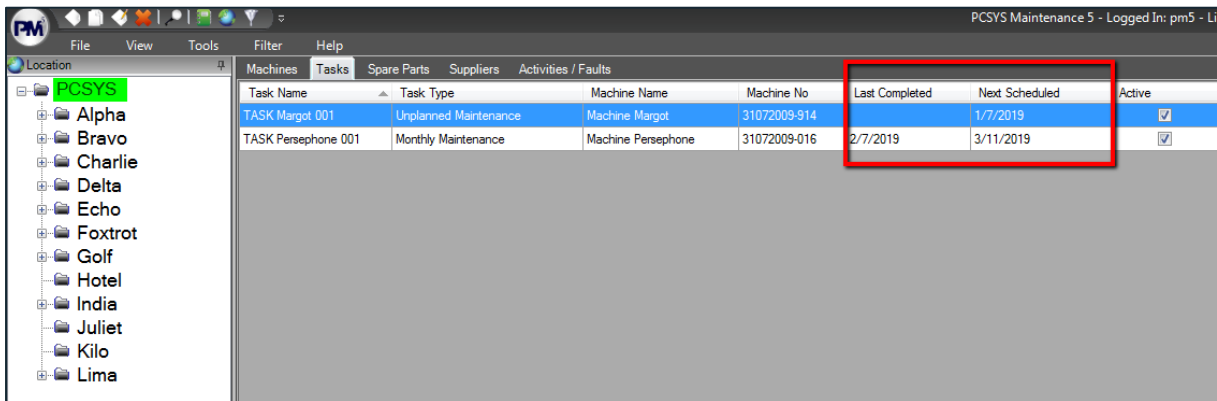
Starting value for machine part numbers was set to 1000. Next suggested number is now 1051. Part numbers 1017 and 1045 are not in use, either because machines with those numbers have been deleted or because numbers were not used at the time they were suggested.

User opens Administration module and in Settings section sets Next Machine Nr. to 1000. Next suggested part number for machine will then be 1017, next 1045 and then (once again) 1051.

New columns in main data grids

Until this release, all columns displayed in main data grids belonged directly to displayed records. In this release, we have added a couple of columns relevance of which may not be immediately apparent and may need short explanation.

Tasks - Last completed and Next Scheduled columns



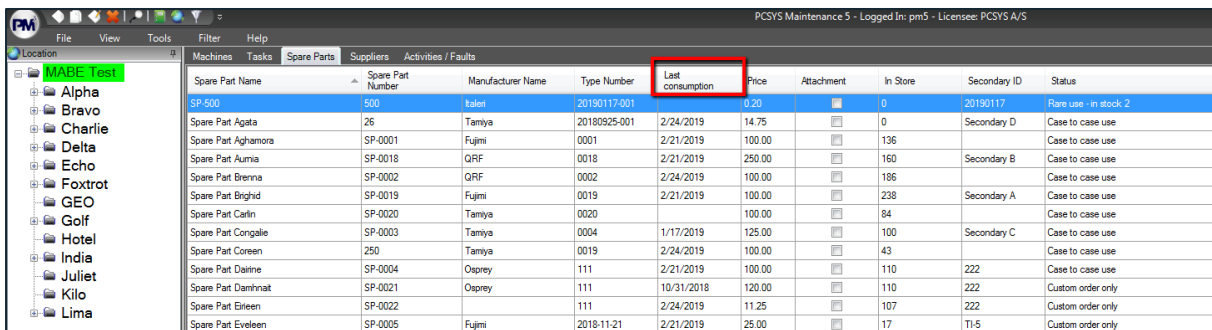
Task Name	Task Type	Machine Name	Machine No	Last Completed	Next Scheduled	Active
TASK Margot 001	Unplanned Maintenance	Machine Margot	31072009-914		1/7/2019	☒
TASK Persephone 001	Monthly Maintenance	Machine Persephone	31072009-016	2/7/2019	3/11/2019	☒

In Task section, we have added two new columns:

- Last completed – this field shows completion date of last finished activity based on the task.
- Next scheduled – this field shows scheduled date for next planned activity based on the task.

These two columns have been added to improve overview of task condition. Tasks that are delayed, approaching completion date or maybe are 'abandoned' and no longer in use can now be easily found simply by sorting tasks on one of those dates.

Spare Parts - Last consumption



Spare Part Name	Spare Part Number	Manufacturer Name	Type Number	Last consumption	Price	Attachment	In Store	Secondary ID	Status
SP-500	500	Italer	20190117-001		0.20		0	30190117	Rare use - in stock 2
Spare Part Agata	26	Tamiya	20180525-001	2/24/2019	14.75		0		Case to case use
Spare Part Aghamora	SP-0001	Fujimi	0001	2/21/2019	100.00		136		Case to case use
Spare Part Auma	SP-0018	QRF	0018	2/21/2019	250.00		160	Secondary B	Case to case use
Spare Part Brenna	SP-0002	QRF	0002	2/24/2019	100.00		186		Case to case use
Spare Part Brigid	SP-0019	Fujimi	0019	2/21/2019	100.00		238	Secondary A	Case to case use
Spare Part Carlin	SP-0020	Tamiya	0020		100.00		84		Case to case use
Spare Part Congalie	SP-0003	Tamiya	0004	1/17/2019	125.00		100	Secondary C	Case to case use
Spare Part Coreen	250	Tamiya	0019	2/24/2019	100.00		43		Case to case use
Spare Part Dairine	SP-0004	Osprey	111	2/21/2019	100.00		110	222	Case to case use
Spare Part Damhnat	SP-0021	Osprey	111	10/31/2018	120.00		110		Custom order only
Spare Part Eileen	SP-0022		111	2/24/2019	11.25		107	222	Custom order only
Spare Part Eveleen	SP-0005	Fujimi	2018-11-21	2/21/2019	25.00		17	TI-5	Custom order only

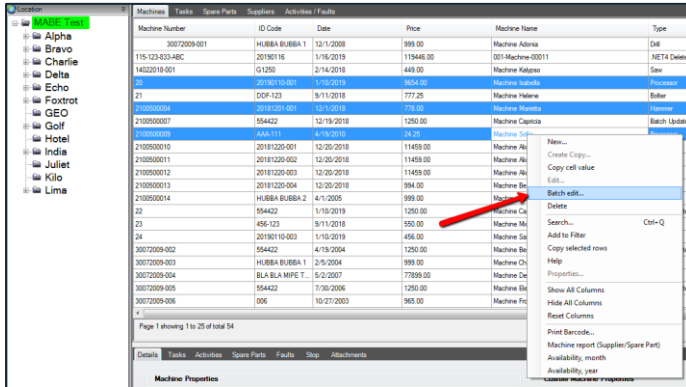
In Spare Part section, we have lifted up date for last consumption of spare part into main data grid. The idea here is to enable users to quickly find spare parts based on when they have been used. User could for example wish to find out which spare parts were used in last couple of days or maybe find spare parts that have not been used for very long time and should be removed from the system.

Please observe that this column is intended to complement rapport *Unused Spare Parts*, another new addition in this version of PM5.

Batch update tool

General description

Until now, editing multiple records in one of main data sets of PM5 could be a bit of a chore. For example, if user wanted to change machine type for ten different machines, then user would have to 'open' first machine for editing, new machine type selected and the change had to be saved. Then same operation had to be done for each of remaining nine machines.



With Batch Edit tool, this change can be done for all ten machines at once – select machines where Machine Type is to be done, open Batch Edit form, select Machine Type you wish for machines to have and complete the update by pressing 'Update' button. That is all.

Batch update tool is available for four of the five main sections in PM5 client – Machines, Tasks, Spare Parts and Activities/Faults.

To use Batch Update, start by selecting one or more rows in main data grid. Next, press right

mouse button and select 'Batch update'. This action will open Batch Update form for currently selected section in PM5 Client.

Picture to the left shows quick menu for Machines and position of Batch Update menu item.

Using Batch Update Tool

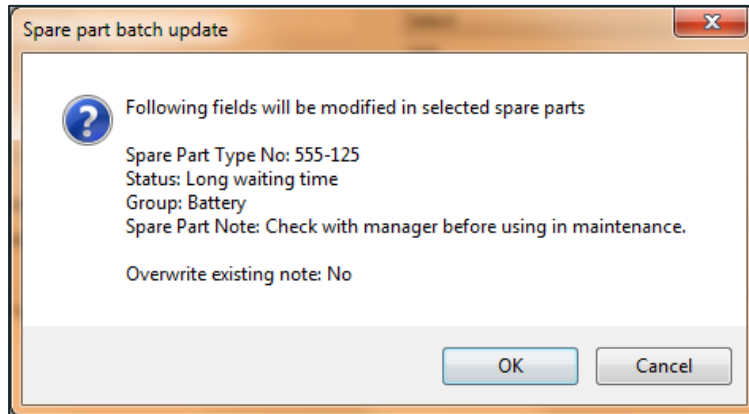
Batch update forms allow editing and changes in multiple records at once. Batch update tool is available for Machines, Tasks, Spare Parts and Activities/Faults and allows editing of values that can be the same for multiple records. For example, many machines share same machine type, while multiple tasks can use same Technical Group.

Values that have to be unique for individual records cannot be handled with help of Batch Update Tool. For example, machine number must be unique for each machine – therefore, any changes in that field can only be done for one machine at a time.

While fields in each Batch Update form are different, each form works in same way:

- Start by selecting records in main data grid that are to be modified.
- Open Batch Update form.
- Type in values in text fields that are to be modified.
- Select values in combo boxes that are to be modified. Observe that if no selection is valid choice in a combo box, then at the bottom of selectable list there will be a selection that resets selections already made to *No selection*. For example if you wish to remove a Priority from selected tasks, select *No priority* in Priority combo box of Task Batch update form. This will remove all already selected priorities from tasks that are to be updated.
- **If no change is to be done in a field, then leave it as it is. Updates are only made in fields and comboboxes where values have been entered.**
- Modifications to note fields can be done it one of two ways:
 - As default, any text entered in Notes field of Batch Update form will be **added** to any already existing text in Notes fields of records that are to be updated.
 - If user wishes to **replace existing notes** with text entered in Batch Update Form, then 'Overwrite existing note' needs to be checked in before update is committed. If such selection is done, then all texts in Notes fields for selected records will be **overwritten** with new content.

- To apply changes to selected records, press 'Update' button.
- Before changes are applied, user will be presented with a list of fields that will be updated and what values will be used in the update. Below is an example of an update to spare parts. By pressing 'OK' button user will commit the changes. By pressing 'Cancel' user will discard the update and Batch Update form will close without any changes being done.



- Under some circumstances, requested changes may not be valid for one or more selected records. When such situation occurs, user will be notified with an error message.

Please observe that all updates that are valid will always be performed.

Batch Update Tool for Machines

Select or enter new values for machines to be updated.
Fields and parameters without new content will not be changed.
New machine note is by default appended to existing machine note.
To replace old notes with new one, check in 'Overwrite existing notes' radio button.

