

Change Log for PM5 release 5.18.000 and earlier

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Version 5.18.0000

Major Features

- PM5 Client / Purchase Module - Added function allowing to "freeze columns" when scrolling horizontally in main data grids. Function is available in main Windows Client for main data grids for Machines, Tasks, Spare Parts, Suppliers, Activities/Faults. It is also available in Purchase module, main data grid for Orders.

For more information, please refer to release notes document for this version.

- PM5 Mobile – Added functionality for creation of machine stops.

For more information, please refer to release notes document for this version.

- PM5 Client – New type of attachment has been added to the system. Attachments of this type are stored directly in database.

Please consult release notes document for important information regarding this type of attachment, how it works and reason/purpose for this new PM5 feature.

- PM5 Client – Added dedicated tool for direct access and management of attachments stored directly in database. This tool allows direct access, deletion and advanced search capability for attachments stored in database.

For more information, please refer to release notes document for this version.

- PM5 Client – Added alternative job card layout for activities/faults. This new job card includes information about external services and job log posts for the job.

For more information, please refer to release notes document for this version.

- PM5 Client – all tables in sub-panes of PM5 client have been modified to show all text present in columns dedicated to notes of various kind. If necessary, the text in such columns will be displayed in multiple rows.

For more information, please refer to release notes document for this version.

Minor Features

- PM5 Mobile – added information about registered machine stops in pages for active faults (not finished).
- PM Mobile – added information about registered machine stops in pages for historical faults.
- PM5 Client – In Measured Parameter Tool, added function for copying of displayed records to clipboard.

For more information, please refer to release notes document for this version.

- PM5 Client – in quick search tool for machines, added Machine Type as search parameter.
- PM5 Client – Reports – in report for activities, added Priority and Expected End Date fields.

- PM5 Client – Reports – in report for faults, added Priority and Expected End Date fields.
- Purchase Module – in form for addition/editing of order details, price entered in 'Ordered' section is automatically copied over to price field in 'Received' section.
- Purchase module – lists with historical orders in sections Suppliers and Spare Parts were limited by the number of days specified in configuration for Purchase module in PM5 administration. This limitation was incorrect and has been removed – historical order lists in sections Suppliers and Spare Parts now display all relevant orders, regardless of limitations specified in Purchase order configuration.

Bug Fixes

- Corrected behavior in scenario where users without access to any spare part stores attempted to create new spare part stock. When attempting such action, user will be notified about the issue and steps to resolve the issue.
- Spare part label with store information could under some circumstances display incorrect information for Position II. This has now been corrected.

Version 5.17.0000

Major Features

- PM5 Client / Purchase Module – Supplier Currencies

New system parameter has been added to Supplier definition.

Supplier currencies can be defined in Administration module.

Specific currency can be specified for individual suppliers.

Selection of supplier currency affects behaviour of automatic price updates in Purchase Module

For more information, please refer to release notes document for this version.

- PM5 Client – new report added to reports for Activities/Faults

Report ***Prognosis – Joblist With Manhours Per Machine*** has been added to reports for activities/faults.

The report contains a list of activities/faults that will occur during a specified time period.

List of activities/faults is grouped per machine and date.

Individual activity/fault list consists of following information :

- activity/fault type
- technical group assigned to the job
- priority
- frequency of occurrence (for activities).
- list of users assigned to the job and their estimated manhours consumption

For more information, please refer to release notes document for this version.

- PM5 Client – new report added to reports for Activities/Faults

Report ***Prognosis – Joblist With Manhours Per Date*** has been added to reports for activities/faults.

The report contains a list of activities/faults that will occur during a specified time period.

List of activities/faults is grouped per date and machine.

Individual activity/fault list consists of following information :

- activity/fault type
- technical group assigned to the job
- priority
- frequency of occurrence (for activities).
- list of users assigned to the job and their estimated manhours consumption

For more information, please refer to release notes document for this version.

- PM5 Client – new report added to reports for Use Of Manhours

Report **Manhours Consumption Per Person And Date** has been added to reports for activities/faults.

The report contains a list of activities/faults that were performed **or** will be performed by a person during specified time period.

List includes both “real” activities/faults and activities that are prognosed to be performed during specified time period.

List of activities/faults is grouped per user and date.

Individual activity/fault post consists of following information :

- Machine name
- Machine Type
- Location
- Task name for activities **or** Fault type for faults
- Task type for activities **or** Fault type for faults
- Finished status
- Fault indicator

For more information, please refer to release notes document for this version.

Minor Features

- Purchase Module – Order Requisition Form

Added possibility to print english version of order requisition when user’s default language is other than english.

When user opens Order Requisition form in Purchase module **and user’s default language is other than english**, a checkbox with label ‘Use English’ will be displayed in upper right corner of Order Requisition Form.

To generate order requisition in english, check in checkbox Use English and press on button Complete. This action will generate order requisition order in english regardless of language used by the user.

For more information, please refer to release notes document for this version.

- Purchase Module – Order Requisition Form

If expected delivery date is specified for a spare part included in an order, this information will be included in order line for that spare part in order requisition form. It will be displayed immediately below order line for that spare part.

- PM5 Client – Spare Parts Quick Search
Added possibility to make searches on following fields :
 - Spare Part Store
 - Spare Part Stock Position I
 - Spare Part Stock Position II
 - Spare Part Stock Position III

Searches on those fields will return list of spare parts **with stocks** corresponding to entered search parameters.

- PM5 Client – Spare Parts Quick Search
Added possibility to make searches on system parameter Spare Part Group. Selection of a spare part group in this field will return a list of spare part that belong to that spare part group
- PM5 Client – Faults
When reporting new fault, the reporting person will be selected in field 'To Be Signed By' by default. In previous versions, the selection in this field had to be made manually.
- PM5 Client – Activities/Faults
In section Activities/Faults, in main datagrid, added column Alarm Code. The column shows value entered in fault's Alarm Code field.
- PM5 Client – Purchase module
In quick search for orders, added possibility to make searches on field Ordered By, specified in order headers. Search on this field will return a list of orders where person is specified as Ordered By.
- PM Client – Purchase module
In quick search for orders, added possibility to make searches on field Received By, **specified in order details for an order**. Search on this field will return a list of orders where person is specified as Received By for one or more spare parts included in an order.
- PM5 Client – Spare Parts Reports
In Spare Parts report **Value of spare parts in store(s)**, added columns Secondary ID and Preferred Supplier Product Number.

Bug Corrections

- PM5 Client – Activities/Faults
If text in any of following fields - activity note / fault description / fault solution – was edited, those changes had to be saved before they were included in a job card.
This has been corrected - activity note / fault description / fault solution fields in job cards will contain current content without having to save the job and re-opening it.
- PM5 Client – Activities
Users with user credential 'Activities ack. privilege' but without user credential 'Main data set' were unable to enter new measured parameter values when finishing activities. This has been corrected, users with this set of credentials can now enter new measured parameter values when finishing activities **and** through Measured Parameter Tool.
- PM5 Client – Activities/Fault
If an active filter returned an empty list for jobs (no rows in main datagrid of Activities/Faults) **and** user made a search directly on job id, such action would crash PM5 Client. This has been corrected – search on job id is now performed correctly.

- PM5 Client – Activities/Faults
Editing of content in fields activity note / fault description / fault solution results in an additional line added whenever a line shift is present when those changes are saved.
- PM5 Client – Activities/Faults
When using function Batch Finish for activities and faults, parameter Mandatory Cleanup was not handled correctly. This has been corrected – if Mandatory Cleanup parameter is activated in PM5 settings, then user will have to specify state of this parameter to be able to complete Batch Finish procedure for selected jobs.
- PM5 Client – Activities/Faults
When activity/fault form was opened through search on job ID number, Mandatory Cleanup section was not shown and could not be edited. This has been corrected.
- PM5 Client – Attachments
Attachments of type Upload could not be edited after creation. Settings for automatic printout with jobs and content of attachment note field could not be changed/edited. This has now been corrected.
- PM5 Client – Administration
In Locations section, when rearranging location tree structure, there was a slight risk that a location would refer to itself as its own parent. After such mishap, the PM5 would crash whenever user tried to access Locations section in Administration module. This issue has now been resolved.
- PM5 Client – Administration
When creating new measured parameter, it was possible to specify 0 as expected daily average change of measured parameter's value (field Expected Average Per Day). Measured parameters with 0 in this field cannot function properly and may cause unexpected behavior in some parts of PM5. Therefore, 0 as value is no longer accepted as value in this field.

If PM5 detects any measured parameters with 0 as value in field Expected Average Per Day, a warning will be displayed on screen whenever user selects Measured Parameters section in Administration module. If such warning is displayed, user is strongly advised to find all measured parameters with 0 in field Expected Average Per Day and change that value to suitable positive whole number.

- PM5 Client – Administration – Measured Parameters and OPC
If a measured parameter associated with OPC counter was deleted, the association to OPC counter remained in the system. This resulted in failed reads of the OPC counter. This issue has been corrected – all associations between measured parameter and OPC counter must be deleted before user is allowed to delete the measured parameter.
- PM5 Client – Custom User Filter
Searches on note fields with Criteria set to '=' and no text in field Value caused a crash of PM5 client. This issue affected searches on following fields:
 - Machine Note
 - Task Note
 - Sparepart Note
 - Supplier Note
 - Activity Note
 - Fault Description
 - Fault Solution

This issue has been corrected – searches specified above will return posts that have no text/input in fields listed above.