Machine Type: Select
Supplier: Select
Manufacturer: Select
Account: Select
Stop Group: Select
Machine Status: Select

ID Code:
Price:
Capacity:
Power:
Measured Parameter: Select

Handling existing note:
☒ Append to existing note
☐ Overwrite existing note

Machine Note:

Update Cancel

Machine batch editing tool allows editing of following fields of machines selected in main data grid:

- **Machine type** – allows change to one of machine types currently specified in PM5. Since machine type is a mandatory machine value, there is no option to set machine type to 'no selection'.
- **Supplier** – allows change to one of suppliers currently present in the system. Supplier is a mandatory value for machines, therefore there is no option to set machine supplier to 'no selection'.
- **Manufacturer** – allows change to one of manufacturer specified in PM5 Administration.
- **Account** – allows change to one of machine accounts specified for the system. If previously selected accounts are to be removed as selection for machines, then select 'No account' in this combo box.
- **Stop Group** – allows change of stop group to which machines belong. If user wishes to remove previously selected stop groups for machines selected in data grid, then selection 'No stop group' is to be selected in this combo box.
- **Machine Status** - allows change of machine status of machines selected in main data grid. If user wishes to remove any previously selected status, then value 'No selection for machine status' is to be selected in this combo box.
- **ID Code, Price, Capacity, Power** – any text entered in one of those four fields will **replace** current values in corresponding fields of machines selected in main data grid. **If no input is made in these fields, then no changes will be made to values currently specified for selected machines.**
- **Measured Parameter** – allows change of measured parameter used by machines currently selected in main data grid. Selection of 'No measured parameter' will remove measured parameter currently used by selected machines. **Please consider carefully changes done to measured parameters in this manner, since those changes will affect any tasks dependent on them for scheduling purposes.**

- **Machine Note** – if 'Append to existing note' is selected, then any text entered in this field will be added to already existing machine notes. If 'Overwrite existing note' is selected, then text entered in this field will overwrite any text present in Machine Note field of selected machines.

Batch Update Tool for Tasks

Select or enter new values for tasks to be updated.
Fields and parameters without new content will not be changed.
New task note is by default appended to existing task note.
To replace old notes with new one, select 'Overwrite existing notes' radio button.

Task Name Days Units

Task Type Locked

Technical Group Approval Required

To Be Signed By Priority

Handling existing note
☒ Append to existing note ☐ Overwrite existing note

Task Note :

Update Cancel

Task batch editing tool allows editing of following fields of tasks selected in main data grid:

- **Task name** – name entered in this field will replace name specified for tasks currently selected in main data grid. See additional information below.
- **Task Type** - allows change to one of task types currently specified in PM5. Since each task must have specified task type, there is no option to set task type to 'no selection'. **Also observe that there can be no more than a single task per machine that has same task type and name.** If user specifies an update of name **and** task type for more than one task for same machine, then only first of those tasks will be updated. Changes to remaining tasks belonging to same machine will be discarded and a warning message will be presented on screen.
- **Technical Group** - allows change to one of technical groups specified for the system. If previously selected technical groups are to be removed as selection for the tasks, then select 'No technical group' in this combo box.
- **To be signed by** – allows selection of person responsible for the tasks currently selected in main data grid. Since it is not allowed to have tasks without valid selection in this field, there is no 'no selection' in this combo box. Please observe that changes in this field cascade over to all **unfinished** activities that are based on tasks that are to be updated.
- **Days** – value entered in this field will overwrite current value specified in this field for all tasks selected for update. 0 is **not** a valid input in this field. Please observe that change of this value does not trigger rescheduling of next unfinished activity and will be used for scheduling only **after** current unfinished activity is finished.
- **Units** – value entered in this field will overwrite current value specified in this field for all tasks **that belong to machines with specified measured parameter.** If machine to which task belongs lacks specified measured parameter, then updates requested for this field will be discarded. 0 is **not** a valid

input in this field. Changes in this field will come into effect next time activity re-scheduling is triggered (usually next time read value is entered for relevant measured parameter).

- **Locked** – here user can switch on or off Interval locked conditions for tasks selected in main data grid.
- **Approval required** – here user can switch on or off approval requirement for tasks selected in main data grid.
- **Priority** - allows change of priority of tasks selected in main data grid. If user wishes to remove any previously selected priority, then value 'No priority' is to be selected in this combo box. Change of task priority affects immediately all unfinished activities that belong to edited tasks. Status of finished activities is not affected.
- **Task Note** – if 'Append to existing note' is selected, then any text entered in this field will be added to already existing task notes. If 'Overwrite existing note' is selected, then text entered in this field will overwrite any text present in Task Note field of selected tasks.

Batch Update Tool for Spare Parts

Select or enter new values for spare parts to be updated.
Fields and parameters without new content will not be changed.
New spare part note is by default appended to existing activity note.
To replace old notes with new one, select 'Overwrite existing notes' radio button.

Spare Part Name
Spare Part Type No
Secondary ID
Status
Group
Manufacturer
Unit
Dimension

Handling existing note
☒ Append to existing note ☐ Overwrite existing note

Spare Part Note

Update Cancel

Spare Part batch editing tool allows editing of following fields of spare parts selected in main data grid:

- **Spare Part Name** – name entered in this field will replace name specified for spare parts currently selected in main data grid.
- **Spare Part Type No** – value entered in this field will replace type number specified for spare parts currently selected in main data grid.
- **Secondary ID** – value entered in this field will replace secondary ID specified for spare parts currently selected in main data grid.
- **Status** - allows change of status of spare parts selected in main data grid. If user wishes to remove any previously selected status, then value 'No status selected' is to be selected in this combo box.
- **Group** - allows change of group to which spare parts selected in main data grid are belonging. Since each spare part must belong to specific group, there is no 'No selection' available for this field.
- **Manufacturer** – allows change to one of manufacturer specified in PM5 Administration. Manufacturer is a mandatory value for spare parts, therefore there is no option to set spare part manufacturer to 'no selection'.
- **Unit, Dimension** – any text entered in one of those two fields will **replace** current values in corresponding fields of spare parts selected in main data grid. **If no input is made in these fields, then no changes will be made to values currently specified for selected spare parts.**
- **Spare Part Note** – if 'Append to existing note' is selected, then any text entered in this field will be added to already existing spare part notes. If 'Overwrite existing note' is selected, then text entered in this field will overwrite any text present in Task Note field of selected spare parts.

Batch Update Tool for Activities/Faults

Batch update tool for activities and faults consists of two separate forms, each in its own pane. If jobs selected in main data grid are all activities or all faults, then only relevant pane will be shown on screen. If, on the other hand, selected jobs are a mix of both activities and faults, then both panes will be shown on screen. In such case, it is important for user to remember that update values need to be entered in both forms, even if they have same meaning for both activities and faults (for example expected finish date for started jobs).

Batch Update Tool for Activities

Batch edit

Activity batch update | Fault batch update

Select or enter new values for activities that are to be updated.
Fields and parameters without new content will not be changed.
New activity note is by default appended to existing activity note.
To replace old notes with new one, check in 'Overwrite existing notes' radio button.

Activity started status
Don't change current status

Approval status
Don't change current status

Expected End Date
2019-03-14

Approved By
Select

Handling existing note
☒ Append to existing note ☐ Overwrite existing note

Priority
Select

Activity Note

Update Cancel

Activities batch editing tool allows editing of following fields of activities selected in main data grid:

- **Activity Started Status** – here user can switch on or of Activity Started status for selected activities.
- **Expected End Date** - this field is automatically activated if Activity Started Status is set to 'Set to started'. Default selected date is always current system date. User needs to change selected date to expected finish date for jobs that will be marked as started.
- **Approval Status** – here user can switch on or off approval status for selected activities.
- **Approved By** – this combo box is activated only if Approval Status is selected to 'Set to approved'. When this condition is satisfied, user can specify approving person for activities selected in main data grid.
- **Priority** - allows change of priority of activities selected in main data grid. If user wishes to remove any previously selected priority, then value 'No priority' is to be selected in this combo box. Change of priority affects only activities selected in main data grid.
- **Activity Note** – if 'Append to existing note' is selected, then any text entered in this field will be added to already existing activity notes. If 'Overwrite existing note' is selected, then text entered in this field will overwrite any text present in Activity Note field of selected activities.

If Activity Note is empty, content of Activity Note belonging to selected activities will be unchanged by batch update.

Batch Update Tool for Faults

Faults batch editing tool allows editing of following fields of spare parts selected in main data grid:

- **Fault Started Status** – here user can switch on or of Fault Started status for selected faults.
- **Expected Finish Date** - this field is automatically activated if Fault Started Status is set to 'Set to started'. Default selected date is always current system date. User needs to change selected date to expected finish date for jobs that will be marked as started.
- **Approval Status** – here user can switch on or off approval status for selected faults.
- **Approved By** – this combo box is activated only if Approval Status is selected to 'Set to approved'. When this condition is satisfied, user can specify approving person for faults selected in main data grid.
- **Fault Type** - allows change to one of fault types currently specified in PM5. Since each fault must have specified task type, there is no option to set task type to 'no selection'.
- **Fault Cause**- allows change of fault cause to one of causes currently specified in PM5. If user wishes to remove previously selected fault cause , then value 'Fault cause is not selected' is to be selected in this combo box.
- **Priority** - allows change of priority of faults selected in main data grid. If user wishes to remove any previously selected priority, then value 'No priority' is to be selected in this combo box.

- **Technical Group** - allows change to one of technical groups specified for the system. If previously selected technical groups are to be removed as selection for the faults, then select 'No technical group' in this combo box.
- **Alarm Code** – any alarm code entered in this field will **replace** alarm codes currently specified for faults selected in main data grid. **If nothing is entered in this field, then currently specified alarm codes will remain unchanged.**
- **Fault Description** and **Solution** – input in these two fields is handled according to same rules as those used for handling of Notes in other batch update fields. If 'Append to existing note' is selected, then any texts entered in these two fields will be added to already existing fault description and solution notes. If 'Overwrite existing' is selected, then texts entered in these two fields will overwrite any texts present in Fault Description and Solution fields of selected activities.

If these fields are empty, content of Fault Description and Solution fields of selected faults will be unchanged by batch update.

Release notes for PM5 version 5.13.2000

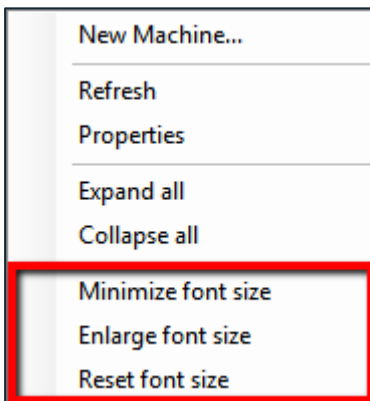
Appearance of navigation tree and custom filter

Appearance of navigation tree is now user controllable in two respects:

- Font size used by navigation tree
- Text and background color used for selected location/machine group

Increasing and decreasing font size used by navigation tree

To adjust font size used by navigation, move mouse pointer over navigation tree and right click to bring up quick menu for navigation tree. If you're familiar with PM5, you will notice that there are three new menu choices at the bottom:



- Minimize Font Size – selecting this menu choice will decrease the font size used by navigation tree by one font size unit. This action can be repeated until the font size is according to user's preferences or until minimum allowed font size is reached. When this happens, user is notified that it's not possible to make the font any smaller. Minimum font size is 6px.
- Enlarge Font Size – selecting this menu choice will increase the font size used by navigation tree by one font size unit. This action can be repeated until the font size is according to user's preferences or until a maximum allowed font size is reached. When this happens, user is notified that it's not possible to make the font any larger. Maximum allowed pixel size is 20px.
- Reset Font Size – selecting this menu choice adjusts the font size to the size used currently as default font size for navigation tree – 8px.

Font size selected for navigation tree is a persistent personal setting – it can be selected individually by each user and is remembered between sessions.

Adjusting background and text color for selected location

This function allows the user to quickly change the colors used for display of currently selected location in navigation tree. Up until now, depending on type of screen, computer type and ambient lightning conditions, it could sometimes be difficult to see either what location is currently selected or what its name is. User has now complete control over this detail and can adjust colors according to own preferences.

Selection of colors used for selected location is done in user's personal settings. Open Options form and use following controls to adjust the colors in use according to personal preferences:

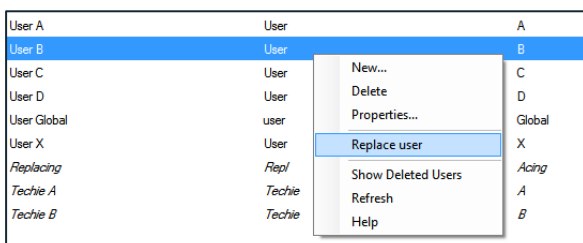
Background – specifies background color for selected location

- Text – specifies text for selected location
- "Preview" shows how the combination of the selected colors will look on the screen.
- "Restore Colors" button restores color settings of selected location to default black text and mid-grey background color.

Color selection for selected locations is a persistent personal setting – it can be selected individually by each user and is remembered between sessions.

Changes to user replacement function

User replacement function has been reworked and is now much quicker, especially on PM5 systems with large amount of data and many locations.



Basic functionality of user replacement function works the same as before. Selection of user to be replaced is done by right-clicking on user name in Administration/Users section and selecting 'Replace user' from quick access menu. This will bring up the 'Replace user' form.

In 'Replace user' form, select replacing personal. Next select locations where the replacement is to take effect. To complete user replacement at selected locations, press 'Replace' button.

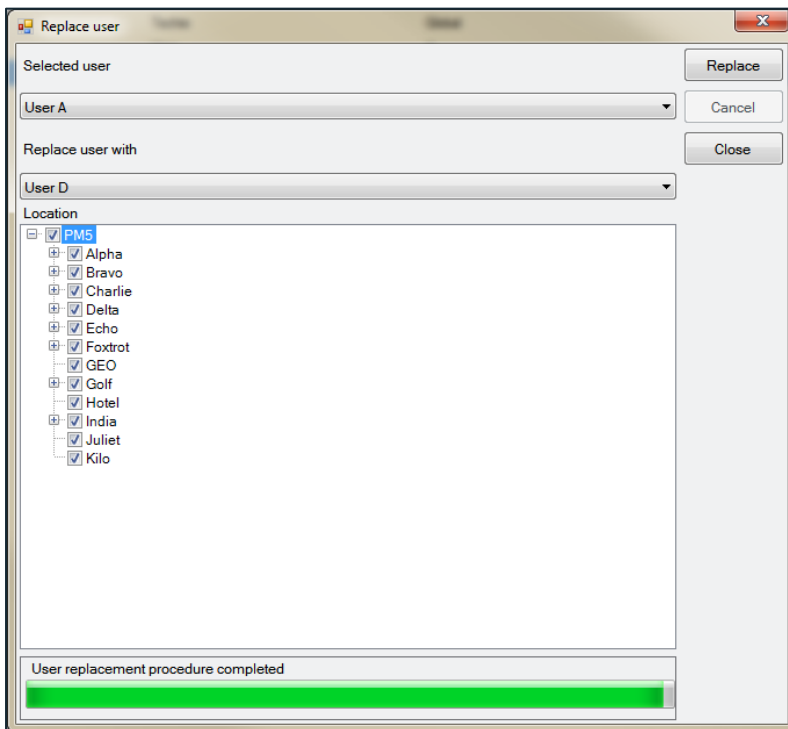
The adjustments in 'User Replacement' function result first and foremost in it being significantly faster than in previous versions.

Business logic of user replacement function has been slightly modified and automatically adjusts user rights of the replacing user:

- Replacing user becomes automatically a member in all technical groups in which the replaced user is a member.

Furthermore, user can track its progress through selected locations with help of progress bar shown at the bottom of the form while the replacement procedure is running.

Finally, user can interrupt replacement procedure in progress by pressing 'Cancel' button. Please observe that if the replacement procedure is interrupted, it **does not** restore the system to state before the procedure was started. Job assignments that have been adjusted prior to interruption remain assigned to replacing user, while those that haven't been handled are still assigned to original user.



Job event log

Job event log is a new feature that allows users to document progress of individual jobs with help of notes formed in same manner as those in notice board.

To add new job event log note, open activity or fault and press button 'Job Log' in left lower corner. If job event log contains previous notes, then this is indicated by number of log posts presented above the button.

The left screenshot shows the 'Activities' form. It includes fields for 'Signed By', 'Job No', 'Priority', 'To be Signed By', 'Task Name', 'Type of Task', 'Machine Number', 'Machine Name', 'Date Scheduled', 'Activity Done', 'Expected End Date', 'Used Man Hours', 'Estimated Manhours', and 'Ext. job exists'. A red arrow points to the 'Job Log' button at the bottom left.

The right screenshot shows the 'Edit fault' form. It includes fields for 'Machine', 'Machine Ines', 'Job No', 'Fault Type', 'Discovered (Date)', 'Discovered By', 'Priority', 'Alarm Code', 'Technical Group', 'Estimated Manhours', 'Used Man Hours', 'Signed By', 'Expected End Date', 'Approval Required', 'Approved', 'Approved By', 'Date Solved', 'Cause Type', 'Fault Description', and 'Solution'. A red arrow points to the 'Job Log' button at the bottom left.

Job Event Log form presents all previously entered log posts that belong to the job. It also allows addition of new posts and editing of existing posts. Please observe that currently it is not possible to delete posts from the log, this omission is on purpose.

Progress log for fault 212

Date	Initials	Note
8/27/2018 11:28 AM	User Global	In quis ligula nulla. Etiam eget mattis lacus, a condimentum felis. Vestibulum euismod, turpis et venenatis tincidunt, lorem elit molestie augue, a convallis ligula eros in justo. Quisque ullamcorper leo nec orci vestibulum, quis tristique libero ultrices. Sed at augue odio. Nunc pellentesque nisi metus, nec consectetur orci suscipit eu. Integer finibus diam quis velit interdum semper a a ex. Vivamus non risus non purus finibus congue. Nulla porttitor nulla in lorem rutrum accumsan quis et leo.
8/27/2018 11:27 AM	User A	Pellentesque nulla nunc, ultrices in lacus a, interdum accumsan ante. Donec quis eleifend turpis. Etiam ligula nisi, dapibus non facilisis id, iaculis a tortor. Etiam vehicula vel diam non rutrum. Fusce rutrum, lacus at volutpat rutrum, urna libero volutpat elit, vitae cursus mi felis ac ante. Nunc congue id ante dapibus tempor. Sed sapien nibh, gravida ac metus id, malesuada congue eros.
8/27/2018 11:24 AM	pm5	Lorem ipsum dolor sit amet, consectetur adipiscing elit. Proin congue odio diam, vel sodales elit pellentesque ut. Suspendisse nec diam sed elit ornare ultricies. Maecenas pellentesque sodales lacus non ultricies. Phasellus consequat bibendum luctus. Aliquam risus velit, feugiat et arcu nec, auctor imperdiet velit. Suspendisse in suscipit augue. Interdum et malesuada fames ac ante ipsum primis in faucibus.

New Edit Close

To create new job event log post, press 'New' button'. This brings up a form that allows entry of text. Use of tabs and line shifts for formatting purposes is supported. By pressing on 'Save' button, the note is added to selected job event log. Each post consists of entered text, date and time when the note was saved or edited last time and finally who created/edited it.

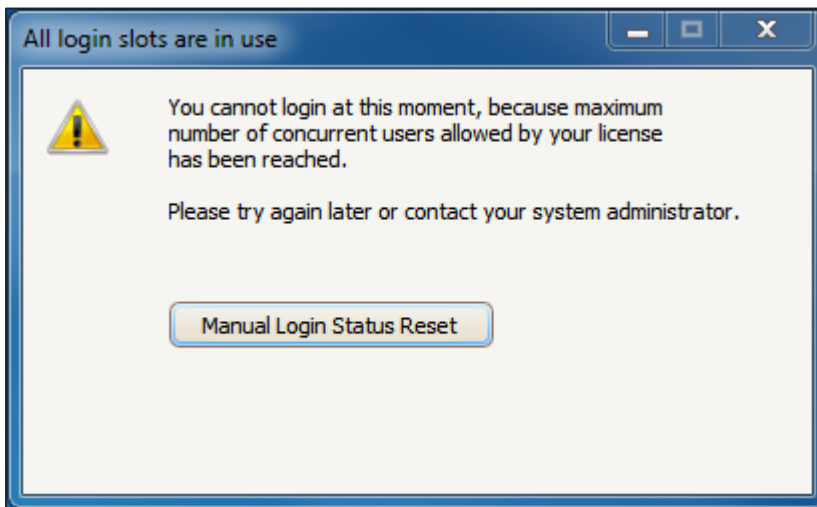
The image shows a window titled "New log note for Fault 212". Inside the window is a large, empty text area for entering a note. At the bottom right of the window, there are two buttons: "Cancel" and "Save".

To indicate presence of job event log posts, a new column called 'Job Log in Use' has been added to main data grid in Activities/Fault section of PM5 client. The column displays a checkbox, which is checked in if at least one job log note has been added to the activity or fault.