- PM5 Client – Generic
In some of quick search forms, the mouse scroll wheel didn't work when trying to scroll through search results.
- PM5 Client – Reports
In report Short Activities/Faults, an activity/fault would be listed multiple times if more than one person has registered estimated/real manhours consumption for that job. This has now been corrected, each job is listed only once in the report.
- PM5 Client – Purchase module
In order requisition for orders, in sections regarding invoice address and delivery address, phone numbers for contact persons were incorrect. This has now been corrected – phone numbers included in requisition are those specified for contact persons.

- PM5 Client – Reports

In report Spareparts Stocktaking, a spare part is listed multiple times, if it has more than one stock defined in PM5. While this is not an error per say, the reason for such repetition was not clear. This has now been corrected by adding a column showing name of the store at which spare part stock is located.

- PM5 Client – Spare parts

When making a copy of spare part and original spare part's spare part number consisted only of numbers, function for automatic generation of spare part numbers would be triggered even if it was de-activated. This has been corrected.

Version 5.16.0001

Minor features

- PM5 Client – adjustments in attachments functionality
The file picker form used for selection of source file / directory will now open with focus on **the directory that contained last previously added attachment file.**
If the directory that contained last previously added attachment file can not be found at the time next attachment file/directory is to be added, then file picker form will revert back to Windows default starting directory, which usually is user's Document folder on local computer.
- PM5 Client / PM5 Mobile – mandatory cleanup feature
The mandatory cleanup feature has been adjusted and if it active, then user will have to select one of two available states to be able to finish a fault or activity.

Please observe that if mandatory cleanup feature is not activated on your system, this change does not affect your PM5. For more information about mandatory cleanup feature, please refer to **release notes for PM5 version 5.15.000.**

Bug corrections

- PM5 OPC Service – conversion rate parameter for incoming OPC values
Under certain conditions, the conversion of incoming OPC counter value failed to be performed before being saved in PM5 database. This issue has now been resolved.
- PM Client
Minor corrections to strings and translations throughout PM5 Client.

Version 5.16.0000

Major features

- PM5 Client
Event log is now accessible for inspection in dedicated viewing tool, directly in PM5 Client. Access to this viewing tool is controlled by new user privilege, called *Access to event viewer*.

For more information, please refer to release notes document for this version.

PM5 Client – Supplier Section

Contacts section of Supplier records has been updated. New design allows entry of following data for each of contact persons in Supplier record:

- Name
- Position
- Phone
- Mobile Phone
- E-mail address

Corresponding changes have been done in Supplier detail subpane.

- Purchase Module – functionality and procedure for order creation has been enhanced.
 - Orders can now be created without having to first specify supplier.
 - All spare parts can now be freely selected for orders without specified supplier or for orders intended for supplier not associated with the spare part.
 - Spare parts can now be associated with suppliers directly in Purchase module, as integrated part creation of new order.

For more information, please refer to release notes document for this version.

- Purchase Module
In order specification, it is now possible to enter order sheet numbers and invoice numbers related to the order. Those numbers are searchable – user can use order quick search tool for searches of orders with searched numbers.

For more information, please refer to release notes document for this version.

- PM5 Client
Optimization of performance in communication with database.
 - Opening of activity/fault detail form is now significantly faster.
 - Navigation between pages in Activities/Faults section should be improved in PM5 systems with large number of job records.
- PM5 Client - Attachments
Picture file attachments can now be selected as printable with job cards. PM5 can handle printouts of following file formats:
 - JPG, JPEG, TIFF, PNG, GIF and BMP

For more information, please refer to release notes document for this version.

- PM5 Client
In all relevant subpanes of client – it is now possible to handle multiple records at once. This feature is perhaps most significant in situations where users would like to delete multiple records at once, such as for example all tasks associated with selected machine or all stocks of the selected spare part.

For more information, please refer to release notes document for this version.

Minor features

- PM5 Mobile
In Spare Part section, for example when working with spare part stock replenishments or spare part stock adjustments, user needs to first select a specific store from a list.

An adjustment has been made to this store list – stores that don't have any stocks accessible by the user are now listed in red. If such store is selected by user, a warning text is displayed on the screen and user is not allowed to proceed any further.
- PM5 Client – Machines
Maximum length of Machine Number has been changed to 50 characters. Previously, maximum length of Machine Number was 30 characters.
- PM5 Client – Machines
Producent has been added as column in Machine main data grid.
- PM5 Client – Machines
Job Id column has been added to subpanes Activities and Faults in Machine section.
- PM5 Client
Free text search has been added to quick search tools for:
 - Machines, Note field
 - Tasks, Note field
 - Spare Parts, Note field
 - Suppliers, Note field
 - Activities, Activity note field
 - Faults, Description and Solution fields
- PM5 Client
Quick search for machines has been extended, it is now possible to search machines on machine's producer.
- PM5 Client
Quick search for spare parts has been extended, it is now possible to search spare parts on spare part's producer.
- PM5 Client – Purchase Module
Free text search has been added to quick search tool for Note field in Order Detail records.
- PM5 Client – Purchase Module
Quick search tool for orders allow now searches on job id number specified in orders.
- PM5 Client – Purchase Module
Job ID column has been added to Order main data grid.

- PM5 Client – Purchase Module
Supplier attachments are now accessible directly from purchase module. They are accessible in new subpane in Supplier section of purchase module.
- PM5 Client – Purchase Module
Spare part attachments are now accessible directly from purchase module. They are accessible in new subpane in Spare Parts section of purchase module.
- PM5 Client – Attachments
It is now possible to print activity and fault attachments together with job cards. To print an activity/fault attachment, check in checkbox 'Print with job card' when they are created.
- PM5 Client – System Filters
User privilege 'Delete System Filters' has been modified. It now controls ability to delete **and creation** of system filters. In other words, only users granted this privilege can create/change/delete system filters.

To reflect this change, user privilege label has been changed from 'Delete system filters' to 'Create and delete system filters'.

User groups previously granted this privilege don't need to make any adjustments due to this change.

- PM5 Client – Machine section / Fault section
In subpane Stop (present in Machine section and Activity/Fault section), data format of stop duration has been adjusted. Previously the stop duration was presented in purely numerical format d.hh:mm:ss. This information is now presented in plain text.
Example: Stop duration previously presented as **2.5:15** will now be presented as **2 days 5 hours 15 minutes**.
- PM5 Client – Batch update tool / all section
Small addition to batch update tool – when adding new text to Note field, user can select if the new addition is to be added at the top **or** the bottom of already existing text in Note field.

Bug corrections

- PM5 Client
Measured Parameter Tool – the average between measured parameter tool reads was incorrectly calculated if more than one measured parameter read was entered for same day. This was possible if OPC feature is in use.
This issue has been corrected; if multiple measured parameter reads are done on same day, then only the first read of the day is used for calculation of value changes between reads.
- PM5 Client
Form for association of spare parts with activities/faults – if checkbox 'Show machine spare parts only' was checked in and user performed a search for spare part that wasn't associated with the machine, sometimes the 'Save' button could be permanently disabled. This issue has now been corrected.
- PM5 Client – purchase module
PM5 crash to Windows if user created an order without specifying supplier and then attempted to select spare parts to such order. This issue has been corrected.
- PM5 Client – purchase module
When creating new order from Spare Parts section, an arbitrary supplier could be automatically selected for such order. This issue has been corrected.
- PM5 Client – purchase module
Spare parts already selected for an order could be selected again. This issue has been corrected.

- PM5 Client – Activities
Technical group specified in task was dropped in activities after first activity was finished. This issue has been resolved.
- PM5 Client – Spare Parts
PM5 crash to Windows when trying to delete spare part stock. This issue has been resolved.
- PM5 Client
Auto-shutdown of Windows client after a period of inactivity could not be completed if confirmation of shutdown was also active. This issue has been resolved – if both those options are active, the auto-shutdown will take precedence and shut down the client without requiring user confirmation.
- PM5 Client
PM5 crash when user changed consumption value for spare parts (in Activities/Faults) and then clicked on Store column (in same grid). This issue has been resolved.
- PM5 Client – purchase module
In spare part quick search, searches on supplier's product number didn't work correctly. This issue has been resolved.
- PM5 Client – reports
Report Activities/Faults long report showed machine location path in field where machine type was supposed to be displayed. This issue has been resolved.
- PM5 Client – custom user filter
Filter search parameter *Approved* used for filtering of activities and faults was only filtering fault. This issue has now been corrected and *Approved* will now filter both faults and activities.
- PM5 Client
When printing job cards with associated task attachments, there was possibility that attachments belonging to other tasks of same machine could also included in that print job. This issue has now been resolved.
- PM5 Client
If machine's number started with one or more blank spaces, PM5 client would crash to Windows if user tried to make changes in tasks, activities or faults that belonged to that machine. An adjustment has now been made to the rules for machine number – it is not allowed to use blank space as leading character in machine numbers. User will be warned when such action is attempted.
- PM5 Client
Spare part quick search was missing Danish headers. This issue has been corrected.
- PM5 Installation
Installation of PM5 with Danish demo data failed to install correctly. This issue has been resolved.
- PM5 Client – purchase module
Creation of order requisition form could take very long time, depending on how many "old" orders are present in the system. This issue has been resolved.
- PM5 Client
Users lacking user credential for main data set were not allowed to associate spare parts/create stop times when creating new faults. This has now been adjusted – users with credential *Fault Priviledge* have now possibility to associate spare parts/create stop times when reporting new faults.
- PM5 Client
If user accessed a job by using quick search field *Go To Job No* (in section Activities/Faults, subpane Details) and then attempted to print associated job card by pressing button *Print*, the generated job card would be empty. This issue has now been corrected and generated job card will contain correct data.
- PM5 Client
Report Unused Spare Parts included spare parts that have been deleted/deactivated. This has been corrected and only active spare parts are included in this report.
- PM5 Client
Event log failed to register deletion of associated activities when a task was deleted from the system. This has been corrected and event log registers activity deletions caused by deletion of tasks.
- PM5 Client
PM5 crash when Task section of the client is hidden through user credentials and user tries to navigate to Task section with help of the shortcut button located in Activity Detail form. This issue has

been resolved – shortcut button in Activity Detail from is no longer available for users with Task section hidden through user credentials.

- PM5 Mobile
Barcodes for machine number and job number used in job cards were difficult to scan by PM5 Mobile. Dimensions of those barcodes have now been adjusted to resolve this issue.
- PM5 Mobile
In functions for correction of spare part stocks and replenishment of spare part stocks, there was a possibility for stock information of selected spare part not being displayed on screen. This issue has now been corrected.

Version 5.15.0000

Major features

- PM5 Mobile
PM5 Mobile has been largely rewritten and is now much more stable than previous versions. We have resolved several issues related to navigation and unexpected lockups. Changes in PM5 Mobile are primarily done on the backend. However some changes have also been done in appearance of the app:
 - buttons and lists have improved contrast between text and background.
 - appearance of controls is somewhat different.
 - personal filter in job list is more compact and should fit in screens of commonly used mobile devices.
 - Date picker component has been replaced
 - Layout of note fields in screens with such information (activity and fault pages) has been modified in an effort to make pages more compact and responsive
- PM5 Client – Purchase module
 - Procedure for selection of spare parts that are to be added to an order has been redone. Form for selection of spare parts is now limited **ONLY** to those spare parts that are associated with supplier for which the order is intended.
 - Combobox allowing selection of supplier has been removed.
 - Performance of searches in that form has been significantly improved.
- PM5 Client
Event log has been extended and can now register any and all changes in data belonging to core data of PM5.

This function can be switched on and off in PM5 global settings.

In simple terms, if function is activated, any and all changes in records for machines, tasks, spare parts, suppliers, activities and faults will be saved in event log.

For more information, please refer to release notes document for this version.

- PM5 Client / PM5 Mobile
Activities / Faults – new system variable called 'Cleanup status' has been added to activities and faults. The system variable is a flag with three states – undefined, yes and no.
System variable is to be used for indication of requirement of cleanup after job has been completed, in compliance with BRC Global Standards Issue 8.
System variable is activated/deactivated in PM5 global settings and is visible in PM5 only if activated/required.

For more information, please refer to release notes document for this version.

- PM5 Client

An email notification system has been implemented in this version of PM5. This new function allows automatic sendout of email notifications in following scenarios:

- When new fault is reported, an email is sent to person assigned as responsible for solution, as specified in 'To be signed by' field of the fault.
- When a fault is resolved, an email is sent to person that reported the fault, as specified in 'Discovered by' field of the fault.
- When expected finish date of activity/fault is changed, an email notification is sent to predefined recipients.
- When activity/fault is finished, an email notification is sent to predefined recipients.

Email notification function is user-controlled and allows activation of only those notifications user wishes to use.

For more information, please refer to release notes document for this version.

- PM5 Client

Task creation function has been extended. It is now possible to create a task for more than one machine in single process.

For more information, please refer to release notes document for this version.

- PM5 Client

Associations between machines and spare parts– it is now possible to create associations between single machine and multiple spare parts in single process.

For more information, please refer to release notes document for this version.

- PM5 Client

Associations between spare parts and machines – it is now possible to create associations between single spare part and multiple machines in single process.

For more information, please refer to release notes document for this version.

- PM5 Client

New user credential called *Edit finish date after job is finished* has been implemented. When a user **does not** have this credential, he is not allowed to change finish date for jobs that have been reported as finished.

The credential is initially granted to all user groups. If PM5 administrator wishes to disable ability to change finish date in completed jobs for some user groups in the system, then the credential needs to be adjusted manually in Administration module.

- PM5 Mobile

In job finish procedure, spare part management function has been extended. When searching for spare parts that are to be added to a job, user has now possibility to add to the search result a

separate list with machines associated with the machine.

Minor features

- PM5 Mobile
When finishing jobs, currently logged in user is automatically preselected as signing person.
- PM5 Mobile
Values selected in personal filter are remembered between login session. This function is user controlled and set individually for each mobile device. To activate this function, user needs to check in relevant checkbox in Settings of PM5 Mobile application on mobile device on which it is run.
- PM5 Client
Purchase module - form used for selection of spare parts for an order now saves and remembers user's configuration of order and width of columns in list of spare parts.
- PM5 Client
In quick search tool for orders, it is now possible to make a free text search in order notes.
- PM5 Client
Column 'Days interval' has been added to Task main data grid
- PM5 Client
Column 'Measured parameter value' has been added to Task main data grid
- PM5 Client
Information about days interval and measured parameter value has been added to activity job card.

Bug corrections

- PM5 Client
Activities/Faults – when new fault was created and manhours were entered in form for consumption of manhours, there was a possibility for PM5 misunderstanding entered value and multiplying it with factor of 10. This issue could happen when manhours value contained a decimal separator in form of a comma sign. This issue has now been corrected.
- PM5 Client
Supplier details form – possibility to delete phones entered in Telephone Numbers and Contacts lists was missing. This has now been corrected – to delete a phone number, select it and press *Delete* on your keyboard.
- PM5 Client
Use of quick search tool while user defined filter is active could result in incorrect selection of record – when this issue occurred focus in main data grid was then placed on incorrect row. This issue has been resolved by implementation of following business logic:
if record selected in quick search tool is filtered in main data grid by active user defined filter, then
 - User defined filter is deactivated
 - Currently selected location is changed to top location (the one with default name PM5)
 - Focus is set on record selected in quick search tool.
In simple terms, when this scenario occurs, all filters are deactivated and PM5 is refreshed with all data.
- PM5 Client
Printout of barcodes – when small letters were used as part of barcodes,. This has now been corrected and small letters can be used as part of machine/spare part barcodes.

- PM5 Client
Printout of barcodes – when attempting to print custom barcode label for many machines, only one barcode was printed. This has now been corrected – user can select many machines and print barcode labels for all machines in that selection.
- PM5 Client
Event log failed to register changes in activities when an inactive task was activated or an active task was deactivated.
- PM5 Client
Event log failed to register changes in activity when task was edited (for example if days interval was changed or task priority was changed).
- PM5 Client
When an activity or fault was opened in Machines pane, External Task flag wasn't initiated and was always unchecked regardless of presence of external job.
- PM5 Client
PM5 crashed to desktop if an attempt to create new consumption on machine was made in Consumption tool. This issue has now been resolved.
- PM5 Client
Auto-shutdown after predefined period of inactivity – all issues related to this function have now been resolved.

Version 5.14.0001

Bug Corrections

- When finishing activity that belonged to an **inactive task**, PM5 Client could crash to desktop. This issue has been corrected.
- PM5 Event Log rapport is always empty on PM5 where database name is other than PM5. This issue has been corrected.

Version 5.14.0000

Major features

- PM5 Client
Event log function registering all actions in regard of main data set. This function can be enabled or disabled by administrator in Administrator / Settings section. When active, this function registers all additions, editing and deletions of following data: Machines, Tasks, Spare Parts, Suppliers and Activities/Faults. **For more information, please refer to release notes document for this version.**
- PM5 Client
Ability to move a fault from one machine to another is now again possible.
- PM5 Client
It is now possible to create user defined layouts for machine barcode labels. **For more information, please refer to release notes document for this version.**
- PM5 Client
It is now possible to delete a spare part without first having to remove all of its stocks. Ability to do so

is controlled by a new user credential – only users granted this credential are allowed to delete spare parts that have defined stocks. **For more information, please refer to release notes document for this version.**

- PM5 Client
New user credential controlling right to delete system filters defined in the system. Only users granted this credential are allowed to delete existing system filters. **For more information, please refer to release notes document for this version.**
- PM5 Client
? can now be used as wildcard character for single characters in searches in all quick search forms in PM5 client. **For more information, please refer to release notes document for this version.**
- PM5 Client
Added possibility to write activity note for next activity as part of activity finish process. **For more information, please refer to release notes document for this version.**
- PM5 Client
Search routines for quick searches has been remade. Responsiveness of quick searches should now be increased.
- PM5 Mobile
Barcode scan functionality has been completely redone. Problems experienced with Apple devices is now resolved. Sensibility of scan with mobile device cameras is improved. An indicator of barcode scan detection and successful read has been added.
- PM5 Mobile
A cap for allowed number of search results has been introduced for searches for machines and spare parts. If search result exceeds this number, user is requested to provide more precise search criteria. **For more information, please refer to release notes document for this version.**

Minor features

- PM5 Client
Spare Part main data grid – column containing spare part's assigned Spare Part Type has been added.
- PM5 Client
Job ID has been added as search parameter in quick search for Activities/Faults.
- PM5 Client
Job ID column has been added to search result output list in quick search for Activities/Faults.
- PM5 Mobile
Information about location of machine has been added to personal job list and to detailed information about selected job.
- PM5 Mobile
User can now specify sorting order of jobs in personal job list. Job lists can now be sorted on scheduled date in ascending or descending order. Selection of sorting order is done in program configuration section of PM5 Mobile.
- PM5 Mobile
When selecting a spare part from a search list, there was a possibility that detail information of selected spare part would be incorrect (belonging to a different spare part). This has now been corrected.