Filter		Help				
Machines		Tasks	Spare Parts	Suppliers	Activities / Faults	
Fault	Task Name // Fault Type	Machine No	Date	Done Date	Job Log In Use	
☒	Critical	30072009-905	3/19/2018	3/21/2018	☐	
☒	Critical	30072009-905	3/23/2018	3/23/2018	☐	
☒	Critical	30072009-905	4/11/2018	4/11/2018	☒	
☒	Critical	30072009-905	3/14/2018	3/19/2018	☐	
☒	Critical	30072009-905	6/4/2018		☐	
☒	Major	30072009-902	6/1/2018		☒	
☒	Critical	30072009-901	3/19/2018	3/19/2018	☐	
☐	Agnes 001	30072009-901	2/14/2018	2/9/2018	☒	
☐	Agnes 001	30072009-901	3/11/2018	2/15/2018	☒	
☐	Agnes 002	30072009-901	2/9/2018	2/9/2018	☐	
☐	Agnes 002	30072009-901	3/11/2018	3/19/2018	☐	
☐	Agnes 001	30072009-901	3/17/2018		☒	
☐	Agnes 002	30072009-901	4/18/2018	4/13/2018	☐	
☐	Agnes 002	30072009-901	5/13/2018		☒	
☒	Critical	30072009-004	4/13/2018		☐	
☒	Critical	02052018-001	6/6/2018		☐	

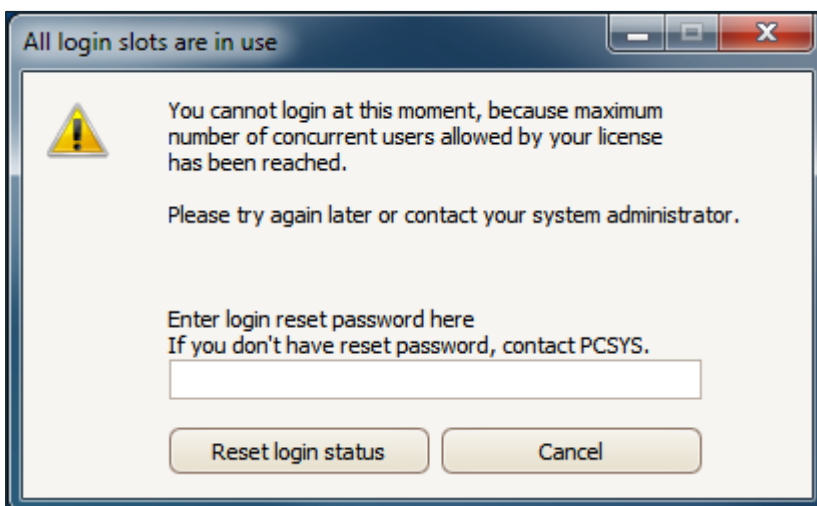
Emergency login status reset when unable to log in onto PM5

Emergency login status reset is new function intended to provide quick solution to scenario where users cannot log in onto PM5, because all login slots are in use (even though they aren't). To make it easier to recover from such situation we have modified login procedure in following manner:

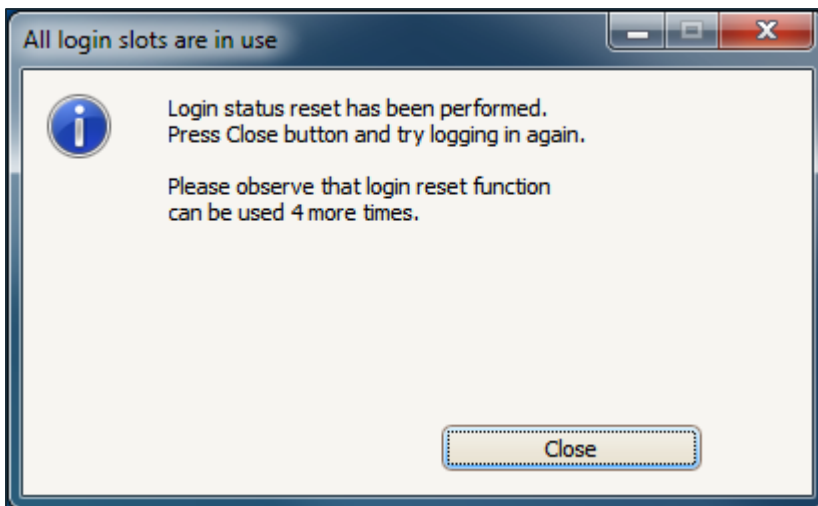


- 1) When user is not allowed to login because all login slots are in use, user receives following message. The upper part is the same as before and if user is aware that all login slots are in use, the situation is to be handled as normal – ask a colleague to log out and try logging in again.

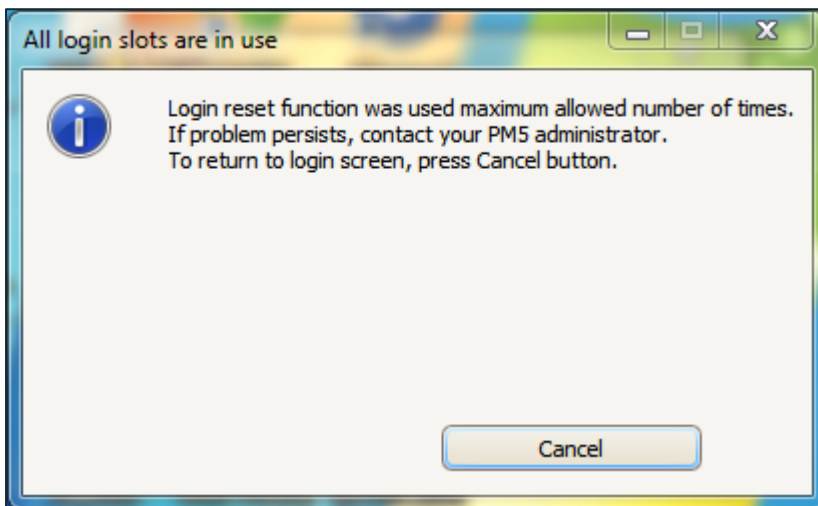
In situations where users are “locked out” and there are no known logged in users in the system that could log out, then user can press “Manual Login Status Reset”



- 2) When “Manual Login Status Reset” button is pressed, user activates the login reset function. User is to enter required password and press “Reset login status” button. This will have two effects:
 - a. ‘Always Access’ flag is reset for all users.
 - b. Logged in status is set to ‘not logged in’ for **single user** currently logged in on PM5. The user who is ‘logged out’ is the one with oldest login timestamp in database.



- 3) If emergency login reset was successful, then user should receive a confirmation message, which will also inform the user about how many more times the function can be used.



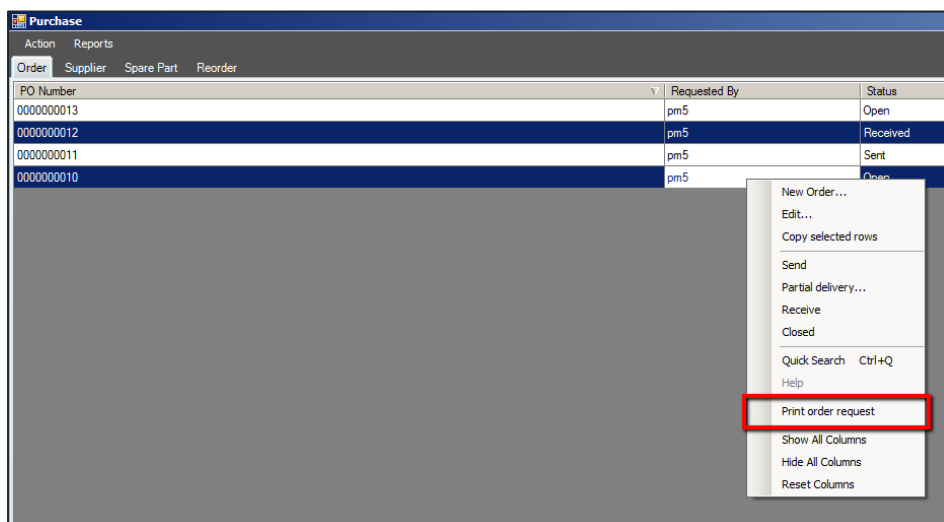
- 4) By default, the emergency login reset function can be used a **maximum of five times**. Thereafter the function is disabled and subsequent attempts will result in message shown above. If that happens, it is recommended for PM5 administrator to contact PCSYS.

After a successful emergency login reset, it is highly recommended that the person who logs in onto PM5 is also a system administrator. After logging in onto the system, administrator user should immediately open Administration module and make necessary adjustments in Users section.

Purchase module –printout of order requisitions for individual orders

Up to now, the printout of purchase order requisitions could be done when order status was changed from *Open* to *Sent* or by ordering printouts through filter tool. This procedure has now been simplified.

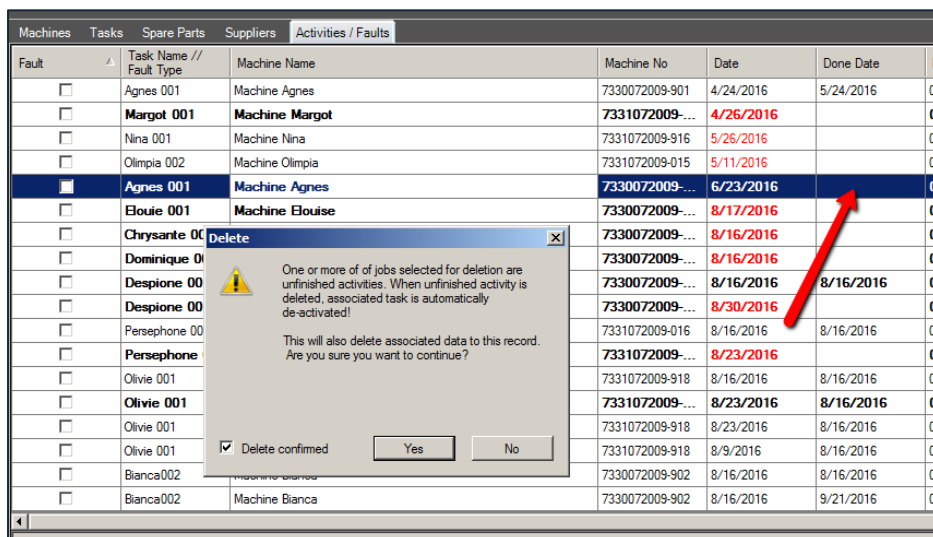
To print one or more order requisitions, user needs to select the orders for which requests are printed and click on right mouse button to bring up quick menu for orders. Then, to print the requests, select menu item *Print order request*. This action will trigger printout of requests for all currently selected orders.



Change in business logic when deleting unfinished activity

Up till now, PM5 allowed deletion of an unfinished activity, even though such action meant that the task to which the activity belonged was deactivated for all practical purposes.

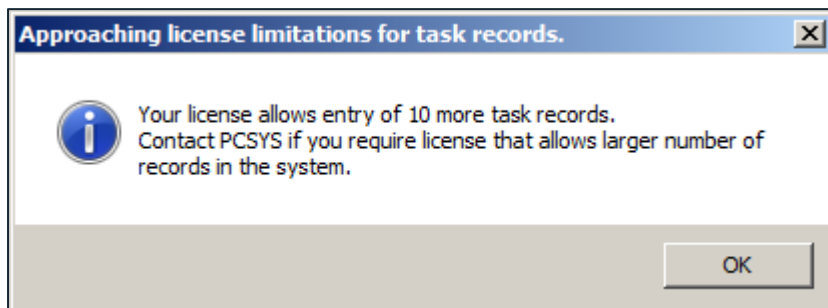
The business logic for this scenario has now been adjusted to reflect practical consequences of deletion of active activities. As example picture below demonstrates, when activity about to be deleted is unfinished (Date Done field is empty), user needs to approve the action before proceeding. When deletion is approved, the task to which the activity belongs will be automatically set to disabled status.



Warning about license limitations

For licenses with limitations on maximum number of records for machines, tasks and spare parts (Demo / Lite / Standard licenses), a warning will be displayed when user approaches the maximum allowed number of records.

First warning will be displayed when ten more records can be entered. Second warning will be displayed when five more records can be entered into the system. Warnings are triggered separately for each record group with license limitations. Example picture below informs the user that ten more tasks can be created in the system before license limitation for tasks is reached.