Bug corrections

- Newly added machine status wasn't available in custom user filter until restart of the client. This is no longer necessary; newly added machine status can now be used as filter parameters immediately after being defined.
- Newly added spare part status wasn't available in custom user filter until restart of the client. This is no longer necessary; newly added spare part status can now be used as filter parameters immediately after being defined.
- Under certain circumstances, color code of delayed activities wasn't enforced. This has been corrected.
- Deleted spare parts were available for selection when defining new tasks. This has been corrected.
- Spare parts listed in consumption in task definition continued to be listed in consumption list of activities after being removed from task's spare part consumption list. This has been corrected; when deleted from task's spare part consumption list, spare part is also automatically removed from next unfinished activity's list. (Spare part remains listed in consumption list of finished activities, since it's part of historical data).
- Purchase module – an error occurred when attempting to use 'Create email' function from order requisition form. This has now been corrected – when pressing on 'Create email' button from order requisition form, a new email will be created and order requisition will automatically be attached to that email as a PDF file.
- Spare parts – user defined spare part label designs could not be used for printouts of labels requested through quick menu in Spare Part section or from Spare Part detail form. This has now been corrected - spare part label design selected in configuration is correctly selected for printouts throughout the system.
- PM5 Mobile / PM5 Client – when activity and fault notes were written or edited in PM5 Mobile, those notes were subsequently shown in PM5 Windows client with unwanted HTML tags (for example `
` instead of line shifts). This issue has now been resolved.

Version 5.13.3000

Major features

- **PM5**
IMPORTANT - Application has been migrated to Microsoft .NET 4.0 platform. Please read Release Notes document for further details.
- **PM5**
Optimization of communication between PM5 clients and database in an effort to improve performance.
- **PM5**
Automatic database maintenance routine has been added to upgrade procedure of PM5. When executed, it rebuilds all existing database indexes and adds new indexes according to its needs.
- **PM5 Client**
Batch update tool, allowing editing of multiple records at the same time has been added to sections Machines, Tasks, Spare Parts and Activities/Faults.
- **PM5 Client**
Spare Parts – new identifier field has been added to spare part record.
- **PM5 Client**
Spare Parts – new system variable called *Status* has been added to spare part record.

- **PM5 Client**
Machines – new system variable called *Status* has been added to machine record.
- **Reports**
New report - machines top list based on number of faults in specified time period.
- **Reports**
New report – list of machines **not** used during specified time period.
- **Reports**
New report – overview of planned and actual consumptions during specified time period.

For detailed information about features above, please read release notes document for PM5 5.13.3000.

Minor features

- **Administration module**
Value used for auto-suggestion for machine numbers is now user controllable (see release notes for details)
- **Administration module**
Value used for auto-suggestion for spare parts is now user controllable (see release notes for details)
- **PM5 Client**
Spare parts main data grid – added column showing last consumption date for spare part.
- **PM5 Client**
Tasks main data grid – added column showing date of last completed activity based on the task.
- **PM5 Client**
Task main data grid – added column showing date of next scheduled activity based on the task.
- **PM5 Client**
New associations to spare parts are now immediately shown in Spare Parts sub pane of PM5 client. There is no longer need to first close down Spare Part Associations form. This adjustment has been implemented in all relevant sections of PM5 (Machines, Tasks, Suppliers and Activities/Faults).
- **Purchase Module**
List of spare parts added to the order is automatically refreshed after each new addition of spare part. There is no longer need to close down Spare Part Selection.
- **Administration module**
User replacement is now integrated part of user deletion procedure (see release notes for details)

Bug corrections

- Reports – inconsistencies in use of fonts in reports have been corrected.
- Reports – prognosis for future spare part consumptions has been corrected.
- Prognosis functionality – under certain circumstances, calculation of prognosed date for spare part consumption could get stuck and reuse same date multiple times. This has now been resolved.
- Administration module – same user could be added to same technical groups multiple times. This has been corrected.
- Administration module – same user could be added to same user group multiple times. This has been corrected.

- Administration module – newly added fault types were not available for selection in fault type groups until restart of Administration module.
- Administration module – PM5 crashed when attempting to delete fault types that were included in any fault type group.
- Administration module – PM5 crashed when attempting to delete fault reasons that were included in any fault reason group.
- PM5 Client – under certain conditions it was not possible to edit spare part associations in Tasks and Activities/Faults. Condition occurred when all spare parts assigned to machine were already added to task or activity/fault. This issue has now been corrected.
- Administration module – it was allowed to delete spare part types while they were still in use in the rest of the system. Deletion of a spare part type is now possible only if it is not in use.
- Measured Parameters – PM5 crashed when new read value was inserted in measured parameter that has rolled over at least once and had very large maximum counter value specified in its definition. This has now been fixed.

Version 5.13.2000

Major features

- **Administration module**
Replace user function has been completely rewritten. Its performance is now dramatically improved. Also, user interface for this function has been improved – user has now possibility to follow progress of procedure and interrupt it at any time.
- **PM5 Client**
Background color and text color of currently selected node can now be specified by user. This feature has been added to improve visibility of selected location on different types of computer screens, in different lighting conditions and to improve functionality for users with color blindness.
- **PM5 Client**
Font size for location tree is now adjustable by user.
- **PM5 Client**
Font size for custom filter can now be set to same size as that of navigation tree. This function is user controlled and can be enabled/disabled in client's user settings.
- **PM5 Client**
in activities and faults, an event log has been added. The purpose of this new functionality is to create a space where detailed notes about individual jobs can be entered and saved. Each log entry consists of date, initials of person who creates the log entry and a text note.

Event log is accessible by opening detail form of the job and pressing button 'Job Log'.

Furthermore, a new column called 'Log in use' has been added to main activity/fault data grid – it is a checkbox that is checked in if at least one event log note has been saved for the job.
- **PM5 Client**
Login functionality has been extended and has now a function that allows to resolve the problem with users not being able to login because the system believes that all login slots are already in use.

For detailed information about features above, please read release notes document for PM5 5.13.2000.

Minor features

- **Administration module**

'Always access' feature is automatically de-activated and not available for selection when number of users with 'Always access' privilege in the system is equal to (total number of login slots – 1). This modification is intended to resolve the problem with too many users having 'Always access' privilege, which results in nobody without such privilege being able to logged in onto PM5.
- **Purchase module**

Functionality for printout of order requisitions for selected order/orders has been added to quick menu for 'Orders' table. To print order requisition(s) select appropriate orders, right-click and select 'Print Order Request'.
- **Business logic** – user setting 'Lock approval' is strictly enforced, but also adjusted to be more flexible. When working with unfinished activities, users with 'Lock approval' activated in personal settings can only select themselves as signing person OR leave the 'Signed by' field unsigned. When working with activities that are finished, users with 'Lock approval' activated in personal settings can only select themselves, the user already specified as 'Signed by' or leave 'Signed by' field unselected.
- **PM5 Client**

Tasks and Activities – a modification to behavior when active activity is deleted. When this happens, user will be notified and requested to verify the deletion. When the active activity is deleted, the task to which the activity belonged is disabled and set to **inactive status**. See further information about this change in release document for version 5.14.
- **PM5 Client**

A warning is displayed when number of records in the system approaches system limitations. The warning is triggered twice – first time when there are ten records left to be used in the system and then again when there are five free records in the system. The warning will be triggered for records limited by license type – those for machines, tasks and spare parts.
- **PM5 Client**

information about remaining number of available records for machines, tasks and spare parts has been added In 'About PM5' information box. The information shows how many records are left for use before license limitation is reached.
- **PM5 Client**

Supplier's part number (as specified in associations of spare parts and suppliers) has been added as search parameter to quick search tool for spare parts.
- **PM5 Client**

Spare part note has been added as search parameter to quick search tool for spare parts.
- **PM5 Client**

Button opening form for editing of note for selected record has been added in 'Detail' subpane in all five main sections of PM5 Client. In other words, notes for a record can now be edited without first having to open the detail forms.
- **PM5 Client**

Attachment form has been redone. Creation and editing of attachments still works in exactly same way as before, but hopefully the new form layout is more intuitive and user friendly.
- **PM5 Client**

Shutdown confirmation is now requested before application is closed. This function is user controllable and disabled as default. To enable it, check in checkbox ' Always ask before shutdown' in user options.
- **PM5 Client**

In Price History form for spare parts (accessible in Spare part detail form by pressing button 'Price

history), it is now possible to edit historical prices. Simply enter new price and close the 'Price history' form; all changes will be saved automatically.

- **PM5 Mobile Client**

Quick search for spare parts has been extended and includes spare part type number.

- **PM5 Mobile Client**

Priority codes functionality has been implemented in PM5 Mobile:

- * priority codes information is now included in job information

- * job search filter now allows job searches on priority code

Bug corrections

- Administration module – newly added users were available in User Replacement function only after re-launch of administration module. This has now been corrected.
- PM5 Client – when multiple technical groups with names that differ only at the end (for example TechGroup A, TechGroup B, TechGroup C and so on), then there was a chance that incorrect technical group name was displayed in Task main data grid. This has now been corrected.
- PM5 Client – same scenario could also cause Technical Group combobox to be displayed as empty in detail form of existing task. This has now been corrected.
- PM5 Client – delayed marking was not applied to delayed activities, if they were **first** activity of a task and scheduled to a date that made them delayed during task creation. This has now been corrected.
- PM5 Client – when an inactive task with an active activity was opened and thereafter saved, under certain circumstances that could result in activity being deleted upon update of task. This has now been corrected
- PM5 Client - a 'nag' message with information about use of measured parameters was shown every time a machine using measured parameter was being saved. This has been changed and the message is shown only when machine is created or copied or if a measured parameter is associated or changed with a machine at later date.
- PM5 Client – users with 'Lock approval' could still select any user in 'Signed by' field, as long as activity was already finished. This has been corrected – user with 'Lock Approval' checked in is now limited to selection of himself, already selected user (if one was previously selected) and empty selection.
- PM5 Purchase module – under certain circumstances, data shown in sub-panes failed to refresh when a filter was activated and a different post was put in focus as result.
- PM5 Client – if machine number starts or ends with one or more spaces and an attempt was made to save an already existing fault that belongs to such machine, then PM5 client would crash to desktop. This has now been corrected.
- PM5 Client – in form for association of spare parts and tasks, the filter checkbox limiting spare part list to those already associated with machine was activated and de-activated at wrong occasions. This has been corrected.
- PM5 Client – for attachments that can be marked as automatically printable with job cards (in sections Machines and Tasks), it was not possible to change 'printable' status once such attachment was saved. This has been corrected.
- PM5 Client – when attachments of type 'Link' were edited and saved, their type changed unintentionally to 'Upload'. This has now been corrected.
- Purchase module – in Spare Parts section, spare part total quantity in stock can be incorrectly calculated if user belongs to more than one user group. This has now been corrected.
- PM5 Client – when a spare part was associated with an activity, request for association with machine (which is standard feature) was missing. This is now corrected.

- PM5 Administration – when new store location was added to the system, a restart of administration module was necessary for it to become available for associations with machine locations (in section 'Locations'). This is now corrected and a restart of Administration module is no longer necessary.
- PM5 Client – when form for associations between spare part and activity or fault was opened, initial information about available stores for uppermost spare part (one selected by default) could show incorrect information. This has now been corrected.

Version 5.13.1001

Major features

- Indicator of user status in "Activity" and "Fault" forms – when a user's status is changed, he may no longer be a valid choice in user-related combo-boxes in "Activity" and "Fault" forms. This changed status is now indicated by additional label besides user's initials in relevant combo-boxes. For more information, please refer to release notes document for this version.
- Activities that include calibration are now excluded from batch finish functionality. This change is caused by the fact that we assume that entry of calibration data is mandatory part of such activity and it is not possible to integrate it into batch finish function.
- Batch finish function has been extended. Jobs that could not be finished with batch finish function are now listed in Windows application Notepad. Information about jobs that could not be finished has been extended and includes job number, job type and reason for rejection of completion.

Minor features

- Manufacturer has been added as filter parameter to the form for association of spare parts to faults.
- Checkbox filtering list of spare parts only to those associated with machine has been added to activity/spare part association form.
- Checkbox filtering list of spare parts only to those associated with machine has been added to task/spare part association form.

Cosmetic changes

- Minor adjustment to Fault form used for reporting of new faults. Information about machine (uppermost in "Report new fault" form) is now presented in text format, instead of values in text fields.
- Content in several message boxes has been expanded and includes detail information about involved components. Message boxes affected are:
 - Confirmations for deletion of spare part associations with machines, suppliers and jobs.
 - Confirmation of merge of spare part stocks
 - Form for creation and editing of stops caused by faults

Bug fixes – major

- Performance issue when listing activities/faults in main data grid – navigation to and updates of main activities/faults could take extended time, sometimes several minutes. This issue is especially notable in systems with vast amounts of reported faults. This issue has now been fixed - updates of data in main activities/faults data grid should never take more than couple of seconds.
- Calculation of spare parts in the system incorrectly included inactive spare parts. This could prematurely trigger license limitations for maximum allowed number of spare parts in the system. This has now been corrected – only active spare parts are counted as present in the system.
- Scaling problems in several forms in PM5 Client. On machines where Windows enlargement feature is in use, several forms are distorted. These forms have now been redone. PM5 is still primarily intended for use with Windows scaling set to 100 percent, but all forms are now presented in state which doesn't impact functionality in negative manner.

- Limitation of maximum number of records (depending on license type) was unintentionally enforced on supplier records. This is now corrected – number of supplier records is unrestricted in PM5, regardless of used license type.
- Under certain conditions, when trying to save changes in existing activities and faults, user could get the message that mandatory data was not specified. This problem was caused by the fact that when users were deleted or made passive, they became 'unselectable' in user-related combo-boxes in Activity and Fault forms. This issue has been resolved by reworking the way users are presented in job-related combo-boxes. For more information, please see the release notes document for this release.
- PM5 crash to Windows when user opens PM5 configuration form. This crash happened if PM5 could not find the picture specified in PM5 configuration as logo image for reports. Issue is now resolved – when logo image cannot be found, user is notified about the problem in text message.
- Color coding indicating that an activity or fault is delayed or started could, under certain condition, "disappear" and be replaced by plain text displayed in black. This has now been corrected.
- If machine number started or ended with one or more empty spaces, an attempt to edit and save a fault belonging to such machine would cause PM5 to crash. This has been corrected.

Bug fixes - minor

- Form used for editing of associations between suppliers and spare parts didn't display spare part information. This has now been corrected.
- In "Activity" form, components belonging to activity approval functionality were incorrectly hidden if user lacks necessary credentials. This has now been adjusted – components belonging to activity approval are now always visible, but are inactive if user doesn't have necessary credentials. This change is done to conform with corresponding functionality for faults.
- Purchase report – economic summation in purchase requisition form did not work properly when multiple items were ordered in a single order. This has now been fixed – calculation of VAT sums and grand total summation is now correctly calculated.

Version 5.13.1000

Major features

- Field *Priority*, used in Tasks, Activities and Faults has been replaced with a system variable called Priority Code.
- New column called 'Qty in stock' has been added to following sections in the client:
 - Machines section / Spare parts detail pane
 - Tasks section / Spare parts detail pane
 - Activities&Faults section / Spare parts detail pane
- Note fields for main data can now be opened in a separate form that can be sized according to user's preferences. Last position and size of this new note form is remembered between PM5 sessions. Position and size of this new note form is individual for each section of PM5. The expandable form allows editing where suitable.
- Limited text formatting with help of enter key and tab key is now possible in note fields.
- Layout of Purchase Order Requisition (purchase module) has been completely reworked.
- Machines have new field called 'Barcode'.
- Barcode labels can now be printed for machines. Functionality is the same as for printing spare part barcodes. Machine barcode includes a barcode displaying value entered in machine's Barcode field, machine's name and machine's number.

For detailed information about features above, please read release notes document for PM5 5.13.1000.

Minor features

New Columns in Machines Section

- **'Bar code'** in main data grid – shows machine barcode (new field for machines)
- **'Attachment'** in main data grid – checkbox indicates presence of at least one attachment associated with the machine.
- **'Qty in stock'** in sub-pane Spare Part – for details, please read release notes for PM5 5.13.1000.
- **'Discovered By'** added to sub-pane Faults – shows initials of person who discovered the fault.

New Columns in Task Section

- **'Attachment'** in main data grid – checkbox indicates presence of at least one attachment associated with the task.
- **'Selected Priority'** in main data grid – shows the priority code selected for the task. **For more information, please read release notes document for PM5 version 5.13.1000.**
- **'Priority Weight'** in main data grid – shows the weight of priority code selected for the task. **For more information, please read release notes document for PM5 version 5.13.1000.**

New Columns in Spare Parts Section

- **'Spare Part Price'** in main data grid – shows current price of spare part.
- **'Total quantity in stock'** in main data grid - shows total in stock quantity of spare part. Shown value includes all stocks in the system, including those to which user has no access to.
- **'Attachment'** in main data grid – checkbox indicates presence of at least one attachment associated with the spare part.

New Columns in Supplier Section

- **'Supplier'** in main data grid - the checkbox indicates whether the company is a supplier of machines, spare parts, etc.
- **'Service Provider'** in main data grid - the checkbox indicates whether the company is a provider of external services, such as reparations, inspections, etc.
- **'Attachment'** in main data grid – checkbox indicates presence of at least one attachment associated with the supplier.

New Columns in Activities/Faults Section

- **'External Exists'** in Activities/Faults main data grid – checkbox indicates existence of external jobs associated with the job.
- **'Technical Group'** in Activities/Faults main data grid - shows name of technical group specified for this activity (in task it belongs to) or fault.
- **'Selected Priority'** in main data grid – shows the priority code selected for the job. [For more information, please read release notes document for PM5 version 5.13.1000.](#)
- **'Priority Weight'** in main data grid – shows the weight of priority code selected for the job. [For more information, please read release notes document for PM5 version 5.13.1000.](#)

Columns added to Purchase module

- Order Section, main data grid
 - Created date
 - Received date
 - Closed date
- Order Section, Order Lines pane:
 - Expected Delivery Date
- Spare Parts section, Order History pane:
 - Order Date Created
 - Order Date Received
 - Order Date Closed
- Suppliers Section, Order History pane:
 - Order Status

Reports

- Job chart - machine note field has been added
- Long activities/faults report – information regarding approvals of jobs has been added

Filter, new search parameters

- External job exists for tasks, faults and activities
- Selected priority code for tasks, faults and activities
- Selected priority code weight for tasks, faults and activities

Client, other

- Machines form – added a link button that allows navigation from Machine form to its supplier in Supplier section of the client.
- Machines Attachment data grid – 'Printable' column has been replaced with 'Printable activities' and 'Printable faults', to make it easier to distinguish which machine attachments will be printed with activity and/or fault job cards.
- Measured Parameters Tool – quick search for measured parameter name has been added.
- Approval status field added to job card.