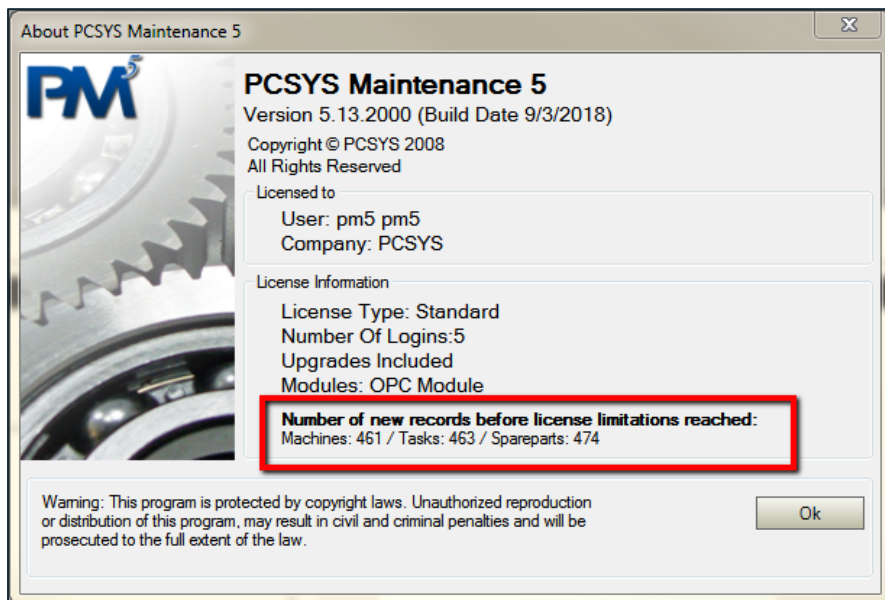


Information about license limitations

When a license with limitations regarding maximum number of records for machines, tasks and spare parts is in use (Demo / Lite / Standard licenses) are in use, information about number of records that can be entered into PM5 is displayed in *About PM5* form.

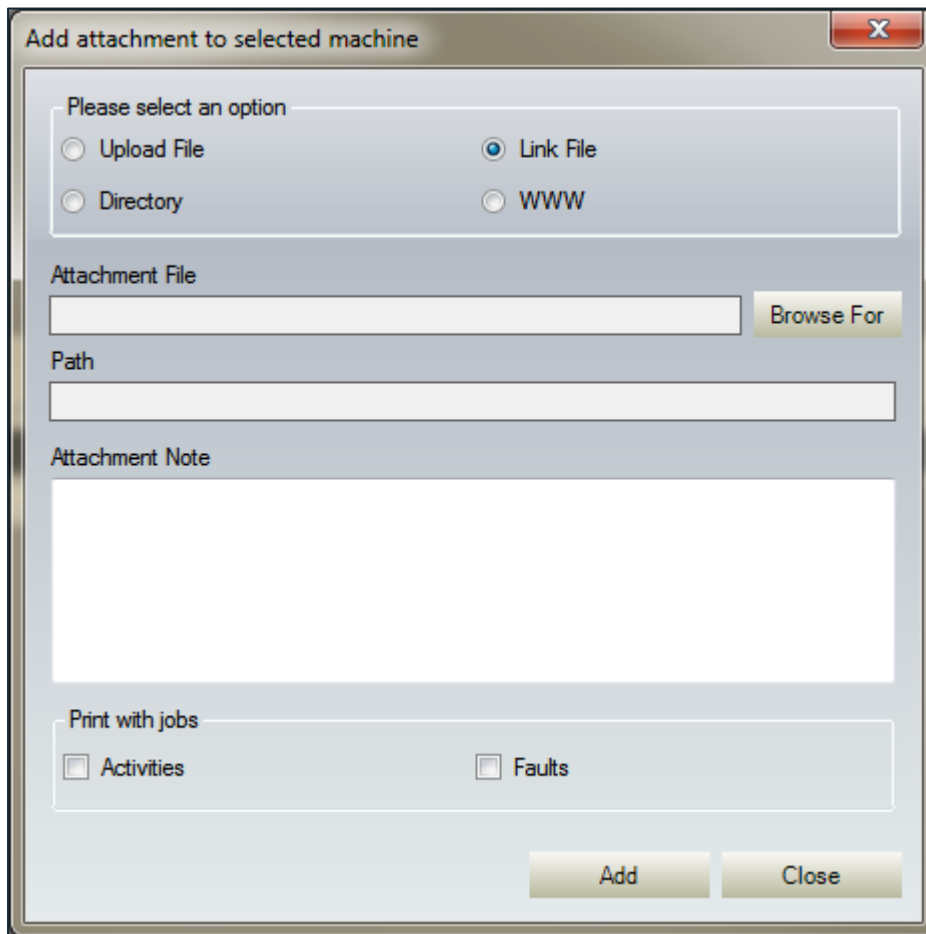
To open *About PM5* form, select *Help* and *About PM5*. See picture below for example of information about remaining record allowance in the system.

Please observe that remaining record allowance is not displayed in systems with Enterprise license., as Enterprise license has no limitations of number of machine/task/spare part records and the system.



Adjustments to Attachment form

Attachment form has been redone and simplified. User interface for selection of adjustment type is now at the top of the form. Depending on selection of attachment type, the other elements of the form are adjusted dynamically.



The screenshot shows a dialog box titled "Add attachment to selected machine" with a close button (X) in the top right corner. The dialog contains the following elements:

- Please select an option:** A group box containing four radio buttons: "Upload File", "Link File" (which is selected), "Directory", and "WWW".
- Attachment File:** A text input field with a "Browse For" button to its right.
- Path:** A text input field.
- Attachment Note:** A large text area for notes.
- Print with jobs:** A group box containing two checkboxes: "Activities" and "Faults".
- Buttons:** "Add" and "Close" buttons at the bottom right.

Release notes for PM5 version 5.13.1001

Status of users assigned for tasks, activities and faults

As the time goes by, status of PM5 users can change – their credentials can change, they can be set to passive status or simply be deleted. Such changes in users' status could mean that they were no longer valid for the jobs they were assigned for. When that situation occurred, they were no longer listed in relevant combo-boxes of relevant tasks, activities and faults. This in turn could cause problems when editing such tasks and jobs.

This situation is now rectified.

When status of a user changes and user is no longer valid selection for assigned task, activity or fault, the user is still listed in relevant combo-boxes, but a **text flag** is displayed to the left of his initials in the combo-box.

Following fields will display these new text flags:

- Task form
 - *To be signed by* combo-box
- Activities form
 - *Signed by* combo-box
 - *Approved by* combo-box
- Fault form
 - *Discovered by* combo-box
 - *To be signed by / Signed by* combo-box
 - *Approved by* combo-box

Currently, three types of **text markers** are in use:

- **User's status has been set to passive.** When a user's status has been set to Passive, then this fact will be indicated by a text flag (**Passive**) in combo-boxes of types listed above. In example below, a passive user has been selected as person who discovered and signed for a fault.

The screenshot shows the 'Edit fault' window. At the top, 'Machine' is set to '001.130' and 'Job No' is '86'. The 'Fault Type' is 'Mekanisk'. The 'Discovered (Date)' is 'den 10 januari 2007'. The 'Discovered By' dropdown menu is highlighted with a red box and shows 'MADE (Passive)'. The 'Signed By' dropdown menu is also highlighted with a red box and shows 'MADE (Passive)'. Other fields include 'Estimated Manhours' (0.00), 'Used Man Hours' (0.50), 'Priority' (Select), 'Alarm Code', 'Technical Group' (Select), 'Expected End Date' (den 5 december 2017), 'Approval Required' (unchecked), 'Approved' (checked), 'Solved' (checked), 'Date Solved' (den 10 januari 2007), and 'Cause Type' (Q2).

- **User has been deleted.** When a user has been deleted, then this fact will be indicated by a text flag **(Deleted)** in combo-boxes of types listed above. In example below, a user that has been deleted is selected as person responsible for a machine task.

The screenshot shows a 'Task' dialog box with various fields. The 'To Be Signed By' dropdown is highlighted with a red rectangle, showing 'MABE (Deleted)'. Other visible fields include 'Task Name' (Service Oil 30 days), 'Machine' (Indvejningspumpe), 'Type of Task' (Smøring), 'Interval' (30 days), 'Priority' (Select), and 'Estimated Manhours' (1.00). There are also checkboxes for 'Active', 'Locked', and 'Approval Required'.

- (1)
- **User's credentials are no longer sufficient.** This is a special case for selections in 'Approved by' combo-boxes of faults and activities. In cases where a user who no longer has credentials for approval of jobs, this fact is indicated by text flag **(Credential removed)** in combo-boxes where he's been previously selected. An example of such scenario is shown in picture below.

The screenshot shows an 'Activities' dialog box. The 'Approved By' dropdown is highlighted with a red rectangle, showing 'MABE (Credential removed)'. Other visible fields include 'Signed By' (MABE), 'Job No' (81), 'Priority' (Select), 'Date Scheduled' (6/14/2007), 'Task Name' (Service Oil 30 days), 'Type of Task' (Smøring), 'Machine Number' (001.130), 'Machine Name' (Indvejningspumpe), 'Used Man Hours' (0.00), and 'Estimated Manhours' (1.00). There are also checkboxes for 'Done', 'Started', 'Fixed Date', and 'Approved'.

The text flags indicating changed status of user in above-mentioned combo-boxes serve two purposes. In historical records, they simply indicate the changed status of the user. **Much more importantly, in active tasks and unfinished jobs, they indicate that the jobs are assigned to personal that most probably is no**

longer able to complete them. It is strongly advised that any active task or unfinished job that is assigned to a user flagged in this manner should be re-assigned to a more suitable user.

Finally, please observe that users flagged as deleted, passive or lacking credentials are only displayed in relevant combo-boxes **as long as they are the selected user**. If another user is selected in their place and this change is then saved, the flagged users are **no longer included** in list of users selectable in a combo-box.

Changes in Batch job finish functionality

Batch job finish functionality has been modified and extended. Following two changes are introduced in this version.

- **Job exclusion**

Activities and faults that are to be finished need to comply with business logic of PM5. If these conditions are not satisfied, the request to finish the job will be rejected. Since earlier following conditions need to be satisfied:

- For activities, the selected completion date cannot be earlier than completion date of any of preceding activities generated by same task as activity about to be finished.
- For faults, fault reason need to be specified either prior to request for completion is made **or** specified in Batch finish form's own Cause Type combo-box.

A third condition has been added in this version of PM5 – activities that include calibration are automatically rejected from batch job finish requests. Our reasoning is that activities of this nature require entry of mandatory calibration data for each individual activity and it is impractical to handle that in batch job finish functionality.

- **Handling of jobs rejected by job finish functionality**

In previous versions, rejection of a job has been indicated in rudimentary manner, by listing its job number in a message box. This behavior has now been modified. Jobs rejected by batch functionality are now listed in Windows standard application Notepad. Each rejected job is listed in its own row – information included is job id number, job type and reason for rejection.