- Approval status field added to fault report.
- On screen position and size of Administration module is now remembered between the sessions.
- Quick search tool is now resizable.
- Quick search tool form keeps the size it had when it was closed on last occasion it was in use.
- Quick search tool form opens in same position it was closed on last occasion it was in use.
- Quick search tool form settings are remembered individually for five main sections of PM5 client and for purchase module.
- License information form in Help menu of client has been expanded. It now displays information about license type, number of maximum allowed logins, upgrade rights and what extra modules are included in license.
- Printout of spare part labels is now standard functionality in all types of licenses.
- Spare part association tool – added “Producer” field to the filter for spare parts.
- It is now possible to copy selected rows in main data grids of client and purchase module. Copied content can then be pasted in other programs where standard ‘Paste’ functionality is present.
- Forms used for association of spare parts have been enlarged to improve presentation of data.

Purchase module

- Purchase Order Requisition form - email address (also new addition to this version) specified in contact information has been included in invoice and delivery address sections of the form.
- In form for addition of spare parts to orders, new spare part filter parameter – ‘Producer’ - has been added. It allows filtering of spare part list based on spare part producer.

Administration

- System Variables – Machines – Types – added a column showing association between machine types and user defined fault type/fault cause groups.
- System Variables – Purchasing – Contact Information – added new field for email address.

Bug fixes

Minor:

- Long Activities/Faults report – ‘To Be Signed’ value was not filled in for activities.
- Fault report- machine status was always shown as inactive, regardless of machine’s status.
- Purchase order requisition – Spare Part Type field in details of order was not filled in.
- Purchase order – possibility to edit purchase order note was removed by mistake in previous release. It is now again possible to edit this field after an order has been created and saved.
- Machines / Spare Parts subpane – when machine/spare part association was opened, incorrect spare part stock could be selected in stock selection combobox. This incorrect selection could then be saved in the system.
- Tasks / Spare Parts subpane - when task/spare part association was opened, incorrect spare part stock could be selected in stock selection combobox. This incorrect selection could then be saved in the system.
- Activities&Faults/ Spare Parts subpane - when job/spare part association was opened, incorrect spare part stock could be selected in stock selection combobox. This incorrect selection could then be saved in the system.

Version 5.12.3004

This version is identical to version 5.12.3003. If you have upgraded to version 5.12.3003, you don't need to upgrade to version 5.12.3004.

Changes in this version are related exclusively to installation and upgrade procedures of PM5 distributions. No changes or additions have been made in this version to PM5 software itself.

Version 5.12.3003

This is bug correction release - corrections included in this release are all related to issues that occurred in versions 5.12.1000 and 5.12.3000 due to change of installation platform for PM5 from Install Shield to Advanced Installer.

Bug fixes

- After upgrade to versions 5.12.1000 and 5.12.3000 (ones being installed with Advanced Installer), English format is used for presentation of dates and numeric values with decimals, regardless of language used by logged in user. This issue is now corrected and date format and decimal separator is decided based on user's language.
- After upgrade to version 5.12.1000 and 5.12.3000 (ones installed with new installer), the client is no longer able to save personal settings for the client (column widths, order and so on...). This issue is corrected.
- When more than one client of version 5.12.1000 or 5.12.3000 was opened on same computer, PM5 could freeze and crash back to Windows desktop. This issue has been resolved - user can once again open more than one PM5 client simultaneously on same computer.

Version 5.12.3000

Major features:

- Auto-generated machine number suggestion – for new machines, PM5 will suggest new and unique machine number.
 - The function operates according to same principle as auto-generated number suggestion for spare parts.
 - This function is optional and by default it is disabled after installation or upgrade. It can be switched on at any time in PM5 Settings panel in Administration module.
 - Please observe that if an input mask is defined for machine numbers, then this function is bypassed.
- Automatic printout of machine attachments together with job cards.
 - Machine attachments can now be marked as 'printable' together with job charts for activities/faults that are to be performed on that machine.
 - User can select whether the machine attachment is to be printed only with job cards belonging to activities, job charts belonging to faults or with both types of jobs.

Version 5.12.1000

- Ever since its introduction, PM5 has been distributed with help of installation platform called Install Shield. In this version, we are moving over to new installation platform called Advanced Installer.

This change means that all PM5 clients that are currently in use need to be uninstalled before proceeding with the upgrade to this version of PM5. Please observe that this step needs to be done only in connection with upgrade of existing PM5 installations to current version and will not be required in future upgrades.

New installation/upgrade procedure has been streamlined and is now a very simple procedure.

Other changes in connection with move to Advanced Installer are:

- Default PM5 installation package has been slimmed down to installation/upgrade of PM5 client only.
- New installations of PM5 client can be done, as previously, with empty, demo or pre-existing database.
- Upgrades of existing installations of PM5 will in the future be performed automatically once user agrees to such operations.
- It is now possible to perform upgrade of PM5 database as part of new installation of PM5 client. In other words, it is no longer necessary to have a pre-existing installation of previous version of PM5 to upgrade to new version.
- Upgrades of PM5 will be performed automatically when necessary upon user's agreement to such operation.
- SQL Server 2005 Express Edition is no longer provided as part of PM5 installation package.
- Add-on modules Web application for management of spare part stocks and OPC Server package are no longer part of default PM5 installation package. Those add-on modules will from this version on have their own installation packages that need to be run separately from standard installations of PM5 client.
- New installation manual will be provided in connection with release of this version. **It is strongly advised for users to consult the manual before proceeding with installation/upgrade procedure.**

Purpose of current version of PM5 is primarily to correct the errors and bugs that has been reported since the release of version of PM5 5.11.2000.

Major bugs corrected in this version:

- Total freezing of PM5 clients running in virtual environment when closing down quick search tool.
- An error (so called unhandled exception) being thrown by PM5 client upon its closing when running in virtual environment with Windows Server 2012R2 as operating system.
- Adjustment of function for suggestion of spare parts – prolonged wait time has now been eliminated, suggested spare part number is provided immediately based on total number of spare parts registered in the system.
- Copy function of faults has been restored.
- Navigation from quick search to main data grid could at times put focus at object other than this which was searched for – this issue has now been corrected.
- Automatic printout of attachments marked for automatic printout works correctly.
- Consumption of spare parts for jobs that were already finished was not correctly registered.
- Database backup function in Administration module is now working properly.
- Change of store in spare part consumptions done for a fault caused a crash of the system.
- Purchase module – under certain circumstances incorrect spare part price was displayed in order lines. This function has been adjusted according to following business logic:

- If supplier's price for selected spare part is specified in the system, then this price will be selected for the order to that supplier.
- If supplier's price for selected spare part is **not** specified, then price specified in spare part definition will be selected for the order.
- If no price can be found, then the spare part price will be left empty and must be manually specified by the user.
- Results presented in quick search were unintentionally limited by current selection of location. This behavior has now been corrected – quick search will now always present search results in complete data set. If selection based on quick search result is at location other than currently selected, then focus in navigation tree is automatically transferred to top node (default name PM5) and focus in data grid is put on the object selected in quick search.
- PM5 crash when an attempt to create new user was made in Administration mode while authentication mode between client and database was set to *Domain Authentication*. The issue has now been corrected.

Version 5.11.2000

This version is bug correction release, no new features are added in this version.

Adjustments to the system

- We have made a single adjustment to existing functionality of PM5. Automatic spare part number assignment function was adjusted in order to make it more robust. From this version, when new spare part is created, PM5 will automatically generate a **suggested** spare part number for it, unless a user defined spare part number mask is in use.

Suggested spare part number starts with 1 and is increased with one for each new spare part. The adjusted feature will suggest lowest possible number, based on number of spare parts in the system. It will also try to re-use any numbers that have been freed by deletion spare parts.

Example:

In a system with 400 spare parts and uninterrupted sequence of spare part numbers, next suggested number will be 401.

In same system, if spare parts with numbers 250 to 260 has been physically removed, next suggested spare part number will be 250, 251...260. Once number 260 has been taken into use yet again, next suggested spare part number will be 401.

Please remember that spare parts 'deleted' in the client are merely filtered away from most spare part lists in the system. They do however, for historical purposes, still exist in PM5 and they do occupy their assigned number until they're physically deleted in Administration module.

Bug fixes

- Notice note time stamp is now recorded correctly.
- Economics reports didn't show any data when same date was used as start and end date for requested time period. This has been corrected.
- Noticeboard Postmaster user credential allowing deletion and editing of all posts in Notice Boards has been fixed.