We have chosen to present this information in Notepad, because it allows user to work with PM5 while keeping this information on screen.

In rare cases where Notepad is not installed on the computer where PM5 client is running, same information will be displayed in a Note form. This presentation will allow the user to copy/paste the information about rejected jobs before closing down the Note form and handling relevant records.

In the picture shown, there is an example of Notepad application showing information about jobs rejected in a batch finish job request.

```
PM5 Message - 12/5/2017 2:53 PM - List of jobs rejected in this batch finish sequence
*****
Job No  Type                Rejection reason
*****
88      Activity              Selected finish date is earlier than finished date of last finished activity
99      Activity              Selected finish date is earlier than finished date of last finished activity
107     Fault                  Fault cause is not specified
```

Release notes for PM5 version 5.13.1000

Priority code

Introduction

Priority field has been present in PM5 since the beginning. It is present in Task, Activity and Fault. It was a text field where user could enter a text that was up to three characters long. Purpose of this field was to provide quick and simple way to indicate priority of tasks and jobs.

Priority is now replaced with a user defined system variable **Priority Code**. Purpose of **Priority Code** is exactly the same as that of **Priority**. The major difference is that value in **Priority Code** field is not entered by user on individual basis, but rather selected from a predefined list of priority codes defined by an administrator. Major advantage of this change is that it guarantees consistency in data entry.

Priority code in existing systems

For users who are actively using **Priority** field, this change has following consequences.

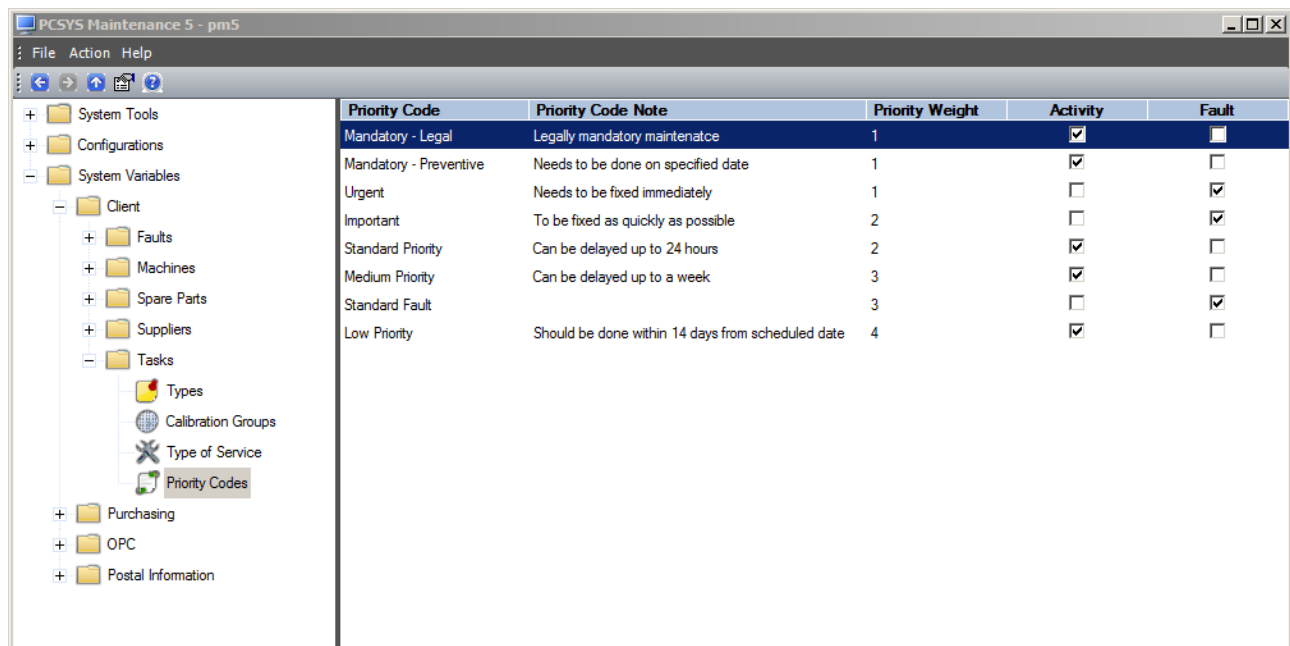
- Fields and columns related to **Priority** are no longer present in the system.
- **Priority** fields have been replaced by a combo box **Priority Code** in forms for tasks, activities and faults.
- **Priority** columns have been replaced by columns **Selected Priority Code** in main data grids for tasks and activities/faults.
- Data that existed in **Priority** fields has been transferred to **Priority Code** as part of the upgrade to this version of PM5.
- All variations of codes entered in **Priority** field at the time of upgrade have been inserted into **Priority Codes** system variable section, which is now present in Administration module.

In other words, all data previously handled by **Priority** field is still present and correctly displayed in PM5 system.

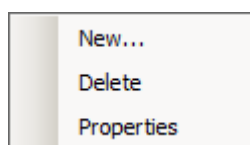
Management of Priority Codes

Priority Code is a system variable that is handled in same manner as other system variables (such as Machine Type, Fault Type or Technical Group) in the system. To create, edit or delete a **Priority Code**, user needs to open Administration module and access Priority Code section, which is located at System Variables/Tasks. When Priority Codes node is selected, list of priority codes defined in the system will be shown in right section of Administration module.

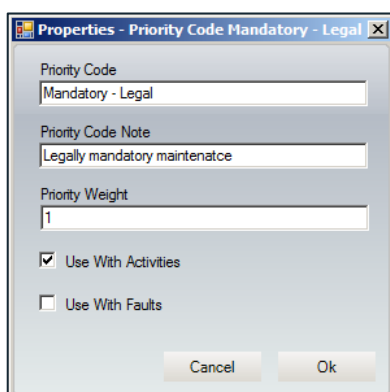
Please observe that the priority list shown in picture below is just an example. In your PM5, the list will initially be either empty **or** if field **Priority** was in use prior to upgrade, it will show all variants of priority codes previously in use. If the second is the case, priority codes will have weight set by default to 1 and will be marked as accessible for activities and faults. These settings can of course be edited at user's convenience.



Priority Code	Priority Code Note	Priority Weight	Activity	Fault
Mandatory - Legal	Legally mandatory maintenance	1	☒	☐
Mandatory - Preventive	Needs to be done on specified date	1	☒	☐
Urgent	Needs to be fixed immediately	1	☐	☒
Important	To be fixed as quickly as possible	2	☐	☒
Standard Priority	Can be delayed up to 24 hours	2	☒	☐
Medium Priority	Can be delayed up to a week	3	☒	☐
Standard Fault		3	☐	☒
Low Priority	Should be done within 14 days from scheduled date	4	☒	☐



To add new, edit or delete new priority code, move mouse pointer to right section and click on right mouse button. This will display a quick menu where appropriate action can be selected. Existing priority code can also be selected by double-clicking on it in the list.



Properties - Priority Code Mandatory - Legal

Priority Code: Mandatory - Legal

Priority Code Note: Legally mandatory maintenance

Priority Weight: 1

☒ Use With Activities

☐ Use With Faults

Cancel Ok

Priority code has following properties:

- Priority Code – name of priority code. This is the name that will be displayed in combobox Priority Code and in column Selected Priority Code in main data grids for tasks and activities/faults.
- Priority Code Note – descriptive note, clarifying purpose of the priority code.
- Priority Weight – a whole number value between 1 and 1000, defining the weight of the priority. 1 is the highest priority and 1000 is the lowest priority. Priority weight is intended to specify importance of the priority code relative other priorities. It is also used for sorting and filtering

purposes, as described below.

- Use With Activities – indicates that this priority code is to be used with tasks and activities. Only the priorities that have this checkbox checked in will be available for selection for tasks and activities.
- Use With Fault – indicates that this priority code is to be used with faults. Only the priorities that have this checkbox checked in will be available for priority selection for faults.

Additional clarification - when a priority code is marked as 'Use With Activities', it will be available for selection in tasks and activities. When a priority code is selected in a task, all activities generated by this task will have same priority selected at the time of creation. It is possible to change priority code for an individual activity. However, an activity will always have its priority set to that which is specified in the task to which it belongs.

To save new priority code or save changes made in pre-existing priority code, press 'OK' button.

Deletion of a priority code can be done at any time, even if it is in use. When a priority code is deleted, all tasks, activities and faults that are using it will be reset and no longer have a selected priority code.

Priority Codes in main data grids

Priority Code can be specified for tasks, activities and faults. Selection is done from a list of available priority codes, defined in Administration module and available in a combo box with same name.

Selection of priority code is not mandatory. Combo box **Priority Code** is always empty as default and selection of priority code needs to be done on individual basis for each task or fault. Activities inherit their priority code from the task they belong to. Priority code of individual activity can be changed at any time after it has been created.

In example picture, Priority Code combo box is expanded and shows list of available priority codes. Please observe that only priority codes with checkbox 'Use with activity' are included in this list.

It is important to remember that the sorting order of the list in Priority Code combo box is **not** by priority code name, but by its weight, in descending order. Thus the priority codes with weight 1 will be put on top of the list, followed by those of weight 2 and so on.

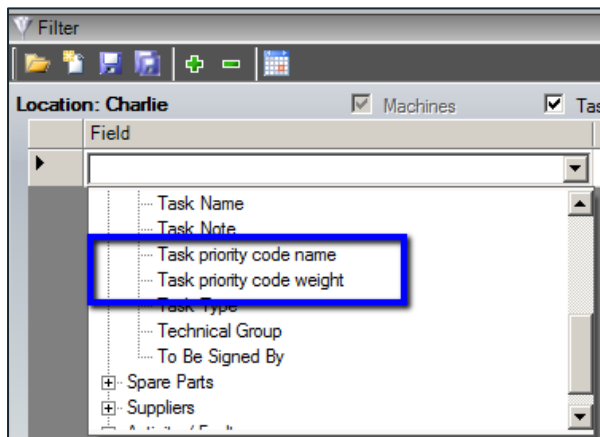
To make a selection, select priority code from list in the combo box and press 'Save' button.

In the client, priority codes and their weight are displayed in main data grids of tasks and activities/faults, in columns **Selected Priority** and **Priority Weight**. There is one important thing to remember regarding the sorting based on priority code – it is done according to the value specified by priority weight, both when selected sorting is on Selected priority and Priority Weight. In example picture below, the sorting column is **Selected Priority**, but the sorting is still done according to the values in **Priority Weight** column. When such sorting is done, the posts with specified weight are always sorted first, in either ascending or descending order. Posts with no weight (no priority code specified) will always be put at the bottom, regardless of selected sorting order.

Task Name	Task Type	Active	Machine No	Machine Name	Selected Priority	Priority Weight
Hekate 003	Monthly Maintenance	☒	20170420-001	Machine Hekate	Mandatory - Preventive	1
Cerise Priority Code Test 1	Overview	☒	7330072009-903	Machine Cerise	Mandatory - Legal	1
Cerise Measured A	Overview	☒	7330072009-903	Machine Cerise	Mandatory - Preventive	1
Cerise 001	Lubrication	☒	7330072009-903	Machine Cerise	Standard Priority	2
Hekate 002	Monthly Maintenance	☒	20170420-001	Machine Hekate	Medium Priority	3
Hekate Inactive 500	Unplanned Maintenance	☐	20170420-001	Machine Hekate	Low Priority	4
Martha 001	Lubrication	☒	7331072009-013	Machine Martha		
Iris Inactive Alpha	Monthly Maintenance	☐	20170829-001	Machine Iris		
Hekate 004	Monthly Maintenance	☒	20170420-001	Machine Hekate		
Martha Task 001	Unplanned Maintenance	☒	7331072009-013	Machine Martha		

Priority Code in filters

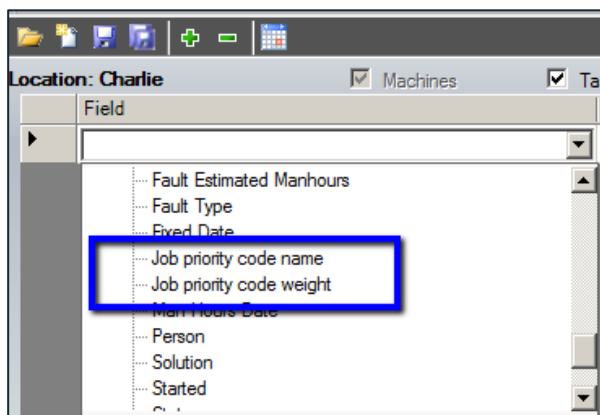
Priority codes can be used for filtering of data presented on the screen. New filter search parameters have been added for tasks and activities/faults.



In Tasks, filter search parameters **Task priority code name** and **Task priority code weight** have been added in selection of field which can be used for filtering.

Task priority code name allows filtering on specific priority code name or names specified for tasks, in similar manner as other system parameters, such as for example task type.

Task priority code weight allows filtering on weight value of priority codes specified in tasks.



In Activities/Faults, filter search parameters **Job priority code name** and **Job priority code weight** have been added in selection of field which can be used for filtering. It is important to remember that searches using these two search fields **will**, as long as search conditions are fulfilled, include both activities and faults.

Job priority code name allows filtering on specific priority code name or names.

Job priority code weight allows filtering on weight value of priority codes specified in activities and faults.

Additional clarification – search parameter priority weight enables filtering by *groups of priority codes*. For example, the filter in example picture below will show **all** unfinished jobs with priority codes that have priority weight 1 or 2.

Filter - Priority 2 or higher									
Location: Charlie									
☒ Machines ☒ Tasks ☒ Spare Parts ☒ Suppliers ☒ Activities / Faults									
Field	Criteria	Value	Machine	Tasks	Spare Parts	Suppliers	Activities / Faults	Operator	
Status	=	Not done	☒	☒	☒	☒	☒	And	
Job priority code weight	<	3	☒	☒	☒	☒	☒		

Column 'Qty in stock'

Column **Qty in stock** has been added to subpane Spare Parts in client sections Tasks and Activities/Faults. The value displayed in this column shows available quantity in stock for selected spare part. This information consists of two possible values:

- First number shows quantity in stock at the stock **selected** for the spare part and this specific consumption instance. If no stock has been specified, then a '-' is displayed instead.
- Second number shows a total quantity in stock at **all stocks** that are specified for this particular spare part. If no stocks are specified for the spare part, then a '-' is displayed instead.

Purpose of this new column is to provide quick overview of availability of the spare part for individual jobs. While a spare part may not be available at stock specified for a job, it may be available somewhere else. The two numbers (or lack thereof) provides a snapshot of spare part's availability.

In example picture below, a task has four spare parts specified for consumption. The topmost spare part has no stocks specified for this consumption. Also, the spare part has no stocks specified in the system. Thus, the value displayed in **Qty in stock** is '-/-'.

Second spare part in our example picture has a specified consumption stock which currently contains 100 units of the spare part. The spare part also has at least one other stock with positive quantity and grand total of all stocks is 105. Thus, value in **Qty in stock** column shows '100 / 105'.

Finally the third spare part has no specified stock for consumption. But it at least one stock specified in the system and total quantity in stock is 75. Value in **Qty in stock** shows therefore '- / 75'.

Machines								Tasks	Spare Parts	Suppliers	Activities / Faults
Task Name		Task Type		Active	Machine Name	Selected Priority	Priority Weight	Machine No			
Hekate 003		Monthly Maintenance		☒	Machine Hekate	Mandatory - Preventive	1	20170420-001			
Cerise Priority Code Test 1		Overview		☒	Machine Cerise	Mandatory - Legal	1	7330072009-903			
Cerise Measured A		Overview		☒	Machine Cerise	Mandatory - Preventive	1	7330072009-903			
Cerise 001		Lubrication		☒	Machine Cerise	Standard Priority	2	7330072009-903			
Page 1 showing 1 to 4 of total 4 Machine located at: Charlie - Charlie002 - Charlie002.2											
Details		Activities	Spare Parts	Calibration	Attachments	External Services					
Number	Type Number	Name	Group	Quantity	Note	Store	Qty in stock				
SP-0011	0011	Spare Part Marsale	Lamp	2	ABC		/-				
SP-0005	0005	Spare Part Eveleen	Bolt	3	LKJ	Chelsea - Local BB - FF - II	100 / 105				
SP-0003	0004	Spare Part Congalie	Pipe	3			/- 75				
SP-0017	0017	Spare Part Una	Pipe	2	hvt	Chelsea - Local PL - JB - GF	86 / 191				

Note fields in PM5 client

Note fields in main sections of the client can now be displayed and edited in separate form. To open the Notes form, press on **Expand** button below Notes field.

When Notes form is opened from Details subpane in main client, the note is presented in a locked, non-editable format.

When note is shown in expanded note from a place where it can be edited, the Notes form will also allow editing. To finish editing and close the Notes form, press its **Close** button.

Note forms are resizable and can be placed anywhere on the screen.

Please observe that editing done in Notes form is displayed immediately in Notes field of detail form from Note field was opened. To actually save the edit, user still needs to press the Save button of detail form.

Additional note about content of note forms – limited editing is now possible in notes forms.

- Vertical spacing can now be added with help of Enter key.
- Horizontal spacing can be created with help tab key.

Picture below shows task note in expanded mode. The content of the list is formatted with help of tab key.

Machine barcode labels

Barcode label functionality, previously available for spare parts, has been extended to Machines.

A barcode can be specified for individual machine. To enter a machine barcode, open Machine form and enter the barcode in **Barcode** field. Press **Save** button to save the changes.

Machine barcodes can be printed in two ways. To print single barcode, open Machine form and press **Print Barcode** button.

Machine Number	ID Code	Date	Price	Machine Name	Type	Supplier	Location	Account Number	Active	Bar Code
7330072009-903	023	8/4/2005	887.00	Machine Alpha	Hammer	Supplier Bunko	Juliet	555-666-777-888	☒	
7330072009-919	019	4/27/2005	445.00	Machine Theodora	Bolter	Supplier Chynko	Delta002	222-333-444-555	☒	
7330072009-963	963	2/5/2010	200.00	Machine Cerise	Hammer	Supplier Bunko	Charlie	555-666-777-888	☒	
7330072009-968	968	7/26/2003	874.00	Machine Swale	Hammer	Supplier Bunko	Alpha002	555-666-777-888	☒	
7330072009-970	970	1/2/2004	200.00	Machine Olympe	Hammer	Supplier Bunko	Alpha002	555-666-777-888	☒	112233445566
7330072009-987	987	7/26/2003	874.00	Machine Olympe	Hammer	Supplier Bunko	Brown001	555-666-777-888	☒	
20176420-003	20149420	4/26/2017	445.00	Machine Apollonia	Hammer	Supplier Chynko	Elio	222-333-444-555	☒	112233445566
20176420-002	20149420	4/26/2017	445.00	Machine Apollonia	Hammer	Supplier Chynko	Faust	222-333-444-555	☒	112233445566
20176420-001	20176420	8/26/2017	2500.00	Machine Iva	Press	Supplier Bunko	Charlie	222-333-444-555	☒	51420855440314
20176420-002	20176420	8/26/2017	2500.00	Machine Iva	Press	Supplier Bunko	Charlie	222-333-444-555	☒	51420855440314

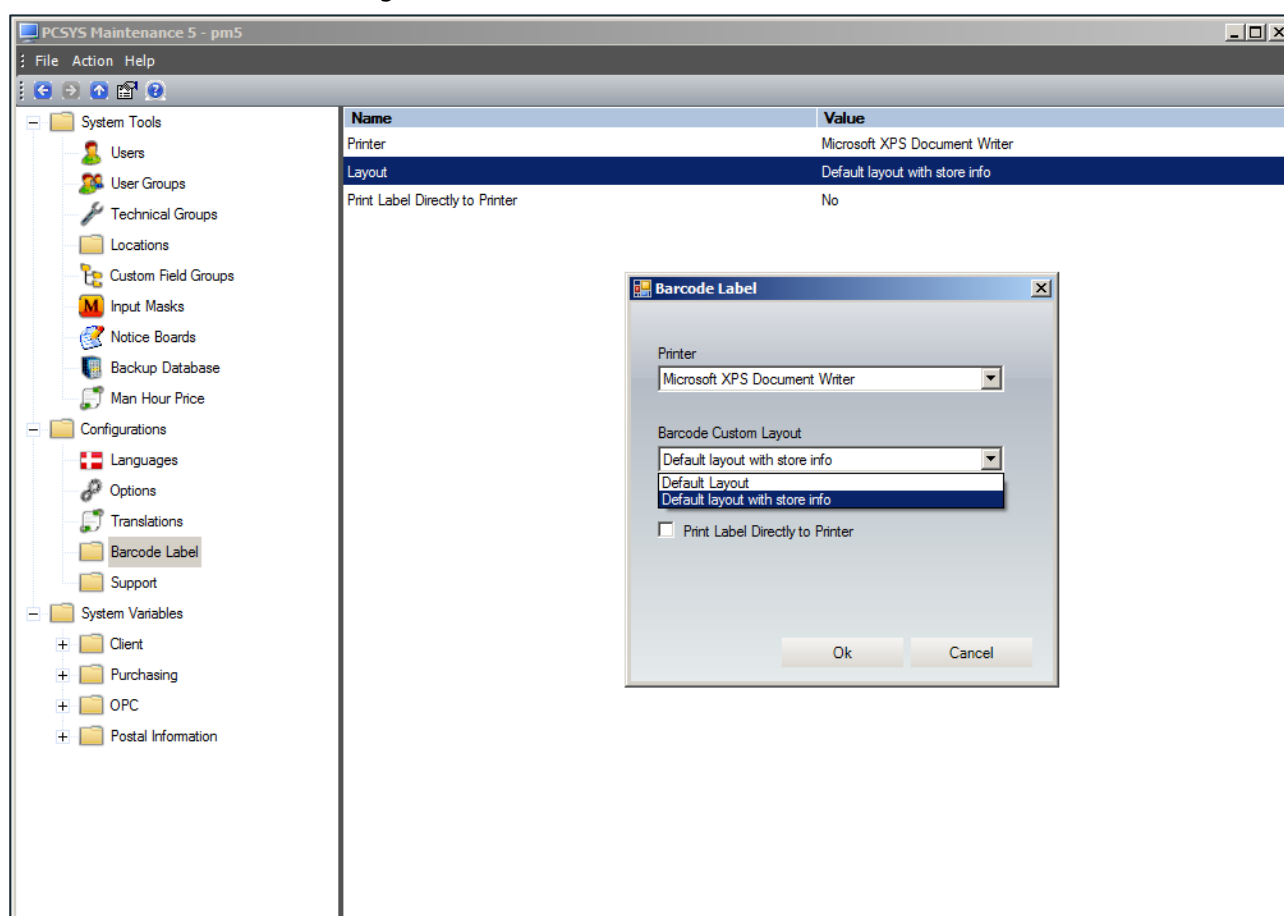
Alternatively, barcodes for one or more machines can be printed by selecting one or more machines in main data grid and opening quick menu by clicking on right mouse button. In quick menu, select **Print Barcode**.