- Spare Part copy function could fail under certain circumstances and cause an error. This has now been corrected.
- Spare Part delete function could fail under certain circumstances and cause an error. This has now been corrected.
- Sorting of spare part main list didn't work for all columns. It's been corrected.
- Machine delete function failed if machine was using external services for its jobs. It has now been fixed.
- Spare part consumption log registration could under certain circumstance register spare part consumption to incorrect job. This has been corrected.
- Use of Spare Parts quick search broke navigation through spare part list until PM5 client was restarted. Issue has been resolved.
- Purchase module - certain user adjustable settings such as column width as well as selection of row in the tables could under certain circumstances revert back to default settings. We have now ensured that PM5 retains any user adjustments to PM5 interface in purchase module.
- In previous version we lost the alphanumeric sorting of comboboxes Fault Reason and Fault Cause. This sorting has now been restored.
- Selection of record in Machine section could be lost when a filter was deactivated. It is now ensured that the selection of record is retained also after a filter has been deactivated.
- Copy of a fault that would then be used for a different machine could under certain circumstances lose location information of the machine, making it difficult to edit it. The issue has been resolved.
- User report showed no data, this has now been corrected.

Removed features

- User credential 'Limited access to spare part list' has been temporarily removed from PM5.

Version 5.11.1000

Major features

Purpose of the list below is to provide quick overview of features that are new or significantly modified in this release of PM5. For detailed description of these features, please refer to a separate document.

- Users with overwhelmingly long lists of fault types and fault reasons in their system, we have added possibility to create groups of fault types and reasons, depending on machine type.
- New economics module providing overview of expenses for manhours, spare part costs and external services over specific time period. Provides both historical overview as well as expenses forecast for current and next calendar year.
 - Manhours costs are calculated based to either generic hour cost or individual hour cost. Manhour price can be adjusted over time, either on individual or generic basis.
 - Spare part costs are calculated based on historical/prognosed consumption of spare part over specified time period. Spare part price changes over time are taken under consideration in calculations.
 - External services is newly added feature in PM5. They allow record keeping of occasions when external service providers participate in maintenance of machines and allow registration of costs related to those occasions.

External services can be associated with tasks, activities and faults.

All external services are associated with companies in Supplier records of PM5.

- Economical information is presented with help of seven new reports:
 - Manhours costs per location and time period
 - Spare parts costs per location and time period
 - External services per location and time period
 - Total cost per location and time period
 - External services per provider
 - Detailed cost per machine
 - Detailed overview of cost per spare part
- Purchase module – order detail form has been modified, streamlining process of browsing through an order's details.
- New tool intended for management of user defined reports, which allows deletion of reports that are no longer of use.
- Measured parameter algorithm has been re-worked and modified.
- Measured parameter tool has been extended – user is now able to follow all activities that are connected to individual measured parameters. Furthermore, the remainder/overflow value before next activity can now be monitored by user.
- Credential 'Post Master' has been added – users granted the credential will be able to edit/delete all notice board posts.
- Notice boards – we have added a system setting allowing administrator to specify maximum number of posts in single noticeboard. Once the number is exceeded, the oldest post is automatically deleted from PM5.
- Credential ' Limited Access to spare part list' has been added – users that belong to groups with this credential will have their spare part list limited only to those without any stocks OR with stocks available to user. Please observe that at this moment the credential only affects main data grid of spare part pane.

Minor features

- Suppliers steam data - added field for web page address.
- Purchase module – added columns Ordered By, Attention and Account Number to main Orders data grid-
- Purchase module – searches in quick search for orders now lists search results based on date of creation, from latest to oldest.
- Purchase module – when creating new order, all combo boxes with initials are set to currently logged in user as default.
- Spare parts main data grid – added column showing preferred supplier's product number (if specified).
- Preferred supplier product number added as search parameter in spare part filter.
- Machine ID code field value added as a column to Machine and Activities/Faults main data grids.
- Last position of vertical split line in main client (the one that divides section containing locations from the rest of user interface) is now remembered by the program.
- Job charts – spare part information in a job card now also include stock location (if specified for the job).
- Job charts – spare part information in job card now also includes spare part type number.
- Supplier/Spare Part association – maximum allowed length for supplier's product number has been increased.

- Supplier – maximum length of supplier’s name extended to 50 signs.
- Main client – it is now possible to decide which pane is to be selected upon launch of PM5.
- Main client – it is now possible to change name for custom filters
- Spare Parts selection form used for selection of spare parts associations has been slightly extended – if there is one or more spare part stocks available for the association, this fact is now indicated in in the form.

Bug fixes

Over 90 bugs have also been fixed in this release. Luckily, we didn’t have major bugs to wrestle with this time around, but we’re aware that also minor bugs can be bothersome under ‘right’ circumstances. The list below includes the bugs that we’re aware were especially troubling for some of our end users:

- Credential “Approval” intended to specify the approval right for faults, also limited the list of people available in ‘To be signed by/Signed by’ combo box in Fault form. This was done unintentionally and has now been corrected.
- Association between spare parts and suppliers were under certain circumstances handled incorrectly, with edits not being saved or saved in incorrect spare part/supplier associations. The issue has now been corrected.
- Changes in user’s personal settings could under certain circumstances not be saved on Vista/Windows 7 computers – these issues have now been resolved.
- Double-clicking on headers of columns of quick search forms resulted in strange behavior. This has now been corrected.
- Selections of multiple rows in main data grids could under certain circumstances be disregarded, with selection reverting unexpectedly to single row. The issue has been resolved.
- All issues associated with printouts of spare part labels are now resolved.

Version 5.10.2000 – a patch version for 5.10.1000

This version is an emergency release fixing two critical bugs that were reported after upgrade to version 5.10.1000.

Bug fixes

- After upgrade to version 5.10.1000, any filters using more than a single search value would fail and show an error message on the screen. That bug is now corrected.
- After upgrade to version 5.10.1000 it was no longer possible to use spare part labels modified by user. Regardless of label layout selected, the label was always printed with default layout. This bug has now been corrected.

Version 5.10.1000

Features

- Navigation tree has now copy/paste functionality. This feature will hopefully make life easier for administrators who need to create multiple locations with similar internal structure.

- New feature in Fault form – combo boxes 'Fault Type' and 'Cause Type' are now editable. This means that requested value can now be selected by partial entry with help of keyboard.
- It is now possible to automatically replace members of technical groups. Replacement is being done in all tasks and unfinished activities and unfinished faults. Replacement takes effect in estimated man hour fields as well as in 'To be signed by' and 'To be approved by' fields.
- Color coding used for indication of ongoing/ delayed activities can now be changed according to the needs of individual users. This feature has been added for color blind users, but we hope that other users will also find it useful. We are also very interested in feedback about other areas where color coding would be of use for our end users.
- Quick search function has been modified. It will now initially show all records and reduce presented number of rows dynamically, based on user input. It is in our opinion more user friendly way to handle this function. At the same time it must be said that it is much harder on database, so please contact us if you feel that this change made PM5 slower.
- Copy function has now been added to quick-menu functions accessible by clicking on right mouse button. Copy function will now copy value of a selected cell, instead of selected row.
- Directories can now be added as attachments. If user selects to 'view' a directory, such action will open a file explorer showing content of "attached" directory.
- Attachments can now be edited.
- A detailed activity log has been added for all spare part stocks registered in PM5. The log registers all changes in spare part stock caused by activities, faults and manual changes made directly by a user. Following data are registered for every change of stock: date, cause, user, change in quantity, quantity in stock after change,
- New report has been added in Spare Part section. The report contains detailed overview of all changes in spare part stocks, based on data registered in spare part stock log.
- Filter has been improved and allows now searches for values in user defined field groups for machines, tasks, spare parts and suppliers.
- Small change in login form – PM5 can now remember last person that was logged in, making login procedure a tad quicker.
- Minor adjustment to quick search function of Purchase Module – searches for orders are now by default ordered in descending order, with latest orders being listed on the top.

Bug fixes

50+ bugs of various severity grades have been fixed since the release of version of 5.09.1000. Below follows the list of most important fixes:

- A glitch making it impossible to make certain changes to activities once they were closed. Editing and changes in closed activities are once again possible, within the rules applied in PM5.
- Scheduling for new activity belonging to a tasks with locked time interval could 'lock up', if activity that was to be finished was delayed longer than time interval specified in task. This issue has now been resolved.
- Technical personal assigned in task could under certain circumstances be lost for new activity, if previous activity was finished with help of 'finish for multiple jobs'-function.
- In user defined report designs, it wasn't possible to show start and end of time period selected for report. This has now been fixed. PLEASE OBSERVE that already existing user defined report designs must be manually corrected and saved before this fix takes effect.
- Entry of man hours has been fixed. Application will now accept the decimal delimiter that is correct one for language of PM5 user.

- A bug where estimated manhours weren't transferred over to activities created with help of an inactive task has been corrected.

Version 5.09.1000

Features

- Possibility for selection of PM5 database on launch of PM5 client – in previous versions of PM5 it was possible to have multiple copies of PM5 client on same computer, with each client being connected to a different database. This possibility disappeared due to changes in security features of Windows 7. We have now added purpose-built functionality that again allows for users to select which database client will connect to as the client is executed on the computer. Please contact PCSYS for further instructions regarding this feature.
- Store name has been added as search parameter in filter – addition of this search parameter makes it possible to get a very quick overview of spare parts with stocks at selected stores. Please observe that store name search parameter in Report module is currently activated **only for Spare Part reports**.