Machine barcodes are printed on the printer specified for label printouts in Administration module, section Configuration / Barcode Label.

Machine barcode labels are configured for printouts on labels of same size as spare part labels, size 75 x 25 mm. Currently only the default label layout, as shown below, can be used for machine barcode labels.

New default layout for Spare Part Label

New layout has been added to selection of spare part label layouts. Which layout is to be used can be selected in Barcode Label Setting in Administration module.



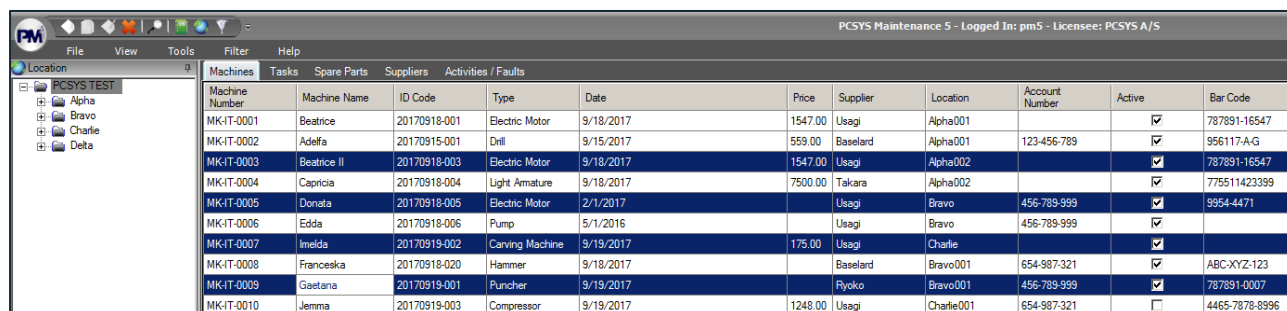
New layout includes stock information for individual stocks of the spare part. If spare parts has more than one stock, then when this new label design is selected, a separate label will be printed for each stock specified in PM5.

Copy rows

In main data grids for Machines, Tasks, Spare Parts, Suppliers and Activities/Faults, there is now possibility to copy rows and paste them into applications supporting paste functionality.

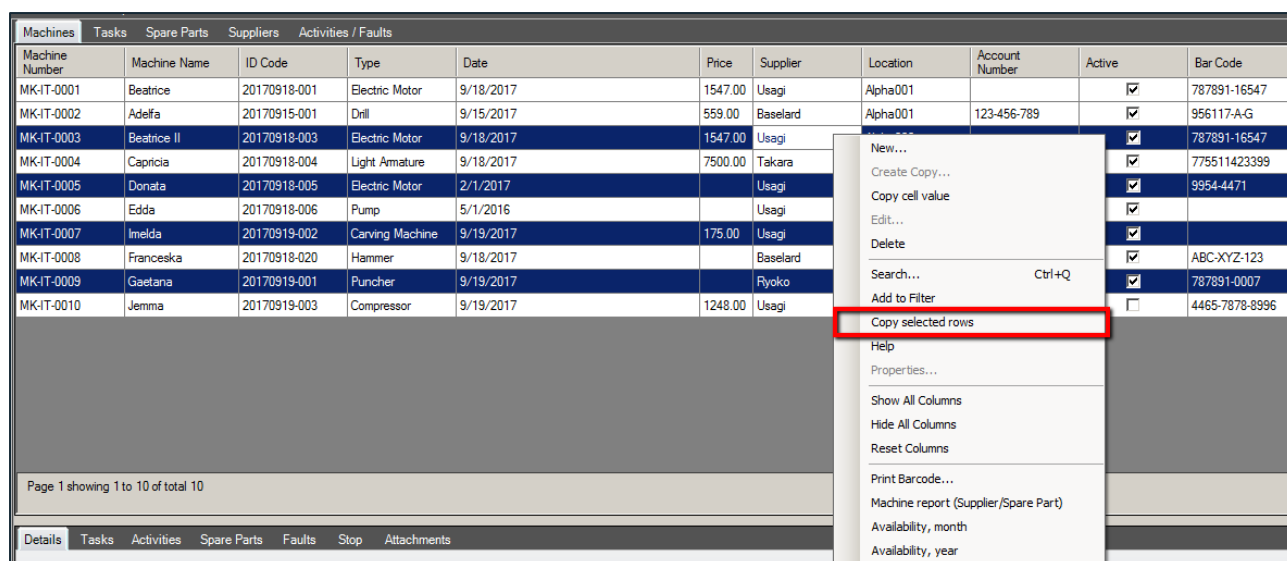
Select the rows you wish to copy in data grid. To select more than one rows that are in sequence, select first row, hold down Shift key and select last row in the selection. To select more than one row that are out of sequence, select first row, hold down Ctrl button and select the rest of the rows.

Your selection could look like this:



Machine Number	Machine Name	ID Code	Type	Date	Price	Supplier	Location	Account Number	Active	Bar Code
MK-IT-0001	Beatrice	20170918-001	Electric Motor	9/18/2017	1547.00	Usagi	Alpha001		☒	787891-16547
MK-IT-0002	Adelfa	20170915-001	Drill	3/15/2017	559.00	Baselard	Alpha001	123-456-789	☒	956117-A-G
MK-IT-0003	Beatrice II	20170918-003	Electric Motor	9/18/2017	1547.00	Usagi	Alpha002		☒	787891-16547
MK-IT-0004	Capricia	20170918-004	Light Armature	9/18/2017	7500.00	Takara	Alpha002		☒	775511423399
MK-IT-0005	Donata	20170918-005	Electric Motor	2/1/2017		Usagi	Bravo	456-789-999	☒	9954-4471
MK-IT-0006	Edda	20170918-006	Pump	5/1/2016		Usagi	Bravo	456-789-999	☒	
MK-IT-0007	Imelda	20170919-002	Carving Machine	9/19/2017	175.00	Usagi	Charlie		☒	
MK-IT-0008	Franceska	20170918-020	Hammer	9/18/2017		Baselard	Bravo001	654-987-321	☒	ABC-XYZ-123
MK-IT-0009	Gaetana	20170919-001	Puncher	9/19/2017		Ryoko	Bravo001	456-789-999	☒	787891-0007
MK-IT-0010	Jemma	20170919-003	Compressor	9/19/2017	1248.00	Usagi	Charlie001	654-987-321	☐	4465-7878-8996

Once all rows you want to copy are selected, click on right mouse button and select 'Copy selected rows'.



Machine Number	Machine Name	ID Code	Type	Date	Price	Supplier	Location	Account Number	Active	Bar Code
MK-IT-0001	Beatrice	20170918-001	Electric Motor	9/18/2017	1547.00	Usagi	Alpha001		☒	787891-16547
MK-IT-0002	Adelfa	20170915-001	Drill	3/15/2017	559.00	Baselard	Alpha001	123-456-789	☒	956117-A-G
MK-IT-0003	Beatrice II	20170918-003	Electric Motor	9/18/2017	1547.00	Usagi			☒	787891-16547
MK-IT-0004	Capricia	20170918-004	Light Armature	9/18/2017	7500.00	Takara			☒	775511423399
MK-IT-0005	Donata	20170918-005	Electric Motor	2/1/2017		Usagi			☒	9954-4471
MK-IT-0006	Edda	20170918-006	Pump	5/1/2016		Usagi			☒	
MK-IT-0007	Imelda	20170919-002	Carving Machine	9/19/2017	175.00	Usagi			☒	
MK-IT-0008	Franceska	20170918-020	Hammer	9/18/2017		Baselard			☒	ABC-XYZ-123
MK-IT-0009	Gaetana	20170919-001	Puncher	9/19/2017		Ryoko			☒	787891-0007
MK-IT-0010	Jemma	20170919-003	Compressor	9/19/2017	1248.00	Usagi			☐	4465-7878-8996

New...

Create Copy...

Copy cell value

Edit...

Delete

Search... Ctrl+Q

Add to Filter

Copy selected rows

Help

Properties...

Show All Columns

Hide All Columns

Reset Columns

Print Barcode...

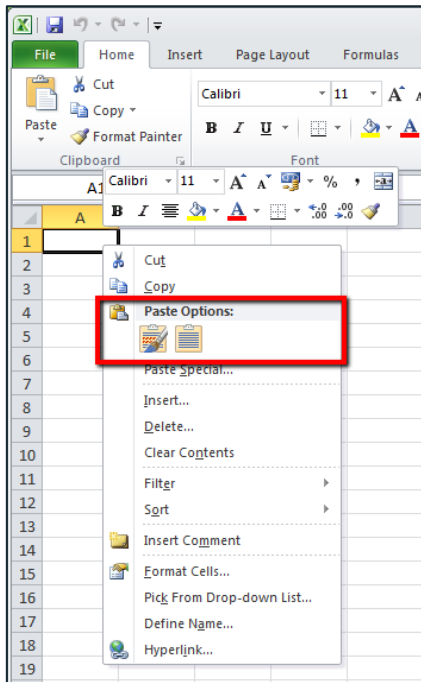
Machine report (Supplier/Spare Part)

Availability, month

Availability, year

Page 1 showing 1 to 10 of total 10

Details Tasks Activities Spare Parts Faults Stop Attachments



When this is done, the content of selected rows is now copied in Windows clipboard and can be pasted into any application supporting Paste function. In picture to the left, the copied rows are pasted into an Excel document.

Rows copied from PM5 are pasted into the Excel document.

	A	B	C	D	E	F	G	H	I	J	K
1	Machine Number	Machine Name	ID Code	Type	Date	Price	Supplier	Location	Account Number	Active	Bar Code
2	MK-IT-0003	Beatrice II	20170918-003	Electric Motor	9/18/2017	1547.00	Usagi	Alpha002		TRUE	787891-16547
3	MK-IT-0005	Donata	20170918-005	Electric Motor	2/1/2017		Usagi	Bravo	456-789-999	TRUE	9954-4471
4	MK-IT-0007	Imelda	20170919-002	Carving Machine	9/19/2017	175.00	Usagi	Charlie		TRUE	
5	MK-IT-0009	Gaetana	20170919-001	Puncher	9/19/2017		Ryoko	Bravo001	456-789-999	TRUE	787891-0007