Bug fixes

- Fix for problems with lockouts from PM5 – some of our users, especially those running PM5 on virtual machines, have been experiencing problems with lockouts. To resolve this issue we have now added a setting called Login Timeout in PM5 Settings form (accessible through Administration module). This setting specifies number of minutes of inactivity allowed before a PM5 login status of user is revoked and opened client shuts down. If this field is empty, then automatic logout is disabled.
Please observe that this new setting replaces the personal setting Login Timeout in Options, which had same purpose, but operated for and was controlled by individual users.
- Issue with broken connection between master and detail tables in Measured Parameter tool had been fixed.
- Activity/Fault "Approval required" status as search parameter not working when Danish is used as user language – fixed.
- Spare Part Shortage report has been fixed.

IMPORTANT ADDITIONAL INFORMATION for Version 5.09.1000

New version of online handheld terminal application

Installation file for PM version 5.09.1000 has been modified and includes now the newest, significantly modified version of online handheld application. If previous version of handheld application is previously installed, then user needs to **physically delete its files from the hard drive before upgrading to new version**.

Files for online handheld application are located in same directory as PM5 client. Default location is C:\Program Files (x86)\PCSYS Maintenance 5\Barcode Scanner. All files in that directory are to be deleted before upgrade process is started.

Information about setup of PM5 client using multiple databases

Following procedure is to be followed to make PM5 connect to database other than that defined in PM5 Configuration Tool.

1. Find configuration file for PM5 client. Default path for that file is:
in Windows XP - C:\Program Files (x86)\PCSYS Maintenance 5\Client\ DVS.UI.exe.config
in Windows Vista/Windows 7 - C:\ProgramData\PCSYS\PM5.ConfigEditor\ DVS.UI.exe.config
2. Make a copy of file above and save it in separate directory.
3. Open file for editing.
4. Find following section:

```
<connectionStrings>
  (1) <add name="netTiersConnectionString" connectionString="Data
      Source=EXAMPLE-SERVER\EXPRESS;Initial
      Catalog=PM5;User=pm5_user;Password=passw&rd;" />
```
5. Change the text marked with yellow background **to the name of database you want to use together with PM5 client.**
6. Save the changes made above.
7. Create new shortcut to PM5 program file.
8. Open Properties of shortcut above and select Shortcut tab.
9. In Target field, add path to the edited copy of the configuration file. For example, field in Target field can contain "**C:\Program Files (x86)\PCSYS Maintenance 5\Client\DVS.UI.exe**"
After changes, content of the field could say "**C:\Program Files (x86)\PCSYS Maintenance 5\Client\DVS.UI.exe**" **C:\TEMP\ClonePM5\DVS.UI.exe.config**
Text marked in the yellow marks the example location of edited PM5 configuration file.

If PM5 is started with help of modified link, then it will automatically select database specified in COPY of configuration file.

If there is need for assistance from us in relation of this type of setups, please contact PCSYS directly at +45 43 43 29 29.

Version 5.08.2000

Features

- Approval required- functionality has been added to Tasks/Activities
Approval required-functionality already present in Faults, has been added to Tasks/Activities. If user marks that field in a task, then its activities will have to be approved by someone before they can be marked as finished and closed.
- Possibility to create database backups directly through PM5 interface
It is now possible to create a backup of PM5 database directly from Administrative module of PM5. Generic Microsoft conditions need to be fulfilled for this feature to work properly:
 - database backup file can initially be saved only on a drive/volume that is local to the machine where SQL server is running.
 - user making the backup needs to have sufficient user rights (as defined by Windows domain) to the machine where SQL server is running.
- Function limiting the user to only his own name when approving activities/faults. It is an on/off switch for individual users, available through Administration module.

Bug fixes

- Major effort to correct the issues in report filter that was introduced in version 5.08.1000. We have done our best to fix the issues that were reported by our users (major thanks for your input).

- Problem with Job chart printout button in Activities and Faults forms has been fixed.
- Problem with barcode printout button in Spare Part form has been fixed.
- A bunch of fixes and adjustments to reports

Version 5.08.1000

Features

- Report module has now its own filter
New filter of report module that has identical functionality to that in the client. However it is now independent of filter in client module, which means that it is no longer necessary to close the report module to change locations or apply a new filter to report output.
Filter created in client module can still be applied to the report, but it is now user controlled feature. If a filter is active in client module at the time when report module is opened, user can select to copy that filter to report module filter. Please observe that that copied filter is not automatically applied to the report, the filter in report module must be manually activated.
- It is now possible to create reports based solely on selections in data grids of main panes
User can now select one or more rows in main data grids and create a report based solely on those selections. Reports for each section of the client are available through right mouse button quick-menu. Furthermore, if those reports have one or more user defined layouts, then all those layouts will be available directly from above-mentioned quick-menu.
- Online handheld terminal application for management of spare parts and spare part stores has been remade from scratch.
- Spare part label printing procedure has been streamlined
Printing of labels has now its own section in Administration module. User is to define what printer is to be used for label printouts and what design is to be used for labels (if no user defined layouts exist, default layout always used).
- Full location path of machine is now always shown to the user.
When a row in Machine/Task/Activities&Faults tables is selected, client presents full location path for the machine to which selected row belongs. We hope that this new function will further aid users in navigation through their location structure.
- Ability to finish multiple activities is now extended also to activities based on measured parameters
For technical reasons, we were excluding activities based on measured parameters from batch job finish function. That is now fixed and all activities can be finished with help of that function.
- Full path for location of machines has been added to several reports.
- Field 'To be signed by' has been added to the table for activities/faults and to the filter search parameters for activities/faults.
- It is no longer allowed to delete spare part associations to activities/faults that have positive spare part consumption. Before deleting such association, user needs to manually change consumption to 0. This change is done as additional precaution to avoid accidental changes of spare stock.

Bug fixes

- Estimated manhour value doubled in job charts for faults.
- User defined report layouts were no longer available after upgrade to new version.

- User defined report layouts were saved in the system when user pressed 'Cancel' button for the design changes.
- Filter parameter "Expected End Date" was not working for Faults.
- Under some circumstances, selection of multiple rows in main data tables was removed when client was refreshing data.
- Under some circumstances, last row of main data grid could be "hidden" below detail section.
- Incorrect query results when using quick search tool for activities/faults
- Reorder algorithm stopped working correctly if stock in spare part store was 0 or less.
- On rare occasions, standard requests to SQL database took extensive time. Those requests have now been modified to improve performance.
- Very long texts in "Note" fields could cause a crash when generating reports that included those fields.
- Random shift of main data grid to the right, especially in "Activities/Faults" section of the client.
- Multiple errors that occurred in filter for Purchase module.

Version 5.07.1000

Features

- Quick search added to all sections of Purchase Module
- "Partial Delivery" status has been added to Order status parameter in Purchase module
- Functionality of Purchase module has been vastly improved
- It is now possible to select user defined layouts for printouts of Job Charts
- It is now possible to select user defined layouts for printouts of spare part labels
- Date picker component has been changed to one with week number information
- In earlier versions, calibration fields were sorted on calibration field names. Now user can decide sorting order of calibration fields manually.

Bug Fixes

- Corrections to issues that affected functionality of tasks based on Measured Parameters
- Fix to issue where spare part store was not saved when a spare part was added to activity/fault, which could result in spare part stock not being adjusted.
- Corrections to functionality of 'fixed date' for activities.
- Date format reverted to English Windows default when custom language was in use. That has been corrected and date format is now using the format used by base language of custom language.
- Several bugs in Purchase module have been corrected.
- Correction of issue where deleted PM5 users were present in lists of technical personnel and in reports.
- Correction of report for spare part consumption
- Fixed several errors that occurred when parameters added in previous version were used.
- Adjusted handling of navigation tree in Administration module to improve performance and stability.

Version 5.06.1001

Features

- New Tool – Notice Board
- Range of filter parameters is vastly expanded - all user editable fields are now searchable
- Automatic logout is now implemented
- Spare parts can now be added to Tasks, Faults and Activities at the time of creation.
- Stop times can now be added to Faults at the time of creation.
- Activities and Faults can now be opened and finished directly from Machine pane.
- It is now possible to print attachments together with job cards. Please observe, file must be of type rtf, pdf, doc, excel, txt, dotx, mht, html, xlsx, docm, xlsb, xltx, xltm, csv
- Barcode Scanner's Change order: Switch between Location
- Timestamp when creating and changing Task data
- Number of rows per page in main data grids is now decided by user. See personal settings.
- Quick filter is added in 'Add Users' form of User Group form in Admin module
- Printing of labels can now be sent directly to the printer
- Implemented possibility to change 'PM5' label of root node in navigation tree
- Improved visibility of currently selected navigation node
- New Look for PM5
- Implemented missing purchase functionality

Bug Fixes

- Ability to install PM5 with MS SQL Server 2005 Express in Windows Server 2008
- Issue caused by 0 in expected daily average for Measured Parameters is now handled gracefully
- Fix of problems with Locked Intervall in Tasks
- Fix of several issues with new filter
- Fix of possible conversion issues that cause PM5 to completely lock up
- Fix of issue on drag and drop functionality of Location in Admin
- Fix of crash while running on Windows Server 2008 R2
- Fix of PM5 crashes on startup on Windows 7 64-bit
- Fix of bug that terminated PM5 when attempting to generate report
- Fix of bug causing problems with launch of PM5 if default filter was deleted
- Fix of some bugs in user credentials
- Fix of bug where demo installation failed with an SQL error
- Fix of issue with incorrect import of zip code lists
- Fix of a couple of barcode scanner issues
- Fix of access denied error and configuration tool not closing, when running on Windows 7
- Fix of bug that made it impossible for user to upload attachments when running Windows 7
- Fix of unhandled exception when net printer is not available